West Virginia Department of Environmental Protection
Division of Air Quality

Earl Ray Tomblin
Governor

Randy C. Huffman
Cabinet Secretary

Permit to Operate

Pursuant to

Title V

of the Clean Air Act

Issued to:

Bayer CropScience
Institute Site
Group 2 of 8
(Rhodimet)
R30-03900007-2011

John A. Benedict
Director

Issued: April 28, 2011 • Effective: May 12, 2011
Expiration: April 28, 2016 • Renewal Application Due: October 28, 2015

Permit Number: **R30-03900007-2011**

Permittee: **Bayer CropScience**

Facility Name: **Institute Site**

Mailing Address: **P.O. Box 1005**
Charleston, WV 25112

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

Facility Location:	Institute, Kanawha County, West Virginia
Facility Mailing Address:	**P.O. Box 1005** **Charleston, WV 25112**
Telephone Number:	304-767-6148
Type of Business Entity:	Corporation
Facility Description:	Manufacture of Rhodimet AT88.
SIC Codes:	2869
UTM Coordinates:	432.0 km Easting • 4248.310 km Northing • Zone 17

Permit Writer: Mike Egnor

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

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

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

1.1. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Rhodimet					
R/C Depress	295K	Railcar Depressurization	1993	N/A	N/A
Drum Unload	290A	Drum Unloading	1993	N/A	N/A
D-1110	295A	MTPA Storage Tank	1993	> 40,000 gal	D-1190
D-1120	295A	MTPA Storage Tank	1993	> 40,000 gal	D-1190
D-1150	295A	MTPA Unloading Surge Tank	1993	< 20,000 gal	D-1190
D-1210	295B	Sulfuric Acid Storage Tank	1993	> 20,000 gal	N/A
C-1310	295C	Ammonia Storage Tank	1993	> 20,000 gal	C-1318
C-1320	295C	Ammonia Storage Tank	1998	> 20,000 gal	C-1318
D-1410	295D	Ammonia Solution Tank	1993	< 20,000 gal	D-1419
E-1430	290F 290G	Vaporizer	1993	N/A	Y-8370 or Y-8350, C-8380
C-2110	290F 290G	Catalyst Feed Tank	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
R-2130	290F 290G	Cyanohydrine Reactor	1993	N/A	Y-8370 or Y-8350, C-8380
D-3110	290F 290G	Cyanohydrine Tank	1993	> 20,000 gal	Y-8370 or Y-8350, C-8380
R-3210 R-3220 R-3230 R-3240	290F 290G	Hydrolysis Reactors	1993	N/A	Y-8370 or Y-8350, C-8380
D-3310	290F 290G	Hydrolyzed Buffer Tank	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
D-3320	290F 290G	Neutralization Tank	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
Y-3410	290F 290G	Decanter	1993	<20,000 gal	Y-8370 or Y-8350, C-8380

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
D-3415	290F 290G	Organic Phase Receiver	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
E-4110	290F 290G	Thin Film Evaporator	1993	N/A	Y-8370 or Y-8350, C-8380
C-4114	290F 290G	Concentrated Rhodimet Pot	1993	70 gal	Y-8370 or Y-8350, C-8380
E-4120	290F 290G	Thin Film Evaporator	1993	N/A	Y-8370 or Y-8350, C-8380
C-4124	290F 290G	Concentrated Rhodimet Pot	1993	70 gal	Y-8370 or Y-8350, C-8380
Y-4210	290F 290G	Rotary Pressure Filter	1993	N/A	Y-8370 or Y-8350, C-8380
D-4230	290F 290G	Filtered Rhodimet Receiver	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
D-4240	290F 290G	Cake Redissolution Tank	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
D-4310	290F 290G	Rhodimet Day Tank	1993	>20,000 gal	Y-8370 or Y-8350, C-8380
D-4320	290F 290G	Rhodimet Day Tank	1993	>20,000 gal	Y-8370 or Y-8350, C-8380
D-4330	290F 290G	Rhodimet Storage Tank	1993	>40,000 gal	Y-8370 or Y-8350, C-8380
D-4340	290F 290G	Rhodimet Storage Tank	1997	>40,000 gal	Y-8370 or Y-8350, C-8380
D-5110	290F 290G	Sulfate Solution Buffer Tank	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
C-5210	290F 290G	Ammonium Sulfate Crystallizer	1993	N/A	Y-8370 or Y-8350, C-8380
Y-5230 Y-5240	290F 290G	Crystal Thickener/Centrifuge	1993	N/A	Y-8370 or Y-8350, C-8380
D-5245	290F 290G	Mother Liquor Receiver	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
Y-5310	290B	Ammonium Sulfate Dryer/Separator	1993	N/A	C-5330
Y-5320	290B	Ammonium Sulfate Cooler	1993	N/A	**C-5330**

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
D-5510	295E	Ammonium Sulfate Silo	1993	>20,000 gal	Y-5515
D-5520	295F	Ammonium Sulfate Silo	1993	>20,000 gal	Y-5525
E-7130	290F 290G	Gas Inlet Preheater	1993	N/A	Y-8370 or Y-8350, C-8380
C-7140	290F 290G	HCN Reactor	1993	N/A	Y-8370 or Y-8350, C-8380
D-7144	N/A	Hydrogen Saturation Tank	1993	N/A	N/A
C-7150	290F 290G	Waste Heat Boiler	1993	N/A	Y-8370 or Y-8350, C-8380
C-7210	290F 290G	Ammonia Absorber Column	1993	N/A	Y-8370 or Y-8350, C-8380
C-7310	290F 290G	Gas Cooler Column	1993	N/A	Y-8370 or Y-8350, C-8380
C-7320	290F 290G	HCN Absorber Column	1993	N/A	Y-8370 or Y-8350, C-8380
C-7410	290F 290G	HCN Distillation Column	1993	N/A	Y-8370 or Y-8350, C-8380
C-7420	290F 290G	HCN Reflux Drum	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
D-8110	290F 290G	Process Area Sump	1993	N/A	Y-8370 or Y-8350, C-8380
D-8120	290F 290G	Waste Water Holding Tank	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
D-8124	290F 290G	Waste Water Tank	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
D-8130	290F 290G	Effluent Tank	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
C-8140	290F 290G	HCN Stripping Column	1993	N/A	Y-8370 or Y-8350, C-8380
D-8150	290F 290G	Process Area Sump (section 7000)	1993	N/A	Y-8370 or Y-8350, C-8380
D-8160	290F 290G	Stripped Water Receiver	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
D-8170	290F 290G	Ozone Contactor	1993	N/A	Y-8370 or Y-8350, C-8380

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
D-8190	290F 290G	Pretreated Wastewater Sump	1993	N/A	Y-8370 or Y-8350, C-8380
Y-8391	290F 290G	PV1 KO Pot	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
Y-8393	290F 290G	PV1 KO Pot	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
Y-8394	290F 290G	PV3 KO Pot	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
D-9120	295G	Chilled Water Tank	1993	<20,000 gal	N/A
D-9130	295G	Chilled Water Tank	Future	<20,000 gal	N/A
D-9140 D-9148	290F 290G	Water Ring Tank	1993	<20,000 gal	Y-8370 or Y-8350, C-8380
D-9220	290F 290G	Unit Water Tank	1993	N/A	Y-8370 or Y-8350, C-8380
D-9310 E-9316	295H	Steam Condensate Flash Tank	1993	<20,000 gal	N/A
D-9320	290H	Betz Tank	1993	<20,000 gal	N/A
D-9330	290H	Betz Tank	1993	<20,000 gal	N/A
Control Device					
Y-8350	290E	Thermal Oxidizer	1992	50,000 lbs/hr	C-8380
Y-8370	290F	Flare	1992	42,000 lbs/hr	N/A
C-8380	290G	Caustic Scrubber	2001	20,000 ACFM	N/A
D-1190	295A	Packed Bed Scrubber	1992	526 ACFM	N/A
C-1318	295C	Packed Bed Scrubber	1992	30 ACFM	N/A
D-1419	295D	Packed Bed Scrubber	1992	2 ACFM	N/A
C-5330	290B	Venturi Scrubber	1992	7,945 ACFM	N/A
Y-5515	295E	Baghouse	1998	1,094 lbs/hr	N/A
Y-5525	295F	Baghouse	1998	1,094 lbs/hr	N/A

1.2. Active R13, R14, and R19 Permits

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

Permit Number	Date of Issuance
R13-1448B	July 30, 2007

2.0 General Conditions

2.1. Definitions

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

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

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

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

2.2. Acronyms

CAAA	Clean Air Act Amendments
CBI	Confidential Business Information
CEM	Continuous Emission Monitor
CES	Certified Emission Statement
C.F.R. *or* CFR	Code of Federal Regulations
CO	Carbon Monoxide
C.S.R. *or* CSR	Codes of State Rules
DAQ	Division of Air Quality
DEP	Department of Environmental Protection
FOIA	Freedom of Information Act
HAP	Hazardous Air Pollutant
HON	Hazardous Organic NESHAP
HP	Horsepower
lbs/hr *or* lb/hr	Pounds per Hour
LDAR	Leak Detection and Repair
m	Thousand
MACT	Maximum Achievable Control Technology
mm	Million
mmBtu/hr	Million British Thermal Units per Hour
mmft^3/hr *or* mmcf/hr	Million Cubic Feet Burned per Hour
NA *or* N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM_{10}	Particulate Matter less than 10μm in diameter
pph	Pounds per Hour
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
psi	Pounds per Square Inch
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
TPY	Tons per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulate
USEPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
VEE	Visual Emissions Evaluation
VOC	Volatile Organic Compounds

2.3. Permit Expiration and Renewal

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

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

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

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

2.4. Permit Actions

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

2.5. Reopening for Cause

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

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

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

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

d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.
[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

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

2.7. Minor Permit Modifications

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

2.8. Significant Permit Modification

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

2.9. Emissions Trading

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

2.10. Off-Permit Changes

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

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

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

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

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

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

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

[45CSR§30-5.9.]

2.11. Operational Flexibility

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

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

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

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

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

[45CSR§30-5.8.c.]

2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
[45CSR§30-2.39]

2.12. Reasonably Anticipated Operating Scenarios

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

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

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

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

[45CSR§30-5.1.i.]

2.13. Duty to Comply

2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

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

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

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

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

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

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

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

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

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

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

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

2.17. Emergency

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

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

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

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

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

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

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

[45CSR§30-5.7.c.]

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

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

2.18. Federally-Enforceable Requirements

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

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

2.19. Duty to Provide Information

2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.
[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

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

2.21. Permit Shield

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and

are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.
[45CSR§30-5.6.a.]

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

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

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

c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

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

2.23. Severability

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

2.24. Property Rights

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

2.25. Acid Deposition Control

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

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

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

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

[45CSR§30-5.1.d.]

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

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

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

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40 C.F.R. §61.145(b) and 45CSR34]

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

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

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

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

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

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

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

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

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]

3.1.9. When emissions on an annual basis of one or more of the greenhouse gases listed below are greater than the *de minimis* amounts listed below, all greenhouse gases emitted above the *de minimis* amounts shall be reported to the Secretary under 45CSR§42-4. (see Section 3.5.):

Greenhouse Gas Compound	tons/year
carbon dioxide	10,000
methane	476
nitrous oxide	32.6
hydrofluorocarbons	0.855
perfluorocarbons	1.09
sulfur hexafluoride	0.42

[45CSR§42-3.1., State-Enforceable only.]

3.1.10. The permitted facility shall be constructed and operated in accordance with information filed in Permit Application R13-1448, R13-1448R, R13-1448A and R13-1448B and any amendments thereto. The Director may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to.
[45CSR13, Permit No. R13-1448 (Condition C.3.)]

3.2. Monitoring Requirements

N/A

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.

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

d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language.

2. The result of the test for each permit or rule condition.

3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

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

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

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of the analyses; and

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

[45CSR§30-5.1.c.2.A.]

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

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

3.5. Reporting Requirements

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

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

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

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Phone: 304/926-0475
FAX: 304/926-0478

If to the US EPA:

Associate Director
Office of Enforcement and Permits Review
(3AP12)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality.
[45CSR§30-8.]

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

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

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

3.5.8. **Deviations.**

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

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

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

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

4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

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

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

3.5.10. **Greenhouse Gas Reporting Requirements**. When applicable, as determined in permit section 3.1., greenhouse gas emissions shall be reported pursuant to 45CSR§42-4. including the following:

a. In accordance with a reporting cycle provided by the Secretary, affected sources shall report to the Secretary the quantity of all greenhouse gases emitted above *de minimis* amounts in the years specified by the Secretary.
[45CSR§42-4.1., State-Enforceable only.]

b. Affected sources shall only be required to report annual quantities of anthropogenic non-mobile source greenhouse gases emitted at the stationary source, and shall not be required to report biogenic emissions of greenhouse gases.
[45CSR§42-4.2., State-Enforceable only.]

c. Reports of greenhouse gas emissions submitted to the Secretary under 45CSR§42-4. shall be signed by a responsible official and shall include the following certification statement: "I, the undersigned, hereby certify that the data transmitted to the West Virginia Department of Environmental Protection is true, accurate, and complete, based upon information and belief formed after reasonable inquiry.
[45CSR§42-4.5., State-Enforceable only.]

5. Compliance Plan

N/A

6. Permit Shield

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

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

N/A

4.0 Rhodimet Unit

4.1. Limitations and Standards

4.1.1. Emissions from the Rhodimet™ AT-88 production unit shall not exceed the following rates:

Emiss. Pt. ID	Sources Venting / I.D.	Pollutant	Pounds/Hour	Tons/Year
295A	Tanks / D-1110 D-1120 D-1150	CL_2 (HAP) Impurities HAP[1] Total HAPs Total VOC	0.05 0.01 0.06 0.07	0.20 0.05 0.25 0.86
295B	Tank / D-1210	Sulfuric Acid PM	0.01	0.001
295C	Tanks / C-1310 C-1320	Ammonia	1.57	0.02
295D	Tank / D-1419	Ammonia	1.30	0.02
295E	Silo / D-5510	PM VOC	0.56 0.01	2.40 0.001
295F	Silo / D-5520	PM VOC	0.56 0.01	2.40 0.001
295G	Tanks / D-9120 D-9130	Ethylene Glycol HAP - VOC	0.10	0.001
295K	Railcar Depressurization	Sulfuric Acid PM	0.01	0.001
290B	Dryer / Y-5310	Sulfuric Acid HCN (HAP) PM VOC	0.01 0.01 1.65 0.92	0.001 0.05 7.20 4.10
290G	Scrubber / C-8380	NOx SOx CO HAPs[2] VOC Ozone NOx[3]	7.40 5.50 1.54 0.07 0.12 0.01 41.0	32.41 24.15 6.80 0.30 0.52 0.04 8.03
290F	Emergency Flare / Y-8370 96 hr/yr	NOx SOx CO HAPs[2] VOC	7.40 6.40 15.4 0.65 0.96	0.40 0.31 0.74 0.03 0.05

[1] HAP impurities account for trace levels of Acrolein, Acetaldehyde, and Hydroquinone present in MTPA raw material
[2] Hydrogen Cyanide, Acrolein, Acetaldehyde, and Hydroquinone
[3] Represents NOx emissions during cold start and HCN reactor diverts

[45CSR13, Permit No. R13-1448 (Condition A.1.) Compliance with this streamlined PM limit assures compliance with 45CSR§7-4.1 (295A, 295B, 295C, 295D, 295E, 295F, 295G, 295K, 290A, 290B, 290F, 290G)]

4.1.2. The Rhodimet Unit shall not exceed the following production rates:

Rhodimet TM AT-88 - 12,000 Pounds per Hour and 54,000 Tons per Year
Ammonium Sulfate - 10,000 Pounds per Hour and 43,000 Tons per Year

The annual rates established here are with respect to a rolling 12 month annual sum.
[45CSR13, Permit No. R13-1448 (Condition A.2.)]

4.1.3. The Thermal oxidizer, Y-8350, shall maintain a minimum fire box temperature of 982 degrees Celsius with an accuracy of plus or minus 9.83 degrees Celsius. During normal operations an exceedance of this limit is defined as a reduction in firebox temperature equaling or exceeding 28 degrees C based on any three hour block average. Exceedances shall be documented according to 40 C.F.R. 60.705(f).
The Permittee shall keep up-to-date, readily accessible continuous records of the equipment operating parameters specified above in this Condition, as well as up-to-date, readily accessible records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. The Administrator may at any time require a report of these data.
[45CSR13, Permit No. R13-1448 (Condition A.3.) (290E)]

4.1.4. The effluent gas from thermal oxidizer, Y-8350, shall be sent to SO2 scrubber, C-8380, emission point 290G, at all times.
[45CSR13, Permit No. R13-1448 (Condition A.4.) (290E, 290G)]

4.1.5. Upon startup or shutdown of Thermal Oxidizer, Y-8350, or during process upsets and/or related malfunctions all waste gas feeds shall be routed to emergency flare, Y-8370. This mode of operation shall not exceed 96 hours per year.
[45CSR13, Permit No. R13-1448 (Condition A.5.) (290F)]

4.1.6. Except as provided in Condition 4.1.5, Bayer CropScience is required to utilize the following control equipment at all times the sources they abate are in operation: D-1190, C-1318, D-1419, Y-5515, Y-5525, C-5330, Y-8350, and C-8380. Each air pollution control device including flare, C-8370, shall be maintained and operated according to manufactures' specifications as well as the conditions specified in permit application R13-1448A.
[45CSR13, Permit No. R13-1448 (Condition A.6.) (295A, 295C, 295D, 295E, 295F, 290B, 290E, 290G)]

4.1.7. The Permittee shall submit a modification for approval before installing any equipment listed in permit application R13-1448A, which is specified as a future source.
[45CSR13, Permit No. R13-1448 (Condition B.4.) (D-1130, D-1220, D-5530)]

4.1.8. Particulate matter emissions for the thermal oxidizer (290E) shall not exceed 68 lbs/hr. Particulate matter emissions from the flare (290F) shall not exceed 57 lbs/hr.
[45CSR§6-4.1. (290E, 290F)]

4.1.9. Emission of Visible Particulate Matter --No person shall cause, suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater.
[45CSR§6-4.3. (290E, 290F)]

4.1.10. The provisions of Condition 4.1.9 shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up, or six (6) minutes in any sixty (60)-minute period for stoking operations.
[45CSR§6-4.4. (290E, 290F)]

4.1.11. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20%) percent opacity.
[45CSR§7-3.1., 45CSR13, Permit No. R13-1448 (Condition B.7.) (290B, 295E, 295F)]

4.1.12. The provisions of Condition 4.1.11. above shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40%) percent opacity for any period or periods aggregating no more than five (5) minutes in any (60)minute period.
[45CSR§7-3.2. (290B, 295E, 295F)]

4.1.13. No person shall cause, suffer, allow, or permit emissions of smoke and/or particulate matter into the open air from any storage structure associated with any manufacturing process.
[45CSR§7-3.7. (D-5510, D-5520)]

4.1.14. No person shall cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.
[45CSR§7-5.1. (D-5510, D-5520)]

4.1.15. Sulfuric acid shall not be released from the Sulfuric Acid Storage Tank (D-1210) in a concentration greater than 35 milligrams per dry cubic meter. Hydrochloric acid shall not be released from the Bleach MTPA Scrubber (D-1190), which treats the emissions from the three MTPA Tanks (D-1110, D-1120, and D-1150) in a concentration greater than 210 milligrams per dry cubic meter.
[45CSR§7-4.2, 45CSR13, Permit No. R13-1448 (Condition B.7.) (295B, 295A)]

4.1.16. No person shall circumvent the provisions of Condition 4.1.15 by adding additional gas to any exhaust or group of exhausts for the purpose of reducing the stack gas concentration.
[45CSR§7-4.3, 45CSR13, Permit No. R13-1448 (Condition B.7.) (295B, 295A)]

4.1.17. Storage tanks D-3110, D-4330, and D-4340 shall be equipped with a closed vent system and control device meeting the following specifications:
(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in 40C.F.R.60.485(b), Subpart VV.
(ii) The thermal oxidizer Y-8350 shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. When the emergency flare Y-8370 is used, it shall meet the specification described in the general control device requirements of the General Provisions of 40C.F.R.60.18.
[45CSR16, Subpart Kb, 40C.F.R.§60.112b(a)(3), (290E, 290F)]

4.1.18. Except during periods of start-up, shutdown and malfunction as specified in 40C.F.R.63 Subpart YY, the fuel gas system shall be operating at all times when regulated material emissions are routed to it. If emissions are routed to a fuel gas system, there is no requirement to conduct a performance test or design evaluation.

For the storage tank C-7420, the permittee shall submit the statement of connection reports for fuel gas systems specified below:
The permittee shall submit a statement that the emission stream is connected to the fuel gas system and whether the conveyance system is subject to the requirements of 40C.F.R.63.984(c).
[Compliance with the HCN MACT requirement of 40 C.F.R. 63, Subpart YY, streamlines compliance with the NSPS requirements of 40 C.F.R. 60, Subparts VV, NNN, and III as specified within 40 C.F.R.§63.1100(g). 45CSR34, Subpart SS, 40C.F.R.63.982(d), 45CSR13, Permit No. R13-1448 (Condition A.7.) (HCN Unit, C-7320, C-7410, C-7420, Emission Point, 290E and 290G)]

4.1.19. The Permittee shall comply with the equipment leak requirements of 40C.F.R.63.1019, Subpart UU, which are attached and listed in Appendix A. Additionally:
The open-ended lines that contain or contact hydrogen cyanide are exempt from any requirements to install a cap, plug, blind flange, or second valve to be capped.
When identifying equipment subject to any equipment leak requirements, an owner or operator is allowed to designate specific components of such equipment as never being safe to monitor with their Notification of Compliance Status report and periodic compliance reports. In order for an owner or operator to designate such equipment as never being safe to monitor, they must certify that monitoring such equipment at any time the CCMPU is operating is never safe (e.g., monitoring this equipment would present an unreasonable hazard or preclude testing personnel from meeting emergency evacuation requirements). If it is demonstrated to the Administrator's satisfaction that equipment designated by the owner or operator as never safe to monitor is appropriately designated, an owner or operator will not be required to monitor such equipment.
[45CSR34, Subpart YY, 40C.F.R.63.1103(g), 45CSR13, Permit No. R13-1448 (Condition A.7, Condition B.9.)]

4.1.20. (a) Requirements for the HCN Unit.
(1) Except as provided in paragraph (a)(2) of this Condition, the emission limitations and established parameter ranges of this part shall apply at all times except during periods of startup, shutdown, malfunction, or non-operation of the affected source (or specific portion thereof) resulting in cessation of the emissions to which this subpart applies. During periods of startup, shutdown, or malfunction, the owner or operator shall follow the applicable provisions of the startup, shutdown, malfunction plan required by 40C.F.R.63.1111. However, if a startup, shutdown, malfunction or period of non-operation of one portion of an affected source 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 and any of the subparts that are referenced by this subpart during startup, shutdown, malfunction, or period of non-operation.
(2) If equipment leak requirements are referenced by this subpart for a subject source category, such requirements shall apply at all times except during periods of startup, shutdown, or malfunction, process unit shutdown (as defined in 40C.F.R.63.1101), or non-operation of the affected source (or specific portion thereof) in which the lines are drained and depressurized resulting in cessation of the emissions to which the equipment leak requirements apply.
(5) During startups, shutdowns, and malfunctions when the emission standards of this subpart and the subparts referenced by this subpart do not apply pursuant to paragraphs (a)(1) through (2) of this Condition, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions. The measures to be taken shall be identified in the startup, shutdown, and malfunction plan (if applicable), 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 affected source. Back-up control devices are not required, but may be used if available. Compliance with an inadequate startup, shutdown, and malfunction plan developed pursuant to 40C.F.R.63.1111 is not a shield for failing to comply with good operation and maintenance requirements.

(6) Malfunctions shall be corrected as soon as practical after their occurrence and/or in accordance with the source's startup, shutdown, and malfunction plan developed as specified under 40C.F.R.63.1111.
(7) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable, independent of emissions limitations or other requirements in relevant standards.
[45CSR34, Subpart YY, 40C.F.R.63.1108(a), 45CSR13, Permit No. R13-1448 (Condition A.7.)]

4.1.21. (a) Startup, shutdown, and malfunction plan for the HCN Unit.
(1) Description and purpose of plan. The permittee shall develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the affected source during periods of startup, shutdown, and malfunction. This plan shall also include a program of corrective action for malfunctioning process and air pollution control equipment used to comply with relevant standards under this subpart. The plan shall also address routine or otherwise predictable CPMS malfunctions. This requirement is optional for equipment that must comply with 40C.F.R.63, Subpart UU.
(2) Operation of source. During periods of startup, shutdown, and malfunction, the permittee shall operate and maintain such affected source (including associated air pollution control equipment and CPMS) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under paragraph (a)(1) of this Condition.
(3) Use of additional procedures. To satisfy the requirements of this Condition to develop a startup, shutdown, and malfunction plan, the permittee may use it's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this Condition and are made available for inspection when requested by the Administrator. (4) Revisions to the plan. Based on the results of a determination made under 40C.F.R.63.1108(b)(3), the Administrator may require that the permittee make changes to the startup, shutdown, and malfunction plan for that source. The Administrator may require reasonable revisions to a startup, shutdown, and malfunction plan if the Administrator finds that the plan is inadequate as specified in 40C.F.R.63.1111(a)(4)(i) through (iv).
(5) Additional malfunction plan requirements. If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the permittee developed the plan, the permittee shall revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the affected source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control equipment or CPMS.
(b) Startup, shutdown, and malfunction reporting requirements.
(1) Periodic startup, shutdown, and malfunction reporting requirements. If actions taken by the permittee during a startup, shutdown, and malfunction, or of a control device or monitoring system required for compliance (including actions taken to correct a malfunction) are consistent with the procedures specified in the permittee's plan, then the permittee shall state such information in a startup, shutdown, and malfunction report. During the reporting period, reports shall only be required for startups, shutdowns, and malfunctions during which excess emissions, as defined in 40C.F.R.63.1108(a)(5), occur during the reporting period. A startup, shutdown, and malfunction report can be submitted as part of a Periodic Report required under 40C.F.R.63.1110(a)(5), or on a more frequent basis if specified otherwise under 40C.F.R.63, Subpart YY or a subpart referenced by 40C.F.R.63, Subpart YY or as established otherwise by the permitting authority in the permittee's title V permit. The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate), unless the information is submitted with the Periodic Report. The report shall include the information specified below:
(i) The name, title, and signature of the owner or operator or other responsible official certifying its accuracy.
(ii) The number of startup, shutdown, and malfunction events and the total duration of all periods of startup, shutdown, and malfunction for the reporting period if the total duration amounts to either of the durations in paragraphs (b)(1)(ii)(A) or (B) of this Condition.

(A) Total duration of periods of malfunctioning of a CPMS equal to or greater than 5 percent of that CPMS operating time for the reporting period; or

(B) Total duration of periods of startup, shutdown, and malfunction for an affected source equal to or greater than 1 percent of that affected source's operating time for the reporting period.

Records of the number of CPMS startup, shutdown, and malfunction events and the total duration of all periods of startup, shutdown, and malfunction for the reporting period are required as follows:
The start time and duration or start and stop times of any periods when the CPMS is inoperative.
Records of the occurrence and duration of each start-up, shutdown, and malfunction of CPMS used to comply with this subpart during which excess emissions (as defined in a referencing subpart) occur.
(iii) Records documenting each startup, shutdown and malfunction event as required below:
Records documenting each start-up, shutdown, and malfunction event.
(iv) Records documenting the total duration of operating time as required below:
Records of the total duration of operating time.

(2) Immediate startup, shutdown, and malfunction reports. Notwithstanding the allowance to reduce the frequency of reporting for startup, shutdown, and malfunction reports under paragraph (b)(1) of this Condition, any time an action taken by the permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) during which excess emissions occur is not consistent with the procedures specified in the permittee's plan, the permittee shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan, followed by a letter delivered or postmarked within 7 working days after the end of the event. The immediate report required under this Condition shall contain the name, title, and signature of an responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred. Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which the permittee is located, the permittee may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements in this Condition are specified in 40C.F.R.63.1110(h).

[45CSR34, Subpart YY, 40C.F.R.63.1111, 45CSR13, Permit No. R13-1448 (Condition A.7.)]

4.1.22. Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.
[45CSR§6-4.6 (290E, 290F)]

4.1.23. No person shall allow cause, suffer, allow or permit the emission into the open air from any source operation an in-stack sulfur dioxide concentration exceeding 2,000 parts per million by volume from existing source operations, except as provided in 45CSR§10-4.1.
[45CSR§10-4.1 (290G)]

4.1.24. The Rhodimet unit is subject to the Leak Detection and Repair (LDAR) monitoring requirements of 40C.F.R.§63.160, Subpart H. These conditions are listed in Appendix B.
[45CSR§21-37, CO-21-97-4, Condition III.2.]

4.1.25. Startup, shutdown, and malfunction plan for the Rhodimet Unit.
(i) The owner or operator of an affected source must develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with the relevant standard. The startup, shutdown, and malfunction plan does not need to address any scenario that would not cause the source to exceed an applicable emission limitation in the relevant standard. This plan must be developed by the owner or operator by the source's compliance date for that relevant standard. The purpose of the startup, shutdown, and malfunction plan is to—

(A) Ensure that, at all times, the owner or operator operates and maintains each affected source, including associated air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;
(B) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and
(C) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).
(iii) When actions taken by the owner or operator during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a “checklist,” or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan and describes the actions taken for that event. In addition, the owner or operator must keep records of these events as specified in paragraph 63.10(b), including records of the occurrence and duration of each startup or shutdown (if the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the owner or operator shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in §63.10(d)(5).
(v) The owner or operator must maintain at the affected source a current startup, shutdown, and malfunction plan and must make the plan available upon request for inspection and copying by the Administrator. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in paragraph (e)(3)(viii) of this section, the owner or operator must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must make each such previous version available for inspection and copying by the Administrator for a period of 5 years after revision of the plan. If at any time after adoption of a startup, shutdown, and malfunction plan the affected source ceases operation or is otherwise no longer subject to the provisions of this part, the owner or operator must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by the Administrator. The Administrator may at any time request in writing that the owner or operator submit a copy of any startup, shutdown, and malfunction plan (or a portion thereof) which is maintained at the affected source or in the possession of the owner or operator.
Upon receipt of such a request, the owner or operator must promptly submit a copy of the requested plan (or a portion thereof) to the Administrator. The owner or operator may elect to submit the required copy of any startup, shutdown, and malfunction plan to the Administrator in an electronic format. If the owner or operator claims that any portion of such a startup, shutdown, and malfunction plan is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR 2.301, the material which is claimed as confidential must be clearly designated in the submission.
(vi) To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection or submitted when requested by the Administrator.
(vii) Based on the results of a determination made under paragraph (e)(1)(i) of this section, the Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator must require appropriate revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:
(A) Does not address a startup, shutdown, or malfunction event that has occurred;

(B) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;
(C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or
(D) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in §63.2.
(viii) The owner or operator may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this part or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, the owner or operator may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup, shutdown, and malfunction plan must be reported in the semiannual report required by §63.10(d)(5). If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator must revise the startup, shutdown, and malfunction 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 of process or air pollution control and monitoring equipment. In the event that the owner or operator makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the owner or operator has provided a written notice describing the revision to the permitting authority.
[45CSR34, Subpart FFFF, Table 12, 40C.F.R. §63.6(3)(i),(ii) & (v)-(viii)]

4.2. Monitoring Requirements

4.2.1. Compliance with Conditions 4.1.1, 4.1.3, and 4.1.6 shall be demonstrated based on monitoring and record keeping of the parametric operating ranges specified in Table 2. If any of the listed control equipment is operated outside its respective parameter range, excluding startups and shutdowns, corrective actions shall be taken immediately. For each occurrence a corrective action report shall be generated. The report shall include the date and duration of the malfunction, as well as any corrective actions initiated.
Routine daily records shall be summarized into monthly reports, which tabulate the parameter exceedances for the month along with the date and time of each occurrence. The monthly reports shall also include any corrective action reports for the month. These records shall be maintained on site for no less than 5 years and be made available for inspection upon request by the Director or a duly authorized representative.

Table 2.

Emission Point	Control Equipment ID / Description	Operating Range	Frequency of monitoring and recording
295A	D-1190 / Packed Bed Scrubber	$\Delta P \leq$ 6" w.c. G.P.M. $\geq$ 10.5 Cl conc. $\geq$ 0.75% wt.	Every 2 hours Every 2 hours Once per Week Averaged over monitoring period
295C	C-1318 / Packed Bed Scrubber	G.P.M. $\geq$ 1.5	Flow rate is confirmed to be above minimum requirement before each tank charging

295D	D-1419 / Packed Bed Scrubber	G.P.M. $\geq$ 0.75	Every 2 hours Averaged over monitoring period
290B	C-5330 / Venturi Scrubber	Δ P $\leq$ 3" w.c. G.P.M. $\geq$ 60	Every 2 hours Averaged over monitoring period
290E	Y-8350 / Thermal Oxidizer	Fire Box Temp. $\geq$ 1800F	Continuous defined by At least 4 readings per hour / Averaged over monitoring period
290F	Y-8370 / Flare	Pilot Light sensor	Continuous defined by at least 4 readings per hour with continuous record of all times pilot not operating
290G	C-8380 / SO2 Scrubber	Δ P $\leq$ 6" w.c. pH $\geq$ 7 GPM recycle $\geq$ 475	Every 2 hours Averaged over monitoring period

The monitoring and recordkeeping provisions defined by the above table shall be in place and fully operational within 180 days from the date this permit is issued or upon reaching 80% of maximum production capacity as defined by Specific Requirement A.2. whichever comes first. Upon completion of all monitoring device installations and operator training necessary to fully comply with the monitoring and recordkeeping requirements of this permit written notification shall be submitted to DAQ.
[45CSR13, Permit No. R13-1448 (Condition B.2.)]

4.2.2. At least monthly, visual emission checks of each emission point subject to an opacity limit shall be conducted. These checks shall be conducted during periods of normal facility operation for a sufficient time interval to determine if the unit has visible emissions using procedures outlined in 40 C.F.R. 60, Appendix A, Method 22. If sources of visible emissions are identified during the survey, or at any other time, the permittee shall conduct an evaluation as outlined in 45CSR§7A-2.1.a,b within twenty-four (24) hours. However, a 45CSR§7A-2.1.a,b evaluation shall not be required more than once per month per emission unit. A 45CSR§7A-2.1.a,b evaluation shall not be required if the visible emission condition is corrected in a timely manner and the units are operated at normal operating conditions. A record of each visible emission check required above shall be maintained on site for a period of no less than five (5) years. Said record shall include, but not be limited to, the date, time, name of emission unit, the applicable visible emissions requirement, the results of the check, what action(s), if any, was/were taken, and the name of the observer.
[45CSR§7A-2.1a,b (290B, 295E, 295F)]

4.2.3. At least monthly, visual emission checks of each emission point subject to an opacity limit shall be conducted. These checks shall be conducted during periods of normal facility operation for a sufficient time interval to determine if the unit has visible emissions using procedures outlined in 40 C.F.R. 60, Appendix A, Method 22. If sources of visible emissions are identified during the survey, or at any other time, the permittee shall conduct a 40 C.F.R. 60, Appendix A, Method 9 evaluation within twenty-four (24) hours. A Method 9 evaluation shall not be required if the visible emission condition is corrected in a timely manner and the units are operated at normal operating conditions. A record of each visible emission check required above shall be maintained on site for a period of no less than five (5) years. Said record shall

include, but not be limited to, the date, time, name of emission unit, the applicable visible emissions requirement, the results of the check, what action(s), if any, was/were taken, and the name of the observer.
[45CSR§30-5.1.c (290E, 290F)]

4.2.4. Monthly visual emission checks of emission points 295E and 295F, associated with baghouses Y-5515 and Y-5525, respectively, shall be conducted. These checks shall be conducted during periods of normal facility operation for a sufficient time interval to determine if the emission points have visible emissions using procedures outlined in 40 C.F.R. 60, Appendix A, Method 22. If sources of visible emissions are identified during the survey, or at any other time, the permittee shall conduct an evaluation as outlined in 45CSR7A-2.1.a,b within twenty-four (24) hours. However, a 45CSR7A-2.1.a,b evaluation shall not be required more than once per month per baghouse emission point. A 45CSR7A-2.1.a,b evaluation shall not be required if the visible emission condition is corrected in a timely manner and the bag houses are operated at normal operating conditions. A record of each visible emission check required above shall be maintained on site for a period of no less than five (5) years. Said record shall include, but not be limited to, the date, time, emission point identification number, the applicable visible emissions requirement, the results of the check, what action(s), if any, was/were taken, and the name of the observer.
[45CSR13, Permit No. R13-1448, (Condition A.8.), (295E, 295F)]

4.2.5. Compliance with the particulate matter limits of Condition 4.1.1 for the baghouses (Y-5515, Y-5525) shall be determined by:
a. material balances around the baghouse.
b. the baghouses shall be inspected monthly.
[45CSR§30.5.1.c (295E, 295F)]

4.2.6. In order to assure compliance with 45CSR4, the permittee shall conduct a monthly visual and olfactory inspection of all pressure relief vents utilized by storage tanks D-1110, D-1120, and D-1150. These inspections shall be recorded in an inspection log, which contains at a minimum the date and time of the inspection, inspectors name and signature, the identification number of each vent inspected, as well as the results of the inspection. When a leak is detected every effort shall be made to repair the leak as soon as possible. The date repaired shall also be documented on the inspection log, which identified the leak. If the leaking vent is not repaired within 30 days from being detected notice shall be given to DAQ detailing the surrounding issues and anticipated time line for repair.
[45CSR13, Permit No. R13-1448 (Condition B.5.) (295A)]

4.2.7. Compliance with the SO2 concentration limit of Condition 4.1.23 shall be shown by following the Rule 10 Monitoring Plan, submitted by the Permittee on February 28, 2001, and appended on August 31, 2001. This Plan is attached as Appendix C to this Permit.
[45CSR§10-8.2.c, 45CSR§10A-6.2. (290G)]

4.3. Testing Requirements

4.3.1. When operating the thermal oxidizer, Y-8350, the permittee shall operate the closed vent system and control device in accordance with the operating plan submitted in accordance with the testing requirements of 40C.F.R.60.113(b)(c)(1). When operating the emergency flare, Y-8370, the permittee shall meet the requirements of 40C.F.R.60.18(e) and (f).
[45CSR16, Subpart Kb, 40C.F.R.§60.113b(c) (D-3110, D-4330, D-4340, Y-8350, and Y-8370)]

4.4. Recordkeeping Requirements

4.4.1. In order to demonstrate compliance with Conditions 4.1.1 and 4.1.2, Bayer CropScience shall maintain daily logs of the type and amount of products, Rhodimet ™ AT-88 and Ammonium Sulfate, produced with respect to time. The daily production records shall record the total pounds produced per day. These daily totals shall be summarized into monthly reports tabulating the total for the month as well as a rolling annual 12 month total. These records shall be maintained on site for no less than 5 years and be made available for review upon request by the Director or a duly authorized representative.
[45CSR13, Permit No. R13-1448 (Condition B.1.) (295A, 295B, 295C, 295D, 295E, 295F, 295G, 295K, 290A, 290B, 290F, 290G)]

4.4.2. In order to demonstrate compliance with Conditions 4.1.1 and 4.1.5 Bayer CropScience shall maintain a monthly log to record all dates and times waste gas is vented to emergency flare, Y-8370, as well as all dates and times the PTO, Y-8350, is operated in cold start mode or abating emissions during, C-7210, divert mode. These records shall be maintained on site for no less than 5 years and be made available for review upon request by the Director or a duly authorized representative.
[45CSR13, Permit No. R13-1448 (Condition B.6.) (290F)]

4.4.3. The Permittee shall keep readily accessible records showing the dimension of the storage vessels D-3110, D-4310, D-4320, D-4330, and D-4340, and an analysis showing the capacity of the storage vessel.
[45CSR16, Subpart Kb, 40C.F.R.§60.116b(b) (D-3110, D-4310, D-4320, D-4330, and D-4340)]

4.4.4. The permittee shall keep copies of all records required by 4.4.3 for the life of the source.
[45CSR16, Subpart Kb, 40C.F.R.§60.116b(a) (D-3110, D-4310, D-4320, D-4330, and D-4340)]

4.4.5. The permittee shall keep the following records regarding the thermal oxidizer Y-8350:
(1) A copy of the operating plan.
(2) A record of the measured values of the parameters monitored in accordance with Condition 4.3.1.
[45CSR16, Subpart Kb, 40C.F.R.§60.115b(c) (D-3110, D-4310, D-4320, D-4330, and D-4340)]

4.4.6. The permittee shall do the following regarding the emergency flare Y-8370:
(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent, when the flare is being used as the control device.
(3) Semiannual reports of all periods when the flare is being used as the control device, and when the pilot flame was absent shall be submitted to the Director.
[45CSR16, Subpart Kb, 40C.F.R.§60.115b(d) (D-3110, D-4310, D-4320, D-4330, and D-4340)]

4.4.7. The permittee shall keep a copy of the operating plan required in Condition 4.4.5 for the life of the source. The permittee shall keep records of the measured values of the parameters monitored in accordance with Condition 4.3.1, required by Condition 4.4.5 for at least 2 years. The permittee shall keep records of all periods of operation during which the flare pilot flame is absent, as required by Condition 4.4.6 for at least 2 years.
[45CSR16, Subpart Kb, 40C.F.R.§60.115b (D-3110, D-4310, D-4320, D-4330, and D-4340)]

4.4.8. The permittee shall keep equipment start-up, shutdown and malfunction records as follows.
(i) Records of the occurrence and duration of each start-up, shutdown, and malfunction of operation of process equipment or of air pollution control equipment used to comply with this part during which excess emissions (as defined in a referencing subpart) occur.

(ii) For each start-up, shutdown, and malfunction during which excess emissions occur, records 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 control device emissions 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.
[45CSR34, Subpart SS, 40C.F.R.§63.998(d)(3), 45CSR13, Permit No. R13-1448 (Condition A.7.) (C-7420, 290E)]

4.4.9. Equipment leak records. The permittee shall maintain records of the information specified in paragraphs (i) and (ii) of this Condition for closed vent systems and control devices if specified by the equipment leak provisions in a referencing subpart. The records specified in paragraph (i) of this Condition shall be retained for the life of the equipment. The records specified in paragraph (ii) of this Condition shall be retained for 5 years.
(i) The design specifications and performance demonstrations specified in paragraphs (i)(A) through (C) of this Condition.
(A) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams. (B) The dates and descriptions of any changes in the design specifications.
(C) A description of the parameter or parameters monitored, as required in a referencing subpart, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.
(ii) Records of operation of closed vent systems and control devices, as specified in paragraphs (ii)(A) through (C) of this Condition.
(A) Dates and durations when the closed vent systems and control devices required are not operated as designed as indicated by the monitored parameters.
(B) Dates and durations during which the monitoring system or monitoring device is inoperative.
(C) Dates and durations of start-ups and shutdowns of control devices required in this subpart.
[45CSR34, Subpart SS, 40C.F.R.§63.998(d)(4), 45CSR13, Permit No. R13-1448 (Condition A.7.) (C-7420, 290E)]

4.4.10. (a) Maintaining notifications, records, and reports. Except as provided in paragraph (b) of this section, the permittee shall keep copies of notifications, reports and records required by 40C.F.R.63, Subpart YY, 40C.F.R.63, Subpart SS, 40C.F.R.63, Subpart FFFF, and 40C.F.R.63, Subpart UU for at least 5 years, unless otherwise specified by these Subparts.
(b) Copies of reports. If the Administrator has waived the requirement of 40C.F.R.63.1110(g)(1) for submittal of copies of reports, the permittee is not required to maintain copies of the waived reports. This paragraph applies only to reports and not the underlying records that must be maintained as specified 40C.F.R.63, Subpart YY, 40C.F.R.63, Subpart SS, 40C.F.R.63, Subpart FFFF, and 40C.F.R.63, Subpart UU.
(c) Availability of records. All records required to be maintained by 40C.F.R.63, Subpart YY, 40C.F.R.63, Subpart SS, 40C.F.R.63, Subpart FFFF, and 40C.F.R.63, Subpart UU shall be maintained in such a manner that they can be readily accessed and are suitable for inspection. The records of the remaining 3 years, where required, may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, computer disk, magnetic tape, or microfiche.
(d) Control applicability records. The permittee shall maintain records containing information developed and used to assess control applicability under 40C.F.R.63.1103 (e.g., combined total annual emissions of regulated organic HAP).
[45CSR34, Subpart YY, 40C.F.R.63.1109, 40C.F.R.63, Subpart FFFF, **45CSR13, Permit No. R13-1448 (Condition A.7.)]**

4.5. Reporting Requirements

4.5.1. The permittee shall submit a statement that the emission stream is connected to the fuel gas system and whether the conveyance system is subject to the requirements of 40C.F.R.63.983.
[45CSR34, Subpart SS, 40C.F.R.§63.999(b)(1)(ii), 45CSR13, Permit No. R13-1448 (Condition A.7.) (C-7420)]

4.5.2. For the 6-month period covered by the periodic report, the following information shall be recorded:
A description of the planned routine maintenance during the next 6-month periodic reporting period that is anticipated to be performed for the control system when it is not expected to meet the required control efficiency. This description shall include the type of maintenance necessary, planned frequency of maintenance, and expected lengths of maintenance periods.
[45CSR34, Subpart SS, 40C.F.R.§63.999(c)(4)(iii), 45CSR13, Permit No. R13-1448 (Condition A.7.) (290E)]

4.5.3. The permittee shall submit the following reports:
(1) HCN Unit Periodic Reports that have the information outlined in 40C.F.R.63.1110(e).
(2) Application for approval of construction or reconstruction described in 40C.F.R.63.5(d).
(3) Startup, Shutdown, and Malfunction Reports, as described in Condition 4.1.21 and 4.1.25.
(4) Other reports. Other reports required by 40C.F.R. Subpart YY shall be submitted as specified elsewhere in Subpart YY.
(5) Rhodimet Unit Compliance Reports that have the information outlined in 40CFR§63.2520(e).
[45CSR34, Subpart YY, 40C.F.R.63.1110, Subpart FFFF, 40C.F.R.§63.2520, 45CSR13, Permit No. R13-1448 (Condition A.7.)]

4.5.4. For each Rhodimet Unit 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.
[45CSR34; Subpart FFFF, 40C.F.R. §63.2520(e)(4)]

4.5.5 If in the Rhodimet Unit a Group 2 emission point becomes a Group 1 emission point after the compliance date for the affected source, the emission point must comply with the Group 1 requirements beginning on the date the switch occurs. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs.
[45CSR34; 40C.F.R. §63.2445(d) (Oxidation, Crude Naphthol, and PANA Group 2 Emission Points)]

4.5.6. Except as specified in 4.5.6.2 below, whenever a process change is made in the Rhodimet Unit or any change to 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, the change must be documented in the 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.

4.5.6.1 The notification must include all of the following information:

(A) A description of the process change.

(B) Revisions to any of the information reported in the original notification of compliance status report under 40C.F.R. §63.2520(d).

(C) Information required by the notification of compliance status report under 40C.F.R. §63.2520(d) for changes involving the addition of processes or equipment at the affected source.

4.5.6.2 You must submit a report 60 days before the scheduled implementation date of any of the changes identified below:

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

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

(C) A change from Group 2 to Group 1 for any emission point except for batch process vents that meet the conditions specified in 40C.F.R. §63.2460(b)(6)(i).

[45CSR34; 40C.F.R. §63.2520(e)(10)]

4.6. Compliance Plan

N/A

Appendix A

40 C.F.R.63.1019

Subpart UU
National Emission Standards for Equipment Leaks
Control Level 2 Standards

Subpart UU—National Emission Standards for Equipment Leaks—Control Level 2 Standards

Source: 64 FR 34899, June 29, 1999, unless otherwise noted.

§ 63.1019 Applicability.

(a) The provisions of this subpart apply to the control of air emissions from equipment leaks for which another subpart references the use of this subpart for such air emission control. These air emission standards for equipment leaks are placed here for administrative convenience and only apply to those owners and operators of facilities subject to a referencing subpart. The provisions of 40 CFR part 63, subpart A (General Provisions) do not apply to this subpart except as noted in the referencing subpart.

(b) *Equipment subject to this subpart.* The provisions of this subpart and the referencing subpart apply to equipment that contains or contacts regulated material. This subpart applies to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, and closed vent systems and control devices used to meet the requirements of this subpart.

(c) *Equipment in vacuum service.* Equipment in vacuum service is excluded from the requirements of this subpart.

(d) *Equipment in service less than 300 hours per calendar year.* Equipment intended to be in regulated material service less than 300 hours per calendar year is excluded from the requirements of §§63.1025 through 63.1034 and §63.1036 if it is identified as required in §63.1022(b)(5).

(e) *Lines and equipment not containing process fluids.* Lines and equipment not containing process fluids are not subject to the provisions of this subpart. Utilities, and other non-process lines, such as heating and cooling systems that do not combine their materials with those in the processes they serve, are not considered to be part of a process unit or affected facility.

(f) *Implementation and enforcement.* This subpart can be implemented and enforced by the U.S. Environmental Protection Agency (EPA), or a delegated authority such as the applicable State, local, or tribal agency. If the EPA Administrator has delegated authority to a State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. Contact the applicable EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency.

(1) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under section 40 CFR part 63, subpart E, the authorities contained in paragraphs (f)(i) through (v) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(i) Approval of alternatives to the nonopacity emissions standards in §§63.1022 through 62.1034, under §63.6(g), and the standards for quality improvement programs in §63.1035. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

(ii) [Reserved]

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

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

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

[64 FR 34899, June 29, 1999, as amended at 67 FR 46279, July 12, 2002]

§ 63.1020 Definitions.

All terms used in this part shall have the meaning given them in the Act and in this section.

Batch process means a process in which the equipment is fed intermittently or discontinuously. Processing then occurs in this equipment after which the equipment is generally emptied. Examples of industries that use batch processes include pharmaceutical production and pesticide production.

Batch product-process equipment train means the collection of equipment (e.g., connectors, reactors, valves, pumps, etc.) configured to produce a specific product or intermediate by a batch process.

Car-seal means a seal that is placed on a device that is used to change the position of a valve (e.g., from opened to closed) in such a way that the position of the valve cannot be changed without breaking the seal.

Closed-loop system means an enclosed system that returns process fluid to the process and is not vented directly to the atmosphere.

Closed-purge system means a system or combination of systems and portable containers to capture purged liquids. Containers must be covered or closed when not being filled or emptied.

Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device.

Combustion device means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of organic emissions.

Connector means flanged, screwed, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are not inaccessible, ceramic, or ceramic-lined (e.g., porcelain, glass, or glass-lined) as described in §63.1027(e)(2).

Continuous parameter monitoring system (CPMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Control device means any combustion device, recovery device, recapture device, or any combination of these devices used to comply with this part. Such equipment or devices include, but are not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters. Primary condensers on steam strippers or fuel gas systems are not considered control devices.

Distance piece means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

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

First attempt at repair, for the purposes of this subpart, means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere, followed by monitoring as specified in §§63.1023(b) and (c) of this subpart in to verify whether the leak is repaired, unless the owner or operator determines by other means that the leak is not repaired.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use a fuel gas in combustion equipment, such as furnaces and gas turbines, either singly or in combination.

In food and medical service means that a piece of equipment in regulated material service contacts a process stream used to manufacture a Food and Drug Administration regulated product where leakage of a barrier fluid into the process stream would cause any of the following:

(1) A dilution of product quality so that the product would not meet written specifications,

(2) An exothermic reaction which is a safety hazard,

(3) The intended reaction to be slowed down or stopped, or

(4) An undesired side reaction to occur.

In gas and vapor service means that a piece of equipment in regulated material service contains a gas or vapor at operating conditions.

In heavy liquid service means that a piece of equipment in regulated material service is not in gas and vapor service or in light liquid service.

In light liquid service means that a piece of equipment in regulated material service contains a liquid that meets the following conditions:

(1) The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20°C,

(2) The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20°C is equal to or greater than 20 percent by weight of the total process stream, and

(3) The fluid is a liquid at operating conditions.

(Note to definition of “in light liquid service”: Vapor pressures may be determined by standard reference texts or ASTM D–2879.)

In liquid service means that a piece of equipment in regulated material service is not in gas and vapor service.

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

In regulated material service means, for the purposes of this subpart, equipment which meets the definition of "in VOC service," "in VHAP service," "in organic hazardous air pollutant service," or "in" other chemicals or groups of chemicals "service" as defined in the referencing subpart.

In-situ sampling systems means nonextractive samplers or in-line samplers.

In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals below ambient pressure.

Initial startup means for new sources, the first time the source begins production. For additions or changes not defined as a new source by this subpart, initial startup means the first time additional or changed equipment is put into operation. Initial startup does not include operation solely for testing of equipment. Initial startup does not include subsequent startup of process units following malfunction or process unit shutdowns. Except for equipment leaks, initial startup also does not include subsequent startups (of process units following changes in product for flexible operation units or following recharging of equipment in batch unit operations).

Instrumentation system means a group of equipment components used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow, etc.). Valves and connectors are the predominant type of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 1.27 centimeters (0.5 inches) and smaller, and connectors nominally 1.91 centimeters (0.75 inches) and smaller in diameter are considered instrumentation systems for the purposes of this subpart. Valves greater than nominally 1.27 centimeters (0.5 inches) and connectors greater than nominally 1.91 centimeters (0.75 inches) associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.

Liquids dripping means any visible leakage from the seal including dripping, spraying, misting, clouding, and ice formation. Indications of liquids dripping include puddling or new stains that are indicative of an existing evaporated drip.

Nonrepairable means that it is technically infeasible to repair a piece of equipment from which a leak has been detected without a process unit or affected facility shutdown.

Open-ended valve or line means any valve, except relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.

Organic monitoring device means a unit of equipment used to indicate the concentration level of organic compounds based on a detection principle such as infra-red, photoionization, or thermal conductivity.

Polymerizing monomer means a compound which may form polymer buildup in pump mechanical seals resulting in rapid mechanical seal failure.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the relief device. This release can be one release or a series of releases over a short time period due to a malfunction in the process.

Pressure relief device or valve means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 pounds per square inch gauge or by a vacuum are not pressure relief devices.

Process unit means the equipment specified in the definitions of process unit in the applicable referencing subpart. If the referencing subpart does not define process unit, then for the purposes of this part, process unit means the equipment assembled and connected by pipes or ducts to process raw materials and to manufacture an intended product.

Process unit shutdown means a work practice or operational procedure that stops production from a process unit, or part of a process unit during which it is technically feasible to clear process material from a process unit, or part of a process unit, consistent with safety constraints and during which repairs can be affected. The following are not considered process unit shutdowns:

(1) An unscheduled work practice or operations procedure that stops production from a process unit, or part of a process unit, for less than 24 hours.

(2) An unscheduled work practice or operations procedure that would stop production from a process unit, or part of a process unit, for a shorter period of time than would be required to clear the process unit, or part of the process unit, of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown.

(3) The use of spare equipment and technically feasible bypassing of equipment without stopping production.

Referencing subpart means the subpart that refers an owner or operator to this subpart.

Regulated material, for purposes of this part, refers to gas from volatile organic liquids (VOL), volatile organic compounds (VOC), hazardous air pollutants (HAP), or other chemicals or groups of chemicals that are regulated by the referencing subpart.

Regulated source for the purposes of this part, means the stationary source, the group of stationary sources, or the portion of a stationary source that is regulated by a referencing subpart.

Relief device or valve means a valve used only to release an unplanned, nonroutine discharge. A relief valve discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause that requires immediate venting of gas from process equipment in order to avoid safety hazards or equipment damage.

Repaired, for the purposes of this subpart, means that equipment is adjusted, or otherwise altered, to eliminate a leak as defined in the applicable sections of this subpart and unless otherwise specified in applicable provisions of this subpart, is monitored as specified in §§63.1023(b) and (c) to verify that emissions from the equipment are below the applicable leak definition.

Routed to a process or route to a process means the emissions are conveyed to any enclosed portion of a process unit where the emissions are predominantly recycled and/or consumed in the same manner as a material that fulfills the same function in the process and/or transformed by chemical reaction into materials that are not regulated materials and/or incorporated into a product; and/or recovered.

Sampling connection system means an assembly of equipment within a process unit or affected facility used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

Screwed (threaded) connector means a threaded pipe fitting where the threads are cut on the pipe wall and the fitting requires only two pieces to make the connection (i.e., the pipe and the fitting).

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

Set pressure means for the purposes of this subpart, the pressure at which a properly operating pressure relief device begins to open to relieve atypical process system operating pressure.

Start-up means the setting into operation of a piece of equipment or a control device that is subject to this subpart.

§ 63.1021 Alternative means of emission limitation.

(a) *Performance standard exemption.* The provisions of paragraph (b) of this section do not apply to the performance standards of §63.1030(b) for pressure relief devices or §63.1031(f) for compressors operating under the alternative compressor standard.

(b) *Requests by owners or operators.* An owner or operator may request a determination of alternative means of emission limitation to the requirements of §§63.1025 through 63.1034 as provided in paragraph (d) of this section. If the Administrator makes a determination that a means of emission limitation is a permissible alternative, the owner or operator shall either comply with the alternative or comply with the requirements of §§63.1025 through 63.1034.

(c) *Requests by manufacturers of equipment.* (1) Manufacturers of equipment used to control equipment leaks of the regulated material may apply to the Administrator for permission for an alternative means of emission limitation that achieves a reduction in emissions of the regulated material achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will grant permission according to the provisions of paragraph (d) of this section.

(d) *Permission to use an alternative means of emission limitation.* Permission to use an alternative means of emission limitation shall be governed by the procedures in paragraphs (d)(1) through (d)(4) of this section.

(1) Where the standard is an equipment, design, or operational requirement, the requirements of paragraphs (d)(1)(i) through (d)(1)(iii) of this section apply.

(i) Each owner or operator applying for permission to use an alternative means of emission limitation shall be responsible for collecting and verifying emission performance test data for an alternative means of emission limitation.

(ii) The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

(iii) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve at least the same emission reduction as the equipment, design, and operational requirements of this subpart.

(2) Where the standard is a work practice, the requirements of paragraphs (d)(2)(i) through (d)(2)(vi) of this section apply.

(i) Each owner or operator applying for permission to use an alternative means of emission limitation shall be responsible for collecting and verifying test data for the alternative.

(ii) For each kind of equipment for which permission is requested, the emission reduction achieved by the required work practices shall be demonstrated for a minimum period of 12 months.

(iii) For each kind of equipment for which permission is requested, the emission reduction achieved by the alternative means of emission limitation shall be demonstrated.

(iv) Each owner or operator applying for such permission shall commit, in writing, for each kind of equipment to work practices that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practices.

(v) The Administrator will compare the demonstrated emission reduction for the alternative means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (d)(2)(iv) of this section.

(vi) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same or greater emission reduction as the required work practices of this subpart.

(3) An owner or operator may offer a unique approach to demonstrate the alternative means of emission limitation.

(4) If, in the judgement of the Administrator, an alternative means of emission limitation will be approved, the Administrator will publish a notice of the determination in theFederal Registerusing the procedures specified in the referencing subpart.

§ 63.1022 Equipment identification.

(a) *General equipment identification.* Equipment subject to this subpart shall be identified. 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, by designation of process unit or affected facility boundaries by some form of weatherproof identification, or by other appropriate methods.

(b) *Additional equipment identification.* In addition to the general identification required by paragraph (a) of this section, equipment subject to any of the provisions in §§63.1023 through 63.1034 shall be specifically identified as required in paragraphs (b)(1) through (b)(5) of this section, as applicable. This paragraph does not apply to an owner or operator of a batch product process who elects to pressure test the batch product process equipment train pursuant to §63.1036.

(1) *Connectors.* Except for inaccessible, ceramic, or ceramic-lined connectors meeting the provision of §63.1027(e)(2) and instrumentation systems identified pursuant to paragraph (b)(4) of this section, identify the connectors 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 identification shall be complete no later than the completion of the initial survey required by paragraph (a) of this section.

(2) *Routed to a process or fuel gas system or equipped with a closed vent system and control device.* Identify the equipment that the owner or operator elects to route to a process or fuel gas system or equip with a closed vent system and control device, under the provisions of §63.1026(e)(3) (pumps in light liquid service), §63.1028(e)(3) (agitators), §63.1030(d) (pressure relief devices in gas and vapor service), §63.1031(e) (compressors), or §63.1037(a) (alternative means of emission limitation for enclosed-vented process units).

(3) *Pressure relief devices.* Identify the pressure relief devices equipped with rupture disks, under the provisions of §63.1030(e).

(4) *Instrumentation systems.* Identify instrumentation systems subject to the provisions of §63.1029 of this subpart. Individual components in an instrumentation system need not be identified.

(5) *Equipment in service less than 300 hours per calendar year.* The identity, either by list, location (area or group), or other method, of equipment in regulated material service less than 300 hours per calendar year within a process unit or affected facilities subject to the provisions of this subpart shall be recorded.

(c) *Special equipment designations: Equipment that is unsafe or difficult-to-monitor* —(1) *Designation and criteria for unsafe-to-monitor.* Valves meeting the provisions of §63.1025(e)(1), pumps meeting the provisions of §63.1026(e)(6), connectors meeting the provisions of §63.1027(e)(1), and agitators meeting the provisions of §63.1028(e)(7) may be designated unsafe-to-monitor if the owner or operator determines that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements of this subpart. Examples of unsafe-to-monitor equipment include, but is not limited to, equipment under extreme pressure or heat.

(2) *Designation and criteria for difficult-to-monitor.* Valves meeting the provisions of §63.1025(e)(2) may be designated difficult-to-monitor if the provisions of paragraph (c)(2)(i) apply. Agitators meeting the provisions of §63.1028(e)(5) may be designated difficult-to-monitor if the provisions of paragraph (c)(2)(ii) apply.

(i) *Valves.* (A) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (7 feet) above a support surface or it is not accessible in a safe manner when it is in regulated material service; and

(B) The process unit or affected facility 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.

(ii) *Agitators.* The owner or operator determines that the agitator cannot be monitored without elevating the monitoring personnel more than 2 meters (7 feet) above a support surface or it is not accessible in a safe manner when it is in regulated material service.

(3) *Identification of unsafe or difficult-to-monitor equipment.* The owner or operator shall record the identity of equipment designated as unsafe-to-monitor according to the provisions of paragraph (c)(1) of this section and the planned schedule for monitoring this equipment. The owner or operator shall record the identity of equipment designated as difficult-to-monitor according to the provisions of paragraph (c)(2) of this section, the planned schedule for monitoring this equipment, and an explanation why the equipment is unsafe or difficult-to-monitor. This record must be kept at the plant and be available for review by an inspector.

(4) *Written plan requirements.* (i) The owner or operator of equipment designated as unsafe-to-monitor according to the provisions of paragraph (c)(1) of this section shall have a written plan that requires monitoring of the equipment as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in §63.1024 if a leak is detected.

(ii) The owner or operator of equipment designated as difficult-to-monitor according to the provisions of paragraph (c)(2) of this section shall have a written plan that requires monitoring of the equipment at least once per calendar year and repair of the equipment according to the procedures in §63.1024 if a leak is detected.

(d) *Special equipment designations: Equipment that is unsafe-to-repair* —(1) *Designation and criteria.* Connectors subject to the provisions of §63.1024(e) may be designated unsafe-to-repair if the owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with the repair requirements of this subpart, and if the connector will be repaired before the end of the next process unit or affected facility shutdown as specified in §63.1024(e)(2).

(2) *Identification of equipment.* The identity of connectors designated as unsafe-to-repair and an explanation why the connector is unsafe-to-repair shall be recorded.

(e) *Special equipment designations: Compressors operating with an instrument reading of less than 500 parts per million above background.* Identify the compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of §63.1031(f).

(f) *Special equipment designations: Equipment in heavy liquid service.* The owner or operator of equipment in heavy liquid service shall comply with the requirements of either paragraph (f)(1) or (f)(2) of this section, as provided in paragraph (f)(3) of this section.

(1) Retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service.

(2) When requested by the Administrator, demonstrate that the piece of equipment or process is in heavy liquid service.

(3) 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.

§ 63.1023 Instrument and sensory monitoring for leaks.

(a) *Monitoring for leaks.* The owner or operator of a regulated source subject to this subpart shall monitor regulated equipment as specified in paragraph (a)(1) of this section for instrument monitoring and paragraph (a)(2) of this section for sensory monitoring.

(1) *Instrument monitoring for leaks.* (i) Valves in gas and vapor service and in light liquid service shall be monitored pursuant to §63.1025(b).

(ii) Pumps in light liquid service shall be monitored pursuant to §63.1026(b).

(iii) Connectors in gas and vapor service and in light liquid service shall be monitored pursuant to §63.1027(b).

(iv) Agitators in gas and vapor service and in light liquid service shall be monitored pursuant to §63.1028(c).

(v) Pressure relief devices in gas and vapor service shall be monitored pursuant to §63.1030(c).

(vi) Compressors designated to operate with an instrument reading less than 500 parts per million above background, as described in §63.1022(e), shall be monitored pursuant to §63.1031(f).

(2) *Sensory monitoring for leaks.* (i) Pumps in light liquid service shall be observed pursuant to §§63.1026(b)(4) and (e)(1)(v).

(ii) [Reserved]

(iii) Agitators in gas and vapor service and in light liquid service shall be observed pursuant to §63.1028(c)(3) or (e)(1)(iv).

(iv) [Reserved]

(b) *Instrument monitoring methods.* Instrument monitoring, as required under this subpart, shall comply with the requirements specified in paragraphs (b)(1) through (b)(6) of this section.

(1) *Monitoring method.* Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A, except as otherwise provided in this section.

(2) *Detection instrument performance criteria.* (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, paragraph (a) of Method 21 shall be for the representative composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, air, water or other inerts that are not HAP or VOC, the representative stream response factor shall be determined on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted.

(ii) If there is no instrument commercially available 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 representative response factor of the process fluid, calculated on an inert-free basis as described in paragraph (b)(2)(i) of this section.

(3) *Detection instrument calibration procedure.* The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(4) *Detection instrument calibration gas.* Calibration gases shall be zero air (less than 10 parts per million of hydrocarbon in air); and the gases specified in paragraph (b)(4)(i) of this section except as provided in paragraph (b)(4)(ii) of this section.

(i) Mixtures of methane in air at a concentration no more than 2,000 parts per million greater than the leak definition concentration of the equipment monitored. 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.

(ii) 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.

(5) *Monitoring performance.* Monitoring shall be performed when the equipment is in regulated material service or is in use with any other detectable material.

(6) *Monitoring data.* Monitoring data obtained prior to the regulated source becoming subject to the referencing subpart that do not meet the criteria specified in paragraphs (b)(1) through (b)(5) of this section may still be used to qualify initially for less frequent monitoring under the provisions in §63.1025(a)(2), (b)(3) or (b)(4) for valves or §63.1027(b)(3) for connectors provided the departures from the criteria or from the specified monitoring frequency of §63.1025(b)(3) or (b)(4) or §63.1027(b)(3) 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 6 weeks instead of monthly or quarterly), following the performance criteria of section 3.1.2, paragraph (a) of Method 21 of appendix A of 40 CFR part 60 instead of paragraph (b)(2) of this section, or monitoring using 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.

(c) *Instrument monitoring using background adjustments.* The owner or operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects not to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (b)(1) through (b)(5) of this section. In such cases, all instrument readings shall be compared directly to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with §63.1030(b) (pressure relief devices) or §63.1031(f) (alternative compressor standard). 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.

(1) The requirements of paragraphs (b)(1) through (b)(5) of this section shall apply.

(2) The background level shall be determined, using the procedures in Method 21 of 40 CFR part 60, appendix A.

(3) 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.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with §63.1030(b) (pressure relief devices) or §63.1031(f) (alternative compressor standard).

(d) *Sensory monitoring methods.* Sensory monitoring consists of visual, audible, olfactory, or any other detection method used to determine a potential leak to the atmosphere.

(e) *Leaking equipment identification and records.* (1) When each leak is detected pursuant to the monitoring specified in paragraph (a) of this section, a weatherproof and readily visible identification, shall be attached to the leaking equipment.

(2) When each leak is detected, the information specified in §63.1024(f) shall be recorded and kept pursuant to the referencing subpart, except for the information for connectors complying with the 8 year monitoring period allowed under §63.1027(b)(3)(iii) shall be kept 5 years beyond the date of its last use.

§ 63.1024 Leak repair.

(a) *Leak repair schedule.* The owner or operator shall repair each leak detected as soon as practical, but not later than 15 calendar days after it is detected, except as provided in paragraphs (d) and (e) of this section. A first attempt at repair as defined in this subpart shall be made no later than 5 calendar days after the leak is detected. First attempt at repair for pumps includes, but is not limited to, tightening the packing gland nuts and/or ensuring that the seal flush is operating at design pressure and temperature. First attempt at repair for valves includes, but is not limited to, tightening the bonnet bolts, and/or replacing the bonnet bolts, and/or tightening the packing gland nuts, and/or injecting lubricant into the lubricated packing.

(b) [Reserved]

(c) *Leak identification removal* —(1) *Valves and connectors in gas/vapor and light liquid service.* The leak identification on a valve in gas/vapor or light liquid service may be removed after it has been monitored as specified in §63.1025(d)(2), and no leak has been detected during that monitoring. The leak identification on a connector in gas/vapor or light liquid service may be removed after it has been monitored as specified in §63.1027(b)(3)(iv) and no leak has been detected during that monitoring.

(2) *Other equipment.* The identification that has been placed, pursuant to §63.1023(e)(1), on equipment determined to have a leak, except for a valve or for a connector in gas/vapor or light liquid service that is subject to the provisions of §63.1027(b)(3)(iv), may be removed after it is repaired.

(d) *Delay of repair.* Delay of repair is allowed for any of the conditions specified in paragraphs (d)(1) through (d)(5) of this section. The owner or operator shall maintain a record of the facts that explain any delay of repairs and, where appropriate, why the repair was technically infeasible without a process unit shutdown.

(1) Delay of repair of equipment for which leaks have been detected is allowed if repair within 15 days after a leak is detected is technically infeasible without a process unit or affected facility shutdown. Repair of this equipment shall occur as soon as practical, but no later than the end of the next process unit or affected facility shutdown, except as provided in paragraph (d)(5) of this section.

(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 regulated material service.

(3) Delay of repair for valves, connectors, and agitators is also allowed if the provisions of paragraphs (d)(3)(i) and (d)(3)(ii) of this section are met.

(i) 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

(ii) When repair procedures are effected, the purged material is collected and destroyed, collected and routed to a fuel gas system or process, or recovered in a control device complying with either §63.1034 or §63.1021(b) of this part.

(4) Delay of repair for pumps is also allowed if the provisions of paragraphs (d)(4)(i) and (d)(4)(ii) of this section are met.

(i) Repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of §63.1035(d) will provide better performance or one of the specifications of paragraphs (d)(4)(i)(A) through (d)(4)(i)(C) of this section are met.

(A) A dual mechanical seal system that meets the requirements of §63.1026(e)(1) will be installed;

(B) A pump that meets the requirements of §63.1026(e)(2) will be installed; or

(C) A system that routes emissions to a process or a fuel gas system or a closed vent system and control device that meets the requirements of §63.1026(e)(3) will be installed; and

(ii) Repair is completed as soon as practical, but not later than 6 months after the leak was detected.

(5) Delay of repair beyond a process unit or affected facility shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit or affected facility shutdown, and 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 or affected facility shutdown will not be allowed unless the third process unit or affected facility shutdown occurs sooner than 6 months after the first process unit or affected facility shutdown.

(e) *Unsafe-to-repair—connectors.* Any connector that is designated, as described in §63.1022(d), as an unsafe-to-repair connector is exempt from the requirements of §63.1027(d), and paragraph (a) of this section.

(f) *Leak repair records.* For each leak detected, the information specified in paragraphs (f)(1) through (f)(5) of this section shall be recorded and maintained pursuant to the referencing subpart.

(1) The date of first attempt to repair the leak.

(2) The date of successful repair of the leak.

(3) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A at the time the leak is successfully repaired or determined to be nonrepairable.

(4) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak as specified in paragraphs (f)(4)(i) and (f)(4)(ii) of this section.

(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, and malfunction plan, as required by the referencing subpart 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.

(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.

(5) Dates of process unit or affected facility shutdowns that occur while the equipment is unrepaired.

§ 63.1025 Valves in gas and vapor service and in light liquid service standards.

(a) *Compliance schedule.* (1) The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(2) The use of monitoring data generated before the regulated source became subject to the referencing subpart to qualify initially for less frequent monitoring is governed by the provisions of §63.1023(b)(6).

(b) *Leak detection.* Unless otherwise specified in §63.1021(b) or paragraph (e) of this section, or the referencing subpart, the owner or operator shall monitor all valves at the intervals specified in paragraphs (b)(3) and/or (b)(4) of this section and shall comply with all other provisions of this section.

(1) *Monitoring method.* The valves shall be monitored to detect leaks by the method specified in §63.1023(b) and, as applicable, §63.1023(c).

(2) *Instrument reading that defines a leak.* The instrument reading that defines a leak is 500 parts per million or greater.

(3) *Monitoring frequency.* The owner or operator shall monitor valves for leaks at the intervals specified in paragraphs (b)(3)(i) through (b)(3)(v) of this section and shall keep the record specified in paragraph (b)(3)(vi) of this section.

(i) If at least the greater of 2 valves or 2 percent of the valves in a process unit leak, as calculated according to paragraph (c) of this section, the owner or operator shall monitor each valve once per month.

(ii) At process units with less than the greater of 2 leaking valves or 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (b)(3)(iii) through (b)(3)(v) of this section. Monitoring data generated before the regulated source became subject to the referencing subpart and meeting the criteria of either §63.1023(b)(1) through (b)(5), or §63.1023(b)(6), may be used to qualify initially for less frequent monitoring under paragraphs (b)(3)(iii) through (b)(3)(v) of this section.

(iii) At process units with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every two quarters

(iv) At process units with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every four quarters.

(v) At process units with less than 0.25 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 years.

(vi) The owner or operator shall keep a record of the monitoring schedule for each process unit.

(4) *Valve subgrouping.* For a process unit or a group of process units to which this subpart applies, an owner or operator may choose to subdivide the valves in the applicable process unit or group of process units and apply the provisions of paragraph (b)(3) of this section to each subgroup. If the owner or operator elects to subdivide the valves in the applicable process unit or group of process units, then the provisions of paragraphs (b)(4)(i) through (b)(4)(viii) of this section apply.

(i) The overall performance of total valves in the applicable process unit or group of process units to be subdivided shall be less than 2 percent leaking valves, as detected according to paragraphs (b)(1) and (b)(2) of this section and as calculated according to paragraphs (c)(1)(ii) and (c)(2) of this section.

(ii) The initial assignment or subsequent reassignment of valves to subgroups shall be governed by the provisions of paragraphs (b)(4)(ii)(A) through (b)(4)(ii)(C) of this section.

(A) The owner or operator shall determine which valves are assigned to each subgroup. Valves with less than one year of monitoring data or valves not monitored within the last twelve months must be placed initially into the most frequently monitored subgroup until at least one year of monitoring data have been obtained.

(B) Any valve or group of valves can be reassigned from a less frequently monitored subgroup to a more frequently monitored subgroup provided that the valves to be reassigned were monitored during the most recent monitoring period for the less frequently monitored subgroup. The monitoring results must be included with that less frequently monitored subgroup's associated percent leaking valves calculation for that monitoring event.

(C) Any valve or group of valves can be reassigned from a more frequently monitored subgroup to a less frequently monitored subgroup provided that the valves to be reassigned have not leaked for the period of the less frequently monitored subgroup (e.g., for the last 12 months, if the valve or group of valves is to be reassigned to a subgroup being monitored annually). Nonrepairable valves may not be reassigned to a less frequently monitored subgroup.

(iii) The owner or operator shall determine every 6 months if the overall performance of total valves in the applicable process unit or group of process units is less than 2 percent leaking valves and so indicate the performance in the next Periodic Report. If the overall performance of total valves in the applicable process unit or group of process units is 2 percent leaking valves or greater, the owner or operator shall no longer subgroup and shall revert to the program required in paragraphs (b)(1) through (b)(3) of this section for that applicable process unit or group of process units. An owner or operator can again elect to comply with the valve subgrouping procedures of paragraph (b)(4) of this section if future overall performance of total valves in the process unit or group of process units is again less than 2 percent. The overall performance of total valves in the applicable process unit or group of process units shall be calculated as a weighted average of the percent leaking valves of each subgroup according to Equation number 1:

$$\%V_{LO} = \frac{\sum_{i=1}^{n}\left(\%V_{Li} \times V_i\right)}{\sum_{i=1}^{n} V_i} \qquad \text{[Eq. 1]}$$

where:

$\%V_{LO}$= Overall performance of total valves in the applicable process unit or group of process units

$\%V_{Li}$= Percent leaking valves in subgroup i, most recent value calculated according to the procedures in paragraphs (c)(1)(ii) and (c)(2) of this section.

V_i= Number of valves in subgroup i.

n = Number of subgroups.

(iv) The owner or operator shall maintain records specified in paragraphs (b)(4)(iv)(A) through (b)(4)(iv)(D) of this section.

(A) Which valves are assigned to each subgroup,

(B) Monitoring results and calculations made for each subgroup for each monitoring period,

(C) Which valves are reassigned, the last monitoring result prior to reassignment, and when they were reassigned, and

(D) The results of the semiannual overall performance calculation required in paragraph (b)(4)(iii) of this section.

(v) The owner or operator shall notify the Administrator no later than 30 days prior to the beginning of the next monitoring period of the decision to subgroup valves. The notification shall identify the participating process units and the number of valves assigned to each subgroup, if applicable, and may be included in the next Periodic Report.

(vi) The owner or operator shall submit in the periodic reports the information specified in paragraphs (b)(4)(vi)(A) and (b)(4)(vi)(B).

(A) Total number of valves in each subgroup, and

(B) Results of the semiannual overall performance calculation required by paragraph (b)(4)(iii) of this section.

(vii) To determine the monitoring frequency for each subgroup, the calculation procedures of paragraph (c)(2) of this section shall be used.

(viii) Except for the overall performance calculations required by paragraphs (b)(4)(i) and (iii) of this section, each subgroup shall be treated as if it were a process unit for the purposes of applying the provisions of this section.

(c) *Percent leaking valves calculation* —(1) *Calculation basis and procedures.* (i) The owner or operator shall decide no later than the compliance date of this part or upon revision of an operating permit whether to calculate percent leaking valves on a process unit or group of process units basis. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis and this shall be the basis used for comparison with the subgrouping criteria specified in paragraph (b)(4)(i) of this section.

(ii) The percent leaking valves for each monitoring period for each process unit or valve subgroup, as provided in paragraph (b)(4) of this section, shall be calculated using the following equation:

$$\%V_L = \left(V_L / V_T\right) \times 100 \qquad \text{[Eq. 2]}$$

where:

$\%V_L$= Percent leaking valves.

V_L= Number of valves found leaking, excluding nonrepairable valves, as provided in paragraph (c)(3) of this section, and including those valves found leaking pursuant to paragraphs (d)(2)(iii)(A) and (d)(2)(iii)(B) of this section.

V_T= The sum of the total number of valves monitored.

(2) *Calculation for monitoring frequency.* When determining monitoring frequency for each process unit or valve subgroup subject to monthly, quarterly, or semiannual monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last two monitoring periods. When determining monitoring frequency for each process unit or valve subgroup subject to annual or biennial (once every 2 years) monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last three monitoring periods.

(3) *Nonrepairable valves.* (i) 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 (c)(3)(ii) of this section. Otherwise, a number of nonrepairable valves (identified and included in the percent leaking valves calculation in a previous period) up to a maximum of 1 percent of the total number of valves in regulated material service at a process unit or affected facility may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

(ii) If the number of nonrepairable valves exceeds 1 percent of the total number of valves in regulated material service at a process unit or affected facility, the number of nonrepairable valves exceeding 1 percent of the total number of valves in regulated material service shall be included in the calculation of percent leaking valves.

(d) *Leak repair.* (1) If a leak is determined pursuant to paragraph (b), (e)(1), or (e)(2) of this section, then the leak shall be repaired using the procedures in §63.1024, as applicable.

(2) After a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair. The monitoring required by this paragraph is in addition to the monitoring required to satisfy the definition of repaired and first attempt at repair.

(i) The monitoring shall be conducted as specified in §63.1023(b) and (c) of this section, as appropriate, to determine whether the valve has resumed leaking.

(ii) Periodic monitoring required by paragraph (b) of this section may be used to satisfy the requirements of this paragraph, if the timing of the monitoring period coincides with the time specified in this paragraph. Alternatively, other monitoring may be performed to satisfy the requirements of this paragraph, regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in this paragraph.

(iii) If a leak is detected by monitoring that is conducted pursuant to paragraph (d)(2) of this section, the owner or operator shall follow the provisions of paragraphs (d)(2)(iii)(A) and (d)(2)(iii)(B) of this section, to determine whether that valve must be counted as a leaking valve for purposes of paragraph (c)(1)(ii) of this section.

(A) If the owner or operator elected to use periodic monitoring required by paragraph (b) of this section to satisfy the requirements of paragraph (d)(2) of this section, then the valve shall be counted as a leaking valve.

(B) If the owner or operator elected to use other monitoring, prior to the periodic monitoring required by paragraph (b) of this section, to satisfy the requirements of paragraph (d)(2) 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.

(e) *Special provisions for valves* —(1) *Unsafe-to-monitor valves.* Any valve that is designated, as described in §63.1022(c)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraphs (b) and (d)(2) of this section and the owner or operator shall monitor the valve according to the written plan specified in §63.1022(c)(4).

(2) *Difficult-to-monitor valves.* Any valve that is designated, as described in §63.1022(c)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (b) of this section and the owner or operator shall monitor the valve according to the written plan specified in §63.1022(c)(4).

(3) *Fewer than 250 valves.* Any equipment located at a plant site with fewer than 250 valves in regulated material service is exempt from the requirements for monthly monitoring specified in paragraph (b)(3)(i) of this section. Instead, the owner or operator shall monitor each valve in regulated material service for leaks once each quarter, as provided in paragraphs (e)(1) and (e)(2) of this section.

§ 63.1026 Pumps in light liquid service standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Leak detection.* Unless otherwise specified in §63.1021(b), §63.1036, §63.1037, or paragraph (e) of this section, the owner or operator shall monitor each pump to detect leaks and shall comply with all other provisions of this section.

(1) *Monitoring method and frequency.* The pumps shall be monitored monthly to detect leaks by the method specified in §63.1023(b) and, as applicable, §63.1023(c).

(2) *Instrument reading that defines a leak.* The instrument reading that defines a leak is specified in paragraphs (b)(2)(i) through (b)(2)(iii) of this section.

(i) 5,000 parts per million or greater for pumps handling polymerizing monomers;

(ii) 2,000 parts per million or greater for pumps in food/medical service; and

(iii) 1,000 parts per million or greater for all other pumps.

(3) *Leak repair exception.* For pumps 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.

(4) *Visual inspection.* Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. The owner or operator shall document that the inspection was conducted and the date of the inspection. If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (b)(4)(i) or (b)(4)(ii) of this section.

(i) The owner or operator shall monitor the pump as specified in §63.1023(b) and, as applicable, §63.1023(c). If the instrument reading indicates a leak as specified in paragraph (b)(2) of this section, a leak is detected and it shall be repaired using the procedures in §63.1024, except as specified in paragraph (b)(3) of this section; or

(ii) The owner or operator shall eliminate the visual indications of liquids dripping.

(c) *Percent leaking pumps calculation.* (1) The owner or operator shall decide no later than the compliance date of this part or upon revision of an operating permit whether to calculate percent leaking pumps on a process unit basis or group of process units basis. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis.

(2) If, when calculated on a 6-month rolling average, at least 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 §63.1035.

(3) The number of pumps at a process unit or affected facility shall be the sum of all the pumps in regulated material service, except that pumps found leaking in a continuous process unit or affected facility within 1 month after start-up of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

(4) Percent leaking pumps shall be determined by the following equation:

$$\%P_L = \left((P_L - P_S)/(P_T - P_S)\right) \times 100 \qquad [Eq.\ 3]$$

Where:

$\%P_L$= Percent leaking pumps

P_L= Number of pumps found leaking as determined through monthly monitoring as required in paragraph (b)(1) of this section. Do not include results from inspection of unsafe-to-monitor pumps pursuant to paragraph (e)(6) of this section.

P_S= Number of pumps leaking within 1 month of start-up during the current monitoring period.

P_T= Total pumps in regulated material service, including those meeting the criteria in paragraphs (e)(1), (e)(2), (e)(3), and (e)(6) of this section.

(d) *Leak repair.* If a leak is detected pursuant to paragraph (b) of this section, then the leak shall be repaired using the procedures in §63.1024, as applicable, unless otherwise specified in paragraph (b)(5) of this section for leaks identified by visual indications of liquids dripping.

(e) *Special provisions for pumps* —(1) *Dual mechanical seal pumps.* Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (b) of this section, provided the requirements specified in paragraphs (e)(1)(i) through (e)(1)(viii) of this section are met.

(i) 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. The owner or operator shall keep records at the plant of the design criteria and an explanation of the design criteria; and any changes to these criteria and the reasons for the changes. This record must be available for review by an inspector.

(ii) Each dual mechanical seal system shall meet the requirements specified in paragraph (e)(1)(ii)(A), (e)(1)(ii)(B), or (e)(1)(ii)(C) of this section.

(A) Each dual mechanical seal system is operated with the barrier fluid at a pressure that is at all times (except periods of startup, shutdown, or malfunction) greater than the pump stuffing box pressure; or

(B) 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 either §63.1034 or §63.1021(b) of this part; or

(C) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(iii) The barrier fluid is not in light liquid service.

(iv) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(v) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. The owner or operator shall document that the inspection was conducted and the date of the inspection. If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in paragraphs (e)(1)(v)(A) or (e)(1)(v)(B) of this section prior to the next required inspection.

(A) The owner or operator shall monitor the pump as specified in §63.1023(b) and, as applicable, §63.1023 (c), to determine if there is a leak of regulated material in the barrier fluid. If an instrument reading of 1,000 parts per million or greater is measured, a leak is detected and it shall be repaired using the procedures in §63.1024; or

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(vi) If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (e)(1)(i) of this section, or if based on the criteria established in paragraph (e)(1)(i) of this section the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(vii) Each sensor as described in paragraph (e)(1)(iv) 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.

(viii) When a leak is detected pursuant to paragraph (e)(1)(vi) of this section, it shall be repaired as specified in §63.1024.

(2) *No external shaft.* Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the requirements of paragraph (b) of this section.

(3) *Routed to a process or fuel gas system or equipped with a closed vent system.* Any pump 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 pump to a control device meeting the requirements of §63.1034 of this part or §63.1021(b) is exempt from the requirements of paragraph (b) of this section.

(4) *Unmanned plant site.* Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(4) and (e)(1)(v) of this section, and the daily requirements of paragraph (e)(1)(vii) of this section, provided that each pump is visually inspected as often as practical and at least monthly.

(5) *90 percent exemption.* If more than 90 percent of the pumps at a process unit or affected facility meet the criteria in either paragraph (e)(1) or (e)(2) of this section, the process unit or affected facility is exempt from the percent leaking calculation in paragraph (c) of this section.

(6) *Unsafe-to-monitor pumps.* Any pump that is designated, as described in §63.1022(c)(1), as an unsafe-to-monitor pump is exempt from the requirements of paragraph (b) of this section, the monitoring and inspection requirements of paragraphs (e)(1)(v) through (viii) of this section, and the owner or operator shall monitor and inspect the pump according to the written plan specified in §63.1022(c)(4).

[64 FR 34899, June 29, 1999, as amended at 64 FR 63706, Nov. 22, 1999]

§ 63.1027 Connectors in gas and vapor service and in light liquid service standards.

(a) *Compliance schedule.* The owner or operator shall monitor all connectors in each process unit initially for leaks by the later of either 12 months after the compliance date as specified in a referencing subpart or 12 months after initial startup. If all connectors in each process unit have been monitored for leaks prior to the compliance date specified in the referencing subpart, no initial monitoring is required provided either no process changes have been made since the monitoring or the owner or operator can determine that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, the owner or operator is required to monitor only those connectors involved in the process change.

(b) *Leak detection.* Except as allowed in §63.1021(b), §63.1036, §63.1037, or as specified in paragraph (e) of this section, the owner or operator shall monitor all connectors in gas and vapor and light liquid service as specified in paragraphs (a) and (b)(3) of this section.

(1) *Monitoring method.* The connectors shall be monitored to detect leaks by the method specified in §63.1023(b) and, as applicable, §63.1023(c).

(2) *Instrument reading that defines a leak.* If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected.

(3) *Monitoring periods.* The owner or operator shall perform monitoring, subsequent to the initial monitoring required in paragraph (a) of this section, as specified in paragraphs (b)(3)(i) through (b)(3)(iii) of this section, and shall comply with the requirements of paragraphs (b)(3)(iv) and (b)(3)(v) of this section. The required period in which monitoring must be conducted shall be determined from paragraphs (b)(3)(i) through (b)(3)(iii) of this section using the monitoring results from the preceding monitoring period. The percent leaking connectors shall be calculated as specified in paragraph (c) of this section.

(i) If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then monitor within 12 months (1 year).

(ii) If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent but less than 0.5 percent, then monitor within 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors within 2 years of the start of the monitoring period, provided all connectors have been monitored by the end of the 4 year monitoring period.

(iii) If the percent leaking connectors in the process unit was less than 0.25 percent, then monitor as provided in paragraph (b)(3)(iii)(A) of this section and either paragraph (b)(3)(iii)(B) or (b)(3)(iii)(C) of this section, as appropriate.

(A) An owner or operator shall monitor at least 50 percent of the connectors within 4 years of the start of the monitoring period.

(B) If the percent leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is greater than or equal to 0.35 percent of the monitored connectors, the owner or operator shall monitor as soon as practical, but within the next 6 months, all connectors that have not yet been monitored during the monitoring period. At the conclusion of monitoring, a new monitoring period shall be started pursuant to paragraph (b)(3) of this section, based on the percent leaking connectors of the total monitored connectors.

(C) If the percent leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is less than 0.35 percent of the monitored connectors, the owner or operator shall monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.

(iv) If, during the monitoring conducted pursuant to paragraph (b)(3)(i) through (b)(3)(iii) of this section, a connector is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.

(v) The owner or operator shall keep a record of the start date and end date of each monitoring period under this section for each process unit.

(c) *Percent leaking connectors calculation.* For use in determining the monitoring frequency, as specified in paragraphs (a) and (b)(3) of this section, the percent leaking connectors as used in paragraphs (a) and (b)(3) of this section shall be calculated by using equation number 4.

$$\%C_L = C_L / C_t \times 100 \qquad \text{[Eq. 4]}$$

Where:

$\%C_L$= Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b)(3)(i) through (b)(3)(iii) of this section.

C_L= Number of connectors measured at 500 parts per million or greater, by the method specified in §63.1023(b).

C_t= Total number of monitored connectors in the process unit or affected facility.

(d) *Leak repair.* If a leak is detected pursuant to paragraphs (a) and (b) of this section, then the leak shall be repaired using the procedures in §63.1024, as applicable.

(e) *Special provisions for connectors* —(1) *Unsafe-to-monitor connectors.* Any connector that is designated, as described in §63.1022(c)(1), as an unsafe-to-monitor connector is exempt from the requirements of paragraphs (a) and (b) of this section and the owner or operator shall monitor according to the written plan specified in §63.1022(c)(4).

(2) *Inaccessible, ceramic, or ceramic-lined connectors.* (i) Any connector that is inaccessible or that is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (b) of this section, from the leak repair requirements of paragraph (d) of this section, and from the recordkeeping and reporting requirements of §§63.1038 and 63.1039. An inaccessible connector is one that meets any of the provisions specified in paragraphs (e)(2)(i)(A) through (e)(2)(i)(F) of this section, as applicable.

(A) Buried;

(B) Insulated in a manner that prevents access to the connector by a monitor probe;

(C) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(D) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground.

(E) Inaccessible because it would require elevating the monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold;

(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.

(ii) If any inaccessible, ceramic or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the visual, audible, olfactory, or other indications of a leak to the atmosphere shall be eliminated as soon as practical.

§ 63.1028 Agitators in gas and vapor service and in light liquid service standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) [Reserved]

(c) *Leak detection* —(1) *Monitoring method.* Each agitator seal shall be monitored monthly to detect leaks by the methods specified in §63.1023(b) and, as applicable, §63.1023(c), except as provided in §63.1021(b), §63.1036, §63.1037, or paragraph (e) of this section.

(2) *Instrument reading that defines a leak.* If an instrument reading equivalent of 10,000 parts per million or greater is measured, a leak is detected.

(3) *Visual inspection.* (i) Each agitator seal shall be checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal. The owner or operator shall document that the inspection was conducted and the date of the inspection.

(ii) If there are indications of liquids dripping from the agitator seal, the owner or operator shall follow the procedures specified in paragraphs (c)(3)(ii)(A) or (c)(3)(ii)(B) of this section prior to the next required inspection.

(A) The owner or operator shall monitor the agitator seal as specified in §63.1023(b) and, as applicable, §63.1023(c), to determine if there is a leak of regulated material. If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected, and it shall be repaired according to paragraph (d) of this section; or

(B) The owner or operator shall eliminate the indications of liquids dripping from the agitator seal.

(d) *Leak repair.* If a leak is detected, then the leak shall be repaired using the procedures in §63.1024.

(e) *Special provisions for agitators* —(1) *Dual mechanical seal.* Each agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (c) of this section, provided the requirements specified in paragraphs (e)(1)(i) through (e)(1)(vi) of this section are met.

(i) Each dual mechanical seal system shall meet the applicable requirements specified in paragraphs (e)(1)(i)(A), (e)(1)(i)(B), or (e)(1)(i)(C) of this section.

(A) Operated with the barrier fluid at a pressure that is at all times (except during periods of startup, shutdown, or malfunction) greater than the agitator stuffing box pressure; or

(B) 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 meets the requirements of either §63.1034 or §63.1021(b); or

(C) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(ii) The barrier fluid is not in light liquid service.

(iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(iv) Each agitator seal is checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal. If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in paragraphs (e)(1)(iv)(A) or (e)(1)(iv)(B) of this section prior to the next required inspection.

(A) The owner or operator shall monitor the agitator seal as specified in §63.1023(b) and, as applicable, §63.1023(c), to determine the presence of regulated material in the barrier fluid. If an instrument reading equivalent to or greater than 10,000 ppm is measured, a leak is detected and it shall be repaired using the procedures in §63.1024, or

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(v) Each sensor as described in paragraph (e)(1)(iii) of this section is observed daily or is equipped with an alarm unless the agitator seal is located within the boundary of an unmanned plant site.

(vi) The owner or operator of each dual mechanical seal system shall meet the requirements specified in paragraphs (e)(1)(vi)(A) and (e)(1)(vi)(B).

(A) The owner or operator shall determine, based on design considerations and operating experience, criteria that indicates failure of the seal system, the barrier fluid system, or both and applicable to the presence and frequency of drips. If indications of liquids dripping from the agitator seal exceed the criteria, or if, based on the criteria the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected and shall be repaired pursuant to §63.1024, as applicable.

(B) The owner or operator shall keep records of the design criteria and an explanation of the design criteria; and any changes to these criteria and the reasons for the changes.

(2) *No external shaft.* Any agitator that is designed with no externally actuated shaft penetrating the agitator housing is exempt from paragraph (c) of this section.

(3) *Routed to a process or fuel gas system or equipped with a closed vent system.* Any agitator that is routed to a process or fuel gas system that captures and transports leakage from the agitator to a control device meeting the requirements of either §63.1034 or §63.1021(b) is exempt from the requirements of paragraph (c) of this section.

(4) *Unmanned plant site.* Any agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (c)(3) and (e)(1)(iv) of this section, and the daily requirements of paragraph (e)(1)(v) of this section, provided that each agitator is visually inspected as often as practical and at least monthly.

(5) *Difficult-to-monitor agitator seals.* Any agitator seal that is designated, as described in §63.1022(c)(2), as a difficult-to-monitor agitator seal is exempt from the requirements of paragraph (c) of this section and the owner or operator shall monitor the agitator seal according to the written plan specified in §63.1022(c)(4).

(6) *Equipment obstructions.* Any agitator seal that is obstructed by equipment or piping that prevents access to the agitator by a monitor probe is exempt from the monitoring requirements of paragraph (c) of this section.

(7) *Unsafe-to-monitor agitator seals.* Any agitator seal that is designated, as described in §63.1022(c)(1), as an unsafe-to-monitor agitator seal is exempt from the requirements of paragraph (c) of this section and the owner or operator of the agitator seal monitors the agitator seal according to the written plan specified in §63.1022(c)(4).

§ 63.1029 Pumps, valves, connectors, and agitators in heavy liquid service; pressure relief devices in liquid service; and instrumentation systems standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Leak detection* —(1) *Monitoring method.* Unless otherwise specified in §63.1021(b), §63.1036, or §63.1037, the owner or operator shall comply with paragraphs (b)(1) and (b)(2) of this section. 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 §63.1023(b) and, as applicable, §63.1023(c), if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method, unless the potential leak is repaired as required in paragraph (c) of this section.

(2) *Instrument reading that defines a leak.* 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 pumps in food and medical service, or 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 pursuant to paragraph (b)(1) of this section, a leak is detected and shall be repaired pursuant to §63.1024, as applicable.

(c) *Leak repair.* For equipment identified in paragraph (b) of this section that is not monitored by the method specified in §63.1023(b) and, as applicable, §63.1023(c), 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.

[64 FR 34899, June 29, 1999, as amended at 64 FR 63706, Nov. 22, 1999]

§ 63.1030 Pressure relief devices in gas and vapor service standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Compliance standard.* Except during pressure releases as provided for in paragraph (c) of this section, or as otherwise specified in §§63.1036, 63.1037, or paragraphs (d) and (e) of this section, each pressure relief device in gas and vapor service shall be operated with an instrument reading of less than 500 parts per million as measured by the method specified in §63.1023(b) and, as applicable, §63.1023(c).

(c) *Pressure relief requirements.* (1) 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, as soon as practical, but no later than 5 calendar days after each pressure release, except as provided in §63.1024(d).

(2) The pressure relief device shall be monitored no later than five calendar days after the pressure 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 §63.1023(b) and, as applicable, §63.1023(c).

(3) The owner or operator shall record the dates and results of the monitoring required by paragraph (c)(2) of this section following a pressure release including the background level measured and the maximum instrument reading measured during the monitoring.

(d) *Pressure relief devices routed to a process or fuel gas system or equipped with a closed vent system and control device.* 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 meeting the requirements of §63.1034 is exempt from the requirements of paragraphs (b) and (c) of this section.

(e) *Rupture disk exemption.* Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (b) and (c) of this section provided the owner or operator installs a replacement rupture disk upstream of the pressure relief device as soon as practical after each pressure release but no later than 5 calendar days after each pressure release, except as provided in §63.1024(d).

§ 63.1031 Compressors standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Seal system standard.* Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere, except as provided in §§63.1021(b), 63.1036, 63.1037, and paragraphs (e) and (f) of this section. Each compressor seal system shall meet the applicable requirements specified in paragraph (b)(1), (b)(2), or (b)(3) of this section.

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure at all times (except during periods of startup, shutdown, or malfunction); or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that meets the requirements of either §63.1034 or §63.1021(b); or

(3) Equipped with a closed-loop system that purges the barrier fluid directly into a process stream.

(c) *Barrier fluid system.* The barrier fluid shall not be in light liquid service. Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both. Each sensor shall be observed daily or shall be equipped with an alarm unless the compressor is located within the boundary of an unmanned plant site.

(d) *Failure criterion and leak detection.* (1) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion, a leak is detected and shall be repaired pursuant to §63.1024, as applicable.

(2) The owner or operator shall keep records of the design criteria and an explanation of the design criteria; and any changes to these criteria and the reasons for the changes.

(e) *Routed to a process or fuel gas system or equipped with a closed vent system.* A compressor is exempt from the requirements of paragraphs (b) through (d) of this section if it is equipped with a system to capture and transport leakage from the compressor drive shaft seal to a process or a fuel gas system or to a closed vent system that captures and transports leakage from the compressor to a control device meeting the requirements of either §63.1034 or §63.1021(b).

(f) *Alternative compressor standard.* (1) Any compressor that is designated, as described in §63.1022(e), as operating with an instrument reading of less than 500 parts per million above background shall operate at all times with an instrument reading of less than 500 parts per million. A compressor so designated is exempt from the requirements of paragraphs (b) through (d) of this section if the compressor is demonstrated, initially upon designation, annually, and at other times requested by the Administrator to be operating with an instrument reading of less than 500 parts per million above background, as measured by the method specified in §63.1023(b) and, as applicable, §63.1023(c).

(2) The owner or operator shall record the dates and results of each compliance test including the background level measured and the maximum instrument reading measured during each compliance test.

§ 63.1032 Sampling connection systems standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Equipment requirement.* Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed vent system, except as provided in §§63.1021(b), 63.1036, 63.1037, or paragraph (d) of this section. Gases displaced during filling of the sample container are not required to be collected or captured.

(c) *Equipment design and operation.* Each closed-purge, closed-loop, or closed vent system as required in paragraph (b) of this section shall meet the applicable requirements specified in paragraphs (c)(1) through (c)(5) of this section.

(1) The system shall return the purged process fluid directly to a process line or to a fuel gas system that meets the requirements of either §63.1034 or §63.1021(b); or

(2) [Reserved]

(3) Be designed and operated to capture and transport all the purged process fluid to a control device that meets the requirements of either §63.1034 or §63.1021(b); or

(4) Collect, store, and transport the purged process fluid to a system or facility identified in paragraph (c)(4)(i), (c)(4)(ii), or (c)(4)(iii) of this section.

(i) A waste management unit as defined in 40 CFR 63.111 or subpart G, if the waste management unit is subject to and operating in compliance with the provisions of 40 CFR part 63, subpart G, applicable to group 1 wastewater streams. If the purged process fluid does not contain any regulated material listed in Table 9 of 40 CFR part 63, subpart G, 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 steams provided the facility has a National Pollution Discharge Elimination System (NPDES) permit or sends the wastewater to an NPDES-permitted facility.

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR parts 262, 264, 265, or 266; or

(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.

(5) Containers that are part of a closed purge system must be covered or closed when not being filled or emptied.

(d) *In-situ sampling systems.* In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (b) and (c) of this section.

§ 63.1033 Open-ended valves or lines standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance date specified in the referencing subpart.

(b) *Equipment and operational requirements.* (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §§63.1021(b), 63.1036, 63.1037, and paragraphs (c) and (d) of this section. 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. The operational provisions of paragraphs (b)(2) and (b)(3) of this section also apply.

(2) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (b)(1) of this section at all other times.

(c) *Emergency shutdown exemption.* Open-ended valves or lines in an emergency shutdown system that are designed to open automatically in the event of a process upset are exempt from the requirements of paragraph (b) of this section.

(d) *Polymerizing materials exemption.* Open-ended valves or lines containing materials that 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 paragraph (b) of this section are exempt from the requirements of paragraph (b) of this section.

§ 63.1034 Closed vent systems and control devices; or emissions routed to a fuel gas system or process standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance date specified in the referencing subpart.

(b) *Compliance standard.* (1) Owners or operators routing emissions from equipment leaks to a fuel gas system or process shall comply with the provisions of subpart SS of this part, except as provided in §63.1002(b).

(2) Owners or operators of closed vent systems and control devices used to comply with the provisions of this subpart shall comply with the provisions of subpart SS of this part and (b)(2)(i) through (b)(2)(iii) of this section, except as provided in §63.1002(b).

(i) Nonflare control devices shall be designed and operated to reduce emissions of regulated material vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent. The 20 parts per million by volume standard is not applicable to the provisions of §63.1016.

(ii) Enclosed combustion devices shall be designed and operated to reduce emissions of regulated material vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760°C (1400°F).

(iii) Flares used to comply with the provisions of this subpart shall comply with the requirements of subpart SS of this part.

§ 63.1035 Quality improvement program for pumps.

(a) *Criteria.* If, on a 6-month rolling average, at least the greater of either 10 percent of the pumps in a process unit or affected facility (or plant site) or three pumps in a process unit or affected facility (or plant site) leak, the owner or operator shall comply with the requirements specified in paragraphs (a)(1) and (a)(2) of this section.

(1) Pumps that are in food and medical service or in polymerizing monomer service shall comply with all requirements except for those specified in paragraph (d)(8) of this section.

(2) Pumps that are not in food and medical or polymerizing monomer service shall comply with all of the requirements of this section.

(b) *Exiting the QIP.* The owner or operator shall comply with the requirements of this section until the number of leaking pumps is less than the greater of either 10 percent of the pumps or three pumps, calculated as a 6-month rolling average, in the process unit or affected facility (or plant site). Once the performance level is achieved, the owner or operator shall comply with the requirements in §63.1026.

(c) *Resumption of QIP.* If, in a subsequent monitoring period, the process unit or affected facility (or plant site) has greater than either 10 percent of the pumps leaking or three pumps leaking (calculated as a 6-month rolling average), the owner or operator shall resume the quality improvement program starting at performance trials.

(d) *QIP requirements.* The quality improvement program shall meet the requirements specified in paragraphs (d)(1) through (d)(8) of this section.

(1) The owner or operator shall comply with the requirements in §63.1026.

(2) *Data collection.* The owner or operator shall collect the data specified in paragraphs (d)(2)(i) through (d)(2)(v) of this section and maintain records for each pump in each process unit or affected facility (or plant site) subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit, affected facility, or plant site basis.

(i) Pump type (e.g., piston, horizontal or vertical centrifugal, gear, bellows); pump manufacturer; seal type and manufacturer; pump design (e.g., external shaft, flanged body); materials of construction; if applicable, barrier fluid or packing material; and year installed.

(ii) Service characteristics of the stream such as discharge pressure, temperature, flow rate, corrosivity, and annual operating hours.

(iii) The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if appropriate, instrument model number, and date of the observation.

(iv) If a leak is detected, the repair methods used and the instrument readings after repair.

(v) If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units or affected facilities, a description of any maintenance or quality assurance programs used in the process unit or affected facility that are intended to improve emission performance.

(3) The owner or operator shall continue to collect data on the pumps as long as the process unit or affected facility (or plant site) remains in the quality improvement program.

(4) *Pump or pump seal inspection.* The owner or operator shall inspect all pumps or pump seals that exhibited frequent seal failures and were removed from the process unit or affected facility due to leaks. The inspection shall determine the probable cause of the pump seal failure or of the pump leak and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.

(5)(i) *Data analysis.* The owner or operator shall analyze the data collected to comply with the requirements of paragraph (d)(2) of this section to determine the services, operating or maintenance practices, and pump or pump seal designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process-specific factors.

(ii) The analysis shall also be used to determine if there are superior performing pump or pump seal technologies that are applicable to the service(s), operating conditions, or pump or pump seal designs associated with poorer than average emission performance. A superior performing pump or pump seal technology is one with a leak frequency of less than 10 percent for specific applications in the process unit, affected facility, or plant site. A candidate superior performing pump or pump seal technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 10 percent leaking pumps in the process unit or affected facility (or plant site).

(iii) The analysis shall include consideration of the information specified in paragraphs (d)(5)(iii)(A) through (d)(5)(iii)(C) of this section.

(A) The data obtained from the inspections of pumps and pump seals removed from the process unit or affected facility due to leaks;

(B) Information from the available literature and from the experience of other plant sites that will identify pump designs or technologies and operating conditions associated with low emission performance for specific services; and

(C) Information on limitations on the service conditions for the pump seal technology operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

(iv) The data analysis may be conducted through an inter- or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a plant site, a company, or a group of process units.

(v) The first analysis of the data shall be completed no later than 18 months after the start of the quality improvement program. The first analysis shall be performed using data collected for a minimum of 6 months. An analysis of the data shall be done each year the process unit or affected facility is in the quality improvement program.

(6) *Trial evaluation program.* A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify use of superior performing pump seal technology or pumps that can be applied to the areas identified as having poorer than average performance, except as provided in paragraph (d)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of using in the process unit or affected facility (or plant site) the pump designs or seal technologies, and operating and maintenance practices that have been identified by others as having low emission performance.

(i) The trial evaluation program shall include on-line trials of pump seal technologies or pump designs and operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 10 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing pump seal technologies or pumps is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in paragraph (e)(3)(ii) of this section.

(ii) The number of pump seal technologies or pumps in the trial evaluation program shall be the lesser of 1 percent or two pumps for programs involving single process units or affected facilities and the lesser of 1 percent or five pumps for programs involving a plant site or groups of process units or affected facilities. The minimum number of pumps or pump seal technologies in a trial program shall be one.

(iii) The trial evaluation program shall specify and include documentation of the information specified in paragraphs (d)(6)(iii)(A) through (d)(6)(iii)(D) of this section.

(A) The candidate superior performing pump seal designs or technologies to be evaluated, the stages for evaluating the identified candidate pump designs or pump seal technologies, including the time period necessary to test the applicability;

(B) The frequency of monitoring or inspection of the equipment;

(C) The range of operating conditions over which the component will be evaluated; and

(D) Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial pump seal technologies or pumps.

(iv) The performance trials shall initially be conducted, at least, for a 6-month period beginning not later than 18 months after the start of the quality improvement program. No later than 24 months after the start of the quality improvement program, the owner or operator shall have identified pump seal technologies or pump designs that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit or affected facility. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in paragraph (d)(6)(vi) of this section. The initial list of superior emission performance pump designs or pump seal technologies shall be amended in the future, as appropriate, as additional information and experience are obtained.

(v) Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 employees shall be exempt from trial evaluations of pump seals or pump designs. Plant sites exempt from the trial evaluations of pumps shall begin the pump seal or pump replacement program at the start of the fourth year of the quality improvement program.

(vi) An owner or operator who has conducted performance trials on all alternative superior emission performance technologies suitable for the required applications in the process unit or affected facility may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible alternative superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would not reduce emissions.

(7) *Quality assurance program.* Each owner or operator shall prepare and implement a pump quality assurance program that details purchasing specifications and maintenance procedures for all pumps and pump seals in the process unit or affected facility. The quality assurance program may establish any number of categories, or classes, of pumps as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under paragraph (d)(5) of this section; and, if applicable, the findings of the trial evaluation required in paragraph (d)(6) of this section; and the operating conditions in the process unit or affected facility. The quality assurance program shall be updated each year as long as the process unit or affected facility has the greater of either 10 percent or more leaking pumps or has three leaking pumps.

(i) The quality assurance program shall meet the requirements specified in paragraphs (d)(7)(i)(A) through (d)(7)(i)(D) of this section.

(A) Establish minimum design standards for each category of pumps or pump seal technology. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters;

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the pump or the pump seal;

(C) Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the plant site or process unit or affected facility, or by a designated representative; and

(D) Detail off-line pump maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished pumps and pump seals will meet the design specifications for the pump category and will operate so that emissions are minimized.

(ii) The quality assurance program shall be established no later than the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees; and no later than the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees.

(8) *Pump or pump seal replacement.* Three years after the start of the quality improvement program for plant sites with 400 or more valves or 100 or more employees and at the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees, the owner or operator shall replace, as described in paragraphs (d)(8)(i) and (d)(8)(ii) of this section, the pumps or pump seals that are not superior emission performance technology with pumps or pump seals that have been identified as superior emission performance technology and that comply with the quality assurance standards for the pump category. Superior emission performance technology is that category or design of pumps or pump seals with emission performance that when combined with appropriate process, operating, and maintenance practices, will result in less than 10 percent leaking pumps for specific applications in the process unit, affected facility, or plant site. Superior emission performance technology includes material or design changes to the existing pump, pump seal, seal support system, installation of multiple mechanical seals or equivalent, or pump replacement.

(i) Pumps or pump seals shall be replaced at the rate of 20 percent per year based on the total number of pumps in light liquid service. The calculated value shall be rounded to the nearest nonzero integer value. The minimum number of pumps or pump seals shall be one. Pump replacement shall continue until all pumps subject to the requirements of §63.1026 are pumps determined to be superior performance technology.

(ii) The owner or operator may delay replacement of pump seals or pumps with superior technology until the next planned process unit or affected facility shutdown, provided the number of pump seals and pumps replaced is equivalent to the 20 percent or greater annual replacement rate.

(iii) The pumps shall be maintained as specified in the quality assurance program.

(e) *QIP recordkeeping.* In addition to the records required by paragraph (d)(2) of this section, the owner or operator shall maintain records for the period of the quality improvement program for the process unit or affected facility as specified in paragraphs (e)(1) through (e)(6) of this section.

(1) When using a pump quality improvement program as specified in this section, record the information specified in paragraphs (e)(1)(i) through (e)(1)(iii) of this section.

(i) The rolling average percent leaking pumps.

(ii) Documentation of all inspections conducted under the requirements of paragraph (d)(4) of this section, and any recommendations for design or specification changes to reduce leak frequency.

(iii) The beginning and ending dates while meeting the requirements of paragraph (d) of this section.

(2) 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.

(3) Records of all analyses required in paragraph (d) of this section. The records will include the information specified in paragraphs (e)(3)(i) through (e)(3)(iv) of this section.

(i) A list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions and maintenance practices.

(ii) The reasons for rejecting specific candidate superior emission performing pump technology from performance trials.

(iii) The list of candidate superior emission performing valve or pump technologies, and documentation of the performance trial program items required under paragraph (d)(6)(iii) of this section.

(iv) The beginning date and duration of performance trials of each candidate superior emission performing technology.

(4) All records documenting the quality assurance program for pumps as specified in paragraph (d)(7) of this section, including records indicating that all pumps replaced or modified during the period of the quality improvement program are in compliance with the quality assurance.

(5) Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in paragraph (d)(8) of this section.

(6) Information and data to show the corporation has fewer than 100 employees, including employees providing professional and technical contracted services.

§ 63.1036 Alternative means of emission limitation: Batch processes.

(a) *General requirement.* As an alternative to complying with the requirements of §§63.1025 through 63.1033 and §63.1035, an owner or operator of a batch process that operates in regulated material service during the calendar year may comply with one of the standards specified in paragraphs (b) and (c) of this section, or the owner or operator may petition for approval of an alternative standard under the provisions of §63.1021(b). The alternative standards of this section provide the options of pressure testing or monitoring the equipment for leaks. The owner or operator may switch among the alternatives provided the change is documented as specified in paragraph (b)(7) of this section.

(b) *Pressure testing of the batch equipment.* The following requirements shall be met if an owner or operator elects to use pressure testing of batch product-process equipment to demonstrate compliance with this subpart.

(1) *Reconfiguration.* Each time equipment is reconfigured for production of a different product or intermediate, the batch product-process equipment train shall be pressure-tested for leaks before regulated material is first fed to the equipment and the equipment is placed in regulated material service.

(i) When the batch product-process equipment train is reconfigured to produce a different product, pressure testing is required only for the new or disturbed equipment.

(ii) Each batch product process that operates in regulated material service during a calendar year shall be pressure-tested at least once during that calendar year.

(iii) Pressure testing is not required for routine seal breaks, such as changing hoses or filters, that are not part of the reconfiguration to produce a different product or intermediate.

(2) *Testing procedures.* The batch product process equipment shall be tested either using the procedures specified in paragraph (b)(5) of this section for pressure vacuum loss or with a liquid using the procedures specified in paragraph (b)(6) of this section.

(3) *Leak detection.* (i) For pressure or vacuum tests using a gas, a leak is detected if the rate of change in pressure is greater than 6.9 kilopascals (1 pound per square inch gauge) in 1 hour or if there is visible, audible, or olfactory evidence of fluid loss.

(ii) For pressure tests using a liquid, a leak is detected if there are indications of liquids dripping or if there is other evidence of fluid loss.

(4) *Leak repair.* (i) If a leak is detected, it shall be repaired and the batch product-process equipment shall be retested before start-up of the process.

(ii) If a batch product-process fails the retest (the second of two consecutive pressure tests), it shall be repaired as soon as practical, but not later than 30 calendar days after the second pressure test except as specified in paragraph (e) of this section.

(5) *Gas pressure test procedure for pressure or vacuum loss.* The procedures specified in paragraphs (b)(5)(i) through (b)(5)(v) of this section shall be used to pressure test batch product-process equipment for pressure or vacuum loss to demonstrate compliance with the requirements of paragraph (b)(3)(i) of this section.

(i) The batch product-process equipment train shall be pressurized with a gas to a pressure less than the set pressure of any safety relief devices or valves or to a pressure slightly above the operating pressure of the equipment, or alternatively the equipment shall be placed under a vacuum.

(ii) Once the test pressure is obtained, the gas source or vacuum source shall be shut off.

(iii) The test shall continue for not less than 15 minutes unless it can be determined in a shorter period of time that the allowable rate of pressure drop or of pressure rise was exceeded. The pressure in the batch product-process equipment shall be measured after the gas or vacuum source is shut off and at the end of the test period. The rate of change in pressure in the batch product-process equipment shall be calculated using the following equation:

$$\Delta(P/t) = \left(\left|P_f - P_i\right|\right)/\left(t_f - t_i\right) \qquad [Eq.\ 5]$$

Where:

Δ (P/t) = Change in pressure, pounds per square inch gauge per hour.

P_f= Final pressure, pounds per square inch gauge.

P_i= Initial pressure, pounds per square inch gauge.

$t_f - t_i$= Elapsed time, hours.

(iv) The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) that has a precision of ±2.5 millimeter mercury (0.10 inch of mercury) in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device. If such a pressure measurement device is not reasonably available, the owner or operator shall use a pressure measurement device with a precision of at least ±10 percent of the test pressure of the equipment and shall extend the duration of the test for the time necessary to detect a pressure loss or rise that equals a rate of 1 pound per square inch gauge per hour (7 kilopascals per hour).

(v) An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting a pressure loss or rise.

(6) *Pressure test procedure using test liquid.* The procedures specified in paragraphs (b)(6)(i) through (b)(6)(iv) of this section shall be used to pressure-test batch product-process equipment using a liquid to demonstrate compliance with the requirements of paragraph (b)(3)(ii) of this section.

(i) The batch product-process equipment train, or section of the equipment train, shall be filled with the test liquid (e.g., water, alcohol) until normal operating pressure is obtained. Once the equipment is filled, the liquid source shall be shut off.

(ii) The test shall be conducted for a period of at least 60 minutes, unless it can be determined in a shorter period of time that the test is a failure.

(iii) Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected.

(iv) An alternative procedure may be used for leak testing the equipment, if the owner or operator demonstrates the alternative procedure is capable of detecting losses of fluid.

(7) *Pressure testing recordkeeping.* The owner or operator of a batch product process who elects to pressure test the batch product process equipment train to demonstrate compliance with this subpart shall maintain records of the information specified in paragraphs (b)(7)(i) through (b)(7)(v) of this section.

(i) The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in a batch product process equipment train.

(ii) Physical tagging of the equipment to identify that it is in regulated material service and subject to the provisions of this subpart is not required. Equipment in a batch product process subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

(iii) The dates of each pressure test required in paragraph (b) of this section, the test pressure, and the pressure drop observed during the test.

(iv) Records of any visible, audible, or olfactory evidence of fluid loss.

(v) When a batch product process equipment train does not pass two consecutive pressure tests, the information specified in paragraphs (b)(7)(v)(A) through (b)(7)(v)(E) of this section shall be recorded in a log and kept for 2 years:

(A) The date of each pressure test and the date of each leak repair attempt.

(B) Repair methods applied in each attempt to repair the leak.

(C) The reason for the delay of repair.

(D) The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment; and

(E) The date of successful repair.

(c) *Equipment monitoring.* The following requirements shall be met if an owner or operator elects to monitor the equipment in a batch process to detect leaks by the method specified in §63.1023(b) and, as applicable, §63.1023(c), to demonstrate compliance with this subpart.

(1) The owner or operator shall comply with the requirements of §§63.1025 through 63.1035 as modified by paragraphs (c)(2) through (c)(4) of this section.

(2) The equipment shall be monitored for leaks by the method specified in §63.1023(b) and, as applicable, §63.1023(c), when the equipment is in regulated material service or is in use with any other detectable material.

(3) The equipment shall be monitored for leaks as specified in paragraphs (c)(3)(i) through (c)(3)(iv) of this section.

(i) Each time the equipment is reconfigured for the production of a new product, the reconfigured equipment shall be monitored for leaks within 30 days of start-up of the process. This initial monitoring of reconfigured equipment shall not be included in determining percent leaking equipment in the process unit or affected facility.

(ii) Connectors shall be monitored in accordance with the requirements in §63.1027.

(iii) Equipment other than connectors shall be monitored at the frequencies specified in table 1 to this subpart. The operating time shall be determined as the proportion of the year the batch product-process that is subject to the provisions of this subpart is operating.

(iv) The monitoring frequencies specified in paragraph (c)(3)(iii) of this section are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor anytime during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. For example, if the equipment is not operating during the scheduled monitoring period, the monitoring can be done during the next period when the process is operating.

(4) If a leak is detected, it shall be repaired as soon as practical but not later than 15 calendar days after it is detected, except as provided in paragraph (e) of this section.

(d) *Added equipment recordkeeping.* (1) For batch product-process units or affected facilities that the owner or operator elects to monitor as provided under paragraph (c) of this section, the owner or operator shall prepare a list of equipment added to batch product process units or affected facilities since the last monitoring period required in paragraphs (c)(3)(ii) and (c)(3)(iii) of this section.

(2) Maintain records demonstrating the proportion of the time during the calendar year the equipment is in use in a batch process that is subject to the provisions of this subpart. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit or affected facility. These records are not required if the owner or operator does not adjust monitoring frequency by the time in use, as provided in paragraph (c)(3)(iii) of this section.

(3) Record and keep pursuant to the referencing subpart and this subpart, the date and results of the monitoring required in paragraph (c)(3)(i) of this section for equipment added to a batch product-process unit or affected facility since the last monitoring period required in paragraphs (c)(3)(ii) and (c)(3)(iii) of this section. If no leaking equipment is found during this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required.

(e) *Delay of repair.* Delay of repair of equipment for which leaks have been detected is allowed if the replacement equipment is not available providing the conditions specified in paragraphs (e)(1) and (e)(2) of this section are met.

(1) Equipment supplies have been depleted and supplies had been sufficiently stocked before the supplies were depleted.

(2) The repair is made no later than 10 calendar days after delivery of the replacement equipment.

(f) *Periodic report contents.* For owners or operators electing to meet the requirements of paragraph (b) of this section, the Periodic Report to be filed pursuant to §63.1039(b) shall include the information listed in paragraphs (f)(1) through (f)(4) of this section for each process unit.

(1) Batch product process equipment train identification;

(2) The number of pressure tests conducted;

(3) The number of pressure tests where the equipment train failed the pressure test; and (4) The facts that explain any delay of repairs.

§ 63.1037 Alternative means of emission limitation: Enclosed-vented process units or affected facilities.

(a) *Use of closed vent system and control device.* Process units or affected facilities or portions of process units at affected facilities enclosed in such a manner that all emissions from equipment leaks are vented through a closed vent system to a control device or routed to a fuel gas system or process meeting the requirements of §63.1034 are exempt from the requirements of §§63.1025 through 63.1033 and 63.1035. The enclosure shall be maintained under a negative pressure at all times while the process unit or affected facility is in operation to ensure that all emissions are routed to a control device.

(b) *Recordkeeping.* Owners and operators choosing to comply with the requirements of this section shall maintain the records specified in paragraphs (b)(1) through (b)(3) of this section.

(1) Identification of the process unit(s) or affected facilities and the regulated materials they handle.

(2) A schematic of the process unit or affected facility, enclosure, and closed vent system.

(3) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

§ 63.1038 Recordkeeping requirements.

(a) *Recordkeeping system.* An owner or operator of more than one regulated source subject to the provisions of this subpart may comply with the recordkeeping requirements for these regulated sources in one recordkeeping system. The recordkeeping system shall identify each record by regulated source and the type of program being implemented (e.g., quarterly monitoring, quality improvement) for each type of equipment. The records required by this subpart are summarized in paragraphs (b) and (c) of this section.

(b) *General equipment leak records.* (1) As specified in §63.1022(a) and (b), the owner or operator shall keep general and specific equipment identification if the equipment is not physically tagged and the owner or operator is electing to identify the equipment subject to this subpart through written documentation such as a log or other designation.

(2) The owner or operator shall keep a written plan as specified in §63.1022(c)(4) for any equipment that is designated as unsafe- or difficult-to-monitor.

(3) The owner or operator shall maintain a record of the identity and an explanation as specified in §63.1022(d)(2) for any equipment that is designated as unsafe-to-repair.

(4) As specified in §63.1022(e), the owner or operator shall maintain the identity of compressors operating with an instrument reading of less than 500 parts per million.

(5) The owner or operator shall keep records associated with the determination that equipment is in heavy liquid service as specified in §63.1022(f).

(6) The owner or operator shall keep records for leaking equipment as specified in §63.1023(e)(2).

(7) The owner or operator shall keep records for leak repair as specified in §63.1024(f) and records for delay of repair as specified in §63.1024(d).

(c) *Specific equipment leak records.* (1) For valves, the owner or operator shall maintain the records specified in paragraphs (c)(1)(i) and (c)(1)(ii) of this section.

(i) The monitoring schedule for each process unit as specified in §63.1025(b)(3)(vi).

(ii) The valve subgrouping records specified in §63.1025(b)(4)(iv), if applicable.

(2) For pumps, the owner or operator shall maintain the records specified in paragraphs (c)(2)(i) through (c)(2)(iii) of this section.

(i) Documentation of pump visual inspections as specified in §63.1026(b)(4).

(ii) Documentation of dual mechanical seal pump visual inspections as specified in §63.1026(e)(1)(v).

(iii) For the criteria as to the presence and frequency of drips for dual mechanical seal pumps, records of the design criteria and explanations and any changes and the reason for the changes, as specified in §63.1026(e)(1)(i).

(3) For connectors, the owner or operator shall maintain the monitoring schedule for each process unit as specified in §63.1027(b)(3)(v).

(4) For agitators, the owner or operator shall maintain the following records:

(i) Documentation of agitator seal visual inspections as specified in §63.1028; and

(ii) For the criteria as to the presence and frequency of drips for agitators, the owner or operator shall keep records of the design criteria and explanations and any changes and the reason for the changes, as specified in §63.1028(e)(1)(vi).

(5) For pressure relief devices in gas and vapor or light liquid service, the owner or operator shall keep records of the dates and results of monitoring following a pressure release, as specified in §63.1030(c)(3).

(6) For compressors, the owner or operator shall maintain the records specified in paragraphs (c)(6)(i) and (c)(6)(ii) of this section.

(i) For criteria as to failure of the seal system and/or the barrier fluid system, record the design criteria and explanations and any changes and the reason for the changes, as specified in §63.1031(d)(2).

(ii) For compressors operating under the alternative compressor standard, record the dates and results of each compliance test as specified in §63.1031(f)(2).

(7) For a pump QIP program, the owner or operator shall maintain the records specified in paragraphs (c)(7)(i) through (c)(7)(v) of this section.

(i) Individual pump records as specified in §63.1035(d)(2).

(ii) Trial evaluation program documentation as specified in §63.1035(d)(6)(iii).

(iii) Engineering evaluation documenting the basis for judgement that superior emission performance technology is not applicable as specified in §63.1035(d)(6)(vi).

(iv) Quality assurance program documentation as specified in §63.1035(d)(7).

(v) QIP records as specified in §63.1035(e).

(8) For process units complying with the batch process unit alternative, the owner or operator shall maintain the records specified in paragraphs (c)(8)(i) and (c)(8)(ii) of this section.

(i) Pressure test records as specified in §63.1036(b)(7).

(ii) Records for equipment added to the process unit as specified in §63.1036(d).

(9) For process units complying with the enclosed-vented process unit alternative, the owner or operator shall maintain the records for enclosed-vented process units as specified in §63.1037(b).

§ 63.1039 Reporting requirements.

(a) *Initial Compliance Status Report.* Each owner or operator shall submit an Initial Compliance Status Report according to the procedures in the referencing subpart. The notification shall include the information listed in paragraphs (a)(1) through (a)(3) of this section, as applicable.

(1) The notification shall provide the information listed in paragraphs (a)(1)(i) through (a)(1)(iv) of this section for each process unit or affected facility subject to the requirements of this subpart.

(i) Process unit or affected facility identification.

(ii) Number of each equipment type (e.g., valves, pumps) excluding equipment in vacuum service.

(iii) Method of compliance with the standard (e.g., “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(iv) Planned schedule for requirements in §§63.1025 and 63.1026.

(2) The notification shall provide the information listed in paragraphs (a)(2)(i) and (a)(2)(ii) of this section for each process unit or affected facility subject to the requirements of §63.1036(b).

(i) Batch products or product codes subject to the provisions of this subpart, and

(ii) Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this subpart.

(3) The notification shall provide the information listed in paragraphs (a)(3)(i) and (a)(3)(ii) of this section for each process unit or affected facility subject to the requirements in §63.1037.

(i) Process unit or affected facility identification.

(ii) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of §63.1034 of this part.

(b) *Periodic Reports.* The owner or operator shall report the information specified in paragraphs (b)(1) through (b)(8) of this section, as applicable, in the Periodic Report specified in the referencing subpart.

(1) For the equipment specified in paragraphs (b)(1)(i) through (b)(1)(v) of this section, report in a summary format by equipment type, the number of components for which leaks were detected and for valves, pumps and connectors show the percent leakers, and the total number of components monitored. Also include the number of leaking components that were not repaired as required by §63.1024, and for valves and connectors, identify the number of components that are determined by §63.1025(c)(3) to be nonrepairable.

(i) Valves in gas and vapor service and in light liquid service pursuant to §63.1025(b) and (c).

(ii) Pumps in light liquid service pursuant to §63.1026(b) and (c).

(iii) Connectors in gas and vapor service and in light liquid service pursuant to §63.1027(b) and (c).

(iv) Agitators in gas and vapor service and in light liquid service pursuant to §63.1028(c).

(v) Compressors pursuant to §63.1031(d).

(2) Where any delay of repair is utilized pursuant to §63.1024(d), report that delay of repair has occurred and report the number of instances of delay of repair.

(3) If applicable, report the valve subgrouping information specified in §63.1025(b)(4)(iv).

(4) For pressure relief devices in gas and vapor service pursuant to §63.1030(b) and for compressors pursuant to §63.1031(f) that are to be operated at a leak detection instrument reading of less than 500 parts per million, report the results of all monitoring to show compliance conducted within the semiannual reporting period.

(5) Report, if applicable, the initiation of a monthly monitoring program for valves pursuant to §63.1025(b)(3)(i).

(6) Report, if applicable, the initiation of a quality improvement program for pumps pursuant to §63.1035.

(7) Where the alternative means of emissions limitation for batch processes is utilized, report the information listed in §63.1036(f).

(8) Report the information listed in paragraph (a) of this section for the Initial Compliance Status Report for process units or affected facilities with later compliance dates. Report any revisions to items reported in an ear

lier Initial Compliance Status Report if the method of compliance has changed since the last report.

Table 1 to Subpart UU of Part 63—Batch Processes Monitoring Frequency For Equipment Other Than Connectors

Operating time (% of year)	**Equivalent continuous process monitoring frequency time in use**		
	Monthly	**Quarterly**	**Semiannually**
0 to <25%	Quarterly	Annually	Annually.
25 to <50%	Quarterly	Semiannually	Annually.
50 to <75%	Bimonthly	Three times	Semiannually.
75 to 100%	Monthly	Quarterly	Semiannually.

Appendix B

40C.F.R.63.160

Subpart H

National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks

Subpart H—National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks

Source: 59 FR 19568, Apr. 22, 1994, unless otherwise noted.

§ 63.160 Applicability and designation of source.

(a) The provisions of this subpart apply to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, instrumentation systems, and control devices or closed vent systems required by this subpart that are intended to operate in organic hazardous air pollutant service 300 hours or more during the calendar year within a source subject to the provisions of a specific subpart in 40 CFR part 63 that references this subpart.

(b) After the compliance date for a process unit, equipment to which this subpart applies that are also subject to the provisions of:

(1) 40 CFR part 60 will be required to comply only with the provisions of this subpart.

(2) 40 CFR part 61 will be required to comply only with the provisions of this subpart.

(c) If a process unit subject to the provisions of this subpart has equipment to which this subpart does not apply, but which is subject to a standard identified in paragraph (c)(1), (c)(2), or (c)(3) of this section, the owner or operator may elect to apply this subpart to all such equipment in the process unit. If the owner or operator elects this method of compliance, all VOC in such equipment shall be considered, for purposes of applicability and compliance with this subpart, as if it were organic hazardous air pollutant (HAP). Compliance with the provisions of this subpart, in the manner described in this paragraph, shall be deemed to constitute compliance with the standard identified in paragraph (c)(1), (c)(2), or (c)(3) of this section.

(1) 40 CFR part 60, subpart VV, GGG, or KKK; (2) 40 CFR part 61, subpart F or J; or (3) 40 CFR part 264, subpart BB or 40 CFR part 265, subpart BB.

(2) [Reserved]

(d) The provisions in §63.1(a)(3) of subpart A of this part do not alter the provisions in paragraph (b) of this section.

(e) Except as provided in any subpart that references this subpart, lines and equipment not containing process fluids are not subject to the provisions of this subpart. Utilities, and other non-process lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not considered to be part of a process unit.

(f) The provisions of this subpart do not apply to research and development facilities or to bench-scale batch processes, regardless of whether the facilities or processes are located at the same plant site as a process subject to the provisions of this subpart.

(g) *Alternative means of compliance* —(1) *Option to comply with part 65.* Owners or operators of CMPU that are subject to §63.100 may choose to comply with the provisions of 40 CFR part 65 for all Group 1 and Group 2 process vents, Group 1 storage vessels, Group 1 transfer operations, and equipment that are subject to §63.100, that are part of the CMPU. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) For equipment, 40 CFR part 65 satisfies the requirements of §§63.102, 63.103, and 63.162 through 63.182. When choosing to comply with 40 CFR part 65, the requirements of §63.180(d) continue to apply.

(ii) For Group 1 and Group 2 process vents, Group 1 storage vessels, and Group 1 transfer operations, comply with §63.110(i)(1).

(2) *Part 65, subpart C or F.* For owners or operators choosing to comply with 40 CFR part 65, each surge control vessel and bottoms receiver subject to §63.100 that meets the conditions specified in table 2 or table 3 of this subpart shall meet the requirements for storage vessels in 40 CFR part 65, subpart C; all other equipment subject to §63.100 shall meet the requirements in 40 CFR part 65, subpart F.

(3) *Part 63, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C or F, for equipment subject to §63.100 must also comply with the applicable general provisions of this part 63 listed in table 4 of this subpart. All sections and paragraphs of subpart A of this part that are not mentioned in table 4 of this subpart do not apply to owners or operators of equipment subject to §63.100 of subpart F complying with 40 CFR part 65, subpart C or F, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C or F, must comply with 40 CFR part 65, subpart A.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48176, Sept. 20, 1994; 59 FR 53360, Oct. 24, 1994; 60 FR 18029, Apr. 10, 1995; 61 FR 31439, June 20, 1996; 64 FR 20198, Apr. 26, 1999; 65 FR 78285, Dec. 14, 2000]

§ 63.161 Definitions.

All terms used in this subpart shall have the meaning given them in the Act and in this section as follows, except as provided in any subpart that references this subpart.

Batch process means a process in which the equipment is fed intermittently or discontinuously. Processing then occurs in this equipment after which the equipment is generally emptied. Examples of industries that use batch processes include pharmaceutical production and pesticide production.

Batch product-process equipment train means the collection of equipment (e.g., connectors, reactors, valves, pumps, etc.) configured to produce a specific product or intermediate by a batch process.

Bench-scale batch process means a batch process (other than a research and development facility) that is operated on a small scale, such as one capable of being located on a laboratory bench top. This bench-scale equipment will typically include reagent feed vessels, a small reactor and associated product separator, recovery and holding equipment. These processes are only capable of producing small quantities of product.

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

Closed-loop system means an enclosed system that returns process fluid to the process and is not vented to the atmosphere except through a closed-vent system.

Closed-purge system means a system or combination of system and portable containers, to capture purged liquids. Containers must be covered or closed when not being filled or emptied.

Closed-vent system means a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back into a process.

Combustion device means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of organic hazardous air pollutant emissions.

Compliance date means the dates specified in §63.100(k) or §63.100(l)(3) of subpart F of this part for process units subject to subpart F of this part; the dates specified in §63.190(e) of subpart I of this part for process units subject to subpart I of this part. For sources subject to other subparts in 40 CFR part 63 that reference this subpart, compliance date will be defined in those subparts. However, the compliance date for §63.170 shall be no later than 3 years after the effective date of those subparts unless otherwise specified in such other subparts.

Connector means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are not inaccessible, glass, or glass-lined as described in §63.174(h) of this subpart.

Control device means any equipment used for recovering, recapturing, or oxidizing organic hazardous air pollutant vapors. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, flares, boilers, and process heaters.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Duct work means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, surge control vessel, bottoms receiver, and instrumentation system in organic hazardous air pollutant service; and any control devices or systems required by this subpart.

First attempt at repair means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere, followed by monitoring as specified in §63.180 (b) and (c), as appropriate, to verify whether the leak is repaired, unless the owner or operator determines by other means that the leak is not repaired.

Flow indicator means a device which indicates whether gas flow is, or whether the valve position would allow gas flow to be, present in a line.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in in-process combustion equipment such as furnaces and gas turbines, either singly or in combination.

Hard-piping means pipe or tubing that is manufactured and properly installed using good engineering judgement and standards, such as ANSI B31–3.

In food/medical service means that a piece of equipment in organic hazardous air pollutant service contacts a process stream used to manufacture a Food and Drug Administration regulated product where leakage of a barrier fluid into the process stream would cause any of the following:

(1) A dilution of product quality so that the product would not meet written specifications,

(2) An exothermic reaction which is a safety hazard,

(3) The intended reaction to be slowed down or stopped, or

(4) An undesired side reaction to occur.

In gas/vapor service means that a piece of equipment in organic hazardous air pollutant service contains a gas or vapor at operating conditions.

In heavy liquid service means that a piece of equipment in organic hazardous air pollutant service is not in gas/vapor service or in light liquid service.

In light liquid service means that a piece of equipment in organic hazardous air pollutant service contains a liquid that meets the following conditions:

(1) The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20 °C,

(2) The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20 °C is equal to or greater than 20 percent by weight of the total process stream, and

(3) The fluid is a liquid at operating conditions.

Note: Vapor pressures may be determined by the methods described in 40 CFR 60.485(e)(1).

In liquid service means that a piece of equipment in organic hazardous air pollutant service is not in gas/vapor service.

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

In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals below ambient pressure.

In volatile organic compound or *in VOC service* means, for the purposes of this subpart, that:

(1) The piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight (see 40 CFR 60.2 for the definition of VOC, and 40 CFR 60.485(d) to determine whether a piece of equipment is not in VOC service); and

(2) The piece of equipment is not in heavy liquid service as defined in 40 CFR 60.481.

In-situ sampling systems means nonextractive samplers or in-line samplers.

Initial start-up means the first time a new or reconstructed source begins production. Initial start-up does not include operation solely for testing equipment. Initial start-up does not include subsequent start-ups (as defined in this section) of process units following malfunctions or process unit shutdowns.

Instrumentation system means a group of equipment components used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow, etc.). Valves and connectors are the predominant type of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 0.5 inches and smaller, and connectors nominally 0.75 inches and smaller in diameter are considered instrumentation systems for the purposes of this subpart. Valves greater than nominally 0.5 inches and connectors greater than nominally 0.75 inches associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.

Liquids dripping means any visible leakage from the seal including dripping, spraying, misting, clouding, and ice formation. Indications of liquid dripping include puddling or new stains that are indicative of an existing evaporated drip.

Nonrepairable means that it is technically infeasible to repair a piece of equipment from which a leak has been detected without a process unit shutdown.

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

Open-ended valve or line means any valve, except pressure relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Polymerizing monomer means a molecule or compound usually containing carbon and of relatively low molecular weight and simple structure (e.g., hydrogen cyanide, acrylonitrile, styrene), which is capable of conversion to polymers, synthetic resins, or elastomers by combination with itself due to heat generation caused by a pump mechanical seal surface, contamination by a seal fluid (e.g., organic peroxides or chemicals that will form organic peroxides), or a combination of both with the resultant polymer buildup causing rapid mechanical seal failure.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device. This release can be one release or a series of releases over a short time period due to a malfunction in the process.

Pressure relief device or valve means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 psig or by a vacuum are not pressure relief devices.

Process unit means a chemical manufacturing process unit as defined in subpart F of this part, a process subject to the provisions of subpart I of this part, or a process subject to another subpart in 40 CFR part 63 that references this subpart.

Process unit shutdown means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be effected. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown, is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.

Recapture device means an individual unit of equipment capable of and used for the purpose of recovering chemicals, but not normally for use, reuse, or sale. Recapture devices include, but are not limited to, absorbers, carbon absorbers, and condensers.

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use or reuse. Recovery devices include, but are not limited to, absorbers, carbon absorbers, and condensers. For purposes of the monitoring, recordkeeping, and reporting requirements of this subpart, recapture devices are considered recovery devices.

Repaired means that equipment:

(1) Is adjusted, or otherwise altered, to eliminate a leak as defined in the applicable sections of this subpart, and

(2) Unless otherwise specified in applicable provisions of this subpart, is monitored as specified in §63.180 (b) and (c), as appropriate, to verify that emissions from the equipment are below the applicable leak definition.

Routed to a process or route to a process means the emissions are conveyed by hard-piping or a closed vent system to any enclosed portion of a process unit where the emissions are predominately recycled and/or consumed in the same manner as a material that fulfills the same function in the process; and/or transformed by chemical reaction into materials that are not organic hazardous air pollutants; and/or incorporated into a product; and/or recovered.

Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take non-routine grab samples is not considered a sampling connection system.

Screwed connector means a threaded pipe fitting where the threads are cut on the pipe wall and the fitting requires only two pieces to make the connection (i.e., the pipe and the fitting).

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

Set pressure means the pressure at which a properly operating pressure relief device begins to open to relieve atypical process system operating pressure.

Start-up means the setting in operation of a piece of equipment or a control device that is subject to this subpart.

Surge control vessel means feed drums, recycle drums, and intermediate vessels. Surge control vessels are used within a process unit (as defined in the specific subpart that references this subpart) when in-process storage, mixing, or management of flow rates or volumes is needed to assist in production of a product.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48176, Sept. 20, 1994; 60 FR 18024, 18029, Apr. 10, 1995; 61 FR 31439, June 20, 1996; 62 FR 2788, Jan. 17, 1997]

§ 63.162 Standards: General.

(a) 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.

(b)(1) An owner or operator may request a determination of alternative means of emission limitation to the requirements of §§63.163 through 63.170, and §§63.172 through 63.174 of this subpart as provided in §63.177.

(2) If the Administrator makes a determination that a means of emission limitation is a permissible alternative to the requirements of §§63.163 through 63.170, and §§63.172 through 63.174 of this subpart, the owner or operator shall comply with the alternative.

(c) 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.

(d) Equipment that is in vacuum service is excluded from the requirements of this subpart.

(e) Equipment that is in organic HAP service less than 300 hours per calendar year is excluded from the requirements of §§63.163 through 63.174 of this subpart and §63.178 of this subpart if it is identified as required in §63.181(j) of this subpart.

(f) 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:

(1) Clearly identify the leaking equipment.

(2) 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.

(3) 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.

(g) 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.

(1) If the initial compliance date does not coincide with the beginning of the standard calendar period, an owner or operator may elect to utilize a period beginning on the compliance date, or may elect to comply in accordance with the provisions of paragraphs (g)(2) or (g)(3) of this section.

(2) Time periods specified in this subpart for completion of required tasks may be changed by mutual agreement between the owner or operator and the Administrator, as specified in subpart A of this part. For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period.

(3) Except as provided in paragraph (g)(1) or (g)(2) of this section, where the period specified for compliance is a standard calendar period, if the initial compliance date does not coincide with the beginning of the calendar period, compliance shall be required according to the schedule specified in paragraphs (g)(3)(i) or (g)(3)(ii) of this section, as appropriate.

(i) Compliance shall be required before the end of the standard calendar period within which the compliance deadline occurs, if there remain at least 3 days for tasks that must be performed weekly, at least 2 weeks for tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or

(ii) In all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance deadline occurs.

(4) 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.

(h) 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.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48176, Sept. 20, 1994; 62 FR 2789, Jan. 17, 1997; 68 FR 37345, June 23, 2003]

§ 63.163 Standards: Pumps in light liquid service.

(a) The provisions of this section apply to each pump that is in light liquid service.

(1) 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:

(i) For each group of existing process units at existing sources subject to the provisions of subparts F or I of this part, the phases of the standard are:

(A) Phase I, beginning on the compliance date;

(B) Phase II, beginning no later than 1 year after the compliance date; and

(C) Phase III, beginning no later than 21/2years after the compliance date.

(ii) For new sources subject to the provisions of subparts F or I of this part, the applicable phases of the standard are:

(A) After initial start-up, comply with the Phase II requirements; and

(B) Beginning no later than 1 year after initial start-up, comply with the Phase III requirements.

(2) The owner or operator of a source subject to the provisions of subparts F or I of this part may elect to meet the requirements of a later phase during the time period specified for an earlier phase.

(3) Sources subject to other subparts in 40 CFR part 63 that reference this subpart shall comply on the dates specified in the applicable subpart.

(b)(1) 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.

(2) 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:

(i) For Phase I, an instrument reading of 10,000 parts per million or greater.

(ii) For Phase II, an instrument reading of 5,000 parts per million or greater.

(iii) For Phase III, an instrument reading of:

(A) 5,000 parts per million or greater for pumps handling polymerizing monomers;

(B) 2,000 parts per million or greater for pumps in food/medical service; and

(C) 1,000 parts per million or greater for all other pumps.

(3) 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.

(c)(1) 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.

(2) 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:

(i) Tightening of packing gland nuts.

(ii) Ensuring that the seal flush is operating at design pressure and temperature.

(3) 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.

(d)(1) 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.

(2) 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.

(3) 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.

(4) Percent leaking pumps shall be determined by the following equation:

$\%P_L=((P_L-P_S)/(P_T-P_S))\times 100$

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.

(e) 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:

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(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

(iii) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(2) The barrier fluid is not in light liquid service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(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.

(ii) If an instrument reading of 1,000 parts per million or greater is measured, a leak is detected.

(5) 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.

(6)(i) 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.

(ii) 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.

(iii) 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.

(iv) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(f) Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the requirements of paragraphs (a) through (c) of this section.

(g) Any pump equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of §63.172 of this subpart is exempt from the requirements of paragraphs (b) through (e) of this section.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(3) and (e)(4) of this section, and the daily requirements of paragraph (e)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

(i) If more than 90 percent of the pumps at a process unit meet the criteria in either paragraph (e) or (f) of this section, the process unit is exempt from the requirements of paragraph (d) of this section.

(j) Any pump that is designated, as described in §63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor pump is exempt from the requirements of paragraphs (b) through (e) of this section if:

(1) The owner or operator of the pump determines that the pump 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

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48176, Sept. 20, 1994; 61 FR 31439, June 20, 1996; 62 FR 2789, Jan. 17, 1997; 64 FR 20198, Apr. 26, 1999]

§ 63.164 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere, except as provided in §63.162(b) of this subpart and paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system 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

(3) Equipped with a closed-loop system that purges the barrier fluid directly into a process stream.

(c) The barrier fluid shall not be in light liquid service.

(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be observed daily or shall be equipped with an alarm unless the compressor is located within the boundary of an unmanned plant site.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) 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.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) through (g) of this section if it is equipped with a closed-vent system to capture and transport leakage from the compressor drive shaft seal back to a process or a fuel gas system or to a control device that complies with the requirements of §63.172 of this subpart.

(i) Any compressor that is designated, as described in §63.181(b)(2)(ii) of this subpart, to operate with an instrument reading of less than 500 parts per million above background, is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is demonstrated to be operating with 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; and

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48176, Sept. 20, 1994; 62 FR 2790, Jan. 17, 1997; 64 FR 20198, Apr. 26, 1999]

§ 63.165 Standards: Pressure relief devices in gas/vapor service.

(a) 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.

(b)(1) 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.

(2) 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.

(c) 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.

(d)(1) 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.

(2) 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.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48176, Sept. 20, 1994; 62 FR 2790, Jan. 17, 1997]

§ 63.166 Standards: Sampling connection systems.

(a) 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.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall:

(1) Return the purged process fluid directly to the process line; or

(2) Collect and recycle the purged process fluid to a process; or

(3) 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

(4) 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.

(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.

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or

(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.

(c) *In-situ* sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

[59 FR 19568, Apr. 22, 1994, as amended at 61 FR 31439, June 20, 1996]

§ 63.167 Standards: Open-ended valves or lines.

(a)(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.

(2) 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.

(b) 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.

(c) 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.

(d) 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.

(e) 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.

[59 FR 19568, Apr. 22, 1994, as amended at 61 FR 31440, June 20, 1996]

§ 63.168 Standards: Valves in gas/vapor service and in light liquid service.

(a) The provisions of this section apply to valves that are either in gas service or in light liquid service.

(1) 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.

(i) For each group of existing process units at existing sources subject to the provisions of subpart F or I of this part, the phases of the standard are:

(A) Phase I, beginning on the compliance date;

(B) Phase II, beginning no later than 1 year after the compliance date; and

(C) Phase III, beginning no later than 21/2years after the compliance date.

(ii) For new sources subject to the provisions of subpart F or I of this part, the applicable phases of the standard are:

(A) After initial start-up, comply with the Phase II requirements; and

(B) Beginning no later than 1 year after initial start-up, comply with the Phase III requirements.

(iii) Sources subject to other subparts in 40 CFR part 63 that reference this subpart shall comply on the dates specified in the applicable subpart.

(2) The owner or operator of a source subject to this subpart may elect to meet the requirements of a later phase during the time period specified for an earlier phase.

(3) 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) of this subpart.

(b) 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.

(1) The valves shall be monitored to detect leaks by the method specified in §63.180(b) of this subpart.

(2) The instrument reading that defines a leak in each phase of the standard is:

(i) For Phase I, an instrument reading of 10,000 parts per million or greater.

(ii) For Phase II, an instrument reading of 500 parts per million or greater.

(iii) For Phase III, an instrument reading of 500 parts per million or greater.

(c) In Phases I and II, each valve shall be monitored quarterly.

(d) In Phase III, the owner or operator shall monitor valves for leaks at the intervals specified below:

(1) At process units with 2 percent or greater leaking valves, calculated according to paragraph (e) of this section, the owner or operator shall either:

(i) Monitor each valve once per month; or

(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.

(2) 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.

(3) At process units with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters.

(4) 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.

(e)(1) Percent leaking valves at a process unit shall be determined by the following equation:

$$\%V_L=(V_L/(V_T+V_C))\times 100$$

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 × 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.

(2) 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.

(3)(i) 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.

(ii) 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.

(f)(1) 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.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(3) When a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair.

(i) The monitoring shall be conducted as specified in §63.180 (b) and (c), as appropriate, to determine whether the valve has resumed leaking.

(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).

(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.

(A) 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.

(B) 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.

(g) First attempts at repair include, but are not limited to, the following practices where practicable:

(1) Tightening of bonnet bolts,

(2) Replacement of bonnet bolts,

(3) Tightening of packing gland nuts, and

(4) Injection of lubricant into lubricated packing.

(h) 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:

(1) 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

(2) 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.

(i) 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:

(1) 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;

(2) 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

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(j) Any equipment located at a plant site with fewer than 250 valves in organic HAP service is exempt from the requirements for monthly monitoring and a quality improvement program specified in paragraph (d)(1) of this section. Instead, the owner or operator shall monitor each valve in organic HAP service for leaks once each quarter, or comply with paragraph (d)(3) or (d)(4) of this section except as provided in paragraphs (h) and (i) of this section.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48176, Sept. 20, 1994; 61 FR 31440, June 20, 1996; 62 FR 2790, Jan. 17, 1997]

§ 63.169 Standards: Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service.

(a) 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.

(b) 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.

(c)(1) 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.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(3) 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.

(d) 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.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48177, Sept. 20, 1994; 60 FR 18029, Apr. 10, 1995; 62 FR 2790, Jan. 17, 1997; 65 FR 78285, Dec. 14, 2000]

§ 63.170 Standards: Surge control vessels and bottoms receivers.

Each surge control vessel or bottoms receiver that is not routed back to the process and that meets the conditions specified in table 2 or table 3 of this subpart shall be equipped with a closed-vent system that routes the organic vapors vented from the surge control vessel or bottoms receiver back to the process or to a control device that complies with the requirements in §63.172 of this subpart, except as provided in §63.162(b) of this subpart, or comply with the requirements of §63.119(b) or (c) of subpart G of this part.

[60 FR 18024, Apr. 10, 1995]

§ 63.171 Standards: Delay of repair.

(a) 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.

(b) 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.

(c) Delay of repair for valves, connectors, and agitators is also allowed if:

(1) 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

(2) 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.

(d) Delay of repair for pumps is also allowed if:

(1) 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:

(i) A dual mechanical seal system that meets the requirements of §63.163(e) of this subpart,

(ii) A pump that meets the requirements of §63.163(f) of this subpart, or

(iii) A closed-vent system and control device that meets the requirements of §63.163(g) of this subpart; and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) 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.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48177, Sept. 20, 1994; 65 FR 78285, Dec. 14, 2000]

§ 63.172 Standards: Closed-vent systems and control devices.

(a) Owners or operators of closed-vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section, except as provided in §63.162(b) of this subpart.

(b) Recovery or recapture devices (e.g., condensers and absorbers) shall be designed and operated to recover the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts par million by volume, whichever is less stringent. The 20 parts per million by volume performance standard is not applicable to the provisions of §63.179.

(c) Enclosed combustion devices shall be designed and operated to reduce the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C.

(d) Flares used to comply with this subpart shall comply with the requirements of §63.11(b) of subpart A of this part.

(e) Owners or operators of control devices that are used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their design.

Note: The intent of this provision is to ensure proper operation and maintenance of the control device.

(f) Except as provided in paragraphs (k) and (l) of this section, each closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If the closed-vent system is constructed of hard-piping, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (g) of this section, and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed-vent system is constructed of duct work, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (g) of this section, and

(ii) Conduct annual inspections according to the procedures in paragraph (g) of this section.

(g) Each closed-vent system shall be inspected according to the procedures in §63.180(b) of this subpart.

(h) Leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in paragraph (i) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected, except as provided in paragraph (i) of this section.

(i) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(j) For each closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall comply with the provisions of either paragraph (j)(1) or (j)(2) of this section, except as provided in paragraph (j)(3) of this section.

(1) Install, set or adjust, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in §63.118(a)(3) of subpart G of this part. The flow indicator shall be installed at the entrance to any bypass line; or

(2) Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.

(3) Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.

(k) Any parts of the closed-vent system that are designated, as described in paragraph 63.181(b)(7)(i), as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1) and (f)(2) of this section if:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (f)(1) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times, but not more frequently than annually.

(l) Any parts of the closed-vent system that are designated, as described in §63.181 (b)(7)(i) of this subpart, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1) and (f)(2) of this section if:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(m) Whenever organic HAP emissions are vented to a closed-vent system or control device used to comply with the provisions of this subpart, such system or control device shall be operating.

(n) After the compliance dates specified in §63.100 of subpart F of this part, the owner or operator of any control device subject to this subpart that is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart BB, or is subject to monitoring and recordkeeping requirements in 40 CFR part 265, subpart BB, may elect to comply either with the monitoring, recordkeeping, and reporting requirements of this subpart, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, as described in this paragraph, which shall constitute compliance with the monitoring, recordkeeping and reporting requirements of this subpart. The owner or operator shall identify which option has been chosen, in the next periodic report required by §63.182(d).

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48177, Sept. 20, 1994; 61 FR 31440, June 20, 1996; 62 FR 2790, Jan. 17, 1997]

§ 63.173 Standards: Agitators in gas/vapor service and in light liquid service.

(a)(1) Each agitator shall be monitored monthly to detect leaks by the methods specified in §63.180(b) of this subpart, except as provided in §63.162(b) of this subpart.

(2) If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected.

(b)(1) Each agitator shall be checked by visual inspection each calendar week for indications of liquids dripping from the agitator.

(2) If there are indications of liquids dripping from the agitator, a leak is detected.

(c)(1) 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.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) Each agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided the requirements specified in paragraphs (d)(1) through (d)(6) of this section are met:

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the agitator stuffing box pressure; or

(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

(iii) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(2) The barrier fluid is not in light liquid organic HAP service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each agitator is checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal.

(i) If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, the agitator shall be monitored as specified in §63.180(b) of this subpart to determine the presence of organic HAP in the barrier fluid.

(ii) If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected.

(5) Each sensor as described in paragraph (d)(3) of this section is observed daily or is equipped with an alarm unless the agitator is located within the boundary of an unmanned plant site.

(6)(i) 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.

(ii) If indications of liquids dripping from the agitator seal exceed the criteria established in paragraph (d)(6)(i) of this section, or if, based on the criteria established in paragraph (d)(6)(i) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(iii) 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.

(iv) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) Any agitator that is designed with no externally actuated shaft penetrating the agitator housing is exempt from paragraphs (a) through (c) of this section.

(f) Any agitator equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or fuel gas system or to a control device that complies with the requirements of §63.172 of this subpart is exempt from the requirements of paragraphs (a) through (c) of the section.

(g) Any agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(1) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each agitator is visually inspected as often as practical and at least monthly.

(h) Any agitator that is difficult-to-monitor is exempt from the requirements of paragraphs (a) through (d) of this section if:

(1) The owner or operator determines that the agitator cannot be monitored without elevating the monitoring personnel more than two meters above a support surface or it is not accessible at anytime in a safe manner;

(2) The process unit within which the agitator is located is an existing source or the owner or operator designates less than three percent of the total number of agitators in a new source as difficult-to-monitor; and

(3) The owner or operator follows a written plan that requires monitoring of the agitator at least once per calendar year.

(i) Any agitator that is obstructed by equipment or piping that prevents access to the agitator by a monitor probe is exempt from the monitoring requirements of paragraphs (a) through (d) of this section.

(j) Any agitator that is designated, as described in §63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor agitator is exempt from the requirements of paragraphs (a) through (d) of this section if:

(1) The owner or operator of the agitator determines that the agitator is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (a) through (d) of this section; and

(2) The owner or operator of the agitator has a written plan that requires monitoring of the agitator as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.

[59 FR 19568, Apr. 22, 1994, as amended at 61 FR 31440, June 20, 1996; 62 FR 2791, Jan. 17, 1997; 64 FR 20198, Apr. 26, 1999]

§ 63.174 Standards: Connectors in gas/vapor service and in light liquid service.

(a) 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.

(1) The connectors shall be monitored to detect leaks by the method specified in §63.180(b) of this subpart.

(2) If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected.

(b) 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.

(1) 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.

(2) 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.

(3) 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:

(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.

(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.

(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.

(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.

(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.

(4) 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).

(c)(1)(i) 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.

(ii) 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.

(iii) 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.

(2) 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:

(i) Comply with the requirements of §63.169 of this subpart, and

(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.

(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.

(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.

(d) 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.

(e) [Reserved]

(f) 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:

(1) 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

(2) 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.

(g) 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:

(1) 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

(2) The connector will be repaired before the end of the next scheduled process unit shutdown.

(h)(1) 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:

(i) Buried;

(ii) Insulated in a manner that prevents access to the connector by a monitor probe;

(iii) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(iv) 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;

(v) 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

(vi) 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.

(2) 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.

(3) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(i) 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.

(1) For the first monitoring period, use the following equation:

$\% C_L = C_L/(C_t + C_C) \times 100$

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 × 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.

(2) For subsequent monitoring periods, use the following equation:

$\% C_L = [(C_L - C_{AN})/(C_t + C_C)] \times 100$

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 × 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.

(j) 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.

(1) The connector was welded after the date of proposal of the specific subpart that references this subpart.

(2) 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.

(3) 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.

(4) Welds created after promulgation of the subpart that references this subpart are monitored or tested within 3 months after being welded.

(5) 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.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48177, Sept. 20, 1994; 61 FR 31440, June 20, 1996; 62 FR 2791, Jan. 17, 1997]

§ 63.175 Quality improvement program for valves.

(a) In Phase III, an owner or operator may elect to comply with one of the alternative quality improvement programs specified in paragraphs (d) and (e) of this section. The decision to use one of these alternative provisions to comply with the requirements of §63.168(d)(1)(ii) of this subpart must be made during the first year of Phase III for existing process units and for new process units.

(b) An owner or operator of a process unit subject to the requirements of paragraph (d) or (e) of this section shall comply with those requirements until the process unit has fewer than 2 percent leaking valves, calculated as a rolling average of 2 consecutive quarters, as specified in §63.168(e) of this subpart.

(c) After the process unit has fewer than 2 percent leaking valves, the owner or operator may elect to comply with the requirements in §63.168 of this subpart, to continue to comply with the requirements in paragraph (e) (or (d), if appropriate) of this section, or comply with both the requirements in §63.168 and §63.175.

(1) If the owner or operator elects to continue the quality improvement program, the owner or operator is exempt from the requirements for performance trials as specified in paragraph (e)(6) of this section, or further progress as specified in paragraph (d)(4) of this section, as long as the process unit has fewer than 2 percent leaking valves calculated according to §63.168(e).

(2) If the owner or operator elects to comply with both paragraph (e) of this section and §63.168 of this subpart, he may also take advantage of the lower monitoring frequencies associated with lower leak rates in §63.168 (d)(2), (d)(3), and (d)(4) of this subpart.

(3) If the owner or operator elects not to continue the quality improvement program, the program is no longer an option if the process unit again exceeds 2 percent leaking valves, and in such case, monthly monitoring will be required.

(d) The following requirements shall be met if an owner or operator elects to use a quality improvement program to demonstrate further progress:

(1) The owner or operator shall continue to comply with the requirements in §63.168 of this subpart except each valve shall be monitored quarterly.

(2) The owner or operator shall collect the following data, and maintain records as required in §63.181(h)(1) of this subpart, for each valve in each process unit subject to the quality improvement program:

(i) The maximum instrument reading observed in each monitoring observation before repair, the response factor for the stream if appropriate, the instrument model number, and date of the observation.

(ii) Whether the valve is in gas or light liquid service.

(iii) If a leak is detected, the repair methods used and the instrument readings after repair.

(3) The owner or operator shall continue to collect data on the valves as long as the process unit remains in the quality improvement program.

(4) The owner or operator must demonstrate progress in reducing the percent leaking valves each quarter the process unit is subject to the requirements of paragraph (d) of this section, except as provided in paragraphs (d)(4)(ii) and (d)(4)(iii) of this section.

(i) Demonstration of progress shall mean that for each quarter there is at least a 10-percent reduction in the percent leaking valves from the percent leaking valves determined for the preceding monitoring period. The percent leaking valves shall be calculated as a rolling average of two consecutive quarters of monitoring data. The percent reduction shall be calculated using the rolling average percent leaking valves, according to the following:

$\%LV_R = (\%LV_{AVG1} - \%LV_{AVG2} / \%LV_{AVG1} \times 100$

where:

$\%LV_R$=Percent leaking valve reduction.

$\%LV_{AVG1}$=($\%V_{Li}$+ %VLi=1)/2.

$\%LV_{AVG2}$=(%VLi=1+ %VLi=2)/2.

where:

$\%V_{Li}$, %VLi=1, %VLi=2are percent leaking valves calculated for subsequent monitoring periods, i, i+1, i+2.

(ii) An owner or operator who fails for two consecutive rolling averages to demonstrate at least a 10-percent reduction per quarter in percent leaking valves, and whose overall average percent reduction based on two or more rolling averages is less than 10 percent per quarter, shall either comply with the requirements in §63.168(d)(1)(i) of this subpart using monthly monitoring or shall comply using a quality improvement program for technology review as specified in paragraph (e) of this section. If the owner or operator elects to comply with the requirements of paragraph (e) of this section, the schedule for performance trials and valve replacements remains as specified in paragraph (e) of this section.

(iii) As an alternative to the provisions in paragraph (d)(4)(i), an owner or operator may use the procedure specified in paragraphs (d)(4)(iii)(A) and (d)(4)(iii)(B) of this section to demonstrate progress in reducing the percent leaking valves.

(A) The percent reduction that must be achieved each quarter shall be calculated as follows:

$$\%RR = \frac{\%V_L - 2\%}{0.10}$$

%RR = percent reduction required each quarter, as calculated according to §63.168(e)

$\%V_L$= percent leaking valves, calculated according to §63.168(e), at the time elected to use provisions of §63.168(d)(1)(ii)

(B) The owner or operator shall achieve less than 2 percent leaking valves no later than 2 years after electing to use the demonstration of progress provisions in §63.175(d) of this subpart.

(e) The following requirements shall be met if an owner or operator elects to use a quality improvement program of technology review and improvement:

(1) The owner or operator shall comply with the requirements in §63.168 of this subpart except the requirement for monthly monitoring in §63.168(d)(1)(i) of this subpart does not apply.

(2) The owner or operator shall collect the data specified below, and maintain records as required in §63.181(h)(2), for each valve in each process unit subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit or group of process units basis. The data shall include the following:

(i) Valve type (e.g., ball, gate, check); valve manufacturer; valve design (e.g., external stem or actuating mechanism, flanged body); materials of construction; packing material; and year installed.

(ii) Service characteristics of the stream such as operating pressure, temperature, line diameter, and corrosivity.

(iii) Whether the valve is in gas or light liquid service.

(iv) The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if adjusted, instrument model number, and date of the observation.

(v) If a leak is detected, the repair methods used and the instrument readings after repair.

(vi) If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units, a description of any maintenance or quality assurance programs used in the process unit that are intended to improve emission performance.

(3) The owner or operator shall continue to collect data on the valves as long as the process unit remains in the quality improvement program.

(4) The owner or operator shall inspect all valves removed from the process unit due to leaks. The inspection shall determine which parts of the valve have failed and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.

(5)(i) The owner or operator shall analyze the data collected to comply with the requirements of paragraph (e)(2) of this section to determine the services, operating or maintenance practices, and valve designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process specific factors.

(ii) The analysis shall also be used to identify any superior performing valve technologies that are applicable to the service(s), operating conditions, or valve designs associated with poorer than average emission performance. A superior performing valve technology is one for which a group of such valves has a leak frequency of less than 2 percent for specific applications in such a process unit. A candidate superior performing valve technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 2 percent leaking valves in the process unit.

(iii) The analysis shall include consideration of:

(A) The data obtained from the inspections of valves removed from the process unit due to leaks,

(B) Information from the available literature and from the experience of other plant sites that will identify valve designs or technologies and operating conditions associated with low emission performance for specific services, and

(C) Information on limitations on the service conditions for the valve design and operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

(iv) The data analysis may be conducted through an inter- or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a company, or a group of process units.

(v) The first analysis of the data shall be completed no later than 18 months after the start of Phase III. The first analysis shall be performed using a minimum of two quarters of data. An analysis of the data shall be done each year the process unit is in the quality improvement program.

(6) A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify superior performing valve designs or technologies that can be applied to the operating conditions and services identified as having poorer than average performance, except as provided in paragraph (e)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of using in the process unit the valve designs or technologies that have been identified by others as having low emission performance.

(i) The trial program shall include on-line trials of valves or operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 2 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing valve technologies is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in §63.181(h)(5)(ii) of this subpart.

(ii) The number of valves in the trial evaluation program shall be the lesser of 1 percent or 20 valves for programs involving single process units and the lesser of 1 percent or 50 valves for programs involving groups of process units.

(iii) The trial evaluation program shall specify and include documentation of:

(A) The candidate superior performing valve designs or technologies to be evaluated, the stages for evaluating the identified candidate valve designs or technologies, including the estimated time period necessary to test the applicability;

(B) The frequency of monitoring or inspection of the equipment;

(C) The range of operating conditions over which the component will be evaluated; and

(D) Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial valves.

(iv) The performance trials shall initially be conducted for, at least, a 6-month period beginning not later than 18 months after the start of Phase III. Not later than 24 months after the start of Phase III, the owner or operator shall have identified valve designs or technologies that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit. The owner or operator shall continue to conduct performance trials as long as no

superior performing design or technology has been identified, except as provided in paragraph (e)(6)(vi) of this section. The compilation of candidate and demonstrated superior emission performance valve designs or technologies shall be amended in the future, as appropriate, as additional information and experience is obtained.

(v) Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 total employees shall be exempt from trial evaluations of valves. Plant sites exempt from the trial evaluations of valves shall begin the program at the start of the fourth year of Phase III.

(vi) An owner or operator who has conducted performance trials on all candidate superior emission performance technologies suitable for the required applications in the process unit may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible candidate superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would not reduce emissions.

(7) Each owner or operator who elects to use a quality improvement program for technology review and improvement shall prepare and implement a valve quality assurance program that details purchasing specifications and maintenance procedures for all valves in the process unit. The quality assurance program may establish any number of categories, or classes, of valves as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under paragraph (e)(5) of this section, if applicable, the findings of the trial evaluation required in paragraph (e)(6) of this section, and the operating conditions in the process unit. The quality assurance program shall be reviewed and, as appropriate, updated each year as long as the process unit has 2 percent or more leaking valves.

(i) The quality assurance program shall:

(A) Establish minimum design standards for each category of valves. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters;

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the valve;

(C) Include a written procedure for bench testing of valves that specifies performance criteria for acceptance of valves and specifies criteria for the precision and accuracy of the test apparatus. All valves repaired off-line after preparation of the quality assurance plan shall be bench-tested for leaks. This testing may be conducted by the owner or operator of the process unit, by the vendor, or by a designated representative. The owner or operator shall install only those valves that have been documented through bench-testing to be nonleaking.

(D) Require that all valves repaired on-line be monitored using the method specified in §63.180(b) of this subpart for leaks for 2 successive months, after repair.

(E) Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the process unit or by a designated representative.

(F) Detail off-line valve maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished valves will meet the design specifications for the valve type and will operate such that emissions are minimized.

(ii) The quality assurance program shall be established no later than the start of the third year of Phase III for plant sites with 400 or more valves or owned by a corporation with 100 or more employees; and no later than the start of the fourth year of Phase III for plant sites with less than 400 valves and owned by a corporation with less than 100 employees.

(8) Beginning at the start of the third year of Phase III for plant sites with 400 or more valves or owned by a corporation with 100 or more employees and at the start of the fourth year of Phase III for plant sites with less than 400 valves and owned by a corporation with less than 100 employees, each valve that is replaced for any reason shall be replaced with a new or modified valve that complies with the quality assurance standards for the valve category and that is identified as superior emission performance technology. Superior emission performance technology means valves or valve technologies identified with emission performance that, combined with appropriate process, operating, and maintenance practices, will result in less than 2 percent leaking valves for specific applications in a large population, except as provided in paragraph (e)(8)(ii) of this section.

(i) The valves shall be maintained as specified in the quality assurance program.

(ii) If a superior emission performance technology cannot be identified, then valve replacement shall be with one of (if several) the lowest emission performance technologies that has been identified for the specific application.

[59 FR 19568, Apr. 22, 1994, as amended at 60 FR 63631, Dec. 12, 1995]

§ 63.176 Quality improvement program for pumps.

(a) 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 this section as specified below:

(1) Pumps that are in food/medical service or in polymerizing monomer service shall comply with all requirements except for those specified in paragraph (d)(8) of this section.

(2) Pumps that are not in food/medical or polymerizing monomer service shall comply with all requirements of this section.

(b) The owner or operator shall comply with the requirements of this section until the number of leaking pumps is less than the greater of either 10 percent of the pumps or three pumps, calculated as a 6-month rolling average, in the process unit (or plant site). Once the performance level is achieved, the owner or operator shall comply with the requirements in §63.163 of this subpart.

(c) If in a subsequent monitoring period, the process unit (or plant site) has greater than 10 percent of the pumps leaking or three pumps leaking (calculated as a 6-month rolling average), the owner or operator shall resume the quality improvement program starting at performance trials.

(d) The quality improvement program shall include the following:

(1) The owner or operator shall comply with the requirements in §63.163 of this subpart.

(2) The owner or operator shall collect the following data, and maintain records as required in §63.181(h)(3), for each pump in each process unit (or plant site) subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit or plant site basis.

(i) Pump type (e.g., piston, horizontal or vertical centrifugal, gear, bellows); pump manufacturer; seal type and manufacturer; pump design (e.g., external shaft, flanged body); materials of construction; if applicable, barrier fluid or packing material; and year installed.

(ii) Service characteristics of the stream such as discharge pressure, temperature, flow rate, corrosivity, and annual operating hours.

(iii) The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if appropriate, instrument model number, and date of the observation.

(iv) If a leak is detected, the repair methods used and the instrument readings after repair.

(v) If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units, a description of any maintenance or quality assurance programs used in the process unit that are intended to improve emission performance.

(3) The owner or operator shall continue to collect data on the pumps as long as the process unit (or plant site) remains in the quality improvement program.

(4) The owner or operator shall inspect all pumps or pump seals which exhibited frequent seal failures and were removed from the process unit due to leaks. The inspection shall determine the probable cause of the pump seal failure or of the pump leak and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.

(5)(i) The owner or operator shall analyze the data collected to comply with the requirements of paragraph (d)(2) of this section to determine the services, operating or maintenance practices, and pump or pump seal designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process specific factors.

(ii) The analysis shall also be used to determine if there are superior performing pump or pump seal technologies that are applicable to the service(s), operating conditions, or pump or pump seal designs associated with poorer than average emission performance. A superior performing pump or pump seal technology is one with a leak frequency of less than 10 percent for specific applications in the process unit or plant site. A candidate superior performing pump or pump seal technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 10 percent leaking pumps in the process unit (or plant site).

(iii) The analysis shall include consideration of:

(A) The data obtained from the inspections of pumps and pump seals removed from the process unit due to leaks;

(B) Information from the available literature and from the experience of other plant sites that will identify pump designs or technologies and operating conditions associated with low emission performance for specific services; and

(C) Information on limitations on the service conditions for the pump seal technology operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

(iv) The data analysis may be conducted through an inter- or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a plant site, a company, or a group of process units.

(v) The first analysis of the data shall be completed no later than 18 months after the start of the quality improvement program. The first analysis shall be performed using a minimum of 6 months of data. An analysis of the data shall be done each year the process unit is in the quality improvement program.

(6) A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify use of superior performing pump seal technology or pumps that can be applied to the areas identified as having poorer than average performance, except as provided in paragraph (d)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of using in the process unit (or plant site) the pump designs or seal technologies, and operating and maintenance practices that have been identified by others as having low emission performance.

(i) The trial program shall include on-line trials of pump seal technologies or pump designs and operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 10 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing pump seal technologies or pumps is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in §63.181(h)(5)(ii).

(ii) The number of pump seal technologies or pumps in the trial evaluation program shall be the lesser of 1 percent or two pumps for programs involving single process units and the lesser of 1 percent or five pumps for programs involving a plant site or groups of process units. The minimum number of pumps or pump seal technologies in a trial program shall be one.

(iii) The trial evaluation program shall specify and include documentation of:

(A) The candidate superior performing pump seal designs or technologies to be evaluated, the stages for evaluating the identified candidate pump designs or pump seal technologies, including the time period necessary to test the applicability;

(B) The frequency of monitoring or inspection of the equipment;

(C) The range of operating conditions over which the component will be evaluated; and

(D) Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial pump seal technologies or pumps.

(iv) The performance trials shall initially be conducted, at least, for a 6-month period beginning not later than 18 months after the start of the quality improvement program. No later than 24 months after the start of the quality improvement program, the owner or operator shall have identified pump seal technologies or pump designs that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in paragraph (d)(6)(vi) of this section. The initial list of superior emission performance pump designs or pump seal technologies shall be amended in the future, as appropriate, as additional information and experience is obtained.

(v) Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 employees shall be exempt from trial evaluations of pump seals or pump designs. Plant sites exempt from the trial evaluations of pumps shall begin the pump seal or pump replacement program at the start of the fourth year of the quality improvement program.

(vi) An owner or operator who has conducted performance trials on all alternative superior emission performance technologies suitable for the required applications in the process unit may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible alternative superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would not reduce emissions.

(7) Each owner or operator shall prepare and implement a pump quality assurance program that details purchasing specifications and maintenance procedures for all pumps and pump seals in the process unit. The quality assurance program may establish any number of categories, or classes, of pumps as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under paragraph (d)(5) of this section, if applicable, the findings of the trial evaluation required in paragraph (d)(6) of this section, and the operating conditions in the process unit. The quality assurance program shall be updated each year as long as the process unit has the greater of either 10 percent or more leaking pumps or has three leaking pumps.

(i) The quality assurance program shall:

(A) Establish minimum design standards for each category of pumps or pump seal technology. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters;

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the pump or the pump seal;

(C) Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the plant site or process unit or by a designated representative; and

(D) Detail off-line pump maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished pumps and pump seals will meet the design specifications for the pump category and will operate such that emissions are minimized.

(ii) The quality assurance program shall be established no later than the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees; and no later than the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees.

(8) Beginning at the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees and at the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees, the owner or operator shall replace, as described in paragraphs (d)(8)(i) and (d)(8)(ii) of this section, the pumps or pump seals that are not superior emission performance technology with pumps or pump seals that have been identified as superior emission performance technology and that comply with the quality assurance standards for the pump category. Superior emission performance technology is that category or design of pumps or pump seals with emission performance which, when combined with appropriate process, operating, and maintenance practices, will result in less than 10 percent leaking pumps for specific applications in the process unit or plant site. Superior emission performance technology includes material or design changes to the existing pump, pump seal, seal support system, installation of multiple mechanical seals or equivalent, or pump replacement.

(i) Pumps or pump seals shall be replaced at the rate of 20 percent per year based on the total number of pumps in light liquid service. The calculated value shall be rounded to the nearest nonzero integer value. The minimum number of pumps or pump seals shall be one. Pump replacement shall continue until all pumps subject to the requirements of §63.163 of this subpart are pumps determined to be superior performance technology.

(ii) The owner or operator may delay replacement of pump seals or pumps with superior technology until the next planned process unit shutdown, provided the number of pump seals and pumps replaced is equivalent to the 20 percent or greater annual replacement rate.

(iii) The pumps shall be maintained as specified in the quality assurance program.

§ 63.177 Alternative means of emission limitation: General.

(a) Permission to use an alternative means of emission limitation under section 112(h)(3) of the Act shall be governed by the following procedures in paragraphs (b) through (e) of this section.

(b) Where the standard is an equipment, design, or operational requirement:

(1) Each owner or operator applying for permission to use an alternative means of emission limitation under §63.6(g) of subpart A of this part shall be responsible for collecting and verifying emission performance test data for an alternative means of emission limitation.

(2) The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Where the standard is a work practice:

(1) Each owner or operator applying for permission shall be responsible for collecting and verifying test data for an alternative means of emission limitation.

(2) For each kind of equipment for which permission is requested, the emission reduction achieved by the required work practices shall be demonstrated for a minimum period of 12 months.

(3) For each kind of equipment for which permission is requested, the emission reduction achieved by the alternative means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for permission shall commit, in writing, for each kind of equipment to work practices that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practices.

(5) The Administrator will compare the demonstrated emission reduction for the alternative means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4) of this section.

(6) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same or greater emission reduction as the required work practices of this subpart.

(d) An owner or operator may offer a unique approach to demonstrate the alternative means of emission limitation.

(e)(1) Manufacturers of equipment used to control equipment leaks of an organic HAP may apply to the Administrator for permission for an alternative means of emission limitation that achieves a reduction in emissions of the organic HAP achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will grant permission according to the provisions of paragraphs (b), (c), and (d) of this section.

§ 63.178 Alternative means of emission limitation: Batch processes.

(a) As an alternative to complying with the requirements of §§63.163 through 63.171 and §§63.173 through 63.176, an owner or operator of a batch process that operates in organic HAP service during the calendar year may comply with one of the standards specified in paragraphs (b) and (c) of this section, or the owner or operator may petition for approval of an alternative standard under the provisions of §63.177 of this subpart. The alternative standards of this section provide the options of pressure testing or monitoring the equipment for leaks. The owner or operator may switch among the alternatives provided the change is documented as specified in §63.181.

(b) The following requirements shall be met if an owner or operator elects to use pressure testing of batch product-process equipment to demonstrate compliance with this subpart. An owner or operator who complies with the provisions of this paragraph is exempt from the monitoring provisions of §63.163, §§63.168 and 63.169, and §§63.173 through 63.176 of this subpart.

(1) Each time equipment is reconfigured for production of a different product or intermediate, the batch product-process equipment train shall be pressure-tested for leaks before organic HAP is first fed to the equipment and the equipment is placed in organic HAP service.

(i) When the batch product-process train is reconfigured to produce a different product, pressure testing is required only for the new or disturbed equipment.

(ii) Each batch product process that operates in organic HAP service during a calendar year shall be pressure tested at least once during that calendar year.

(iii) Pressure testing is not required for routine seal breaks, such as changing hoses or filters, which are not part of the reconfiguration to produce a different product or intermediate.

(2) The batch product process equipment shall be tested either using the procedures specified in §63.180(f) of this subpart for pressure or vacuum loss or with a liquid using the procedures specified in §63.180(g) of this subpart.

(3)(i) For pressure or vacuum tests, a leak is detected if the rate of change in pressure is greater than 6.9 kilopascals (1 psig) in 1 hour or if there is visible, audible, or olfactory evidence of fluid loss.

(ii) For pressure tests using a liquid, a leak is detected if there are indications of liquids dripping or if there is other evidence of fluid loss.

(4)(i) If a leak is detected, it shall be repaired and the batch product-process equipment shall be retested before start-up of the process.

(ii) If a batch product-process fails the retest or the second of two consecutive pressure tests, it shall be repaired as soon as practicable, but not later than 30 calendar days after the second pressure test, provided the conditions specified in paragraph (d) of this section are met.

(c) The following requirements shall be met if an owner or operator elects to monitor the equipment to detect leaks by the method specified in §63.180(b) of this subpart to demonstrate compliance with this subpart.

(1) The owner or operator shall comply with the requirements of §§63.163 through 63.170, and §§63.172 through 63.176 of this subpart.

(2) The equipment shall be monitored for leaks by the method specified in §63.180(b) of this subpart 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.

(3) The equipment shall be monitored for leaks as specified below:

(i) Each time the equipment is reconfigured for the production of a new product, the reconfigured equipment shall be monitored for leaks within 30 days of start-up of the process. This initial monitoring of reconfigured equipment shall not be included in determining percent leaking equipment in the process unit.

(ii) Connectors shall be monitored in accordance with the requirements in §63.174 of this subpart.

(iii) Equipment other than connectors shall be monitored at the frequencies specified in table 1 of this subpart. The operating time shall be determined as the proportion of the year the batch product-process that is subject to the provisions of this subpart is operating.

(iv) The monitoring frequencies specified in table 1 of this subpart are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor anytime during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. For example, if the equipment is not operating during the scheduled monitoring period, the monitoring can be done during the next period when the process is operating.

(4) If 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 (d) of this section.

(d) Delay of repair of equipment for which leaks have been detected is allowed if the replacement equipment is not available providing the following conditions are met:

(1) Equipment supplies have been depleted and supplies had been sufficiently stocked before the supplies were depleted.

(2) The repair is made no later than 10 calendar days after delivery of the replacement equipment.

§ 63.179 Alternative means of emission limitation: Enclosed-vented process units.

Process units enclosed in such a manner that all emissions from equipment leaks are vented through a closed-vent system to a control device meeting the requirements of §63.172 of this subpart are exempt from the requirements of §63.163, through 63.171, and §§63.173 and 63.174 of this subpart. The enclosure shall be maintained under a negative pressure at all times while the process unit is in operation to ensure that all emissions are routed to a control device.

§ 63.180 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) Monitoring, as required under this subpart, shall comply with the following requirements:

(1) Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A.

(2)(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.

(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.

(3) 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.

(4) Calibration gases shall be:

(i) Zero air (less than 10 parts per million of hydrocarbon in air); and

(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.

(A) 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.

(B) 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.

(C) 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.

(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.

(5) 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.

(6) 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.

(i) The data were obtained before April 22, 1994.

(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.

(c) 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.

(1) The requirements of paragraphs (b) (1) through (4) of this section shall apply.

(2) The background level shall be determined, using the same procedures that will be used to determine whether the equipment is leaking.

(3) 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.

(4) 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.

(d)(1) 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.

(2)(i) 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.

(ii) 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.

(3) 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.

(4) Samples used in determining the percent organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment.

(e) When a flare is used to comply with §63.172(d), the owner or operator shall comply with paragraphs (e)(1) through (3) of this section. The owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration.

(1) Conduct a visible emission test using the techniques specified in §63.11(b)(4).

(2) Determine the net heating value of the gas being combusted using the techniques specified in §63.11(b)(6).

(3) Determine the exit velocity using the techniques specified in either §63.11(b)(7)(i) (and §63.11(b)(7)(iii), where applicable) or §63.11(b)(8), as appropriate.

(f) The following procedures shall be used to pressure test batch product-process equipment for pressure or vacuum loss to demonstrate compliance with the requirements of §63.178(b)(3)(i) of this subpart.

(1) The batch product-process equipment train shall be pressurized with a gas to a pressure less than the set pressure of any safety relief devices or valves or to a pressure slightly above the operating pressure of the equipment, or alternatively, the equipment shall be placed under a vacuum.

(2) Once the test pressure is obtained, the gas source or vacuum source shall be shut off.

(3) The test shall continue for not less than 15 minutes unless it can be determined in a shorter period of time that the allowable rate of pressure drop or of pressure rise was exceeded. The pressure in the batch product-process equipment shall be measured after the gas or vacuum source is shut off and at the end of the test period. The rate of change in pressure in the batch product-process equipment shall be calculated using the following equation:

$$\Delta \frac{P}{t} = \frac{\left(\left|P_f - P_i\right|\right)}{\left(t_f - t_i\right)}$$

where:

$\Delta P/t$=Change in pressure, psig/hr.

P_f=Final pressure, psig.

P_i=Initial pressure, psig.

$t_f - t_i$=Elapsed time, hours.

(4) The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) which has a precision of ±2.5 millimeter mercury in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device. If such a pressure measurement device is not reasonably available, the owner or operator shall use a pressure measurement device with a precision of at least +10 percent of the test pressure of the equipment and shall extend the duration of the test for the time necessary to detect a pressure loss or rise that equals a rate of one psig per hour.

(5) An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting a pressure loss or rise.

(g) The following procedures shall be used to pressure-test batch product-process equipment using a liquid to demonstrate compliance with the requirements of §63.178(b)(3)(ii) of this subpart.

(1) The batch product-process equipment train, or section of the train, shall be filled with the test liquid (e.g., water, alcohol) until normal operating pressure is obtained. Once the equipment is filled, the liquid source shall be shut off.

(2) The test shall be conducted for a period of at least 60 minutes, unless it can be determined in a shorter period of time that the test is a failure.

(3) Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected.

(4) An alternative procedure may be used for leak testing the equipment, if the owner or operator demonstrates the alternative procedure is capable of detecting losses of fluid.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48177, Sept. 20, 1994; 61 FR 31440, June 20, 1996; 62 FR 2792, Jan. 17, 1997; 66 FR 6936, Jan. 22, 2001]

§ 63.181 Recordkeeping requirements.

(a) 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.

(b) 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:

(1)(i) 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.

(ii) 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.

(iii) 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.

(2)(i) 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.

(ii) A list of identification numbers for compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of §63.164(i) of this subpart.

(iii) Identification of surge control vessels or bottoms receivers subject to the provisions of this subpart that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of §63.170 of this subpart.

(3)(i) A list of identification numbers for pressure relief devices subject to the provisions in §63.165(a) of this subpart.

(ii) A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions of §63.165(d) of this subpart.

(4) Identification of instrumentation systems subject to the provisions of this subpart. Individual components in an instrumentation system need not be identified.

(5) 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.

(6) The following information shall be recorded for each dual mechanical seal system:

(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

(ii) Any changes to these criteria and the reasons for the changes.

(7) The following information pertaining to all pumps subject to the provisions of §63.163(j), valves subject to the provisions of §63.168(h) and (i) of this subpart, agitators subject to the provisions of §63.173(h) through (j), and connectors subject to the provisions of §63.174(f) and (g) of this subpart shall be recorded:

(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.

(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.

(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.

(8)(i) 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.

(ii) 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.

(9)(i) For batch process units that the owner or operator elects to monitor as provided under §63.178(c) of this subpart, a list of equipment added to batch product process units since the last monitoring period required in §63.178(c)(3)(ii) and (3)(iii) of this subpart.

(ii) Records demonstrating the proportion of the time during the calendar year the equipment is in use in a batch process that is subject to the provisions of this subpart. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit. These records are not required if the owner or operator does not adjust monitoring frequency by the time in use, as provided in §63.178(c)(3)(iii) of this subpart.

(10) 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.

(c) 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.

(d) 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:

(1) The instrument and the equipment identification number and the operator name, initials, or identification number.

(2) The date the leak was detected and the date of first attempt to repair the leak.

(3) The date of successful repair of the leak.

(4) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be nonrepairable.

(5) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(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.

(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.

(6) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(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.

(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.

(8) The date and results of the monitoring required in §63.178(c)(3)(i) of this subpart for equipment added to a batch process unit since the last monitoring period required in §63.178 (c)(3)(ii) and (c)(3)(iii) of this subpart. If no leaking equipment is found in this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required.

(9) 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.

(e) The owner or operator of a batch product process who elects to pressure test the batch product process equipment train to demonstrate compliance with this subpart is exempt from the requirements of paragraphs (b), (c), (d), and (f) of this section. Instead, the owner or operator shall maintain records of the following information:

(1) The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in a batch product process equipment train.

(2) [Reserved]

(3) Physical tagging of the equipment to identify that it is in organic HAP service and subject to the provisions of this subpart is not required. Equipment in a batch product process subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

(4) The dates of each pressure test required in §63.178(b) of this subpart, the test pressure, and the pressure drop observed during the test.

(5) Records of any visible, audible, or olfactory evidence of fluid loss.

(6) When a batch product process equipment train does not pass two consecutive pressure tests, the following information shall be recorded in a log and kept for 2 years:

(i) The date of each pressure test and the date of each leak repair attempt.

(ii) Repair methods applied in each attempt to repair the leak.

(iii) The reason for the delay of repair.

(iv) The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment.

(v) The date of successful repair.

(f) 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:

(1) The background level measured during each compliance test.

(2) The maximum instrument reading measured at each piece of equipment during each compliance test.

(g) The owner or operator shall maintain records of the information specified in paragraphs (g)(1) through (g)(3) of this section for closed-vent systems and control devices subject to the provisions of §63.172 of this subpart. The records specified in paragraph (g)(1) of this section shall be retained for the life of the equipment. The records specified in paragraphs (g)(2) and (g)(3) of this section shall be retained for 2 years.

(1) The design specifications and performance demonstrations specified in paragraphs (g)(1)(i) through (g)(1)(iv) of this section.

(i) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams.

(ii) The dates and descriptions of any changes in the design specifications.

(iii) The flare design (i.e., steam-assisted, air-assisted, or non-assisted) and the results of the compliance demonstration required by §63.11(b) of subpart A of this part.

(iv) A description of the parameter or parameters monitored, as required in §63.172(e) of this subpart, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(2) Records of operation of closed-vent systems and control devices, as specified in paragraphs (g)(2)(i) through (g)(2)(iii) of this section.

(i) Dates and durations when the closed-vent systems and control devices required in §§63.163 through 63.166, and §63.170 of this subpart are not operated as designed as indicated by the monitored parameters, including periods when a flare pilot light system does not have a flame.

(ii) Dates and durations during which the monitoring system or monitoring device is inoperative.

(iii) Dates and durations of start-ups and shutdowns of control devices required in §§63.163 through 63.166, and §63.170 of this subpart.

(3) Records of inspections of closed-vent systems subject to the provisions of §63.172 of this subpart, as specified in paragraphs (g)(3)(i) and (g)(3)(ii) of this section.

(i) For each inspection conducted in accordance with the provisions of §63.172(f)(1) or (f)(2) of this subpart during which no leaks were detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(ii) For each inspection conducted in accordance with the provisions of §63.172(f)(1) or (f)(2) of this subpart during which leaks were detected, the information specified in paragraph (d) of this section shall be recorded.

(h) Each owner or operator of a process unit subject to the requirements of §§63.175 and 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.

(1) For owners or operators who elect to use a reasonable further progress quality improvement program, as specified in §63.175(d) of this subpart:

(i) All data required in §63.175(d)(2) of this subpart.

(ii) The percent leaking valves observed each quarter and the rolling average percent reduction observed in each quarter.

(iii) The beginning and ending dates while meeting the requirements of §63.175(d) of this subpart.

(2) For owners or operators who elect to use a quality improvement program of technology review and improvement, as specified in §63.175(e) of this subpart:

(i) All data required in §63.175(e)(2) of this subpart.

(ii) The percent leaking valves observed each quarter.

(iii) Documentation of all inspections conducted under the requirements of §63.175(e)(4) of this subpart, and any recommendations for design or specification changes to reduce leak frequency.

(iv) The beginning and ending dates while meeting the requirements of §63.175(e) of this subpart.

(3) For owners or operators subject to the requirements of the pump quality improvement program as specified in §63.176 of this subpart:

(i) All data required in §63.176(d)(2) of this subpart.

(ii) The rolling average percent leaking pumps.

(iii) Documentation of all inspections conducted under the requirements of §63.176(d)(4) of this subpart, and any recommendations for design or specification changes to reduce leak frequency.

(iv) The beginning and ending dates while meeting the requirements of §63.176(d) of this subpart.

(4) 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.

(5) Records of all analyses required in §§63.175(e) and 63.176(d) of this subpart. The records will include the following:

(i) A list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions and maintenance practices.

(ii) The reasons for rejecting specific candidate superior emission performing valve or pump technology from performance trials.

(iii) The list of candidate superior emission performing valve or pump technologies, and documentation of the performance trial program items required under §§63.175(e)(6)(iii) and 63.176(d)(6)(iii) of this subpart.

(iv) The beginning date and duration of performance trials of each candidate superior emission performing technology.

(6) All records documenting the quality assurance program for valves or pumps as specified in §§63.175(e)(7) and 63.176(d)(7) of this subpart.

(7) 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 §63.175(e)(7) and §63.176(d)(7) of this subpart.

(8) Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in §63.176(d)(8) of this subpart.

(9) Information and data to show the corporation has fewer than 100 employees, including employees providing professional and technical contracted services.

(i) 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.

(1) Retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service.

(2) When requested by the Administrator, demonstrate that the piece of equipment or process is in heavy liquid service.

(3) 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.

(j) Identification, either by list, location (area or group) of equipment in organic HAP service less than 300 hours per year within a process unit subject to the provisions of this subpart under §63.160 of this subpart.

(k) Owners and operators choosing to comply with the requirements of §63.179 of this subpart shall maintain the following records:

(1) Identification of the process unit(s) and the organic HAP's they handle.

(2) A schematic of the process unit, enclosure, and closed-vent system.

(3) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48177, Sept. 20, 1994; 60 FR 18030, Apr. 10, 1995; 61 FR 31441, June 20, 1996; 62 FR 2792, Jan. 17, 1997; 64 FR 20198, Apr. 26, 1999; 68 FR 37344, June 23, 2003]

§ 63.182 Reporting requirements.

(a) Each owner or operator of a source subject to this subpart shall submit the reports listed in paragraphs (a)(1) through (a)(5) of this section. Owners or operators requesting an extension of compliance shall also submit the report listed in paragraph (a)(6) of this section.

(1) An Initial Notification described in paragraph (b) of this section, and

(2) A Notification of Compliance Status described in paragraph (c) of this section,

(3) Periodic Reports described in paragraph (d) of this section, and

(4)–(5) [Reserved]

(6) Pursuant to section 112(i)(3)(B) of the Act, an owner or operator may request an extension allowing an existing source up to 1 additional year beyond the compliance date specified in the subpart that references this subpart.

(i) For purposes of this subpart, a request for an extension shall be submitted to the operating permit authority as part of the operating permit application. If the State in which the source is located does not have an approved operating permit program, a request for an extension shall be submitted to the Administrator as a separate submittal. The dates specified in §63.6(i) of subpart A of this part for submittal of requests for extensions shall not apply to sources subject to this subpart.

(ii) A request for an extension of compliance must include the data described in §63.6(i)(6)(i) (A), (B), and (D) of subpart A of this part.

(iii) The requirements in §63.6(i)(8) through (i)(14) of subpart A of this part will govern the review and approval of requests for extensions of compliance with this subpart.

(b) Each owner or operator of an existing or new source subject to the provisions of this subpart shall submit a written Initial Notification to the Administrator, containing the information described in paragraph (b)(1), according to the schedule in paragraph (b)(2) of this section. The Initial Notification provisions in §63.9(b)(1) through (b)(3) of subpart A of this part shall not apply to owners or operators of sources subject to this subpart.

(1) The Initial Notification shall include the following information:

(i) The name and address of the owner or operator;

(ii) The address (physical location) of the affected source;

(iii) An identification of the chemical manufacturing processes subject to this subpart; and

(iv) A statement of whether the source can achieve compliance by the applicable compliance date specified in the subpart in 40 CFR part 63 that references this subpart.

(2) The Initial Notification shall be submitted according to the schedule in paragraph (b)(2)(i), (b)(2)(ii), or (b)(2)(iii) of this section, as applicable.

(i) For an existing source, the Initial Notification shall be submitted within 120 days after the date of promulgation of the subpart that references this subpart.

(ii) For a new source that has an initial start-up 90 days after the date of promulgation of this subpart or later, the application for approval of construction or reconstruction required by §63.5(d) of subpart A of this part shall be submitted in lieu of the Initial Notification. The application shall be submitted as soon as practicable before the construction or reconstruction is planned to commence (but it need not be sooner than 90 days after the date of promulgation of the subpart that references this subpart).

(iii) For a new source that has an initial start-up prior to 90 days after the date of promulgation of the applicable subpart, the Initial Notification shall be submitted within 90 days after the date of promulgation of the subpart that references this subpart.

(c) Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status within 90 days after the compliance dates specified in the subpart in 40 CFR part 63 that references this subpart, except as provided in paragraph (c)(4) of this section.

(1) The notification shall provide the information listed in paragraphs (c)(1)(i) through (c)(1)(iv) of this section for each process unit subject to the requirements of §63.163 through §63.174 of this subpart.

(i) Process unit identification.

(ii) Number of each equipment type (e.g., valves, pumps) excluding equipment in vacuum service.

(iii) Method of compliance with the standard (for example, “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(iv) Planned schedule for each phase of the requirements in §63.163 and §63.168 of this subpart.

(2) The notification shall provide the information listed in paragraphs (c)(2)(i) and (c)(2)(ii) of this section for each process unit subject to the requirements of §63.178(b) of this subpart.

(i) Batch products or product codes subject to the provisions of this subpart, and

(ii) Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this subpart.

(3) The notification shall provide the information listed in paragraphs (c)(3)(i) and (c)(3)(ii) of this section for each process unit subject to the requirements in §63.179 of this subpart.

(i) Process unit identification.

(ii) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of §63.172 of this subpart.

(4) For existing sources subject to subpart F of this part, the Notification of Compliance Status shall be submitted for the group of process units with the earliest compliance date specified in §63.100(k) of subpart F of this part, by no later than 90 days after the compliance date for that group. The Notification of Compliance Status for each subsequent group shall be submitted as part of the first periodic report that is due not less than 90 days after the compliance date for that group.

(d) The owner or operator of a source subject to this subpart shall submit Periodic Reports.

(1) A report containing the information in paragraphs (d)(2), (d)(3), 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. The first periodic report shall cover the first 6 months after the compliance date specified in §63.100(k)(3) of subpart F. Each subsequent periodic report shall cover the 6 month period following the preceding period.

(2) 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.

(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;

(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;

(iii) 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;

(iv) The number of pumps for which leaks were not repaired as required in §63.163(c) of this subpart;

(v) The number of compressors for which leaks were detected as described in §63.164(f) of this subpart;

(vi) The number of compressors for which leaks were not repaired as required in §63.164(g) of this subpart;

(vii) The number of agitators for which leaks were detected as described in §63.173(a) and (b) of this subpart;

(viii) The number of agitators for which leaks were not repaired as required in §63.173(c) of this subpart;

(ix) 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;

(x) [Reserved]

(xi) 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 nonrepairable;

(xii) [Reserved]

(xiii) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.

(xiv) 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.

(xv) 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 or 63.176 of this subpart.

(xvi) If applicable, notification of a change in connector monitoring alternatives as described in §63.174(c)(1) of this subpart.

(xvii) If applicable, the compliance option that has been selected under §63.172(n).

(3) For owners or operators electing to meet the requirements of §63.178(b) of this subpart, the report shall include the information listed in paragraphs (i) through (v) of this paragraph for each process unit.

(i) Batch product process equipment train identification;

(ii) The number of pressure tests conducted;

(iii) The number of pressure tests where the equipment train failed the pressure test;

(iv) The facts that explain any delay of repairs; and

(v) The results of all monitoring to determine compliance with §63.172(f) of this subpart.

(4) 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.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48178, Sept. 20, 1994; 60 FR 18030, Apr. 10, 1995; 60 FR 63631, Dec. 12, 1995; 62 FR 2792, Jan. 17, 1997]

§ 63.183 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§63.160, 63.162 through 63.176, 63.178 through 63.179. Follow the applicable procedures of §63.177 to request an alternative means of emission limitation for batch processes and enclosed-vented process units. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart. Where these standards reference another subpart and modify the requirements, the requirements shall be modified as described in this subpart. Delegation of the modified requirements will also occur according to the delegation provisions of the referenced subpart.

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

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

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

[68 FR 37345, June 23, 2003]

Table 1 to Subpart H of Part 63—Batch Processes

Monitoring Frequency for Equipment Other than Connectors

Operating time (% of year)	Equivalent continuous process monitoring frequency time in use		
	Monthly	**Quarterly**	**Semiannually**
0 to <25	Quarterly	Annually	Annually.
25 to <50	Quarterly	Semiannually	Annually.
50 to <75	Bimonthly	Three times	Semiannually.
75 to 100	Monthly	Quarterly	Semiannually.

Table 2 to Subpart H of Part 63—Surge Control Vessels and Bottoms Receivers at Existing Sources

Vessel capacity (cubic meters)	Vapor pressure[1](kilopascals)
75 ≤ capacity < 151	≥13.1
151 ≤ capacity	≥ 5.2[a]

[1]Maximum true vapor pressure of total organic HAP at operating temperature as defined in subpart G of this part.

[60 FR 18025, Apr. 10, 1995]

Table 3 to Subpart H of Part 63—Surge Control Vessels and Bottoms Receivers at New Sources

Vessel capacity (cubic meters)	Vapor pressure[1](kilopascals)
38 ≤ capacity < 151	≥ 13.1
151 ≤ capacity	≥ 0.7

[1]Maximum true vapor pressure of total organic HAP at operating temperature as defined in subpart G of this part.

[60 FR 18025, Apr. 10, 1995]

Table 4 to Subpart H of Part 63—Applicable 40 CFR Part 63 General Provisions

40 CFR part 63, subpart A, provisions applicable to subpart H
§63.1(a)(1), (a)(2), (a)(3), (a)(13), (a)(14), (b)(2) and (c)(4)
§63.2
§63.5(a)(1), (a)(2), (b), (d)(1)(ii), (d)(4), (e), (f)(1) and (f)(2)
§63.6(a), (b)(3), (c)(5), (i)(1), (i)(2), (i)(4)(i)(A), (i)(5) through (i)(14), (i)(16) and (j)
§63.9(a)(2), (b)(4)(i)[a], (b)(4)(ii), (b)(4)(iii), (b)(5)a, (c) and (d)
§63.10(d)(4)
§63.11 (c), (d), and (e)
§63.12(b)

[a]The notifications specified in §63.9(b)(4)(i) and (b)(5) shall be submitted at the times specified in 40 CFR part 65.

[65 FR 78285, Dec. 14, 2000, as amended at 73 FR 78213, Dec. 22, 2008]

Appendix C

Rule 10 Monitoring Plan

Aventis CropScience

Aventis

August 31, 2001

HAND DELIVERED

Ms. Laura Crowder
WV Division of Environmental Protection
Office of Air Quality
7012 MacCorkle Avenue, SE
Charleston, West Virginia 25304-2943

Dear Ms. Crowder:

Attached is the addendum, we discussed this week, to our previously submitted Visible Emission and Sulfur Oxide Monitoring Plan on February 28, 2001.

Additionally, the Rhodimet Unit Sulfur Dioxide monitoring plan we discussed is enclosed in accordance with West Virginia Regulation 10.

Should you have any questions concerning these plans, please contact me at (304) 767-6595.

Sincerely,

C. L. Stewart
Environmental Specialist

Aventis CropScience • Institute Site • P.O. Box 2831 • Charleston, WV 25330 • www.aventis.com

Aventis Animal Nutrition
Rhodimet AT-88® Unit
West Virginia Regulation 10
Sulfur Dioxide Monitoring Plan

General:

Aventis Animal Nutrition produces an animal feed supplement, Rhodimet AT-88®. Various process emissions are vented through header systems and are treated in the Unit's process thermal oxidizer. During the treatment process, sulfur-bearing compounds are converted to sulfur dioxide. Emissions from the process thermal oxidizer are routed to the Unit's caustic scrubber where sulfur dioxide emissions are treated.

Sulfur Dioxide Monitoring Plan:

Regulation 10's emission standard for manufacturing process source operations limits sulfur dioxide emissions to an in-stack concentration of 2000 ppmv. Previous stack testing indicates that in-stack sulfur dioxide emissions were less than 10 ppmv at the Unit's maximum achievable production rates. Measured in-stack concentrations were well below 90 percent of the regulatory limit; therefore, installation of Continuous Emission Monitor Systems (CEMS) are not required.

Several caustic scrubber parameters are monitored every 2 hours via DCS system for liquor recirculation flow rate and pH. These are industry standard scrubber control parameters that are indicative of scrubber performance and ensure efficient sulfur dioxide absorption and neutralization. To ensure proper scrubber operations and compliance with the regulatory limit, Aventis will maintain these parameters within the scrubber Manufacture's recommended operating conditions. These conditions are as following:

Recirculation Flow Rate	≥ 400 gpm
pH	≥ 5

Response Plan:

The caustic scrubber is designed with several back-up systems to ensure continuous operations. These systems include a spare recirculation pump and redundant on-line pH meters. Should a pump failure occur, the pump could be quickly switch out with the spare pump. With redundant pH meters, calibrations or repairs can be made on one meter while the scrubber continues to operate on the other.

Aventis Animal Nutrition
Rhodimet AT-88® Unit
West Virginia Regulation 10
Sulfur Dioxide Monitoring Plan

Proposed Compliance Testing Schedule:

Measured in-stack sulfur dioxide concentrations were below 10 ppmv. As compared to the regulatory standard of 2000 ppmv, these concentrations are approximately 1 percent of the allowable limit.

Regulation 10A, Section 5.1.a establishes a Fuel Burning Unit compliance test schedule. Units with sulfur dioxide emissions less than 50 percent of the allowable factor are not required to perform addition tests. Since the Rhodimet scrubber in-stack sulfur dioxide is less than 50 percent of Regulation 10's allowable limit, Aventis proposes to adopt the same philosophy incorporated in Section 5.1.a and perform no additional tests.

Page 2 of 2