

**RESPONSE TO COMMENTS**  
**Green Bay Packaging, Inc. – AR Kraft Division**  
**Permit No.: 224-AOP-R9**  
**AFIN: 15-00001**

On April 18, 2007 the Director of the Arkansas Department of Environmental Quality gave notice of a draft permitting decision for the above referenced facility. During the comment period, the facility submitted written comments, data, views, or arguments on the draft permitting decision. The Department's response to these issues is as follows:

**SECTION II: INTRODUCTION**

*Comment: Emission Summary Page 12: CO lb/hr emissions have been reduced from 1888.3 to 1871.7 – a difference of 16.6 lb/hr. This is the amount that the lb/hr CO emissions were increased at #3 Wood Waste Boiler. The 16.6 lb/hr should be added to the 1888.3 to give 1904.9 lb/hr.*

*Response: The Department inadvertently deducted 16.6 lb/hr from the existing CO emission rate for SN-04. The previous permitted short term CO emission limit was based on an inaccurate heat input capacity for the #3 Wood Waste Boiler. The heat input capacity was corrected in 224-AOP-R3 (452 MMBTU/hr); however the CO limit was not changed. The Department has changed the CO hourly emission rate for SN-04 and the total.*

*Comment: Emission Summary Page 12: Methyl Ethyl Ketone has been removed from the list of HAPs by the EPA. This compound should be listed as an Air Contaminant.*

*Response: The change has been made.*

*Comment: Emission Summary - #3 Wood Waste Boiler: Lb/hr of CO should be 135.6 lb/hr. See Specific Condition #29.*

*Response: The change has been made.*

*Comment: Emission Summary - #2 Paper Machine: Lb/hr of Acetone should be 0.70. See Specific Condition #170.*

*Response: The change has been made.*

*Comment: Emissions Summary - #2 Paper Machine: TPY of 1,2 Dichloroethylene should be 0.35. See comment for Specific Condition #170.*

*Response: The change has been made.*

#### SECTION IV: SPECIFIC CONDITIONS

*Comment: SN-02 Source Description and Specific Conditions 10 – 27*

*The EPA has petitioned the court to stay the compliance date and standards for 40 CFR 63, Subpart DDDDD. The Source Description and the NESHAP DDDDD Specific Conditions should specify that these conditions will apply at the compliance date when it is finalized.*

*Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.*

*Comment: Specific Condition #4: There has been no change in operations or in applicable regulations that require reducing the opacity limit from 40% to 20%. Additionally, see Comment for Specific Condition #12. This limit should remain at 40% opacity.*

*Response: The change has been made.*

*Comment: Specific Condition #6: The reason for reducing maximum hourly steam production was based on the testing done for manganese emissions under the Boiler MACT HBCA for Mn. Previous testing for the parameters listed in Specific Condition #9 demonstrated compliance at a steaming rate of 100,000 pounds per hour. This condition should remain at 100,000 pounds of steam per hour until the compliance date for the Boiler MACT becomes final.*

*Response: The condition has been revised to maintain the maximum hourly steam production rate of 100,000 pounds per hour.*

*Comment: Arkansas Kraft will demonstrate compliance with the emission limits in Specific Condition #11 by means of fuel sampling and analysis as provided at 63.7505(c). This should be referenced in Specific Condition #11.*

*Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.*

*Comment: Specific Condition #12: Table 2 to Subpart DDDDD of Part 63 applies to boilers with particulate matter emission limits. Because of the provision of meeting the MACT standard by means of fuel sampling the particulate emission limit and Table 2 provisions do not apply to this boiler. Additionally, compliance is not being demonstrated under Table 2.4 by the operation of any control equipment. Therefore, the 20% opacity operating limit listed under Table 2.4 does not apply.*

*The condition cited in Specific Condition 12.b is from Table 3. Requirements from Table 3.6 and Table 4.3 apply to this boiler.*

Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.

Comment: *Specific Condition #14: Initial compliance by fuel analysis must be demonstrated within 180 days of the final compliance date-whatever that turns out to be.*

Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.

Comment: *Specific Condition #15: Arkansas Kraft is using the fuel analysis for TSM and also for mercury and chloride.*

Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.

Comment: *Specific Condition #17.d: The parameter used for opacity during the testing to determine eligibility for the HBCA for TSM was 40% - not 20%. That 40% parameter should continue to apply to the operation of this boiler as demonstration of compliance.*

Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.

Comment: *Specific Condition #17.g: The stack height for SN-02 is 25.91m – not 10.0m*

Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.

Comment: *Specific Condition #17.h: The minimum distance to the property boundary for SN-02 is 233.2m not 975.6m. However, since a site-specific analysis was done for Mn emissions from this boiler, the distance to the property line irrelevant. The HBCA is based on the HQ being less than 1.0 at the nearest residence. Modeling demonstrated that the maximum HQ was 0.492.*

Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.

Comment: *Specific Condition #21: Depending on operating parameters, SN-02 may not be able to operate at 90% or greater capacity during emission testing. It is requested that the language from Specific Condition #9 relating to testing at maximum capacity be added to Specific Condition #21.*

*Compliance testing shall be conducted while the equipment being tested is operating with 90% of its permitted capacity. If equipment does not attain 90% of permitted capacity during testing will be 90% of the maximum operating rate until the next test is completed.*

- Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.
- Comment: *Specific Condition #21: Appendix A of Subpart DDDDD contains the applicable conditions for using the HBCA provisions of this MACT rule. Section 11 provides that to maintain eligibility for the HBCA, the eligibility demonstration must be updated and resubmitted when specific conditions take place. There are no requirements to retest Mn emissions at five year source changes in way that could result in increased HAP emissions." Based on Appendix A specifications, Specific Condition #21 requirement to retest Mn emission in five years should be removed. The requirements under Appendix A are covered by Specific Condition #18 and #19.*
- Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.
- Comment: *Specific Condition #26: The date for the first required semi-annual compliance report should be suspended until the final compliance date and standards for the Boiler MACT is decided.*
- Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.
- Comment: *Source Description and Specific Conditions 40 – 58: The EPA has petitioned the Court to stay the compliance date and standards for 40 CFR 63, Subpart DDDDD. The Source Description and the NESHAP DDDDD Specific Conditions should specify that these conditions will apply at the compliance date when it is finalized.*
- Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.
- Comment: *Specific Condition #41: Arkansas Kraft will demonstrate compliance with the emission limits in Specific Condition #41 by means of fuel sampling and analysis as provided at 63.7505(c). This should be referenced in Specific Condition #41.*
- Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.
- Comment: *Specific Condition #42: Table 2 to Subpart DDDDD of Part 63 applies to boilers with particulate matter emission limits. Because of the provision of meeting the MACT standard by means of fuel sampling the particulate emission limit and Table 2 provisions do not apply to this boiler. Operation of the wet scrubber on this boiler is already covered under Part 60 Subpart Db.*

*The condition cited in Specific Condition 42.b is from Table 3. Requirements from Table 3.6 and Table 4.3 apply to this boiler.*

Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.

Comment: *Specific Condition #45: Initial compliance by fuel analysis must be demonstrated within 180 days of the final compliance date – whatever that turns out to be.*

Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.

Comment: *Specific Condition #48.c: The control device in operation during Mn emissions testing was the multi-clone collectors and the venturi scrubber.*

Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.

Comment: *Specific Condition #48.g: The stack height for SN-04 is 39.62 m – not 5m.*

Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.

Comment: *Specific Condition #48.h: The minimum distance to the property boundary for SN-04 is 294 not 0.0. However, since a site-specific analysis was done for Mn emissions from this boiler, the distance to the property line is irrelevant. The HBCA is based on the HQ for both boilers being less than 1.0 at the nearest residence. Modeling demonstrated that the maximum HQ was 0.492.*

Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.

Comment: *Specific Condition #52: Depending on operating parameters, SN-04 may not be able to operate at 90% or greater capacity during emission testing. It is requested that the language from Specific Condition #9 relating tot testing at maximum capacity be added to Specific Condition #52...*

*Compliance testing shall be conducted while the equipment being tested is operating with 90% of its permitted capacity. If equipment does not attain 90% of permitted capacity during testing, the operating rate during testing will be 90% of the maximum operating rate until the next test is completed.*

Response: The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.

- Comment:* Specific Condition #52: Appendix A of Subpart DDDDD contains the applicable conditions for using the HBCA provisions of this MACT rule. Section 11 provides that to maintain eligibility for the HBCA, the eligibility demonstration must be updated and resubmitted when specific conditions take place. There is no requirement to retest Mn emissions at five year intervals. Mn testing must be done if "any of the parameters that defined the affected source changes in a way that could result in increased HAP emissions." Based on Appendix A specifications, Specific Condition 52 requirement to retest Mn emission in five years should be removed. The requirements under Appendix A are covered by Specific Conditions #49 and #50.
- Response:* The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.
- Comment:* Specific Condition #57: The date for the first required semi-annual compliance report should be suspended until the final compliance date for the boiler MACT is decided.
- Response:* The court has made a final ruling to vacate 40 CFR Part 63, Subpart DDDDD effective June 8, 2007. The language has been removed from the permit.
- Comment:* Specific Condition #171: The amount of the production should be 248,500 ADT – not 248.500 ADT.
- Response:* The typographical error has been corrected.
- Comment:* Specific Conditions #167 and #171: In order to avoid confusion on the part of anyone reading this permit without background, it should be noted that the amount of kraft tons each month will be a calculated amount from the total amount of kraft pulp sent to either paper machine.
- Response:* The requested language has been added to Specific Conditions #130 and #134 (Draft Specific Conditions #167 & #171) of Air Permit #224-AOP-R9.
- Comment:* Specific Condition #220: This condition should refer to Specific Condition #221(A-G). The reference to Specific Condition #167 is an error carried over from the transition for Permit R-3 to Permit R-4.
- Response:* The condition been revised to reference the correct specific condition.

# ADEQ OPERATING AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation 26:

Permit No. : 224-AOP-R9  
IS ISSUED TO:

Green Bay Packaging Inc. - Arkansas Kraft Division  
338 Highway 113 South  
Morrilton, AR 72110  
Conway County  
AFIN: 15-00001

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

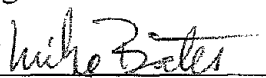
August 24, 2004

AND

August 23, 2009

THE PERMITTEE IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

  
Mike Bates  
Chief, Air Division

September 19, 2007  
Date Amended

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**Table of Contents**

|                                              |            |
|----------------------------------------------|------------|
| <b>SECTION I: FACILITY INFORMATION .....</b> | <b>5</b>   |
| <b>SECTION II: INTRODUCTION .....</b>        | <b>6</b>   |
| <b>Summary of Permit Activity .....</b>      | <b>6</b>   |
| <b>Process Description .....</b>             | <b>6</b>   |
| <b>Regulations .....</b>                     | <b>10</b>  |
| <b>Emission Summary .....</b>                | <b>11</b>  |
| <b>SECTION III: PERMIT HISTORY .....</b>     | <b>24</b>  |
| <b>SECTION IV: SPECIFIC CONDITIONS .....</b> | <b>32</b>  |
| <b>SN-01 .....</b>                           | <b>32</b>  |
| <b>SN-02 .....</b>                           | <b>33</b>  |
| <b>SN-03 .....</b>                           | <b>39</b>  |
| <b>SN-04 .....</b>                           | <b>40</b>  |
| <b>SN-05A .....</b>                          | <b>50</b>  |
| <b>SN-07 .....</b>                           | <b>55</b>  |
| <b>SN-08, and SN-22 .....</b>                | <b>59</b>  |
| <b>SN-11 .....</b>                           | <b>66</b>  |
| <b>SN-12 .....</b>                           | <b>67</b>  |
| <b>SN-14 .....</b>                           | <b>68</b>  |
| <b>SN-15 .....</b>                           | <b>72</b>  |
| <b>SN-23 .....</b>                           | <b>78</b>  |
| <b>SN-24 .....</b>                           | <b>80</b>  |
| <b>SN-25A .....</b>                          | <b>81</b>  |
| <b>SN-25B .....</b>                          | <b>83</b>  |
| <b>SN-26 and SN-27 .....</b>                 | <b>85</b>  |
| <b>SN-30 .....</b>                           | <b>87</b>  |
| <b>SN-31 .....</b>                           | <b>89</b>  |
| <b>SN-32 .....</b>                           | <b>91</b>  |
| <b>SN-34 .....</b>                           | <b>92</b>  |
| <b>SN-35 .....</b>                           | <b>93</b>  |
| <b>SN-36 .....</b>                           | <b>94</b>  |
| <b>SN-37 .....</b>                           | <b>96</b>  |
| <b>SN-38 .....</b>                           | <b>103</b> |
| <b>SN-39 .....</b>                           | <b>110</b> |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

|                                                      |            |
|------------------------------------------------------|------------|
| <b>SECTION V: COMPLIANCE PLAN AND SCHEDULE .....</b> | <b>117</b> |
| <b>SECTION VI: PLANTWIDE CONDITIONS .....</b>        | <b>118</b> |
| <b>Permit Shield .....</b>                           | <b>121</b> |
| <b>SECTION VIII: GENERAL PROVISIONS .....</b>        | <b>125</b> |
| <b>Appendix A NSPS Subpart Db</b>                    |            |
| <b>Appendix B NSPS Subpart BB</b>                    |            |
| <b>Appendix C NSPS Subpart RR</b>                    |            |
| <b>Appendix D MACT S</b>                             |            |
| <b>Appendix E MACT MM</b>                            |            |
| <b>Appendix F CEM Standards</b>                      |            |
| <b>Appendix G NESHAP Subpart DDDDD</b>               |            |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**List of Acronyms and Abbreviations**

|                  |                                             |
|------------------|---------------------------------------------|
| A.C.A.           | Arkansas Code Annotated                     |
| AFIN             | ADEQ Facility Identification Number         |
| CFR              | Code of Federal Regulations                 |
| CO               | Carbon Monoxide                             |
| HAP              | Hazardous Air Pollutant                     |
| lb/hr            | Pound Per Hour                              |
| MVAC             | Motor Vehicle Air Conditioner               |
| No.              | Number                                      |
| NO <sub>x</sub>  | Nitrogen Oxide                              |
| PM               | Particulate Matter                          |
| PM <sub>10</sub> | Particulate Matter Smaller Than Ten Microns |
| SNAP             | Significant New Alternatives Program (SNAP) |
| SO <sub>2</sub>  | Sulfur Dioxide                              |
| SSM              | Startup, Shutdown, and Malfunction Plan     |
| Tpy              | Tons Per Year                               |
| UTM              | Universal Transverse Mercator               |
| VOC              | Volatile Organic Compound                   |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SECTION I: FACILITY INFORMATION**

**PERMITTEE:** Green Bay Packaging Inc. - Arkansas Kraft Division

**AFIN:** 15-00001

**PERMIT NUMBER:** 224-AOP-R9

**FACILITY ADDRESS:** 338 Highway 113 South  
Morrilton, AR 72110

**MAILING ADDRESS** P.O. Box 711  
Morrilton, AR 72110

**COUNTY:** Conway

**CONTACT POSITION:** John Allen Lee

**TELEPHONE NUMBER:** (501) 354-9289

**REVIEWING ENGINEER:** Kimberly O'Guinn

**UTM North South (Y):** Zone 15: 3883.7 km

**UTM East West (X):** Zone 15: 523.8 km

## **SECTION II: INTRODUCTION**

### **Summary of Permit Activity**

Green Bay Packaging, Inc.-Arkansas Kraft Division (AKD) of 338 Highway 113, Morrilton, Conway County, Arkansas 72110 has owned and operated a fully integrated kraft pulp and paper mill in Oppelo, near Morrilton, since 1965.

The permittee also requests to modify VOC emission factors and production limits for the #1 and #2 Paper Machines (SN-25A & SN-25B). The increase in production will not constitute a Prevention of Significant Deterioration (PSD) modification because there is no physical change or change in the method of operation at SN-25A & SN-25B. Lastly this modification will allow the permittee to increase the short term CO emissions from the #3 Wood Waste Boiler (SN-04). The current permitted short term CO emission limit is based on an inaccurate heat input capacity (396.5 MMBTU/hr) for the #3 Wood Waste Boiler. The heat input capacity was corrected in 224-AOP-R3 (452 MMBTU/hr); however the CO limit was not changed. Permitted VOC, Manganese, Acetone, Hazardous Air Pollutants (HAPs) and Air Containments emissions will decrease by 188.6 tons/year (tpy), 0.28 tpy, 2.57 tpy, 113.70 tpy, 69.82 tpy, respectively.

### **Process Description**

#### **Chip Handling System**

Wood chips are brought into the mill and unloaded by hydraulic dump. The chips are then conveyed to the chip piles. The wood chips from the chip pile are reclaimed, sized, conditioned, and then conveyed to the batch digesters.

#### **Digesting and Washing**

Wood chips and sawdust are loaded into one of five batch digesters, along with an aqueous solution of sodium hydroxide and sodium sulfide (white liquor). Each loaded digester is then placed under high temperature and pressure using steam. The chipped wood is cooked to separate the wood fibers from the lignin that binds the fibers together. The cycle time for each batch is one to two hours. During cooking, some gases are vented into the turpentine recovery system which is described below.

Once the cooking time is complete, the resulting mixture is released (blown) to atmospheric pressure in blow tanks. The pressure reduction helps to separate the wood materials. Vent gases from the blow tanks are fed to the blow heat recovery system. The pulp and liquor mixture is then processed through fibrilizers to break up large particles.

After passing through the fibrilizers, the pulp is refined and screened. Rejects from the screening operation are returned to the rejects tanks, then to the blow tanks, and the remaining pulp is fed to the pulp washers.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

After passing through the fibrilizers, the pulp is refined and screened. Rejects from the screening operation are returned to the rejects tanks, then to the blow tanks, and the remaining pulp is fed to the pulp washers.

The pulp is washed using counter current drum washers to remove organic and inorganic chemicals (black liquor) and defoamers are added. This is accomplished by introducing shower water in the last stage of washing. Filtrate from each drum gravity flows to a tank and is used on the prior stage as shower liquid. The recovered chemicals are pumped from the #1 seal tanks, filtered to remove fiber, and sent to weak liquor storage. Washed pulp is stored in the base Hi-D and top Hi-D tanks for use in the paper machine area.

Non-condensable gases are passed through the two control systems, LVHC (Low Volume High Concentration) and HVLC (High Volume Low Concentration). Pulping wood releases numerous HAP compounds that do not condense out in other processes. In the LVHC system, the non-condensable gases are collected and sent to the #2 Lime Kiln (SN-08) or to the NCG Incinerator (SN-22) for incineration.

The HVLC Collection System collects vapors from the brownstock washers, tanks associated with the washers, and the Condensate Collection Tank. It consists of hoods that cover the drums of the washers, lines from the hoods and tanks, a condenser to reduce moisture, a fan and a line into the incineration control device. The incineration occurs at the #3 Wood Waste Boiler (SN-04) and the #1 Package Boiler (SN-14) as a backup.

### **Blow Heat Recovery**

Gases from the blow tanks pass to the primary separator to remove any entrained black liquor. The gases then enter the accumulator where they are cooled by recirculating water. The uncondensed vapor is passed to the secondary condenser. The remaining non-condensable gases (NCGs) are transported to the lime kiln for incineration. In the event that the NCGs can not be burned in the lime kiln, they are routed to the NCG flare for destruction.

The water in the accumulator is cooled by heat exchangers and returned to the accumulator. The cooling water for the heat exchangers is circulated through a cooling tower and then sent to the recycle fiber system or returned to the heat exchangers.

### **Black Liquor and Chemical Recovery**

Black liquor containing sodium sulfite, organic and inorganic sulfur compounds, sodium hydroxide and lignin is pumped from weak black liquor storage to the evaporator train where the excess water is removed to increase the black liquor solids content. Black liquor entering the chemical recovery area contains approximately 13 percent solids and is evaporated to between 65 and 80 percent solids in a multiple effect evaporator train.

At the optimum point, tall oil soap is removed from the black liquor by a skimmer and pumped to the tall oil plant. A vacuum is created on the evaporators by surface condensers and the resulting warm water is sent to various areas throughout the plant. Under upset conditions, hogging jets are used to pull vacuum for the evaporators. The concentrated black liquor is stored in tanks and used as fuel for the recovery boiler.

In the recovery boiler, the concentrated black liquor is burned to create heat and steam for various plant processes. Inorganic salts fall to the floor of the furnace as a molten smelt. This smelt flows from the furnace and is combined with weak wash from the recausticizing area to form a mixture of sodium carbonate and sodium sulfide known as green liquor. The green liquor is pumped back to the recausticizing area.

### **Recausticizing and Lime Recovery**

Green liquor from the chemical recovery operation is pumped to a blend tank and then to green liquor clarifiers. The clarifiers remove dregs from the green liquor. The dregs are stored in a storage tank before being washed and removed from the system. The green liquor is stored in green liquor storage tanks before being pumped to the slaker.

In the slaker, the green liquor is combined with fresh lime and/or reburned lime from the lime kiln to form a sodium hydroxide and calcium carbonate mixture. The mixture is transferred to the white liquor clarifiers where the lime mud precipitates. The white liquor is then stored in the white liquor storage tanks before being added to the digesters for the chip cooking process. Rejects from the system are washed and removed from the system.

The lime mud is removed from the white liquor clarifiers by underflow and sent to the mud washers. In the mud washers, the lime mud is washed with water and the resulting filtrate (weak wash) is sent to the weak wash storage tanks to be used for dissolving smelt to form green liquor. The washed lime mud is pumped to the lime mud storage tanks to be fed to the lime mud filter. After passing over the lime mud filter, the lime mud is conveyed into the lime kiln to be calcined to form quick lime. Lime from the lime kiln is stored in silos before being combined with green liquor in the slaker to form white liquor.

### **Turpentine Recovery Plant**

Vent gases from the digesters enter a separator to remove entrained black liquor and moisture. Removed liquid is returned to the blow tanks and the gases pass to a condenser. From the condenser, the turpentine/water mixture flows to the turpentine decanter. Any non-condensable gases from the condenser are collected in the LVHC System and are transported to the lime kiln or flare for incineration. The turpentine/water mixture in the decanter separates, and the turpentine is removed for storage. The turpentine is loaded for shipment and the water is sent to the accumulator in the blow heat recovery system or burned in the #2 Lime Kiln (SN-08).

### **Tall Oil Plant**

Tall oil soap from the black liquor recovery cycle is stored in soap storage tanks. The soap is then transferred to the reactor with water and mixed with acid and steam. The mixture is transferred to the decanters and tall oil and brine are allowed to separate. After separation, tall oil is stored in the crude tall oil storage tanks. The brine solution is pumped from the decanters to the #1 Brine Storage for pH adjustment, passed to the #2 Brine Storage, and pumped to the black liquor recovery system. The tall oil is pumped from the storage for shipment or burned in the #2 Lime Kiln (SN-08).

### **Boiler Complex**

Steam is generated using several boilers. The recovery boiler has already been described as using spent cooking liquor as its primary fuel source and natural gas for backup fuel. The power boilers use natural gas as their primary fuel with fuel oil for backup fuel. The wood waste boilers use wood waste as the primary fuel and natural gas as the backup fuel. Wood waste is delivered by truck to the mill and unloaded by hydraulic dump onto a wood waste pile. The wood waste is reclaimed from the wood waste pile by conveyor and transported to the wood waste boilers.

### **Paper Machines**

Virgin pulp fiber that has been pulped and washed to remove cooking liquors, is stored. Pulp is transferred from storage to the level chest. The first stage of refining takes place between the level chest and the machine chest. In the machine chest, fan pump, or head box, the pulp may be mixed with various recycled fibers and additives that aid in the manufacture of paper, to form the furnish for the paper machine. The resulting furnish is pumped from the machine chest, through a second stage of refining and to the head box. The head box delivers the dilute furnish on to an endless moving mesh fabric. Excess water is removed from the furnish as it travels with the moving fabric.

A second furnish is created by using either virgin or recycled pulp. Either virgin pulp from storage or recycled pulp is transferred to the level chest. After the level chest, the pulp is refined and conveyed to the machine chest. From the machine chest the furnish is refined a second time and transferred into the secondary head box. Final dilution of the furnish is applied prior to delivery by the secondary head box onto the traveling mesh fabric. Excess water is removed.

As the water is removed from the traveling fabric, the fibers of the furnish are formed into a cohesive web. The web is pressed between rollers. Following the pressing operation, the web is dried by passing over metal vessels heated with steam. After drying is complete, the dry web of paper is wound into a large parent roll, cut to order, and shipped. The paper mill generates several grades of paper from the two paper machines.

Water that has been removed from the furnish is recycled into the process for reuse on the paper machine, sent to the recycling area, or sewer. Excess water from the paper mill is discharged to the wastewater treatment system.

### **Recycling Area**

Post consumer recycle material in the form of cardboard, newspaper, printers waste, and office waste are mixed with water to produce a slurry of paper fiber, contaminants, and water in the pulpers of the recycling plants. After slurring, the pulp is diluted prior to the screening and cleaning operations. Cleaned pulp is thickened prior to storage. Water removed from the pulp during thickening is cleaned and recycled into the process or sewer to the wastewater treatment system.

Thickened pulp is stored in one of the two high density storage chests for transport to the paper machines. Contaminants removed from the pulp stream are put into the mill waste water system. The recycling area generates several types of pulp furnish for the paper machines.

### **Water Treatment**

Water from the Arkansas River is used for mill water supply. Water purchased from Conway County Regional Water Distribution District is used for steam generation in the boilers. The river water is placed in a settling clarifier with lime, polymers, and other water clarification aids to assist in settling solids. Disinfection is controlled by the addition of sodium hypochlorite or other disinfectants to the water. The purchased water is processed through demineralizer units. Liquid urea and phosphoric acid are added to the waste water to increase the biological development in the aerated settling basin and the hydrographic control basin/post aeration basin.

### **Regulations**

The following table contains the regulations applicable to this permit.

| Regulations                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------|
| Arkansas Air Pollution Control Code, Regulation 18, effective February 15, 1999                                                          |
| Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective July 15, 2007                     |
| Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective September 26, 2002                                    |
| 40 CFR 60, Subpart Db, New Source Performance Standards for Industrial Steam Generating Units, effective December 16, 1987               |
| 40 CFR 60, Subpart BB, New Source Performance Standards for Kraft Pulp Mills, effective May 20, 1986                                     |
| 40 CFR 61, Subpart M, National Emission Standard for Hazardous Air Pollutants for Renovation/Demolition of Asbestos                      |
| 40 CFR 63, Subpart S, National Emission Standard for Hazardous Air Pollutants from the Pulp and Paper Industry, effective April 15, 1998 |
| 40 CFR 63, Subpart MM, National Emission Standard for Hazardous Air Pollutants for                                                       |

**Green Bay Packaging Inc. - Arkansas Kraft Division****Permit #: 224-AOP-R9****AFIN: 15-00001**

|                                                                                           |
|-------------------------------------------------------------------------------------------|
| Chemical Recovery Combustion Units at Kraft Pulp Mills with a compliance date of 3/12/04. |
|-------------------------------------------------------------------------------------------|

|                                                                                                         |
|---------------------------------------------------------------------------------------------------------|
| 40 CFR 63, Subpart RR, National Emission Standards for Individual Drain Systems, effective July 1, 1996 |
|---------------------------------------------------------------------------------------------------------|

|                                                                        |
|------------------------------------------------------------------------|
| 40 CFR 64, Compliance Assurance Monitoring, effective October 22, 1997 |
|------------------------------------------------------------------------|

The following table is a summary of emissions from the facility. This table, in itself, is not an enforceable condition of the permit.

**Emission Summary**

| EMISSION SUMMARY                          |             |                       |                |         |
|-------------------------------------------|-------------|-----------------------|----------------|---------|
| Source Number                             | Description | Pollutant             | Emission Rates |         |
|                                           |             |                       | lb/hr          | tpy     |
| Total Allowable Emissions                 |             | PM                    | 539.6          | 929.9   |
|                                           |             | PM <sub>10</sub>      | 369.0          | 659.2   |
|                                           |             | SO <sub>2</sub>       | 559.6          | 302.8   |
|                                           |             | VOC                   | 825.9          | 1687.4  |
|                                           |             | CO                    | 1904.9         | 1,759.9 |
|                                           |             | NO <sub>x</sub>       | 438.4          | 1,031.8 |
|                                           |             | Lead                  | 0.046          | 0.17    |
| HAPs<br><br>* = Not included in VOC total |             | Acetaldehyde          | 11.21          | 40.64   |
|                                           |             | Acrolein              | 2.78           | 11.83   |
|                                           |             | Antimony*             | 0.001          | 0.002   |
|                                           |             | Arsenic*              | 0.002          | 0.003   |
|                                           |             | Benzene               | 2.71           | 11.68   |
|                                           |             | Biphenyl              | 0.11           | 0.36    |
|                                           |             | Cadmium*              | 0.003          | 0.0136  |
|                                           |             | Carbon Tetrachloride* | 0.13           | 0.04    |
|                                           |             | Chloroform            | 0.10           | 0.03    |
|                                           |             | Chromium*             | 0.002          | 0.011   |
|                                           |             | Cobalt*               | 0.001          | 0.01    |
|                                           |             | Cumene                | 0.05           | 0.01    |
|                                           |             | Ethylene Dichloride   | 0.03           | 0.01    |
|                                           |             | Formaldehyde          | 3.38           | 13.77   |
|                                           |             | Hexane                | 0.88           | 3.52    |
|                                           |             | Hydrochloric Acid*    | 16.33          | 68.02   |
|                                           |             | Manganese*            | 0.94           | 4.12    |

**Green Bay Packaging Inc. - Arkansas Kraft Division**

**Permit #: 224-AOP-R9**

**AFIN: 15-00001**

| EMISSION SUMMARY |                               |                        |                |          |
|------------------|-------------------------------|------------------------|----------------|----------|
| Source Number    | Description                   | Pollutant              | Emission Rates |          |
|                  |                               |                        | lb/hr          | tpy      |
|                  |                               | Mercury*               | 0.001          | 0.0003   |
|                  |                               | Methanol               | 80.38          | 211.72   |
|                  |                               | Methyl Isobutyl Ketone | 0.30           | 0.69     |
|                  |                               | Napthalene             | 0.04           | 0.20     |
|                  |                               | Nickel*                | 0.005          | 0.021    |
|                  |                               | Phenol                 | 0.05           | 0.18     |
|                  |                               | Propionaldehyde        | 0.03           | 0.12     |
|                  |                               | Selenium*              | 0.002          | 0.0014   |
|                  |                               | Styrene                | 1.52           | 5.54     |
|                  |                               | Toluene                | 0.75           | 3.27     |
|                  |                               | 1,2,4 Trichlorobenzene | 0.28           | 0.02     |
|                  |                               | 1,1,2 Trichloroethane  | 0.03           | 0.01     |
|                  |                               | Trichloroethylene      | 0.28           | 0.93     |
|                  |                               | m,p Xylene             | 0.07           | 0.43     |
|                  |                               | o Xylene               | 0.11           | 0.58     |
| Air Contaminants | * = Not included in VOC total | Acetone*               | 5.29           | 12.10    |
|                  |                               | Ammonia*               | 6.19           | 25.14    |
|                  |                               | Benzaldehyde           | 0.04           | 0.02     |
|                  |                               | Butane                 | 0.93           | 4.10     |
|                  |                               | Copper*                | 0.003          | 0.0166   |
|                  |                               | Cyclohexanone          | 0.04           | 0.02     |
|                  |                               | p-Cymene               | 0.04           | 0.01     |
|                  |                               | Dimethyl Sulfide       | 64.72          | 5.68     |
|                  |                               | 1,2 Dichloroethylene   | 0.26           | 0.85     |
|                  |                               | Dichloromethane        | 0.18           | 0.79     |
|                  |                               | Dimethyl Disulfide     | 22.31          | 1.97     |
|                  |                               | Ethane*                | 1.38           | 6.06     |
|                  |                               | Ethanol                | 0.23           | 0.07     |
|                  |                               | Hydrogen Sulfide*      | 0.20           | 0.22     |
|                  |                               | Isopropanol            | 0.11           | 0.01     |
|                  |                               | Methane*               | 511.31         | 2,810.67 |
|                  |                               | Methyl Mercaptan       | 30.34          | 2.70     |
|                  |                               | Methyl Ethyl Ketone    | 35.89          | 100.49   |
|                  |                               | Pentane                | 1.16           | 5.05     |
|                  |                               | a-Pinene               | 12.32          | 35.23    |
|                  |                               | b-Pinene               | 3.65           | 9.49     |
|                  |                               | Propane                | 0.71           | 3.13     |
|                  |                               | Silver*                | 0.001          | 0.001    |
|                  |                               | Sulfuric Acid*         | 2.54           | 9.20     |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

| EMISSION SUMMARY |                      |                      |                |        |
|------------------|----------------------|----------------------|----------------|--------|
| Source Number    | Description          | Pollutant            | Emission Rates |        |
|                  |                      |                      | lb/hr          | tpy    |
|                  |                      | Silver*              | 0.001          | 0.001  |
|                  |                      | Sulfuric Acid*       | 2.54           | 9.20   |
|                  |                      | Terpenes             | 267.95         | 333.79 |
|                  |                      | TRS                  | 176.72         | 210.3  |
| 01               | Wood Waste Dryer     | Removed From Service |                |        |
| 02               | #1 Wood Waste Boiler | PM                   | 372.0          | 420.0  |
|                  |                      | PM <sub>10</sub>     | 191.0          | 215.0  |
|                  |                      | SO <sub>2</sub>      | 4.1            | 18.0   |
|                  |                      | VOC                  | 116.0          | 39.0   |
|                  |                      | CO                   | 956.5          | 326.0  |
|                  |                      | NO <sub>x</sub>      | 57.0           | 39.0   |
|                  |                      | Lead                 | 0.01           | 0.03   |
|                  |                      | Acetaldehyde         | 0.13           | 0.59   |
|                  |                      | Acetone              | 0.03           | 0.13   |
|                  |                      | Acrolein             | 0.65           | 2.84   |
|                  |                      | Benzene              | 0.68           | 2.98   |
|                  |                      | Dichloromethane      | 0.05           | 0.21   |
|                  |                      | Formaldehyde         | 0.71           | 3.12   |
|                  |                      | Hydrogen Chloride    | 3.08           | 13.50  |
|                  |                      | Manganese            | 0.80           | 3.50   |
| 03               | #2 Wood Waste Boiler | Methane              | 3.40           | 14.90  |
|                  |                      | Styrene              | 0.31           | 1.35   |
|                  |                      | Toluene              | 0.15           | 0.65   |
|                  |                      | Removed From Service |                |        |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

| EMISSION SUMMARY |                      |                   |                |       |
|------------------|----------------------|-------------------|----------------|-------|
| Source Number    | Description          | Pollutant         | Emission Rates |       |
|                  |                      |                   | lb/hr          | tpy   |
| 04               | #3 Wood Waste Boiler | PM                | 45.2           | 145.0 |
|                  |                      | PM <sub>10</sub>  | 45.2           | 145.0 |
|                  |                      | SO <sub>2</sub>   | 9.6            | 42.0  |
|                  |                      | VOC               | 22.5           | 59.0  |
|                  |                      | CO                | 135.6          | 290.0 |
|                  |                      | NO <sub>x</sub>   | 135.6          | 521.0 |
|                  |                      | Lead              | 0.02           | 0.10  |
|                  |                      | Acetaldehyde      | 0.38           | 1.64  |
|                  |                      | Acetone           | 0.09           | 0.38  |
|                  |                      | Acrolein          | 1.80           | 7.92  |
|                  |                      | Benzene           | 1.90           | 8.32  |
|                  |                      | Dichloromethane   | 0.13           | 0.58  |
|                  |                      | Formaldehyde      | 1.99           | 8.71  |
|                  |                      | Hydrogen Chloride | 8.59           | 37.62 |
|                  |                      | Manganese         | 0.12           | 0.53  |
|                  |                      | Methane           | 9.49           | 41.58 |
|                  |                      | Napthalene        | 0.04           | 0.20  |
|                  |                      | Propionaldehyde   | 0.03           | 0.12  |
|                  |                      | Styrene           | 0.86           | 3.76  |
|                  |                      | Toluene           | 0.42           | 1.82  |

Green Bay Packaging Inc. - Arkansas Kraft Division  
 Permit #: 224-AOP-R9  
 AFIN: 15-00001

| EMISSION SUMMARY |                                                 |                     |                |        |
|------------------|-------------------------------------------------|---------------------|----------------|--------|
| Source Number    | Description                                     | Pollutant           | Emission Rates |        |
|                  |                                                 |                     | lb/hr          | tpy    |
| 05A              | Recovery Boiler<br>(Previously SN-05 and SN-06) | PM                  | 30.0           | 93.2   |
|                  |                                                 | PM <sub>10</sub>    | 12.0           | 38.0   |
|                  |                                                 | SO <sub>2</sub>     | 60.0           | 157.9  |
|                  |                                                 | VOC                 | 10.0           | 19.0   |
|                  |                                                 | CO                  | 223.1          | 674.8  |
|                  |                                                 | NO <sub>x</sub>     | 80.0           | 280.6  |
|                  |                                                 | Lead                | 0.01           | 0.02   |
|                  |                                                 | Acetone             | 0.91           | 3.30   |
|                  |                                                 | Arsenic             | 0.001          | 0.002  |
|                  |                                                 | Benzene             | 0.04           | 0.12   |
|                  |                                                 | Cadmium             | 0.001          | 0.0026 |
|                  |                                                 | Copper              | 0.001          | 0.0046 |
|                  |                                                 | Hydrogen Chloride   | 4.66           | 16.90  |
|                  |                                                 | Mercury             | 0.001          | 0.003  |
|                  |                                                 | Methanol            | 11.50          | 41.60  |
|                  |                                                 | Methyl Ethyl Ketone | 0.23           | 0.83   |
|                  |                                                 | Nickel              | 0.003          | 0.0090 |
|                  |                                                 | Selenium            | 0.001          | 0.0004 |
|                  |                                                 | Sulfuric Acid       | 2.54           | 9.20   |
|                  |                                                 | TRS                 | 33.81          | 148.10 |
|                  |                                                 | Toluene             | 0.03           | 0.11   |
|                  |                                                 | o-Xylene            | 0.06           | 0.21   |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

| EMISSION SUMMARY |                            |                  |                |        |
|------------------|----------------------------|------------------|----------------|--------|
| Source Number    | Description                | Pollutant        | Emission Rates |        |
|                  |                            |                  | lb/hr          | tpy    |
| 07               | Smelt Dissolving Tank Vent | PM               | 25.6           | 85.0   |
|                  |                            | PM <sub>10</sub> | 25.6           | 85.0   |
|                  |                            | SO <sub>2</sub>  | 1.6            | 5.7    |
|                  |                            | VOC              | 3.8            | 44.0   |
|                  |                            | NO <sub>x</sub>  | 2.8            | 9.9    |
|                  |                            | Lead             | 0.001          | 0.0010 |
|                  |                            | Acetaldehyde     | 0.06           | 0.21   |
|                  |                            | Ammonia          | 1.09           | 3.94   |
|                  |                            | Antimony         | 0.001          | 0.0020 |
|                  |                            | Arsenic          | 0.001          | 0.0010 |
|                  |                            | Cadmium          | 0.001          | 0.0010 |
|                  |                            | Chromium         | 0.001          | 0.0010 |
|                  |                            | Copper           | 0.001          | 0.0020 |
|                  |                            | Methanol         | 0.45           | 1.64   |
|                  |                            | Nickel           | 0.001          | 0.0020 |
|                  |                            | a-Pinene         | 9.70           | 35.00  |
|                  |                            | b-Pinene         | 2.60           | 9.40   |
|                  |                            | Selenium         | 0.001          | 0.0010 |
|                  |                            | Silver           | 0.001          | 0.0010 |
|                  |                            | TRS              | 1.68           | 7.35   |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

| EMISSION SUMMARY |                                     |                           |                |        |
|------------------|-------------------------------------|---------------------------|----------------|--------|
| Source Number    | Description                         | Pollutant                 | Emission Rates |        |
|                  |                                     |                           | lb/hr          | tpy    |
| 08<br>and 22     | #2 Lime Kiln<br>and NCG Incinerator | PM                        | 35.2           | 154.1  |
|                  |                                     | PM <sub>10</sub>          | 35.2           | 154.1  |
|                  |                                     | SO <sub>2</sub>           | 58.1           | 65.7   |
|                  |                                     | VOC                       | 1.0            | 39.0   |
|                  |                                     | CO                        | 4.5            | 21.3   |
|                  |                                     | NO <sub>x</sub>           | 18.0           | 94.6   |
|                  |                                     | Lead                      | 0.005          | 0.0190 |
|                  |                                     | Acetone                   | 0.23           | 0.96   |
|                  |                                     | Benzene                   | 0.01           | 0.04   |
|                  |                                     | Cadmium                   | 0.001          | 0.0100 |
|                  |                                     | Cobalt                    | 0.001          | 0.0100 |
|                  |                                     | Copper                    | 0.001          | 0.0100 |
|                  |                                     | Formaldehyde              | 0.46           | 1.92   |
|                  |                                     | Manganese                 | 0.022          | 0.0900 |
|                  |                                     | Methanol                  | 1.50           | 6.39   |
|                  |                                     | Methyl Ethyl Ketone       | 0.04           | 0.17   |
|                  |                                     | Nickel                    | 0.001          | 0.0100 |
|                  |                                     | Terpenes                  | 1.10           | 4.56   |
|                  |                                     | Toluene                   | 0.01           | 0.03   |
|                  |                                     | TRS                       | 6.43           | 28.15  |
| 9                | #1 Lime Kiln                        | Removed From Service      |                |        |
| 10               | NCG Emergency Vent                  | Removed From Service      |                |        |
| 11               | Brownstock Washers                  | Emissions Routed to SN-04 |                |        |
| 12               | Wastewater Treatment                | VOC                       | 35.7           | 100.1  |
|                  |                                     | Acetaldehyde              | 0.22           | 0.62   |
|                  |                                     | Methanol                  | 0.32           | 0.89   |
|                  |                                     | Methyl Ethyl Ketone       | 35.13          | 98.60  |
| 13               | #1 Slaker                           | Removed From Service      |                |        |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

| EMISSION SUMMARY |                                                            |                                      |                |       |
|------------------|------------------------------------------------------------|--------------------------------------|----------------|-------|
| Source Number    | Description                                                | Pollutant                            | Emission Rates |       |
|                  |                                                            |                                      | lb/hr          | tpy   |
| 14               | #1 Package Boiler                                          | PM                                   | 28.8           | 24.0  |
|                  |                                                            | PM <sub>10</sub>                     | 28.8           | 14.0  |
|                  |                                                            | SO <sub>2</sub>                      | 6.2            | 3.2   |
|                  |                                                            | VOC                                  | 70.6           | 39.0  |
|                  |                                                            | CO                                   | 560.0          | 366.3 |
|                  |                                                            | NO <sub>x</sub>                      | 40.0           | 39.0  |
|                  |                                                            | Butane                               | 0.51           | 2.25  |
|                  |                                                            | Ethane                               | 0.76           | 3.33  |
|                  |                                                            | Hexane                               | 0.44           | 1.93  |
|                  |                                                            | Methane                              | 0.56           | 2.47  |
|                  |                                                            | Pentane                              | 0.64           | 2.76  |
|                  |                                                            | Propane                              | 0.39           | 1.72  |
| 14 & 15          | #1 and #2 Package Boiler<br>(Alternate Operating Scenario) | PM <sub>10</sub>                     | 28.8           | 0.1   |
|                  |                                                            | SO <sub>2</sub>                      | 418.3          | 3.5   |
|                  |                                                            | VOC                                  | 1.1            | 0.1   |
|                  |                                                            | CO                                   | 6.7            | 0.3   |
|                  |                                                            | NO <sub>x</sub>                      | 89.3           | 1.1   |
| 15               | #2 Package Boiler                                          | PM                                   | 1.6            | 6.7   |
|                  |                                                            | PM <sub>10</sub>                     | 1.6            | 6.7   |
|                  |                                                            | SO <sub>2</sub>                      | 1.5            | 6.6   |
|                  |                                                            | VOC                                  | 1.2            | 4.9   |
|                  |                                                            | CO                                   | 16.9           | 74.0  |
|                  |                                                            | NO <sub>x</sub>                      | 13.8           | 39.0  |
|                  |                                                            | Butane                               | 0.42           | 1.85  |
|                  |                                                            | Ethane                               | 0.62           | 2.73  |
|                  |                                                            | Hexane                               | 0.36           | 1.58  |
|                  |                                                            | Methane                              | 0.46           | 2.02  |
|                  |                                                            | Pentane                              | 0.52           | 2.29  |
|                  |                                                            | Propane                              | 0.32           | 1.41  |
| 16               | Blow Heat Emergency Vent                                   | Emergency Use Only.<br>Not a Source. |                |       |

**Green Bay Packaging Inc. - Arkansas Kraft Division**

**Permit #: 224-AOP-R9**

**AFIN: 15-00001**

| EMISSION SUMMARY |                                    |                                   |                |       |
|------------------|------------------------------------|-----------------------------------|----------------|-------|
| Source Number    | Description                        | Pollutant                         | Emission Rates |       |
|                  |                                    |                                   | lb/hr          | tpy   |
| 17               | Tall Oil Plant Reactor             | VOC                               | 5.9            | 21.9  |
|                  |                                    | Acetone                           | 0.06           | 0.09  |
|                  |                                    | Acetaldehyde                      | 0.02           | 0.03  |
|                  |                                    | Benzene                           | 0.01           | 0.01  |
|                  |                                    | Dimethyl Sulfide                  | 0.02           | 0.02  |
|                  |                                    | Dimethyl Disulfide                | 0.01           | 0.02  |
|                  |                                    | Hydrogen Sulfide                  | 0.14           | 0.21  |
|                  |                                    | Methanol                          | 0.12           | 0.18  |
|                  |                                    | Methyl Ethyl Ketone               | 0.01           | 0.01  |
|                  |                                    | Methyl Mercaptan                  | 0.04           | 0.05  |
|                  |                                    | Toluene                           | 0.01           | 0.01  |
|                  |                                    | TRS                               | 0.21           | 0.30  |
|                  |                                    | Terpenes                          | 0.70           | 1.05  |
| 18               | #1 Lime Silo<br>(Sodium Carbonate) | Moved to Insignificant Activities |                |       |
| 19               | #2 Lime Silo                       | Moved to Insignificant Activities |                |       |
| 20               | Starch Silo                        | Moved to Insignificant Activities |                |       |
| 21               | Lime Silo-Water Plant              | Moved to Insignificant Activities |                |       |
| 23               | Batch Digesters                    | VOC                               | 7.5            | 29.0  |
|                  |                                    | Acetaldehyde                      | 0.04           | 0.15  |
|                  |                                    | Methanol                          | 0.22           | 0.83  |
|                  |                                    | Terpenes                          | 7.68           | 28.30 |
|                  |                                    | TRS                               | 0.23           | 9.0   |
| 24               | Wood Yard Fugitives                | PM                                | 1.6            | 2.2   |
|                  |                                    | PM <sub>10</sub>                  | 0.8            | 1.0   |
|                  |                                    | VOC                               | 169.0          | 737.5 |

Green Bay Packaging Inc. - Arkansas Kraft Division  
 Permit #: 224-AOP-R9  
 AFIN: 15-00001

| EMISSION SUMMARY |                  |                        |                |        |
|------------------|------------------|------------------------|----------------|--------|
| Source Number    | Description      | Pollutant              | Emission Rates |        |
|                  |                  |                        | lb/hr          | tpy    |
| 25A              | #1 Paper Machine | VOC                    | 69.5           | 231.5  |
|                  |                  | Acetone                | 0.9            | 2.9    |
|                  |                  | Acetaldehyde           | 4.86           | 16.25  |
|                  |                  | Acrolein               | 0.18           | 0.59   |
|                  |                  | Benzene                | 0.03           | 0.11   |
|                  |                  | Biphenyl               | 0.06           | 0.20   |
|                  |                  | 1,2 Dichloroethylene   | 0.13           | 0.43   |
|                  |                  | Methanol               | 25.0           | 83.15  |
|                  |                  | Methyl Ethyl Ketone    | 0.25           | 0.84   |
|                  |                  | Methyl Isobutyl Ketone | 0.10           | 0.33   |
|                  |                  | Phenol                 | 0.03           | 0.10   |
|                  |                  | Styrene                | 0.06           | 0.19   |
|                  |                  | Terpenes               | 38.4           | 128.0  |
|                  |                  | Toluene                | 0.10           | 0.35   |
|                  |                  | Trichloroethylene      | 0.15           | 0.51   |
|                  |                  | m,p Xylene             | 0.07           | 0.23   |
|                  |                  | o Xylene               | 0.06           | 0.20   |
| 25 B             | #2 Paper Machine | VOC                    | 56.9           | 189.4  |
|                  |                  | Acetone                | 0.70           | 2.37   |
|                  |                  | Acetaldehyde           | 4.00           | 13.31  |
|                  |                  | Acrolein               | 0.14           | 0.48   |
|                  |                  | Benzene                | 0.03           | 0.09   |
|                  |                  | Biphenyl               | 0.05           | 0.16   |
|                  |                  | 1,2 Dichloroethylene   | 0.35           | 0.41   |
|                  |                  | Methanol               | 20.46          | 68.06  |
|                  |                  | Methyl Ethyl Ketone    | 0.21           | 0.68   |
|                  |                  | Methyl Isobutyl Ketone | 0.08           | 0.27   |
|                  |                  | Phenol                 | 0.02           | 0.08   |
|                  |                  | Styrene                | 0.05           | 0.15   |
|                  |                  | Terpenes               | 31.40          | 104.70 |
|                  |                  | Toluene                | 0.08           | 0.29   |
|                  |                  | Trichloroethylene      | 0.13           | 0.42   |
|                  |                  | m,p Xylene             | 0.06           | 0.19   |
|                  |                  | o Xylene               | 0.05           | 0.17   |

Page Amended

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

| EMISSION SUMMARY |                                |                                   |                |         |
|------------------|--------------------------------|-----------------------------------|----------------|---------|
| Source Number    | Description                    | Pollutant                         | Emission Rates |         |
|                  |                                |                                   | lb/hr          | tpy     |
| 26               | Basement Air Make-up Heater #1 | PM                                | 0.1            | 0.4     |
|                  |                                | PM <sub>10</sub>                  | 0.1            | 0.4     |
|                  |                                | SO <sub>2</sub>                   | 0.1            | 0.1     |
|                  |                                | VOC                               | 0.1            | 0.3     |
|                  |                                | CO                                | 0.8            | 3.6     |
|                  |                                | NO <sub>x</sub>                   | 1.0            | 4.3     |
| 27               | Basement Air Make-up Heater #2 | PM                                | 0.1            | 0.4     |
|                  |                                | PM <sub>10</sub>                  | 0.1            | 0.4     |
|                  |                                | SO <sub>2</sub>                   | 0.1            | 0.1     |
|                  |                                | VOC                               | 0.1            | 0.3     |
|                  |                                | CO                                | 0.8            | 3.6     |
|                  |                                | NO <sub>x</sub>                   | 1.0            | 4.3     |
| 28               | Pocket Vent System Heater #1   | Moved to Insignificant Activities |                |         |
| 29               | Pocket Vent System Heater #2   | Moved to Insignificant Activities |                |         |
| 30               | Landfill                       | VOC                               | 6.6            | 5.1     |
|                  |                                | Methane                           | 497.4          | 2,749.7 |
| 31               | Weak Black Liquor Tanks        | VOC                               | 3.5            | 15.4    |
|                  |                                | Acetone                           | 0.07           | 0.28    |
|                  |                                | Terpenes                          | 0.56           | 2.44    |
| 32               | Green Liquor Tanks             | VOC                               | 8.3            | 34.2    |
|                  |                                | Acetone                           | 0.08           | 0.34    |
|                  |                                | Terpenes                          | 0.35           | 1.44    |
| 33               | Small Fuel Oil Storage Tanks   | Moved to Insignificant Activities |                |         |
| 34               | Turpentine Storage Tanks       | VOC                               | 15.9           | 0.6     |
| 35               | Turpentine Loading Operation   | VOC                               | 4.9            | 0.3     |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

| EMISSION SUMMARY |                        |                        |                |       |
|------------------|------------------------|------------------------|----------------|-------|
| Source Number    | Description            | Pollutant              | Emission Rates |       |
|                  |                        |                        | lb/hr          | tpy   |
| 36               | Slaker/Causticizers    | VOC                    | 1.4            | 7.0   |
|                  |                        | Acetaldehyde           | 0.69           | 2.47  |
|                  |                        | Acetone                | 0.21           | 0.88  |
|                  |                        | Ammonia                | 5.10           | 21.20 |
|                  |                        | Benzene                | 0.01           | 0.01  |
|                  |                        | Methanol               | 0.59           | 2.44  |
|                  |                        | Methyl Ethyl Ketone    | 0.01           | 0.05  |
|                  |                        | Methyl Isobutyl Ketone | 0.01           | 0.01  |
|                  |                        | Styrene                | 0.01           | 0.06  |
|                  |                        | Toluene                | 0.01           | 0.01  |
|                  |                        | m,p Xylene             | 0.01           | 0.01  |
| 37               | LVHC Collection System | VOC                    | 12.1           | 1.1   |
|                  |                        | Acetone                | 0.81           | 0.07  |
|                  |                        | Cumene                 | 0.05           | 0.01  |
|                  |                        | p-Cymene               | 0.04           | 0.01  |
|                  |                        | Dimethyl Disulfide     | 22.30          | 1.95  |
|                  |                        | Dimethyl Sulfide       | 64.70          | 5.66  |
|                  |                        | Ethanol                | 0.05           | 0.01  |
|                  |                        | Formaldehyde           | 0.22           | 0.02  |
|                  |                        | n-Hexane               | 0.08           | 0.01  |
|                  |                        | Hydrogen Sulfide       | 0.06           | 0.01  |
|                  |                        | Isopropanol            | 0.11           | 0.01  |
|                  |                        | Methanol               | 1.62           | 0.14  |
|                  |                        | Methyl Ethyl Ketone    | 0.08           | 0.007 |
|                  |                        | Methyl Isobutyl Ketone | 0.08           | 0.007 |
|                  |                        | Methyl Mercaptan       | 30.30          | 2.65  |
|                  |                        | a-Pinene               | 2.62           | 0.23  |
|                  |                        | b-Pinene               | 1.05           | 0.09  |
|                  |                        | Styrene                | 0.20           | 0.02  |
|                  |                        | Terpenes               | 5.66           | 0.50  |
|                  |                        | 1,2,3 Trichlorobenzene | 0.28           | 0.02  |
|                  |                        | TRS                    | 117.36         | 10.30 |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

| EMISSION SUMMARY |                                          |                                   |                |       |
|------------------|------------------------------------------|-----------------------------------|----------------|-------|
| Source Number    | Description                              | Pollutant                         | Emission Rates |       |
|                  |                                          |                                   | lb/hr          | tpy   |
| 38               | HVLC Collection System                   | VOC                               | 202.3          | 69.7  |
|                  |                                          | Acetaldehyde                      | 0.81           | 0.28  |
|                  |                                          | Acetone                           | 1.20           | 0.40  |
|                  |                                          | Acrolein                          | 0.01           | 0.004 |
|                  |                                          | Benzaldehyde                      | 0.04           | 0.02  |
|                  |                                          | Carbon Tetrachloride              | 0.13           | 0.04  |
|                  |                                          | Chloroform                        | 0.10           | 0.03  |
|                  |                                          | Cyclohexanone                     | 0.04           | 0.02  |
|                  |                                          | 1,2 Dichloroethylene              | 0.03           | 0.01  |
|                  |                                          | Ethanol                           | 0.18           | 0.06  |
|                  |                                          | Ethylene Dichloride               | 0.03           | 0.01  |
|                  |                                          | Methanol                          | 18.60          | 6.40  |
|                  |                                          | Methyl Ethyl Ketone               | 0.18           | 0.06  |
|                  |                                          | Methyl Isobutyl Ketone            | 0.03           | 0.01  |
|                  |                                          | Styrene                           | 0.03           | 0.01  |
|                  |                                          | Terpenes                          | 182.10         | 62.80 |
|                  |                                          | 1,1,2 Trichloroethane             | 0.03           | 0.01  |
|                  |                                          | TRS                               | 17.00          | 7.10  |
| 39               | Pulping Process<br>Condensate Collection | Recycled To SN-11 as Shower Water |                |       |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

### **SECTION III: PERMIT HISTORY**

Arkansas Kraft began operations in October 1966, producing 230 tons of linerboard a day.

Air Permit #147-A was issued to Arkansas Kraft Corporation on March 28, 1973. It was issued to replace two existing boilers with a power boiler. The input of fossil fuel was limited to 249 million Btu/hr.

Air Permit #224-A was issued to Arkansas Kraft Corporation in 1973. It was issued to increase pulp capacity from 360 tons per day to 720 tons per day. New equipment added was: two digesters, additional vacuum filters for pulp washing, additional evaporators, a low-odor recovery boiler, a bark boiler, and a lime kiln. The recovery boiler was added to replace the existing unit. Existing control equipment was: an electrostatic precipitator to control recovery boiler emissions, two flyash arresters to control bark boiler emissions, and a wet scrubber to control lime kiln emissions. A new thermal combustion system to control sulfur gas emissions from evaporator NCGs and Turpentine condenser vents.

Air Permit #443-A was issued to Arkansas Kraft, Inc. on November 18, 1977. It was issued to rerate the existing #1 bark boiler from 55,000 to 86,000 lbs/hr steam to utilize more wood waste as fuel and to reduce fossil fuel requirements.

Air Permit #224-A (Modification) was issued to Arkansas Kraft Corporation on October 13, 1978. It was issued to allow the facility to place the #1 Recovery Boiler back into service.

Air Permit #224-A (Modification) was issued to Arkansas Kraft Corporation on November 29, 1979. It was issued to permit the installation and operation of a wood waste fuel drying system.

Air Permit #224-A (Modification) was issued to Arkansas Kraft Corporation on October 31, 1980. It was issued to allow the facility to vent the flue gas from the #1 and #2 bark boilers through the bark boilers and a bark dryer.

Air Permit #224-AR-4 was issued to Arkansas Kraft Corporation in 1983. It was issued to permit the burning of fines in the #3 Wood Waste Boiler and to place the emissions under the existing "bubble" for the #3 Wood Waste Boiler, the #1 and #2 Bark Boilers, and the Wood Waste Dryer. The emission limit was 285 lbs PM/hr.

Air Permit #224-AR-5 was issued to Arkansas Kraft Corporation in 1984. It was issued to permit a gas fired turbine generator. The emission limit for this permit was 130 lbs NO<sub>x</sub>/hr. The gas fired turbine generator was never constructed.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

Consolidated Air Permit #224-AR-5 was issued to Green Bay Packaging, Inc.-Arkansas Kraft Division on June 8, 1994. It was issued to consolidate air permits #147-A, #224-AR-4, and #443-A into a single permit and to permit existing sources which were omitted from previous air permits. Modifications permitted were: the installation of a #2 Package Boiler, rebuilding of the #3 Wood Waste Boiler, replacement of the #1 and #2 Wood Waste Boilers with a new #4 Wood Waste Boiler, installation of a condensate stripper, installation of a coloring and bleaching system, installation of a tall oil plant scrubber, rebuilding of electrostatic precipitator, installation of a paper coating process, installation of a distributive control system, and rebuilding of the #2 Digester. Emission limits for this permit were: 2,893.8 tpy PM<sub>10</sub>, 2,496.5 tpy SO<sub>2</sub>, 1,861.1 tpy VOC, 11,852.2 tpy CO, 1,660.1 tpy NO<sub>x</sub>, and 223.4 tpy TRS.

Of the permitted modifications at the facility under the June 8, 1994 permit, only the installation of the #2 Package Boiler, rebuilding of the #2 Digester, and partial installation of the Distributive Control System occurred.

Air Permit #224-AOP-R0 was the first operating air permit issued to Green Bay Packaging, Inc., Arkansas Kraft Division under Regulation #26. This permit was also the first Prevention of Significant Deterioration (PSD) permit for Green Bay Packaging. In a previous permit, Permit #224-AR-5, the facility was permitted to install a #2 Package Boiler at a maximum rate of 202 MMBTU/hr. A PSD permit was not required at that time because the emissions increase for the boiler were to be offset by the decreases from the rebuilding the #3 Wood Waste Boiler and the replacement of the #1 and #2 Wood Waste Boilers with a new boiler (#4 Wood Waste Boiler). The facility had accepted federally enforceable permit conditions to stay out of PSD requirements.

The facility is considered a major stationary source under the Prevention of Significant Deterioration (PSD) regulations as found in 40 CFR 52.21. As described below and throughout the permit, the facility is subject to PSD requirements. The facility triggered PSD for NO<sub>x</sub> only. As the facility installed a 205 MMBTU/hr #2 Package Boiler and the removal of the #1 and #2 Wood Waste Boilers, the addition of the #4 Wood Waste Boiler, and the rebuilding of the #3 Wood Waste Boiler did not take place as previously permitted, the addition of the #2 Package Boiler has retroactively triggered PSD for NO<sub>x</sub>.

This PSD issue was reviewed in Permit #224-AOP-R0. BACT for the #2 Package Boiler was determined to be low NO<sub>x</sub> burners in conjunction with flue gas recirculation at 0.067 lb NO<sub>x</sub>/MMBTU. The facility did not remove the #2 Wood Waste Boiler as permitted in Permit #224-AR-5; therefore, these emissions decreases were available to be used in permit #224-AOP-R0. For this permitting action, the facility chose to take a federally enforceable limit on SO<sub>2</sub> in order to avoid further PSD requirements.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

An air dispersion modeling analysis has been performed to determine if the modification at the AKD Mill will impact ambient air quality in the vicinity of the Upper Buffalo. The U.S. EPA has established special PSD increment values for Class I areas for three of the criteria pollutants ( $PM_{10}$ ,  $SO_2$ , and  $NO_x$ ). Prior to completing a PSD increment analysis; however, impacts due to increased emissions from the AKD Mill were assessed against a modeling significance level established by the U. S. EPA for Class I Areas (1.0 mg/m<sup>3</sup>, 24-hour average concentration for all pollutants). Under U. S. EPA guidance, if the results of the initial modeling analysis predict an increase in the 24-hour average pollutant concentration that exceed the 1.0 mg/m<sup>3</sup> significance level, further analysis is warranted.

The Industrial Source Complex Short-Term Version 3 (ISCST3) model was utilized to estimate pollutant concentrations in the Upper Buffalo area. The modeling methodologies employed conform to those used in the PSD Air Quality Analysis.

A discrete receptor is placed at UTM coordinates 460.935 km East and 3919.979 km North in order to conservatively estimate pollutant concentrations throughout the area. (At the time it was thought that these coordinates were at the center of the Upper Buffalo Wilderness Area. In fact the Upper Buffalo is 34 km further away.) The receptor elevation is estimated to be 350 feet, based on a United States Geological Survey (USGS) topographical map (Russellville, Arkansas quadrangle).

The incremental 24-hour average impact is less than the 1.0 mg/m<sup>3</sup> Class I Modeling Significance Level. Thus, no further dispersion modeling analysis to evaluate impacts in the Upper Buffalo area is warranted.

Currently, there are no PSD increment consuming sources located within the AKD Mill's ROI. Therefore, there are no sources other than those at the AKD Mill to be included in the PSD increment analysis. Because only sources at the AKD Mill are considered in the increment analysis, the methodology and results are identical to those of the significance analysis. All annual average concentrations are below the annual PSD Increment. Thus, compliance with this requirement is demonstrated.

This artificial limit allowed individual pieces of equipment to be run at differing capacities depending upon the needs of the facility. Emission increases at individual pieces of equipment were to be offset elsewhere in the complex by decreasing emissions at a different piece of equipment. As the complex was created for the purpose of keeping the #3 Wood Waste Boiler and #2 Package Boiler below the significance level in the previous permit and these boilers underwent PSD review in this permit, the significance of the Complex was discounted and then removed in this permitting action.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

The combined net emissions NO<sub>x</sub> increase for the #3 Wood Waste Boiler and the #2 Package Boiler is 71.6 tpy. BACT for the #2 Package Boiler was determined to be low NO<sub>x</sub> burners in conjunction with flue gas recirculation. BACT for the #3 Wood Waste Boiler was determined to be low NO<sub>x</sub> burners in conjunction with flue gas recirculation. Flue gas recirculation in #3 Wood Waste Boiler has been demonstrated, under controlled conditions, to provide little or no NO<sub>x</sub> reduction. Operating experience and CEM results have shown that the NO<sub>x</sub> emission limit is met consistently. Operation of FGR is not a NO<sub>x</sub> control technology required for #3 Wood Waste Boiler as of the renewal of Permit #224-AOP-R2. For this permitting action, the facility has taken a limit on SO<sub>2</sub> emissions for the two boilers in order to avoid further PSD applicability.

The PSD analysis for SO<sub>2</sub> based upon the following.

**Proposed Modification Increases:**

|       |                      |                           |
|-------|----------------------|---------------------------|
| SN-04 | #3 Wood Waste Boiler | +27.0 tpy SO <sub>2</sub> |
| SN-15 | #2 Package Boiler    | + 0.6 tpy SO <sub>2</sub> |
|       |                      | +27.6 tpy SO <sub>2</sub> |

PSD permits require an ambient impact analysis. Results of the analysis indicate that increased emissions of NO<sub>x</sub> result in ambient concentrations that exceed the applicable Modeling Significance Level. Therefore, a full impact analysis consisting of a NAAQS analysis and a PSD increment analysis was performed for NO<sub>x</sub>. The NO<sub>x</sub> significance output data files were examined to determine the furthest receptor from the AKD Mill with a modeled concentration greater than the 1.0 ug/m<sup>3</sup> NO<sub>x</sub> MSL. This receptor is located 8.18 km from the center of the AKD Mill. Thus, the NO<sub>x</sub> radius of impact (ROI) is 8.18 km.

Permit #224-AOP-R1 is a modification to the first Title V operating permit. In this permitting action, as required by 40 CFR Part 63, Subpart S, a Low Volume High Concentration System (SN-37) and a High Volume Low Concentration System (SN-38) were installed. The increases in facility-wide particulate, sulfur dioxide, and VOC limits were due to calculation error in the last permit. Additionally, a requirement is being added to the #1 Wood Waste Boiler (SN-02) that requires Green Bay Packaging to only burn natural gas at this source until a wet scrubber is installed to control particulate emissions. An administrative amendment was submitted on October 12, 2000 that added the Large Fuel Oil Tank to the list of insignificant activities. The tank was installed prior to 1979 so is not subject to NSPS Subpart Kb and emits only 0.23 tons per year so it meets the 5 ton per year requirement under Group A, Number 13 in the activities list.

Permit #224-AOP-R2 was issued on May 13, 2002. This modification defined averaging times for monitoring requirements, lowered permitted annual emissions on most equipment by removing the unneeded safety factors the facility requested in previous applications, allowed wood waste to be burned in the existing #1 Wood Waste Boiler (SN-02) during part of the year, changed control equipment on the Smelt Dissolving Tank Vent (SN-07) from demister pads to a scrubber, and separated the emissions of the #1 and #2 Paper Machines (SN-25A and SN-25B) to prevent future PSD issues.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

In the original Title V permit application, Green Bay requested a grouping of the paper machines to provide for ease of record keeping. The potential limit was based on the sum of the very best operating day achieved on each machine extrapolated to a year of operation with a safety factor added. This resulted in a very high level of potential emissions for the source. Any modification to the machines would result in an emissions increase of over 40 tons per year of VOC when calculated by subtracting actual emissions from potential emissions. This modification establishes a Federally enforceable production limit on each paper machine that is closer to actual production rates. This will allow for a future modification to replace the headbox on the #1 Paper Machine (SN-25A).

Permit 224-AOP-R3 was issued to Green Bay Packaging, Inc. – Arkansas Kraft Division on August 24, 2004. This modification was to:

1. Correct emission factors for the Wastewater Treatment (SN-12) and the Landfill (SN-30),
2. Clarify stack testing conditions by removing NO<sub>x</sub> testing requirements from SN-04 because it has a NO<sub>x</sub> CEM,
3. Increase steam production in the #1 Package Boiler (SN-14) by increasing the permitted limit. This limit was put on the boiler to lower the actual/potential ratio in regards to PSD. There is no physical change to the boiler,
4. Replace the headbox on the #1 Paper Machine (SN-25A),
5. Replace the ESP for the Recovery Boiler (SN-05 and SN-06) with a new ESP (SN-05A) to meet the future MACT MM efficiency requirements,
6. Add the Pocket Vent System Heater #1, the Pocket Vent Heater #2, and the Small Fuel Oil Tanks (SN-33) to the Insignificant Activities Section, and
7. Remove the flue gas recirculation equipment on the #3 Wood Waste Boiler (SN-04). When BACT was originally applied to this source, FGR was thought to lower NO<sub>x</sub> emissions in conjunction with low NO<sub>x</sub> burners. Testing has demonstrated that emissions are not changed by discontinuing use of the fan. This does alter a previous BACT determination.

This modification was also the Title V permit renewal.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

Permit 0224-AOP-R4 was issued to Green Bay Packaging Inc., Arkansas Kraft Division on July 1, 2005. This modification allowed for the addition of applicable conditions of 40 CFR 63 Subpart MM – National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semicheical Pulp Mills for sources SN-05, SN-07, and SN-08. The #1 Lime Kiln (SN-09) was removed from service. Recycled sanitary products were added to the list of approved fuels for the Wood Waste Boilers (SN-02 and SN-04). Finally, this modification updated the PM<sub>10</sub> testing methods for the #3 Wood Waste Boiler (SN-04).

Permit 0224-AOP-R5 was issued to Green Bay Packaging Inc. – Arkansas Kraft Division on October 21, 2005. This modification corrected TRS emission limits on the Recovery Boiler (SN-05A) and the #2 Lime Kiln (SN-08). The limits were a restoration of limits that were previously assigned to these sources. The limits were changed in a previous permit based on information supplied by AKD for other purposes. There were no physical changes to the facility.

Permit 0224-AOP-R6 was issued to Green Bay Packaging Inc. – Arkansas Kraft Division on March 15, 2006. This modification clarified inclusion of CO<sub>2</sub> and O<sub>2</sub> diluent CEMS at the #3 Wood Waste Boiler (SN-04), the #2 Lime Kiln (SN-08), and the #2 Package Boiler (SN-15). In addition, the following changes were made:

1. Modification of PM/PM<sub>10</sub> emissions limit for the #2 Lime Kiln (SN-08) based on testing and past data. Before the Title V permit, the emissions were 124.4 tpy, but using AP-42 and NCASI factors, the limit was reduced to 88.0 tpy. Based on stack testing, these factors give a poor estimate of the actual emissions. This modification used stack testing data to give a better estimate of the actuals. There has been no physical change or process increases to account for the increase.
2. Removal of restrictions for burning bark in the #1 Wood Waste Boiler (SN-02). Operating methods for burning wood waste have changed so that the boiler can be successfully operated below the 40% opacity limit. The permittee also requested that the requirements to install a scrubber, the limitation to burn only during November through March, and the condition allowing greater than 40% opacity during grate cleaning be removed from the permit.
3. Specification of an alternate method for SO<sub>2</sub> testing. Specific Conditions #17, #43, and #100 in the previous permit specified using Method 6 for SO<sub>2</sub> annual stack testing. This modification changed that method to Method 6C.
4. Recordkeeping requirements for Black Liquor Solids (BLS) combustion at the Recovery Boiler (SN-05A) and the Smelt Dissolving Tank (SN-07). The wording is potentially confusing and the permittee has submitted a version of the condition that clarifies what is being measured.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

5. Modification of source testing schedule. Plantwide Condition #8 allowed for the permittee to reduce stack testing from annual testing to once every 5 years if the facility demonstrates compliance with two consecutive stack tests. This modification changed stack testing from annual to once every 5 years for the #1 Wood Waste Boiler (SN-02), the #3 Wood Waste Boiler (SN-04), the Recovery Boiler (SN-05A) and the #1 Package Boiler (SN-14).

Permit 224-AOP-R7 was issued to Green Bay Packaging, Inc. – Arkansas Kraft Division on May 18, 2006. This minor modification application allowed for burning of Tall Oil in the #2 Lime Kiln (SN-08). To make this change, Green Bay installed a new burner in the Lime Kiln and some piping and mechanical changes to get the tall oil from the processing area to the lime kiln. The burner is a low NO<sub>x</sub> burner designed to feed a combination of liquid and gaseous fuel into the kiln. Compared to what was in the kiln, this burner provided some efficiency that may reduce total heat requirements by 6% or more. To provide stability, a minimum of 5.8% of the total heat input must come from natural gas. It was not anticipated that this change allowed for an increase in production. It did not cause a change in the rated heat input capacity of the kiln. This project had no impact on Tall Oil production or emissions from the Tall Oil source (SN-17). There were no emissions changes associated with this modification.

Permit 224-AOP-R8 was issued to Green Bay Packaging, Inc. – Arkansas Kraft Division on August 17, 2006. This modification application allowed the facility to change the emissions factors used for criteria pollutants from pounds pollutant per pound of steam to pounds pollutant per ton of black liquor solids (BLS) for the Recovery Boiler (SN-05A). Previous permit limits restricted the amount of steam that could be produced to a level below the steam generating capacity of the boiler and below the capacity of the boiler to process BLS. This modification changed the emission limits to the boiler BLS processing capacity. There were no physical changes to the facility. This source is not regulated by PSD.

Hourly and annual permit limits of the Recovery Boiler (SN-05A) emissions are based on an emission factor times the amount of steam produced. These factors were developed using stack test data. Therefore, the permit limited hourly and annual steam production and also limited the hourly and annual Black Liquor Solids (BLS) throughput.

Industry standard now is to base the emission factor on pounds of pollutants per pounds of BLS instead of steam production. Green Bay changed their emission factor basis with this modification. Because emissions are limited by the amount of BLS burned, an annual steam production limit is no longer needed. However, steam production on an hourly basis is conveniently measured. So, compliance with hourly emissions is demonstrated by the original hourly steam limit, and compliance on an annual basis is based on the new BLS limit.

Additionally, this modification incorporated the emissions changes brought about by replacing the electrostatic precipitator as the source control device for the Recovery Boiler in 2003. MACT rules required installation of a new electrostatic precipitator and this was included in Permit #224-AOP-R3. The ESP was installed in 2003 and stack testing has been done three times since installation.

**Green Bay Packaging Inc. - Arkansas Kraft Division**

**Permit #: 224-AOP-R9**

**AFIN: 15-00001**

No projects have been done to cause or enable an increase in BLS processing. These permit changes reduced the permitted PM by 816.8 tpy, reduced the permitted PM<sub>10</sub> by 482.0 tpy, reduced the permitted SO<sub>2</sub> by 336.1 tpy, reduced the permitted VOC by 42.0 tpy, increased the permitted CO by 20.8 tpy and increased the permitted NO<sub>x</sub> by 74.6 tpy. Actual emissions increases were not anticipated.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

#### **SECTION IV: SPECIFIC CONDITIONS**

##### **SN-01 Wood Waste Dryer**

##### **Source Description**

The Wood Waste or Bark Dryer (SN-01) was installed in 1980. This source was removed from service in 1997.

##### **Specific Conditions**

1. The Wood Waste Dryer (SN-01) was removed from service. The Dryer shall not be placed back into service without undergoing appropriate permitting procedures. [40 CFR Part 52.21 (b)(3)(viii)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-02**  
**#1 Wood Waste Boiler**

**Source Description**

The #1 Wood Waste Boiler (SN-02) has a maximum heat input capacity of 162 MMBTU/hr. Wood waste and natural gas are fired in this boiler. The boiler was constructed in 1968 and has not been modified since that time.

**Specific Conditions**

2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #6, #7, and #9. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant        | lb/hr | tpy   |
|------------------|-------|-------|
| PM <sub>10</sub> | 191.0 | 215.0 |
| SO <sub>2</sub>  | 4.1   | 18.0  |
| VOC              | 116.0 | 39.0  |
| CO               | 956.5 | 326.0 |
| NO <sub>x</sub>  | 57.0  | 39.0  |
| Lead             | 0.01  | 0.03  |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

3. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #6, #7, and #9. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant         | lb/hr | tpy   |
|-------------------|-------|-------|
| PM                | 372.0 | 420.0 |
| Acetaldehyde      | 0.13  | 0.59  |
| Acetone           | 0.03  | 0.13  |
| Acrolein          | 0.65  | 2.84  |
| Benzene           | 0.68  | 2.98  |
| Dichloromethane   | 0.05  | 0.21  |
| Formaldehyde      | 0.71  | 3.12  |
| Hydrogen Chloride | 3.08  | 13.50 |
| Manganese         | 0.80  | 3.5   |
| Methane           | 3.40  | 14.90 |
| Styrene           | 0.31  | 1.35  |
| Toluene           | 0.15  | 0.65  |

4. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method. [40 CFR Part 52, Subpart E]

| SN | Limit | Regulatory Citation |
|----|-------|---------------------|
| 02 | 40%   | §19.503             |

5. The permittee shall conduct daily 6-minute opacity readings on SN-02 in accordance with EPA Reference Method #9 whenever wood waste is being used as fuel. The results of these readings shall be recorded in a log which shall be kept on site and made available for inspection upon request. [§19.502 of Regulation #19 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

6. Steam generation in the #1 Wood Waste Boiler (SN-02) shall not exceed 100,000 pounds of steam per hour during boiler operation based on a 24 hour rolling average. Maximum annual steam production will not exceed 225,000,000 pounds, determined on a 12 month rolling total. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
7. Untreated wood waste, scrap materials from mill processes, agricultural residues, furniture manufacturing waste, recycled sanitary products, waste polyethylene pellets, natural gas, and/or other approved fuels shall be used to fire this boiler. Usage of furniture manufacturing waste shall be limited to 3% of total fuel consumption (based on tons of fuel purchased) on a twelve month rolling total. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
8. The permittee shall maintain monthly records which demonstrate compliance with Specific Conditions #6 and #7. Records shall be updated by the fifteenth day of the month following the month to which the records pertain. A twelve month overall rolling total and each individual month's data shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]
9. The #1 Wood Waste Boiler (SN-02) shall be tested for PM<sub>10</sub>, VOC, CO, and NO<sub>x</sub> emissions using EPA Reference Method 201A or 201 for PM<sub>10</sub>, Method 25A for VOC, Method 10 for CO, and Method 7E for NO<sub>x</sub>. Each test shall consist of at least 3 sampling periods at a minimum of 1 hour each. Compliance testing shall be conducted while the equipment being tested is operating within 90% of its permitted capacity. If equipment does not attain 90% of permitted capacity during testing, the operating rate during testing will be 90% of the maximum operating rate until the next test is completed. This testing is to be completed once in the first year of every 5 year permit period. This test data shall be used for determination of compliance with the conditions set forth in this permit. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-03**  
**#2 Wood Waste Boiler**

**Source Description**

The #2 Wood Waste Boiler (SN-03) has a maximum heat input capacity of 162 MMBTU/hr. Wood waste and natural gas are fired in this boiler. The boiler produces a maximum of 100,000 pounds of 600 psi steam hourly. The boiler was constructed in 1974 and has not been modified since that time.

**Specific Conditions**

10. The #2 Wood Waste Boiler (SN-03) was removed from service. The boiler shall not be placed back into service without undergoing appropriate permitting procedures. [40 CFR Part 52.21 (b)(3)(viii)]

**SN-04**  
**#3 Wood Waste Boiler**

**Source Description**

The #3 Wood Waste Boiler was originally installed as a recovery boiler in 1965. It was shut down in 1975. In 1979, the recovery boiler was refurbished and became the #3 Wood Waste Boiler.

The #3 Wood Waste Boiler (SN-04) has an estimated heat input capacity of 452 MMBTU/hr. The heat input capacity was increased from 206.5 MMBTU/hr in permit #224-AOP-R1. Wood waste and natural gas are fired in this boiler. BACT for this piece of equipment was determined to be low NO<sub>x</sub> burners in conjunction with flue gas recirculation. Testing has demonstrated that emissions are not changed by discontinuing use of the FGR. Therefore, FGR is no longer required at this source. In permit # 224-AOP-R0, the facility chose to take a limit on SO<sub>2</sub> emissions from the #3 Wood Waste and #2 Package boilers in order to avoid further PSD requirements.

The #3 Wood Waste Boiler emits PM that is controlled by multiclones built into the flue gas exit path and by a wet scrubber. The PM emissions from the #3 Wood Waste Boiler would be greater than 100 tons per year without the multiclones and wet scrubber in place. Therefore, it is a listed unit for CAM. While there are no indicators that can be used to monitor the performance of the multiclones in the flue gas exit path, indicators for the operation of the wet scrubber shall be monitored. These indicators are pressure drop across the scrubber and scrubbing liquid circulation rate.

The #3 Wood Waste Boiler is also a control device to reduce total HAP emissions from the HVLC system (SN-38). The routing of HAPs from SN-38 to the #3 Wood Waste boiler causes the boiler to be included in the NESHAP requirements under 40 CFR Part 63, Subpart S. These requirements are covered within the Specific Conditions for the HVLC system (Specific Condition #151 through #159). Emissions listed here reflect the incineration of the vapors that are routed from the HVLC system.

**Specific Conditions**

11. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #15, #16, #17, and #20. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant        | lb/hr | tpy   |
|------------------|-------|-------|
| PM <sub>10</sub> | 45.2  | 145.0 |
| SO <sub>2</sub>  | 9.6   | 42.0  |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

|      |       |       |
|------|-------|-------|
| VOC  | 22.5  | 59.0  |
| CO   | 135.6 | 290.0 |
| Lead | 0.02  | 0.10  |

12. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #16, #17, and #20. [§19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant       | lb/hr | tpy   |
|-----------------|-------|-------|
| NO <sub>x</sub> | 135.6 | 521.0 |

13. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #15, #16, #17, and #20. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant         | lb/hr | tpy   |
|-------------------|-------|-------|
| PM                | 45.2  | 145.0 |
| Acetaldehyde      | 0.38  | 1.64  |
| Acetone           | 0.09  | 0.38  |
| Acrolein          | 1.80  | 7.92  |
| Benzene           | 1.90  | 8.32  |
| Dichloromethane   | 0.13  | 0.58  |
| Formaldehyde      | 1.99  | 8.71  |
| Hydrogen Chloride | 8.59  | 37.62 |
| Manganese         | 0.12  | 0.53  |
| Methane           | 9.49  | 41.58 |
| Napthalene        | 0.04  | 0.20  |
| Propionaldehyde   | 0.03  | 0.12  |
| Styrene           | 0.86  | 3.76  |
| Toluene           | 0.42  | 1.82  |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

14. The permittee shall conduct daily 6-minute opacity readings on SN-04 in accordance with EPA Reference Method #9 whenever wood is being used as fuel. The results of these readings shall be recorded in a log which shall be kept on site and made available for inspection upon request. [§19.502 of Regulation #19 and 40 CFR Part 52, Subpart E]
15. The #3 Wood Waste Boiler (SN-04) shall be tested for PM<sub>10</sub>, SO<sub>2</sub>, VOC, and CO emissions. Method 5 and Method 202 shall be used for PM<sub>10</sub> with all emissions being reported as PM<sub>10</sub>. Method 6C shall be used for SO<sub>2</sub>. Method 25A shall be used for VOC. Method 10 shall be used for CO. Each test shall consist of at least 3 sampling periods at a minimum of 1 hour each. Compliance testing shall be conducted while the equipment being tested is operating within 90% of its permitted capacity. If equipment does not attain 90% of permitted capacity during testing, the operating rate during testing will be 90% of maximum operating rate until the next test is completed. This testing is to be completed once in the first year of every 5 year permit period. This test data shall be used for determination of compliance with the conditions set forth in this permit. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]
16. Steam generation in the #3 Wood Waste Boiler (SN-04) shall not exceed 270,000 pounds per hour of steam during boiler operation based on a 24 hour rolling average. Maximum annual steam production shall not exceed 2,100,000,000 pounds, determined on a 12 month rolling total. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
17. Untreated wood waste, scrap materials from mill processes, agricultural residues, furniture manufacturing waste, recycled sanitary products, waste polyethylene pellets, natural gas, and/or other approved fuels shall be used to fire this boiler. Usage of furniture manufacturing waste shall be limited to 3% of total fuel consumption (based on tons of fuel purchased) on a twelve month rolling total. Multiclones in series with a venturi scrubber shall be used at all times when this unit is operating and burning any fuel other than 100% natural gas. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
18. The permittee shall maintain monthly records which demonstrate compliance with Specific Conditions #16 and #17. Records shall be updated by the fifteenth day of the month following the month to which the records pertain. A twelve month rolling total and each individual month's data shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]
19. The facility shall continuously monitor and record once per hour or continuously (by strip chart or electronically) the pressure drop across the scrubber and the liquid flow to the scrubber. The flow rate and pressure drop compliance demonstration measurements are based on a 3 hour rolling average. Scrubber flow and pressure drop do not have to be measured when SN-04 is not producing steam or steaming only with natural gas as fuel. These records shall be kept on site and shown to Department personnel upon request. [§19.703 of Regulation #19, 40 CFR Part 52, Subpart E, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

20. The #3 Wood Waste Boiler is an affected source of 40 CFR 60, Subpart Db. [§19.304 of Regulation #19 and 40 CFR 60, Subpart Db]
- A. Pursuant to §60.46b(b) and (d), within 60 days after achieving the maximum production rate, but not later than 180 days after the initial startup of the reworked #3 Wood Waste Boiler, the facility shall determine compliance with the particulate matter emission standards as required in §60.43b.
  - B. Pursuant to §60.43b(c)(1), after the initial performance test for particulate matter (which was performed on May 19, 1998) for the #3 Wood Waste boiler is completed or required to be completed, whichever date comes first, the facility shall not emit particulate matter in excess of 0.10 lb/MMBTU.
  - C. Pursuant to §60.43b(f), after the initial performance test for particulate matter for the #3 Wood Waste Boiler is completed or is required to be completed, whichever date comes first, the facility shall not emit any gases that exhibit greater than 20% opacity (6-minute average), except for one 6-minute period per hour of not more than 27% opacity.
  - D. Pursuant to §60.44b(d), after the initial performance test for NO<sub>x</sub> for the #3 Wood Waste Boiler is completed or is required to be completed, whichever date comes first, the facility shall not emit any gases that contain NO<sub>x</sub> in excess of 0.30 lb/MMBTU.
  - E. Pursuant to §60.43b(g) and §60.46b(a), the particulate matter and opacity standards of §60.43b(c)(1) and §60.43b(f) apply for the #3 Wood Waste Boiler at all times, except during periods of startup, shutdown, or malfunction. Compliance with these requirements shall be determined as specified in §60.46b(d).
  - F. Pursuant to §60.46b(a), the NO<sub>x</sub> emission standards under §60.44b apply at all times. Compliance with these requirements shall be determined as specified in §60.46b(e).
  - G. Pursuant to §60.48b (a) and (e)(1), the facility is required to install, calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere from the #3 Wood Waste Boiler and record the output of the system. As per 40 CFR 60.13(b), the installation date of the CEM shall be no later than thirty days from the date of start-up of the source. The facility has requested a variance to this NSPS requirement. In a letter dated July 11, 2002, EPA approved the request for alternate monitoring to the COMs, by:
    - 1. Monitoring the scrubber water circulation flow and maintain flow above a minimum rate determined by performance testing; and
    - 2. Monitoring the pressure drop across the scrubber and maintain pressure drop above a minimum determined by performance testing.

These requirements are addressed as Specific Condition #19.

**Green Bay Packaging Inc. - Arkansas Kraft Division**

**Permit #: 224-AOP-R9**

**AFIN: 15-00001**

- H. Pursuant to §60.48b(b), the facility shall install, calibrate, maintain, and operate a continuous monitoring system for measuring NO<sub>x</sub> emissions to the atmosphere, the diluent CO<sub>2</sub> emissions, and record the output of the system as per the requirements of §60.48b(c), (d), and (f). The CEM may be taken off line when the boiler is out of service longer than 24 hours. The CEM for measuring NO<sub>x</sub> shall be in continuous operation (except as noted above) and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Failure to maintain operation time shall also constitute a violation of the CEMs conditions.
- I. Pursuant to §60.49b, the facility is required to notify the Department of the initial startup of the reworked #3 Wood Waste Boiler. As per §60.49b(a)(1), the facility has notified the Department that the design heat input capacity of the boiler is to be 396.5 MMBTU/hr. The fuels to be combusted are wood waste and natural gas. As per §60.49b(a)(3), the facility is also to notify the Department of the annual capacity factor at which the facility anticipates operating the boiler based upon all the fuels fired and each individual fuel fired.
- J. Pursuant to §60.49b(b), the facility shall submit the performance test data for particulate matter from the initial performance test and performance evaluation of the CEMs for the #3 Wood Waste Boiler to the Department. The applicable performance specifications in 40 CFR Part 60, Appendix B shall be used. The facility has submitted this information to ADEQ on July 14, 1998.
- K. Pursuant to §60.49b(d), the facility shall record and maintain records of the amounts of each fuel combusted during each day for the #3 Wood Waste Boiler and calculate the annual capacity factor individually for natural gas and wood waste for each calendar quarter. The annual capacity factor is to be determined on a twelve month rolling average basis with a new capacity factor calculated at the end of each calendar month.
- L. Pursuant to §60.49b(f), the facility shall maintain records of opacity for the #3 Wood Waste Boiler as required under the opacity standard of §60.43b or a federally approved variance or the interim variance approved by the Department in Specific Condition #23G.
- M. Pursuant to §60.49b(g), the facility shall maintain records for the #3 Wood Waste boiler for each steam generating unit operating day. As per §60.48g(i), the facility shall submit a quarterly report containing a summary of these records. These records shall be submitted to the Department and shall be postmarked by the 30th day following the end of each calendar quarter.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

- N. Pursuant to §60.49b(h) (1) and (3), the facility is required to submit excess emission reports for any calendar quarter during which there are excess emissions from the #3 Wood Waste Boiler. If there are no excess emissions during the calendar quarter, the facility shall submit a semiannual report stating that no excess emissions occurred during the semiannual reporting period. Excess emissions are defined as all 6 minute periods during which the average opacity exceeds the opacity standards of §60.43b(f).
  - O. Pursuant to 60.49b(o), the facility shall retain all required records for a period of two years following the date of such record.
21. The #3 Wood Waste Boiler is a control device for reducing the HAP emissions from the HVLC system (SN-38). The HAP emission stream is introduced into the combustion air going to the boiler. This requirement came into effect April 16, 2001. [§19.304 of Regulation #19 and 40 CFR 60, Subpart S §63.443(d)(4)]

**SN-05A**  
**Recovery Boiler**

**Source Description**

The Recovery Boiler can fire up to 730 MMBTU/hr of black liquor. The boiler itself was installed in 1975 and has not been modified since that time. The electrostatic precipitator was replaced in May 2003, and all flue gases were routed through one stack.

The Recovery Boiler uses an ESP to control emissions of particulate. Without the ESP in operation, PM emissions would be greater than 100 tons per year. Therefore, this is a listed unit for CAM. However, the Recovery Boiler is subject to 40 CFR Part 63, Subpart MM with a compliance date of March 13, 2004. This rule was finalized after November 15, 1990. Therefore, the Recovery Boiler is exempt from the requirements of CAM.

**Specific Conditions**

22. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #31, #36, #39, #40, #41, and #42. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant        | lb/hr | tpy    |
|------------------|-------|--------|
| PM <sub>10</sub> | 12.0  | 38.0   |
| SO <sub>2</sub>  | 60.0  | 157.9  |
| VOC              | 10.0  | 19.0   |
| CO               | 223.1 | 674.8  |
| NO <sub>x</sub>  | 80.0  | 280.6  |
| Lead             | 0.01  | 0.02   |
| TRS              | 33.81 | 148.10 |

**Green Bay Packaging Inc. - Arkansas Kraft Division**

**Permit #: 224-AOP-R9**

**AFIN: 15-00001**

23. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #31, #36, #39, #40, #41, and #42. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant              | lb/hr | tpy    |
|------------------------|-------|--------|
| PM                     | 30.0  | 93.2   |
| Acetone                | 0.91  | 3.30   |
| Arsenic                | 0.001 | 0.002  |
| Benzene                | 0.04  | 0.12   |
| Cadmium                | 0.001 | 0.0026 |
| Copper                 | 0.001 | 0.0046 |
| Hydrogen Chloride      | 4.66  | 16.90  |
| Mercury                | 0.001 | 0.003  |
| Methanol               | 11.50 | 41.60  |
| Methyl Ethyl<br>Ketone | 0.23  | 0.83   |
| Nickel                 | 0.003 | 0.0090 |
| Selenium               | 0.001 | 0.0004 |
| Sulfuric Acid          | 2.54  | 9.20   |
| Toluene                | 0.03  | 0.11   |
| o-Xylene               | 0.06  | 0.21   |

24. Visible emissions from SN-05A shall not exceed 20% opacity as measured by EPA Reference Method 9. [§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E]
25. The permittee shall conduct daily 6-minute opacity readings on SN-05A in accordance with EPA Reference Method #9 when the source is in operation. The results of these readings shall be recorded in a log which shall be kept on site and made available for inspection upon request. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]
26. The permittee shall calibrate, maintain, and operate a Continuous Opacity Monitoring System (COMS) according to the provision in §§63.6(h), 63.8, and 63.864(d)(1-4). Operation of this COMS is not required when the Recovery Boiler is not in operation. [40 CFR 63.864(d) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

27. The permittee shall develop, implement, and maintain a written startup, shutdown, and malfunction plan as described in §63.6(e)(3) that describes procedures for operating and maintaining the Recovery Boiler during periods of startup, shutdown, and malfunction to minimize HAP emissions and a program of corrective action for malfunctioning of the electrostatic precipitator or the COMS. [40 CFR 63.866(a) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
28. The permittee shall implement the corrective action specified in the SSM Plan when the average of ten consecutive 6-minute averages result in a measurement greater than 20% opacity. [40 CFR 63.864(k)(1)(i) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
29. If opacity measured by the COMS is greater than 35% for 6% or more of the operating time within any quarterly period, the Recovery Boiler is in violation of the standards of Specific Condition #41 and 40 CFR 63.862. [40 CFR 63.864(k)(2)(i) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
30. A quarterly excess emissions report containing the information specified in §63.10 and §63.867(c) shall be submitted to the Director if the conditions of Specific Conditions #28 or #29 occur. If those conditions do not occur, semi-annual reporting to indicate such is required. [40 CFR 63.867(c) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
31. Steam generation in the recovery boiler shall be limited to 394,000 pounds of steam per hour during boiler operation based on a 24 hour rolling average. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
32. The only fuels to be used in the Recovery Boiler (SN-05A) shall be black liquor solids and natural gas. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
33. The permittee shall maintain monthly records which demonstrate compliance with Specific Conditions #31 and #32. Records shall be updated by the fifteenth day of the month following the month to which the records pertain. A twelve month rolling total and each individual month's data shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]
34. The TRS concentration at the recovery boiler shall be limited to 40 ppm. This limit shall be measured as H<sub>2</sub>S on a dry basis and on a 12 hour average, corrected to 8% volume oxygen. During periods when the recovery boiler is down and the oxygen content is greater than 19%, the TRS concentration shall not be corrected for oxygen. [§19.804 of Regulation #19 and §111d of the Clean Air Act]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

35. The facility shall continue to calibrate, maintain, and operate a monitoring device (CEMS) that continuously monitors and records the total reduced sulfur (TRS) and O<sub>2</sub> concentration of gases leaving the recovery boiler through the stack. The TRS monitor shall be operated in accordance with Performance Specification #5. The O<sub>2</sub> monitor shall be operated in accordance with Performance Specification #3. Both Performance Specifications may be found in 40 CFR Part 60, Appendix B. The CEM may be taken off line when the boiler is out of service longer than 24 hours. The CEM shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Failure to maintain operation time shall constitute a violation of the CEMs conditions. [§19.703 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
36. The throughput of black liquor solids in the recovery boiler shall be limited to 438,000 tons per consecutive twelve month period. The black liquor solid firing rate shall be calculated by measuring the flow of strong black liquor and multiplying this flow by the measured weight concentration of solids in the liquor. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
37. The flow of strong black liquor shall be measured with a flow meter and shall be recorded at least once per hour while burning BLS. The weight concentrations of solids in the liquor shall be measured and recorded at least once per 8 hour period while burning BLS. The black liquor solids firing rate shall be calculated by multiplying the flow by the weight concentration of solids in the liquor. The facility shall maintain a daily and monthly log of the tons of BLS fired in the Recovery Boiler. Records for the annual throughput of BLS are to be maintained on a twelve month rolling total, updated monthly. Such records shall be maintained on site and made available to the Department upon request. Failure to comply with these conditions shall be considered a violation of the mass emission limit. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
38. Records shall be maintained of black liquor solids firing rate in tons per day. [40 CFR 63.866(c)(1) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
39. The electrostatic precipitator (ESP) shall not be bypassed during required ESP maintenance as long as black liquor solids are being combusted in the boiler and within one hour after flow of black liquor has been stopped. Gases from combustion of black liquor solids in the recovery boiler shall not be vented to the atmosphere unless the ESP is operating. The ESP may be bypassed during required ESP maintenance if the only fuel in the boiler is natural gas. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

40. The Recovery Boiler (SN-05A) shall be tested for PM<sub>10</sub>, SO<sub>2</sub>, VOC, CO, and NO<sub>x</sub> emissions using EPA Reference Method 201A and 202 for PM<sub>10</sub>, Method 6C for SO<sub>2</sub>, Method 25A for VOC, Method 10 for CO, and Method 7E for NO<sub>x</sub>. Each test shall consist of at least 3 sampling periods at a minimum of 1 hour each. Compliance testing shall be conducted while the equipment being tested is operating within 90% of its permitted capacity. If equipment does not attain 90% of permitted capacity during testing, the operating rate during testing will be 90% of the maximum operating rate until the next test is completed. This testing is to be completed once in the first year of every 5 year permit period. This test data shall be used for determination of compliance with the conditions set forth in this permit. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]
41. The permittee shall establish an overall PM emission limit for the Recovery Boiler, using the methods in §63.865(a)(1) and (2), such that the sum of PM emissions from the Recovery Boiler (SN-05), the Smelt Dissolving Tank (SN-07), and the #2 Lime Kiln (SN-08) do not exceed the sum of individual units listed in §63.862(a)(1)(i). [40 CFR 63.862(a)(1)(ii) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
42. The permittee shall conduct an initial performance test on PM emissions from the Recovery Boiler by September 9, 2004 using the test methods and procedures listed in §63.7 and §63.865(b). Testing was performed from July 21 through July 26, 2004. [40 CFR 63.865 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-07**  
**Smelt Dissolving Tank Vent**

**Source Description**

Two smelt dissolving tanks are located on the east and west side of the Recovery Boiler. Emissions from these tanks are emitted through a single vent (SN-07). A venturi scrubber is used for the control of particulate matter. This source was installed in 1975.

A venturi scrubber system was installed in the Spring of 2002 to meet the requirements of 40 CFR Part 63, Subpart MM. Without the scrubber in operation, PM emissions would be greater than 100 tons per year. Therefore, this is a listed unit for CAM. However, the Smelt Dissolving Tank Vent is subject to 40 CFR Part 63, Subpart MM with a compliance date of March 13, 2004. This rule was finalized after November 15, 1990. Therefore, the Smelt Dissolving Tank Vent is exempt from the requirements of CAM.

**Specific Conditions**

43. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #49, #51, #59, and #60. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant        | lb/hr | tpy    |
|------------------|-------|--------|
| PM <sub>10</sub> | 25.6  | 85.0   |
| SO <sub>2</sub>  | 1.6   | 5.7    |
| VOC              | 3.8   | 44.0   |
| NO <sub>x</sub>  | 2.8   | 9.9    |
| Lead             | 0.001 | 0.0010 |
| TRS              | 1.68  | 7.35   |

**Green Bay Packaging Inc. - Arkansas Kraft Division**

**Permit #: 224-AOP-R9**

**AFIN: 15-00001**

44. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #49, #51, #59, and #60. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant    | lb/hr | tpy    |
|--------------|-------|--------|
| PM           | 25.6  | 85.0   |
| Acetaldehyde | 0.06  | 0.21   |
| Ammonia      | 1.09  | 3.94   |
| Antimony     | 0.001 | 0.0020 |
| Arsenic      | 0.001 | 0.0010 |
| Cadmium      | 0.001 | 0.0010 |
| Chromium     | 0.001 | 0.0010 |
| Copper       | 0.001 | 0.0020 |
| Methanol     | 0.45  | 1.64   |
| Nickel       | 0.001 | 0.0020 |
| a-Pinene     | 9.70  | 35.00  |
| b-Pinene     | 2.60  | 9.40   |
| Selenium     | 0.001 | 0.0010 |
| Silver       | 0.001 | 0.0010 |

45. Visible emissions from the smelt dissolving tank vent shall not exceed 20% opacity as measured by EPA Reference Method 9. [§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E]
46. The permittee shall conduct daily 6-minute opacity readings on SN-07 in accordance with EPA Reference Method #9 when the Recovery Boiler is in operation. The results of these readings shall be recorded in a log which shall be kept on site and made available for inspection upon request. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

47. The facility shall measure the particulate emissions from the smelt dissolving tank using EPA Reference Method 5 with inclusion of back half sampling train particulate. This test shall consist of at least 3 sampling periods at a minimum of 1 hour each. Since Method 5 measures total particulate matter emissions and not just PM<sub>10</sub> emissions, the facility may report all emissions measured using Method 5, including back half sampling train particulate, as PM<sub>10</sub> or they may conduct separate PM and PM<sub>10</sub> testing using EPA Reference Method 5 for PM and Method 201 or 201A for PM<sub>10</sub>. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]
48. The TRS emission rates from the Smelt Dissolving Tank (SN-07) shall not exceed 0.0168 g/kg BLS. Compliance with this condition will be demonstrated by Specific Condition #50. [§19.804 of Regulation #19 and §111d of the Clean Air Act]
49. Operation of the smelt dissolving tank shall be limited by the firing of black liquor solids in the Recovery Boiler. Black liquor solids firing in the boiler are limited to 438,000 tons per consecutive twelve month period. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
50. The flow of strong black liquor shall be measured with a flow meter and shall be recorded at least once per hour while burning BLS. The weight concentrations of solids in the liquor shall be measured and recorded at least once per 8 hour period while burning BLS. The black liquor solids firing rate shall be calculated by multiplying the flow by the weight concentration of solids in the liquor. The facility shall maintain a daily and monthly log of the tons of BLS fired in the Smelt Dissolving Tank. Records for the annual throughput of BLS are to be maintained on a twelve month rolling total, updated monthly. Such records shall be maintained on site and made available to the Department upon request. Failure to comply with these conditions shall be considered a violation of the mass emission limit. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
51. The scrubber shall be operated at or above the minimum flow rate and at or above the minimum pressure differential as determined during the initial performance test. [§19.703 of Regulation 19, 40 CFR Part 52, Subpart E, 40 CFR 63.864(e)(10) and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
52. The permittee shall install, calibrate, maintain, and operate a CPMS that can be used to determine and record the pressure drop across the scrubber and the scrubbing liquid flow rate at least once every successive 15 minute period. [40 CFR 63.864(e)(10) and 40 CFR 63.8(c) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

53. The permittee shall develop, implement, and maintain a written startup, shutdown, and malfunction plan as described in §63.6(e)(3) that describes procedures for operating and maintaining the Smelt Dissolving Tank during periods of startup, shutdown, and malfunction to minimize HAP emissions and a program of corrective action for malfunctioning of the scrubber or the CPMS. [40 CFR 63.866(a) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
54. The permittee shall implement the corrective action specified in the SSM Plan when any 3-hour average parameter value is outside the range of values established in the initial performance test. [40 CFR 63.864(k)(1)(ii) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
55. When six or more 3-hour average parameter values within any 6-month reporting period are outside the range of values established in the initial performance test, the Smelt Dissolving Tank is in violation of the standards of Specific Condition #59 and 40 CFR 63.862. [40 CFR 63.864(k)(2)(iii) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
56. No more than one exceedance will be attributed to any given 24-hour period. [40 CFR 63.864(k)(3) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
57. A quarterly excess emissions report containing the information specified in §63.10 and §63.867(c) shall be submitted to the Director if the conditions of Specific Conditions #54 or #55 occur. If those conditions do not occur, semi-annual reporting to indicate such is required.
58. The permittee shall maintain continuous records which demonstrate compliance with Specific Condition #51. Readings will be recorded every 15 minutes and averaged over three hours. Records shall clearly indicate when liquor is being added to the Recovery Boiler. Measurement of liquid flow and pressure drop is not required after liquor flow to the Recovery Boiler has been stopped for at least one hour. These records shall be kept on site, provided to Department personnel upon request, and may be used by the Department for enforcement purposes. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]
59. The permittee shall establish an overall PM emission limit for the Smelt Dissolving Tank, using the methods in §63.865(a)(1) and (2), such that the sum of PM emissions from the Recovery Boiler (SN-05), the Smelt Dissolving Tank (SN-07), and the #2 Lime Kiln (SN-08) do not exceed the sum of individual units listed in §63.862(a)(1)(i). [40 CFR 63.862(a)(1)(ii) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
60. The permittee shall conduct an initial performance test on PM emissions from the Smelt Dissolving Tank by September 9, 2004 using the test methods and procedures listed in §63.7 and §63.865(b). Testing was performed from July 21 through July 26, 2004. [40 CFR 63.865 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-08, and SN-22**  
**#2 Lime Kiln and NCG Incinerator**

**Source Description**

The maximum firing rate of the #2 Lime Kiln (SN-08) is 75 MMBTU/hr. NCGs are combusted in the #2 Lime Kiln. The #2 Lime Kiln was constructed in 1975 and has not been modified since that time. The #2 Lime Kiln uses only natural gas or tall oil as fuel, and is equipped with a wet venturi scrubber.

Permit #224-AR-5 required the installation of a back-up incineration unit for the purpose of incinerating NCGs. In accordance with this provision, an NCG flare (SN-22) was installed in December 1994. This flare did not perform reliably. The facility constructed a new flare that was started up in May 1996.

The NCG flare serves to incinerate NCGs when the #2 Lime Kiln is not operating. The flare is supplemented with natural gas and has a firing rate of 4.5 MMBTU/hr.

The #2 Lime Kiln uses a wet scrubber to control emissions of particulate. Without the scrubber in operation, PM emissions would be greater than 100 tons per year. Therefore, this is a listed unit for CAM. However, the #2 Lime Kiln is subject to 40 CFR Part 63, Subpart MM with a compliance date of March 12, 2004. This rule was finalized after November 15, 1990. Therefore, the #2 Lime Kiln is exempt from the requirements of CAM.

The #2 Lime Kiln and the NGC Incinerator are subject to 40 CFR Part 63, Subpart S-National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry. They are used as control devices to reduce total HAP emissions for the LVHC system (SN-37). Emissions that are listed for SN-08 and SN-22 reflect the incineration of gases that are routed from the LVHC system.

**Specific Conditions**

61. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #66, #68, #71, #72, #74, #75, #76, #85, #86, and #87. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| SN                 | Pollutant        | lb/hr | tpy    |
|--------------------|------------------|-------|--------|
| 08                 | PM <sub>10</sub> | 35.2  | 154.1  |
|                    | SO <sub>2</sub>  | 9.0   | 39.4   |
|                    | VOC              | 1.0   | 39.0   |
|                    | CO               | 4.5   | 21.3   |
|                    | NO <sub>x</sub>  | 18.0  | 94.6   |
|                    | Lead             | 0.005 | 0.0190 |
| 22                 | SO <sub>2</sub>  | 49.1  | 26.3   |
| 08 and 22 combined | TRS              | 6.43  | 28.15  |

**Green Bay Packaging Inc. - Arkansas Kraft Division****Permit #: 224-AOP-R9****AFIN: 15-00001**

62. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #68, #71, #72, #74, #75, #76, #85, #86, and #87. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| SN       | Pollutant           | lb/hr | tpy    |
|----------|---------------------|-------|--------|
| 08<br>22 | PM                  | 35.2  | 154.1  |
|          | Acetone             | 0.23  | 0.96   |
|          | Benzene             | 0.01  | 0.04   |
|          | Cadmium             | 0.001 | 0.0100 |
|          | Cobalt              | 0.001 | 0.0100 |
|          | Copper              | 0.001 | 0.0100 |
|          | Formaldehyde        | 0.46  | 1.92   |
|          | Manganese           | 0.022 | 0.0900 |
|          | Methanol            | 1.50  | 6.39   |
|          | Methyl Ethyl Ketone | 0.04  | 0.17   |
|          | Nickel              | 0.001 | 0.0100 |
|          | Terpenes            | 1.10  | 4.56   |
|          | Toluene             | 0.01  | 0.03   |

63. Visible emissions from SN-08 shall not exceed 20% opacity as measured by EPA Reference Method 9. [§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E]
64. The permittee shall conduct weekly 6-minute opacity readings on SN-08 in accordance with EPA Reference Method #9. The results of these readings shall be recorded in a log which shall be kept on site and made available for inspection upon request. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]
65. Visible emissions from SN-22 shall not exceed 20% opacity as measured by EPA Reference Method 9. Compliance with this condition will be burning only natural gas and tall oil. [§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

66. The TRS emission rates from the #2 Lime Kiln (SN-08) shall not exceed 40 ppm. This limit shall be measured as H<sub>2</sub>S on a dry basis and on a 12 hour average, corrected to 10% volume oxygen. During periods when the #2 Lime Kiln is down and the oxygen content is greater than 19%, the TRS concentration shall not be corrected for oxygen. [§19.804 of Regulation #19 and §111d of the Clean Air Act]
67. The facility shall continue to calibrate, maintain, and operate a monitoring device (CEMS) that continuously monitors and records the total reduced sulfur (TRS) concentration of gases leaving the #2 Lime Kiln (SN-08) and the O<sub>2</sub> concentration. The CEM may be taken off line when the kiln is out of service longer than 24 hours. The CEM shall meet minimum frequency of operation requirements of 95% up-time for each quarter and for each pollutant measured. Failure to maintain operation time shall constitute a violation of the CEMs conditions. [§19.703 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8- 4-203 as referenced by §8-4-304 and §8-4-311]
68. The total throughput of lime through the #2 Lime Kiln (SN-08) shall be limited to 91,250 tons per consecutive rolling twelve month total. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
69. The permittee shall maintain records of CaO production for the #2 Lime Kiln in units of tons per day. [40 CFR 63.866(c)(2) and A.C.A. §8- 4-203 as referenced by §8-4-304 and §8-4-311]
70. The facility shall maintain monthly records of the lime throughput through the #2 Lime Kiln. Records of this rate are to be maintained on a twelve month rolling total. Such records shall be maintained on site and made available to the Department upon request. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]
71. The NCG Incinerator (SN-22) shall be used at all times when NCGs are not incinerated in the #2 Lime Kiln (SN-08). The facility shall maintain effective incineration of NCGs at a minimum temperature of 1200°F for at least 0.5 second. [§19.804 of Regulation #19 and 111(d) of the Clean Air Act]
72. Operation of the NCG Incinerator shall not exceed 1000 hours on a consecutive 12 month basis. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
73. The facility shall maintain records of all hours of operation and minimum temperature for the NCG Incinerator updated daily. These records shall be kept on site and shall be provided to Department personnel on request. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]
74. The #2 Lime Kiln (SN-08) shall use only natural gas and tall oil as fuel. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

75. Particulate emissions from the #2 Lime Kiln (SN-08) shall be controlled by a wet scrubber. The wet scrubber shall be used at all times when the #2 Lime Kiln is processing lime. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
76. The liquid flow to the scrubber and differential pressure across the scrubber for the #2 Lime Kiln (SN-08) shall be maintained at or above the flow rate and the differential pressure measured, based on a three hour rolling average, as determined during the initial performance test. [§19.703 of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 864(e)(10), and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
77. The facility shall continuously monitor and record once per hour or continuously (by strip chart or electronically) the pressure drop across the scrubber (SN-08) and the liquid flow to the scrubber. The flow rate and pressure drop compliance demonstration measurements are based on a three hour rolling average. Scrubber flow and pressure drop do not have to be measured when the source is not processing lime. These records shall be maintained on site and provided to Department personnel upon request. [§19.703 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
78. The permittee shall install, calibrate, maintain, and operate a CPMS that can be used to determine and record the pressure drop across the scrubber and the scrubbing liquid flow rate at least once every successive 15 minute period. [40 CFR 63.864(e)(10), 40 CFR 63.8(c) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
79. The permittee shall develop, implement, and maintain a written startup, shutdown, and malfunction plan as described in §63.6(e)(3) that describes procedures for operating and maintaining the #2 Lime Kiln during periods of startup, shutdown, and malfunction to minimize HAP emissions and a program of corrective action for malfunctioning of the scrubber or the CPMS. [40 CFR 63.866(a) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
80. The permittee shall implement the corrective action specified in the SSM Plan when any 3-hour average parameter value is outside the range of values established in the initial performance test. [40 CFR 63.864(k)(1)(ii) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
81. When six or more 3-hour average parameter values within any 6-month reporting period are outside the range of values established in the initial performance test, the #2 Lime Kiln is in violation of the standards of Specific Condition #86 and 40 CFR 63.862. [40 CFR 63.864(k)(2)(iii) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
82. No more than one exceedance will be attributed to any given 24-hour period. [40 CFR 63.864(k)(3) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

83. A quarterly excess emissions report containing the information specified in §63.10 and §63.867(c) shall be submitted to the Director if the conditions of Specific Conditions #80 or #81 occur. If those conditions do not occur, semi-annual reporting to indicate such is required. [40 CFR 63.867(c) and A.C.A. §8- 4-203 as referenced by §8-4-304 and §8-4-311]
84. The total HAP emissions routed from the LVHC system shall be controlled no later than April 16, 2001. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.443(a)(1)(i) and §63.440(d)]
85. The #2 Lime Kiln (SN-08) and the NCG Incinerator (SN-22) are the control devices for reducing the HAP emissions from the LVHC system (SN-37). [§19.304 of Regulation #19 and 40 CFR 60, Subpart S §63.443(d)(3) and (4)]
- A. The HAP emission stream shall be introduced into the flame zone of the lime kiln. [§63.443(d)(4)]
- B. The NCG Incinerator shall be operated at a minimum of 871 °C (1600 °F) and a minimum residence time of 0.75 seconds. [§63.443(d)(3)]
- C. A continuous monitoring device shall be installed in the NCG Incinerator to continuously measure and record the temperature in the firebox or in the ductwork immediately downstream of the firebox while HAPs are being burned. [§63.453(b)]
1. A record of NCG Incinerator temperature will be kept in a form suitable for inspection upon request for a period of at least five years. [§63.10(b)(2)(vii)]
2. A record of each period during which the temperature probe is malfunctioning or inoperative shall be kept. [§63.10(b)(2)(vi)]
3. A record shall be kept of all calibration checks, maintenance, and adjustments of the temperature probe. [§63.10(b)(2)(x) and (xi)]
- D. Operation of the NCG Incinerator (SN-22) below 871 °C (1600 °F) while burning HAPs shall constitute a violation of the emissions standard of Subpart S and shall be reported as a period of excess emissions as outlined in Specific Condition #173. [§63.453(o), except as provided in §63.443(e)]
86. The permittee shall establish an overall PM emission limit for the #2 Lime Kiln, using the methods in §63.865(a)(1) and (2), such that the sum of PM emissions from the Recovery Boiler (SN-05), the Smelt Dissolving Tank (SN-07), and the #2 Lime Kiln (SN-08) do not exceed the sum of individual units listed in §63.862(a)(1)(i). [40 CFR 63.862(a)(1)(ii) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Green Bay Packaging Inc. - Arkansas Kraft Division**

**Permit #: 224-AOP-R9**

**AFIN: 15-00001**

87. The permittee shall conduct an initial performance test on PM emissions from the #2 Lime Kiln by September 9, 2004 using the test methods and procedures listed in §63.7 and §63.865(b). Testing was performed from July 21 through July 26, 2004. [40 CFR 63.865 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
88. The permittee shall conduct an initial performance test while using tall oil as fuel in the #2 Lime Kiln within 90 days of achieving normal operation of the use of tall oil as fuel in the kiln. Tests shall measure NO<sub>x</sub> and CO emissions using the EPA Test Methods 7E and 10 respectively. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-11**  
**Brownstock Washers**

**Source Description**

Three sets of rotary-drum vacuum type Brownstock Washer Systems are used to separate pulp from spent black liquor. There are a total of eight individual Brownstock washer units. The A-Line and C-Line washers consist of three washers in series. The B-washers consist of two washers in series. Previously, open hoods captured emissions generated by each washing unit and vented through individual exhaust stacks. Pursuant to 40 CFR Part 63, Subpart S, the emissions from the washers are collected and passed to the HVLC system (SN-38) and taken to the #3 Wood Waste Boiler (SN-04) or #1 Package Boiler (SN-14) for control.

**Specific Conditions**

89. Emissions generated by the Brownstock Washers (SN-11) are collected in the HVLC Collection System (SN-38) thus eliminating emissions from SN-11. The washers cannot (based on the scope of the HVLC Collection System) be vented into the atmosphere. [40 CFR Part 52.21 (b)(3)(viii)]

SN-12

Aerated Settling Basin and Post Aerated Stabilization Basin

Source Description

The Aerated Settling Basin and Post Aerated Stabilization Basin are part of the wastewater treatment for this facility. This source was introduced in 1965. This modification includes updated emission factors from the *NCASI Handbook of Chemical-Specific Information for SARA Section 313 Form R Reporting* which now includes emissions of MEK.

Specific Conditions

90. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #92. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy   |
|-----------|-------|-------|
| VOC       | 35.7  | 100.1 |

91. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #92. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant           | lb/hr | tpy   |
|---------------------|-------|-------|
| Acetaldehyde        | 0.22  | 0.62  |
| Methanol            | 0.32  | 0.89  |
| Methyl Ethyl Ketone | 35.13 | 98.60 |

92. The permittee shall not exceed 461,400 air dried tons of finished product at this source during any consecutive twelve month period. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
93. The facility shall maintain records of the tons of air dried finished product produced at SN-12. Records for these annual rates are to be maintained on a twelve month rolling total, updated monthly. Such records shall be maintained on site and made available to the Department upon request. Failure to comply with these conditions shall be considered a violation of the mass emissions limit. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-14**  
**#1 Package Boiler**

**Source Description**

The #1 Package Boiler (SN-14) has a heat input capacity limited to 250 MMBTU/hr. Natural gas is fired in this boiler. Fuel oil is fired in the boiler under emergency situations such as natural gas curtailment. The boiler was constructed in 1973 and has not been modified since that time.

The #1 Package Boiler is used as a backup control device to reduce the total HAP emissions for the HVLC Collection system (SN-38). The #3 Wood Waste Boiler (SN-04) is the primary control device. Emissions listed here reflect the incineration of gases routed from the HVLC system.

The #1 Package Boiler will be subject to 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters. This MACT has a final date of September 13, 2004 and a compliance date of September 13, 2007.

**Specific Conditions**

94. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #98, #100, #101, #103, and #105. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant        | lb/hr | tpy   |
|------------------|-------|-------|
| PM <sub>10</sub> | 28.8  | 14.0  |
| SO <sub>2</sub>  | 6.2   | 3.2   |
| VOC              | 70.6  | 39.0  |
| CO               | 560.0 | 366.3 |
| NO <sub>x</sub>  | 40.0  | 39.0  |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

95. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #98, #100, #103, and #105. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant | lb/hr | tpy  |
|-----------|-------|------|
| PM        | 28.8  | 24.0 |
| Butane    | 0.51  | 2.25 |
| Ethane    | 0.76  | 3.33 |
| Hexane    | 0.44  | 1.93 |
| Methane   | 0.56  | 2.47 |
| Pentane   | 0.64  | 2.76 |
| Propane   | 0.39  | 1.72 |

96. Visible emissions from SN-14 shall not exceed 20% opacity as measured by EPA Reference Method 9. Compliance with this opacity limit shall be demonstrated by complying with Specific Condition #97. [§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E]
97. The permittee shall conduct daily 6-minute opacity readings on SN-14 in accordance with EPA Reference Method #9, each day the boiler burns oil. The results of these readings shall be recorded in a log which shall be kept on site and made available for inspection upon request. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]
98. The #1 Package Boiler (SN-14) shall be tested for PM<sub>10</sub>, SO<sub>2</sub>, VOC, CO, and NO<sub>x</sub> emissions using EPA Reference Method 201A or 201 for PM<sub>10</sub>, Method 6C for SO<sub>2</sub>, Method 25A for VOC, Method 10 for CO, and Method 7E for NO<sub>x</sub>. Each test shall consist of at least 3 sampling periods at a minimum of 1 hour each. This testing is to be completed once in the first year of every 5 year permit period. This test data shall be used for determination of compliance with the conditions set forth in this permit. Compliance testing shall be conducted while the equipment being tested is operating within 90% of its permitted capacity. If equipment does not attain 90% of permitted capacity during testing, the operating rate during testing will be 90% of the maximum operating rate until the next test is completed. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

99. The #1 Package Boiler would be an affected source if it were capable of firing fossil fuel at a heat input rate greater than 250 MMBTU/hr. The facility's policy is to re-rate the capacity of the boilers each year after testing. Capacity rating was determined by dividing the maximum tested steaming rate by 90%. Under this permit, the heat input rating of the #1 Package Boiler is 250 MMBTU/hr. Pursuant to §60.40, the boiler must be operated below this limit in order to not be subject to the NSPS requirements. [§19.304 of Regulation #19 and 40 CFR Part 60, Subpart D-Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971]
100. The #1 Package Boiler shall only burn natural gas as fuel. Fuel oil may be burned but only in the event of natural gas curtailment or as detailed in the alternate operating scenario. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
101. Sulfur content in the fuel shall be no greater than 2% by weight. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
102. The permittee shall obtain and maintain the fuel oil receipts from the fuel supplier which certify that the oil contains no more than 2% sulfur by weight. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]
103. Steam generation in the boiler shall not exceed 199,000 pounds of steam per hour based on a 24 hour rolling average. Maximum annual steam production shall not exceed 370,000,000 pounds, determined on a 12 month rolling total. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
104. The facility shall maintain records of the steam generation at SN-14. Records for the hourly rate are to be maintained on a 24 hour rolling average, updated hourly. Records for the annual rate are to be maintained on a twelve month rolling total, updated monthly. Such records shall be maintained on site and made available to the Department upon request. Failure to comply with these conditions shall be considered a violation of the mass emissions limit. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]
105. The #1 Package Boiler will be the backup control device for reducing the HAP emissions from the HVLC system (SN-38). The HAP emissions stream shall be introduced into the combustion air going to the boiler. The package boiler will not be used more than 1,000 hours in any 12 month period to incinerate emissions collected in the HVLC system. [§19.304 of Regulation #19 and 40 CFR 63.443(d)(4)]
106. The facility shall maintain records of the time that the #1 Package Boiler is being used as a backup control device. Records are to be maintained on an hourly basis. Such records shall be maintained on site and made available to the Department upon request. Failure to comply with these conditions shall be considered a violation of the mass emissions limit. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]

**ALTERNATE OPERATING SCENARIO FOR COMBINATION OF SN-14 and SN-15**

107. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by complying with Specific Conditions #101, #103, and #105. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| SN                           | Pollutant        | lb/hr | tpy |
|------------------------------|------------------|-------|-----|
| Alternate Operating Scenario |                  |       |     |
| 14<br>and<br>15              | PM <sub>10</sub> | 28.8  | 0.1 |
|                              | SO <sub>2</sub>  | 418.3 | 3.5 |
|                              | VOC              | 1.1   | 0.1 |
|                              | CO               | 6.7   | 0.3 |
|                              | NO <sub>x</sub>  | 89.3  | 1.1 |

108. The throughput limits of the alternate operating scenario are not to exceed 90,000 gallons of fuel oil during the period from April 1 to June 30 of each year. This limit is to allow the facility the opportunity to dispose of the fuel oil not used during periods of natural gas curtailment. Also, upon notification of the Department, portions of this 90,000 gallons may be burned to test boiler fuel oil combustion controls prior to the annual gas curtailment season. Except for this 90,000 gallons of fuel oil to be fired annually, the facility shall not fire fuel oil in SN-14 and SN-15 except during periods of natural gas curtailment. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
109. The facility shall maintain daily records of fuel oil usage and of all hours of operation when fuel oil is used. These records shall be kept on site and shall be provided to Department personnel upon request. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-15**  
**#2 Package Boiler**

**Source Description**

The #2 Package Boiler (SN-15) has a maximum heat input capacity of 205 MMBTU/hr. Natural gas is fired in the boiler. Fuel oil is fired in the boiler under emergency situations such as natural gas curtailment. The boiler was constructed in 1996 and began operation in February 1997.

**Specific Conditions**

110. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #114, #115, and #118. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant        | lb/hr | tpy  |
|------------------|-------|------|
| PM <sub>10</sub> | 1.6   | 6.7  |
| SO <sub>2</sub>  | 1.5   | 6.6  |
| VOC              | 1.2   | 4.9  |
| CO               | 16.9  | 74.0 |
| NO <sub>x</sub>  | 13.8  | 39.0 |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

111. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #114, #115, and #118. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant | lb/hr | tpy  |
|-----------|-------|------|
| PM        | 1.6   | 6.7  |
| Butane    | 0.42  | 1.85 |
| Ethane    | 0.62  | 2.73 |
| Hexane    | 0.36  | 1.58 |
| Methane   | 0.46  | 2.02 |
| Pentane   | 0.52  | 2.29 |
| Propane   | 0.32  | 1.41 |

112. Visible emissions from SN-15 shall not exceed 20% opacity as measured by EPA Reference Method 9. Compliance shall be demonstrated by complying with Specific Condition #113. [§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E]
113. The permittee shall conduct daily 6-minute opacity readings on SN-15 in accordance with EPA Reference Method #9 each day the boiler burns oil. The results of these readings shall be recorded in a log which shall be kept on site and made available for inspection upon request. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]
114. The #2 Package Boiler shall only burn natural gas as fuel. Fuel oil shall only be burned in the event of natural gas curtailment, under the Alternate Operating Scenario in Specific Conditions #107 through #109, or for short periods, upon notification of the Department, to test boiler fuel oil combustion controls. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
115. Steam generation in the boiler shall not exceed 199,000 pounds of steam per hour based on a 24 hour rolling average. Maximum annual steam production shall not exceed 1,700,000,000 pounds, determined on a 12 month rolling total. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
116. The facility shall maintain records of the steam generation at SN-15. Records for the hourly rate are to be maintained on a 24 hour rolling average, updated hourly. Records for the annual rate are to be maintained on a twelve month rolling total, updated monthly. Such records shall be maintained on site and made available to the Department upon request. Failure to comply with these conditions shall be considered a violation of the mass emissions limit. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

117. The facility accepted limits on SO<sub>2</sub> in order to avoid further PSD requirements in permit #224-AOP-R0. Within 60 days after the date of issuance of this permit, the #2 Package Boiler (SN-15) was tested for SO<sub>2</sub> using EPA Reference Method 6. A written report of the results of the completed tests was furnished to the Compliance Section of the Department within 30 days of test completion (October 1, 1997). [§19.901 et seq. of Regulation #19, and 40 CFR Part 52, Subpart E]
118. The #2 Package Boiler is an affected source of 40 CFR Part 60, Subpart Db-Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. [§19.304 of Regulation #19 and 40 CFR Part 60, Subpart Db]
- A. The facility shall not emit any gases from the #2 Package Boiler that contain NO<sub>x</sub> in excess of 0.20 lb/MMBTU based on a 30 day rolling average. [§60.44b(a)]
  - B. The NO<sub>x</sub> emission standards under §60.44b for the #2 Package Boiler apply at all times. Compliance with these requirements shall be determined as specified in §60.46b(c) and (e). [§60.46b(a)]
  - C. The facility shall install, calibrate, maintain, and operate a continuous monitoring system for measuring NO<sub>x</sub> emissions and the diluent CO<sub>2</sub> emissions from the #2 Package Boiler to the atmosphere and record the output of the system as per the requirements of §60.48b(c), (d), (e), (f), and (g). The CEM may be taken off line when the boiler is out of service longer than 24 hours. The CEM shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Failure to maintain operation time shall constitute a violation of the CEMs conditions. [§60.48b(b)]
  - D. The facility has notified the Department of the February 15, 1997, initial startup of the #2 Package Boiler. As per §60.49b(a)(1), the facility has notified the Department that the design heat input capacity of the boiler is to be 205 MMBTU/hr. The fuel to be combusted is natural gas. Fuel Oil will be used in the event of natural gas curtailment. As per §60.49b(a)(3), the facility has notified the Department of the annual capacity factor at which the facility anticipates operating the boiler based upon all the fuels fired and each individual fuel fired. [§60.49b]
  - E. The facility shall submit the performance test data for NO<sub>x</sub> from the initial performance test and performance evaluation of the CEMs for the #2 Package Boiler to the Air Division Compliance Section. The applicable performance specifications in 40 CFR Part 60, Appendix B shall be used. The facility submitted this report on November 2, 1997. [§60.49b(b)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

- F. The facility shall record and maintain records of the amounts of each fuel combusted during each day for the #2 Package Boiler and calculate the annual capacity factor individually for natural gas and oil for each calendar quarter. The annual capacity factor is to be determined on a 12 month rolling average basis with a new capacity factor calculated at the end of each calendar month. [§60.49b(d)]
- G. The facility shall maintain records for the #2 Package Boiler for each steam generating unit operating day. As per §60.48g(i), the facility shall submit a quarterly report containing these records. These records shall be submitted to the Air Division Compliance Section and shall be postmarked by the 30th day following the end of each calendar quarter. [§60.49b(g)]
- H. The facility is required to submit excess emission reports for any calendar quarter during which there are excess emissions from the #2 Package Boiler. If there are no excess emissions during the calendar quarter, the facility shall submit a semiannual report stating that no excess emissions occurred during the semiannual reporting period. [§60.49b(h)(2)]
- I. The facility shall retain all required records for the #2 Package Boiler for a period of 2 years following the date of such record. [60.49b(o)]

**SN-17**  
**Tall Oil Plant Reactor**

**Source Description**

The tall oil reactor operates on a batch basis. Each batch takes about 1 hour to cook and 3 hours to transfer. Maximum tall oil production is 5 tons/hr. This source was installed in 1982.

**Specific Conditions**

119. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #121. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy  |
|-----------|-------|------|
| VOC       | 5.9   | 21.9 |
| TRS       | 0.21  | 0.30 |

120. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #121. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant           | lb/hr | tpy  |
|---------------------|-------|------|
| Acetone             | 0.06  | 0.09 |
| Acetaldehyde        | 0.02  | 0.03 |
| Benzene             | 0.01  | 0.01 |
| Dimethyl Sulfide    | 0.02  | 0.02 |
| Dimethyl Disulfide  | 0.01  | 0.02 |
| Hydrogen Sulfide    | 0.14  | 0.21 |
| Methanol            | 0.12  | 0.18 |
| Methyl Ethyl Ketone | 0.01  | 0.01 |
| Methyl Mercaptan    | 0.04  | 0.05 |
| Toluene             | 0.01  | 0.01 |
| Terpenes            | 0.70  | 1.05 |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

121. The production or processing of Tall Oil shall be limited to 15,012 tons per consecutive twelve month period. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
122. The facility shall maintain records of production or processing of Tall Oil. Records for these annual rates are to be maintained on a twelve month rolling total and updated monthly. Such records shall be maintained on site and made available to the Department upon request. Failure to comply with these conditions shall be considered a violation of the mass emission limit. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]

**SN-23**  
**Blow Heat Emergency Vent, Batch Digesters**

**Source Description**

Product and pressured gases from the digesters are released to atmospheric pressure in the blow tanks. The emergency vent was previously permitted as SN-16; however, as releases from this source are made only in emergency situations, it is not a normal source of emissions.

There are five Batch Digesters located at the facility. Batch Digesters #1 and #2 were installed in 1965, #3 and #4 in 1974, and #5 in 1987. Batch Digester #2 was repaired in 1996. In the Batch Digesters, wood chips and sawdust are cooked to separate the wood fiber from the lignin that binds the fibers together.

The Batch Digesters use the NCG/LVHC Collection System to control emissions of VOC. Without the NCG/LVHC Collection System in operation, VOC emissions would be greater than 100 tons per year. Therefore, this is a listed unit for CAM. However, the Batch Digesters are subject to 40 CFR Part 63, Subpart S with an effective date of April 15, 2001. Therefore, the Batch Digesters are exempt from the requirements of CAM.

**Specific Conditions**

123. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #125 and #148. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy  |
|-----------|-------|------|
| VOC       | 7.5   | 29.0 |
| TRS       | 0.23  | 9.0  |

124. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #125 and #148. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant    | lb/hr | tpy   |
|--------------|-------|-------|
| Acetaldehyde | 0.04  | 0.15  |
| Methanol     | 0.22  | 0.83  |
| Terpenes     | 7.68  | 28.30 |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

125. Batch Digester #5 is an affected source of 40 CFR Part 60, Subpart BB-Standards of Performance for Kraft Pulp Mills. [§19.304 of Regulation #19 and 40 CFR Part 60, Subpart BB]
- A. The gases from the #5 Batch Digester shall be combusted with other waste gases in the incinerator, lime kiln, or recovery furnace. They shall be incinerated at a minimum temperature of 1200°F for a minimum of 0.5 seconds. [§60.283(a)(1)(iii)]
  - B. The facility shall install, calibrate, maintain and operate a continuous monitoring device for the incinerator (SN-22) which measures and records the combustion temperature at the point of incineration of effluent gases which are emitted from the digester system. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 1$  percent of the temperature being measured. [§60.284(b)(1)]
  - C. The facility shall report semiannually periods of excess emissions. For the digester system, periods of excess emissions are all periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200°F. As in §60.284(e)(2), excess emissions reported shall not be a violation of §60.11(d) provided that the affected facility, including air pollution control equipment, is maintained and operated in a manner which is consistent with good air pollution control practice for minimizing emissions during periods of excess emissions. [§60.284(d)(3)(ii)]

**SN-24**  
**Wood Yard Fugitives**

**Source Description**

Woodyard activities at the mill are classified as the unloading of wood chips and wood waste at the two receiving dumps, material drop points, stacking and removing material to and from storage piles, wind erosion from storage piles, and road emissions. Chips are sent to the semicircular chip pile by means of a belt conveyor. Then, chips are recovered with a reclaim conveyor that follows the contour of the pile. The chips will go through a chip thickness screening system which consists of a scalping screen, a primary screen, an air density separator, chip conditioner, and a fines screen. After the screening system, the chips will be conveyed to a chip silo, to the digester, or to the chip pad.

**Specific Conditions**

126. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #130 and #134. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant        | lb/hr | tpy   |
|------------------|-------|-------|
| PM <sub>10</sub> | 0.8   | 1.0   |
| VOC              | 169.0 | 737.5 |

127. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #130 and #134. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant | lb/hr | tpy |
|-----------|-------|-----|
| PM        | 1.6   | 2.2 |

**SN-25A**  
**#1 Paper Machine**

**Source Description**

The #1 Paper Machine was installed in 1965. At the paper machine, pulp is formed into a sheet, drained and pressed for dewatering, and then dried with steam heated dryers.

**Specific Conditions**

128. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #130. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy   |
|-----------|-------|-------|
| VOC       | 69.5  | 231.5 |

129. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #130. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant                 | lb/hr | tpy   |
|---------------------------|-------|-------|
| Acetone                   | 0.9   | 2.9   |
| Acetaldehyde              | 4.86  | 16.25 |
| Acrolein                  | 0.18  | 0.59  |
| Benzene                   | 0.03  | 0.11  |
| Biphenyl                  | 0.06  | 0.20  |
| 1,2 Dichloroethylene      | 0.13  | 0.43  |
| Methanol                  | 25.0  | 83.15 |
| Methyl Ethyl Ketone       | 0.25  | 0.84  |
| Methyl Isobutyl<br>Ketone | 0.10  | 0.33  |
| Phenol                    | 0.03  | 0.10  |
| Styrene                   | 0.06  | 0.19  |
| Terpenes                  | 38.4  | 128.0 |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

| Pollutant         | lb/hr | tpy  |
|-------------------|-------|------|
| Toluene           | 0.10  | 0.35 |
| Trichloroethylene | 0.15  | 0.51 |
| m, p Xylene       | 0.07  | 0.23 |
| o Xylene          | 0.06  | 0.20 |

130. The yearly production rate of the #1 Paper Machine shall be limited to 301,750 air dried tons of finished paper and the use of 170,683 tons of kraft pulp (55% of 310,333 tons pulp) based on a rolling twelve month total. The amount of kraft tons each month will be a calculated amount from the total amount of kraft pulp sent to either paper machine (SN-25A & SN-25B). [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
131. The permittee shall maintain records of the production rate and kraft pulp use of the #1 Paper Machine. These records shall be updated at least monthly, shall be kept on site, and shall be provided to Department personnel upon request. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-25B**  
**#2 Paper Machine**

**Source Description**

The #2 Paper Machine was installed in 1978 and modified in 1998. At the paper machine, pulp is formed into a sheet, drained and pressed for dewatering, and then dried with steam heated dryers.

**Specific Conditions**

132. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #134. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy   |
|-----------|-------|-------|
| VOC       | 56.9  | 189.4 |

133. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #134. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant                 | lb/hr | tpy   |
|---------------------------|-------|-------|
| Acetone                   | 0.70  | 2.37  |
| Acetaldehyde              | 4.00  | 13.31 |
| Acrolein                  | 0.14  | 0.48  |
| Benzene                   | 0.03  | 0.09  |
| Biphenyl                  | 0.05  | 0.16  |
| 1,2 Dichloroethylene      | 0.10  | 0.41  |
| Methanol                  | 20.46 | 68.06 |
| Methyl Ethyl Ketone       | 0.21  | 0.68  |
| Methyl Isobutyl<br>Ketone | 0.08  | 0.27  |
| Phenol                    | 0.02  | 0.08  |
| Styrene                   | 0.05  | 0.15  |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

| Pollutant         | lb/hr | tpy   |
|-------------------|-------|-------|
| Terpenes          | 31.4  | 104.7 |
| Toluene           | 0.08  | 0.29  |
| Trichloroethylene | 0.13  | 0.42  |
| m, p Xylene       | 0.06  | 0.19  |
| o Xylene          | 0.05  | 0.17  |

134. The yearly production rate of the #2 Paper Machine shall be limited to 248,500 air dried tons of finished paper and the use of 139,650 tons kraft pulp (45% of 310,333 tons pulp) based on a rolling twelve month total. The amount of kraft tons each month will be a calculated amount from the total amount of kraft pulp sent to either paper machine (SN-25A & SN-25B). [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
135. The permittee shall maintain records of the production rate and kraft pulp use of the #2 Paper Machine. These records shall be updated at least monthly, shall be kept on site, and shall be provided to Department personnel upon request. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-26 and SN-27**  
**Basement Air Make-up Heaters #1 and #2**

**Source Description**

The Basement Air Make-up Heaters #1 and #2 (SN-26 and SN-27) are both 10 MMBTU/hr natural gas fired heaters. They were installed in 1967.

**Specific Conditions**

136. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #139. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| SN | Pollutant        | lb/hr | tpy |
|----|------------------|-------|-----|
| 26 | PM <sub>10</sub> | 0.1   | 0.4 |
|    | SO <sub>2</sub>  | 0.1   | 0.1 |
|    | VOC              | 0.1   | 0.3 |
|    | CO               | 0.8   | 3.6 |
|    | NO <sub>x</sub>  | 1.0   | 4.3 |
| 27 | PM <sub>10</sub> | 0.1   | 0.4 |
|    | SO <sub>2</sub>  | 0.1   | 0.1 |
|    | VOC              | 0.1   | 0.3 |
|    | CO               | 0.8   | 3.6 |
|    | NO <sub>x</sub>  | 1.0   | 4.3 |

137. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #139. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| SN | Pollutant | lb/hr | tpy |
|----|-----------|-------|-----|
| 26 | PM        | 0.1   | 0.4 |
| 27 | PM        | 0.1   | 0.4 |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

138. Visible emissions from these sources shall not exceed 5% opacity as measured by EPA Reference Method 9. Compliance will be demonstrated by only burning natural gas. [§18.501 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]
139. The #1 and #2 Basement Air Make-Up Heaters shall only use natural gas as a fuel source. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

**SN-30**  
**Landfill**

**Source Description**

The landfill at Green Bay is separated into two areas. Landfill 2 (Area I and II), which operated from 1981 to 1999, has a design capacity of 1,121,750 yd<sup>3</sup>. Landfill 3, Phase 1 is a currently active area with a design capacity of 449,000 yd<sup>3</sup>. Landfill 3, Phase 1 is projected to be closed in 2002. Landfill 3, Phase 2 will be put into use in 2002. It has a design capacity of 425,000 yd<sup>3</sup>. The material stored in the landfill is about 80% sludge and 20% miscellaneous waste. Emission limits are based upon the emissions generated from both landfills. The decomposing waste encapsulated within the landfill produces a gas that is approximately 50 percent methane and 50 percent carbon dioxide, with other non-methane organic compounds including volatile organic compounds.

**Specific Conditions**

140. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #142. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy |
|-----------|-------|-----|
| VOC       | 6.6   | 5.1 |

141. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #142. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant | lb/hr | tpy     |
|-----------|-------|---------|
| Methane   | 497.4 | 2,749.7 |

142. Annual waste acceptance rate for the landfill shall not exceed 489,000 cubic yards per year as calculated on a twelve month rolling total. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
143. The facility shall record the amounts of waste received in the landfill. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]
144. Landfill 2 (Area I and II) is closed and shall no longer accept waste. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**

**Permit #: 224-AOP-R9**

**AFIN: 15-00001**

145. The landfill is not an affected facility of 40 CFR Part 60, Subpart WWW-Standards of Performance for Municipal Solid Waste Landfills because it does not contain household waste. [§19.304 of Regulation #19 and 40 CFR Part 60, Subpart WWW]

**SN-31**  
**Weak Black Liquor Tanks**

**Source Description**

Weak Black Liquor is a product of the pulping process. It consists of compounds of dissolved and reacted lignin, organic and inorganic compounds that contain sulfur, and unreacted sodium hydroxide and sodium sulfide. Weak Black Liquor is contained in the vessels listed in the table below.

| Equipment Number | Vessel                          | Capacity (gallon) |
|------------------|---------------------------------|-------------------|
| 0467             | Weak Black Liquor Boil Out Tank | 750,000           |
| 0470             | Blend Tank                      | 18,426            |
| 0472             | Screen Accepts Tank             | 18,426            |
| 0474             | Weak Black Liquor Storage Tank  | 1,055,016         |

**Specific Conditions**

146. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #148. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy  |
|-----------|-------|------|
| VOC       | 3.5   | 15.4 |

147. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #148. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant | lb/hr | tpy  |
|-----------|-------|------|
| Acetone   | 0.07  | 0.28 |
| Terpenes  | 0.56  | 2.44 |

**Green Bay Packaging Inc. - Arkansas Kraft Division**

**Permit #: 224-AOP-R9**

**AFIN: 15-00001**

148. A throughput limit of 310,333 air dried tons of Kraft pulp at the facility per consecutive twelve month period shall be considered compliance with emission limits for this source. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
149. The permittee shall maintain records of the throughput of air dried Kraft pulp at the facility. Records shall be updated monthly, maintained on site and made available to the Department upon request. Failure to comply with these conditions shall be considered a violation of the mass emissions limit. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-32**  
**Green Liquor Tanks**  
**Source Description**

Green Liquor is formed from the dissolved molten salts or smelt from the recovery boiler. It is contained in the vessels listed in the table below.

| Equipment Number | Vessel                               | Capacity (gallons) |
|------------------|--------------------------------------|--------------------|
| 0786             | #1 Green Liquor Clarifier (North)    | 47,377             |
| 0724             | #2 Green Liquor Clarifier (South)    | 47,377             |
| 0729A            | #1 Green Liquor Storage Tank (North) | 54,147             |
| 0729B            | #2 Green Liquor Storage Tank (South) | 54,147             |
| 0709             | Green Liquor Blend Tank              | 26,632             |
| 0743             | Extra Clarifier/Washer Tank          | 69,177             |

**Specific Conditions**

150. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #148. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy  |
|-----------|-------|------|
| VOC       | 8.3   | 34.2 |

151. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #148. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant | lb/hr | tpy  |
|-----------|-------|------|
| Acetone   | 0.08  | 0.34 |
| Terpenes  | 0.35  | 1.44 |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-34**  
**Turpentine Storage Tank**

**Source Description**

The Turpentine Storage Tank (Equipment #0316C) has a capacity of 11,655 gallons. It is used to store the turpentine manufactured in the digesting process.

**Specific Conditions**

152. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #153. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy |
|-----------|-------|-----|
| VOC       | 15.9  | 0.6 |

153. The throughput limit of 438,364 gallons of turpentine as recorded in the turpentine loading operation shall be considered compliance with VOC emission limits for this source. Records of these annual rates are to be updated monthly. Such records shall be maintained on site and made available to the Department upon request. Failure to comply with these conditions shall be considered a violation of the mass emissions limit. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-35**  
**Turpentine Loading Operation**

**Source Description**

In the Turpentine Loading Operation, turpentine is loaded into trucks and railcars for transportation off-site.

**Specific Conditions**

154. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #155. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy |
|-----------|-------|-----|
| VOC       | 4.9   | 0.3 |

155. The throughput of turpentine through the turpentine loading operation shall be limited to 438,364 gallons during any consecutive twelve month period. Records for these annual rates are to be maintained on a twelve month rolling basis, updated monthly. Such records shall be maintained on site and made available to the Department upon request. Failure to comply with these conditions shall be considered a violation of the mass emissions limit. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-36**  
**Slaker/Causticizers**

**Source Description**

Green liquor from the Green Liquor Clarifier and lime from the Lime Silos are mixed together in the Slaker. The solution of lime and green liquor overflows into two causticizers in series. In these causticizers, calcium hydroxide reacts with sodium carbonate to form sodium hydroxide and calcium carbonate. These components are pumped onto the white liquor clarifier. The insoluble calcium carbonate settles out and is sent back to the lime kilns for conversion to calcium oxide. The liquid portion in the clarifier is white liquor that goes to the digesters to digest wood chips. The steam quench tank removes steam from the Slaker and creates a slight negative pressure. The overflow from the causticizers into the standpipe allows the release of emissions to atmosphere. Process rate is limited by the lime processing rate of the lime kilns at a rate of 91,250 tons per year.

**Specific Conditions**

156. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #158. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy |
|-----------|-------|-----|
| VOC       | 1.4   | 7.0 |

157. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Condition #158. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant                 | lb/hr | tpy   |
|---------------------------|-------|-------|
| Acetaldehyde              | 0.69  | 2.47  |
| Acetone                   | 0.21  | 0.88  |
| Ammonia                   | 5.10  | 21.20 |
| Benzene                   | 0.01  | 0.01  |
| Methanol                  | 0.59  | 2.44  |
| Methyl Ethyl<br>Ketone    | 0.01  | 0.05  |
| Methyl Isobutyl<br>Ketone | 0.01  | 0.01  |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

| Pollutant   | lb/hr | tpy  |
|-------------|-------|------|
| Styrene     | 0.01  | 0.06 |
| Toluene     | 0.01  | 0.01 |
| m, p Xylene | 0.01  | 0.01 |

158. The throughput of lime through the Slaker system shall not exceed 91,250 tons during any consecutive twelve month period. Compliance for this condition is shown by maintaining records of lime usage outlined in Specific Condition #70. [\$19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-37**  
**LVHC Collection System**

**Source Description**

Pulping wood releases numerous HAP compounds that do not condense out in other processes. The non-condensable gases are collected and sent to the #2 Lime Kiln (SN-09) or to the NCG Incinerator (SN-22) for incineration. The LVHC system collects HAPs from the Turpentine Recovery process, the Digester Blow System, and the Evaporator System. Emissions listed for this source are from releases due to the opening of the bypass vent. Emissions listed for this system include releases from the system due to startup, shutdown and malfunction conditions in the LVHC System, from the LVHC Collection System and from the control equipment used to reduce total HAP emissions, and 1% of process time as provided at §63.443(e)(1). The remaining emissions are sent to the control devices and incinerated.

The LVHC/NCG Collection System collects all of the non-condensable gases emitted from the digester system, the turpentine recovery system, and the evaporator system. These gases are transported through the collection system to be incinerated in the #2 Lime Kiln (SN-09) and the NCG Flare (SN-22). Without the use of the kiln and flare as control devices, the emission of HAPs and TRS gases would exceed the 25 ton per year threshold for HAPs and the 100 tons per year for VOCs. Therefore, this is a listed unit for CAM. However, the LVHC/NCG Collection System is subject to 40 CFR Part 63, Subpart S with an effective date of April 15, 2001. Therefore, the LVHC/NCG Collection System is exempt from the requirements of CAM.

**Specific Conditions**

159. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #164 and #165. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr  | tpy   |
|-----------|--------|-------|
| VOC       | 12.1   | 1.1   |
| TRS       | 117.36 | 10.30 |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

160. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #164 and #165. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant               | lb/hr | tpy   |
|-------------------------|-------|-------|
| Acetone                 | 0.81  | 0.07  |
| Cumene                  | 0.05  | 0.01  |
| p-Cymene                | 0.04  | 0.01  |
| Dimethyl Disulfide      | 22.30 | 1.95  |
| Dimethyl Sulfide        | 64.70 | 5.66  |
| Ethanol                 | 0.05  | 0.01  |
| Formaldehyde            | 0.22  | 0.02  |
| n-Hexane                | 0.08  | 0.01  |
| Hydrogen Sulfide        | 0.06  | 0.01  |
| Isopropanol             | 0.11  | 0.01  |
| Methanol                | 1.62  | 0.14  |
| Methyl Ethyl Ketone     | 0.08  | 0.007 |
| Methyl Isobutyl Ketone  | 0.08  | 0.007 |
| Methyl Mercaptan        | 30.30 | 2.65  |
| a-Pinene                | 2.62  | 0.23  |
| b-Pinene                | 1.05  | 0.09  |
| Styrene                 | 0.20  | 0.02  |
| Terpenes                | 5.66  | 0.50  |
| 1,2,4-Trichloro-benzene | 0.28  | 0.02  |

161. The total HAP emissions from this source shall be controlled no later than April 16, 2001. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.443(a)(1)(i) and §63.440(d)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

162. The LVHC System sources shall be enclosed and vented into a closed-vent system and routed to a control device that reduces total HAP emissions using the #2 Lime Kiln (SN-08) and/or the NCG Incinerator (SN-22). [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.443(c) and §63.443(d)(4)]
163. A record will be kept of all required maintenance activities performed on the LVHC System control devices. [§63.10(b)(2)(iii)]
164. The enclosures and closed-vent system shall meet the requirements specified in §63.450-Standards For Enclosures and Closed-Vent Systems; §63.453(k)-Monitoring Requirements; and §63.454(b)-Recordkeeping Requirements. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.443(c)]
  - A. Each enclosure shall maintain negative pressure at each enclosure or hood opening as demonstrated by the procedures specified in §63.457(e). Each enclosure or hood opening closed during the initial performance test specified in §63.457(a) shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs. [§63.450(b)]
  - B. Each component of the closed-vent system that is operated at positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above background, as measured by the procedures specified in §63.457(d). [§63.450(c)]
  - C. Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations shall comply with either of the following requirements: [§63.450(d)]
    1. On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to manufacturer's specifications, a flow indicator that provides a record of the presence of gas stream flow in the bypass line at least once every 15 minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line. In loop seals, temperature measurement is an acceptable method of demonstrating gas flow.
    2. For bypass line valves that are not computer controlled, the owner or operator shall maintain the bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that valve or closure mechanism cannot be opened without breaking the seal.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

- D. The closed-vent LVHC Collection System shall comply with the following requirements: [§63.453(k)]
1. For each enclosure opening, a visual inspection of the closure mechanism shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed. Inspections shall be conducted once during each calendar month, with any two consecutive inspections being at least 21 calendar days apart. [§63.453(k)(1)]
  2. Each closed-vent system shall be visually inspected every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects. Inspections shall be conducted once during each calendar month, with any two consecutive inspections being at least 21 calendar days apart. [§63.453(k)(2)]
  3. For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks measured initially and annually by complying with the following procedures found in §63.457(d): [§63.453(k)(3)]
    - a. Method 21, of Part 60, appendix A;
    - b. The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used;
      1. Zero air (less than 10 parts per million by volume of hydrocarbon in air) and;
      2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts per million by volume methane or n-hexane.
  4. Demonstrate initially and annually that each enclosure opening is maintained at negative pressure by using one of the following procedures found in §63.457(e): [§63.453(k)(4),]
    - a. An anemometer to demonstrate flow into the enclosure opening;
    - b. Measure the static pressure across the opening;
    - c. Smoke tubes to demonstrate flow into the enclosure opening;

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

- d. Any other industrial ventilation test method demonstrated to the Administrator's satisfaction.
- 5. The valve or closure mechanism shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line. Inspections shall be conducted once during each calendar month, with any two consecutive inspections being at least 21 calendar days apart. [§63.453(k)(5),]
- 6. If an inspection identifies visible defects in ductwork, piping, enclosures or connections to covers, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable: [§63.453(k)(6)]
  - a. A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.
  - b. The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified. Delays in corrective repairs beyond 15 calendar days are allowed in cases where the corrective actions or repairs are technically infeasible without a process unit shutdown or where the emissions resulting from immediate repair would be greater than the emissions likely to result from the delay of the repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.
- 7. Closed vent systems, fixed roofs, covers, or enclosures are exempt from the 30 day and annual inspection requirements, provided that the source or operator determines:
  - a. Persons conducting the inspection would be exposed to an imminent or potential danger, or
  - b. Equipment could not be inspected without elevating the individual higher than 6 feet above or beyond the work platform, walkway, or catwalk.

The source or operator shall identify all exempted equipment and explain how the equipment will be inspected during safe-to-inspect periods. The inspection frequency shall be at least once every five calendar years.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

- E. For each applicable enclosure opening, closed-vent system, and closed collection system under Specific Condition #147(D), the owner or operator shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of applicable affected equipment and shall record the following information for each inspection: [§63.454(b),]
- a. Date of inspection;
  - b. The equipment type and identification;
  - c. Results of negative pressure tests for enclosures;
  - d. Results of leak detection tests;
  - e. The nature of the defect or leak and the method of detection (i.e. visual inspection or instrument detection);
  - f. The date the defect or leak was detected and the date of each attempt to repair the defect or leak;
  - g. Repair methods applied in each attempt to repair the defect or leak;
  - h. The reason for the delay if the defect or leak is not repaired within 15 days after discovery;
  - i. The expected date of successful repair of the defect or leak if the repair is not completed within 15 days;
  - j. The date of successful repair of the defect or leak;
  - k. The position and duration of the opening of bypass line valves and the condition of any valve seals; and
  - l. The duration of the use of bypass valves on computer controlled valves.
165. Operation of the control device below minimum operating parameter values or above maximum operating parameter values established under this subpart or failure to perform procedures required by this subpart shall constitute a violation of the applicable emission standard of this subpart and be reported as a period of excess emissions. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.453(o), except as provided in §63.443(e)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

166. An excess emission and continuous monitoring system performance report shall be submitted to the EPA and to the Department semi-annually. For the LVHC system, this report will include: [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.10(e)(3)(i),]
- A. Periods when any bypass valve is open while the vented source is in operation;
  - B. Periods when the temperature in the NCG Incinerator falls below 1600°F while combusting HAPs.
167. Periods of excess emissions at the LVHC System shall not be a violation provided that the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed one percent. If the one percent limit is exceeded, the release is considered an Upset Condition under Regulation #19 and must be reported immediately. These emission limits are detailed in Specific Conditions #159 and #160. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.443(e)(1)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-38**  
**HVLC Collection System**

**Source Description**

The HVLC Collection System collects vapors from the Brownstock washers, all of the required tanks associated with the washers, and the Condensate Collection Tank. It consists of hoods that cover the drums of the washers, lines from the hoods and tanks, a condenser to reduce moisture, a fan and a line into the incineration control device. The incineration occurs at the #3 Wood Waste Boiler (SN-04) with the #1 Package Boiler (SN-14) as a backup. Emissions listed for this system include releases from the system due to startup, shutdown and malfunction conditions in the HVLC System, from the HVLC Collection System and from the control equipment used to reduce total HAP emissions and 4% of process time as provided at §63.443(e)(2). The remaining emissions are sent to the control devices and incinerated.

The HVLC Collection System collects all of the non-condensable gases emitted from the Brownstock Washer system and portions of the condensate collection system. These gases are transported through the collection system to be incinerated in the #3 Wood Waste Boiler (SN-04) and the #1 Package Boiler (SN-14). Without the use of the two boilers as control devices, the emissions of HAPS and VOC gases would exceed the 25 ton per year threshold for HAPs and the 100 tons per year for VOCs. Therefore, this is a listed unit for CAM. However, the HVLC Collection System is subject to 40 CFR Part 63, Subpart S with an effective date of April 15, 2001. Therefore, the HVLC Collection System is exempt from the requirements of CAM.

**Specific Conditions**

168. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #173 and #174. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy  |
|-----------|-------|------|
| VOC       | 202.3 | 69.7 |
| TRS       | 17.00 | 7.10 |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

169. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by complying with Specific Conditions #173 and #174. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant                 | lb/hr  | tpy   |
|---------------------------|--------|-------|
| Acetaldehyde              | 0.81   | 0.28  |
| Acetone                   | 1.20   | 0.40  |
| Acrolein                  | 0.01   | 0.004 |
| Benzaldehyde              | 0.04   | 0.02  |
| Carbon Tetrachloride      | 0.13   | 0.04  |
| Chloroform                | 0.10   | 0.03  |
| Cyclohexanone             | 0.04   | 0.02  |
| 1,2 Dichloroethylene      | 0.03   | 0.01  |
| Ethanol                   | 0.18   | 0.06  |
| Ethylene Dichloride       | 0.03   | 0.01  |
| Methanol                  | 18.60  | 6.40  |
| Methyl Ethyl Ketone       | 0.18   | 0.06  |
| Methyl Isobutyl<br>Ketone | 0.03   | 0.01  |
| Styrene                   | 0.03   | 0.01  |
| Terpenes                  | 182.10 | 62.80 |
| 1,1,2 Trichloroethane     | 0.03   | 0.01  |

170. The compliance date for the HVLC system shall be no later than April 16, 2006. However, since it is being used to meet the requirements of §63.446(e)(1), the total HAP emissions from the HVLC system shall be controlled no later than April 16, 2001. [§19.304 of Regulation #19 and 40 CFR Part 60, Subpart S, §63.440(d)(1) and §63.443(a)(1)(ii)(A) and (iii)]
171. The HVLC System sources shall be enclosed and vented into a closed-vent system and routed to a control device that reduces total HAP emissions using the #3 Wood Waste Boiler (SN-04) and the #1 Package Boiler (SN-14). [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.443(c) and §63.443(d)(4)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

172. A record will be kept of all required maintenance activities performed on the HVLC System control devices. [§63.10(b)(2)(iii)]
173. The enclosures and closed-vent system shall meet the requirements specified in §63.450-Standards For Enclosures and Closed-Vent Systems; §63.453(k)-Monitoring Requirements; and §63.454(b)-Recordkeeping Requirements. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.443(c)]
- A. Each enclosure shall maintain negative pressure at each enclosure or hood opening as demonstrated by the procedures specified in §63.457(e). Each enclosure or hood opening closed during the initial performance test specified in §63.457(a) shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs. [§63.450(b)]
  - B. Each component of the closed-vent system that is operated at positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above background, as measured by the procedures specified in §63.457(d). [§63.450(c)]
  - C. Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations shall comply with either of the following requirements: [§63.450(d)]
    - 1. On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to manufacturer's specifications, a flow indicator that provides a record of the presence of gas stream flow in the bypass line at least once every 15 minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line. In loop seals, temperature measurement is an acceptable method of demonstrating gas flow.
    - 2. For bypass line valves that are not computer controlled, the owner or operator shall maintain the bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that valve or closure mechanism cannot be opened without breaking the seal.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

- D. The closed-vent HVLC Collection System shall comply with the following requirements: [§63.453(k)]
1. For each enclosure opening, a visual inspection of the closure mechanism shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed. Inspections shall be conducted once during each calendar month, with any two consecutive inspections being at least 21 calendar days apart. [§63.453(k)(1)]
  2. Each closed-vent system shall be visually inspected every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects. Inspections shall be conducted once during each calendar month, with any two consecutive inspections being at least 21 calendar days apart. [§63.453(k)(2)]
  3. For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks measured initially and annually by complying with the following procedures found in §63.457(d): [§63.453(k)(3)]
    - a. Method 21, of Part 60, appendix A;
    - b. The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used;
      1. Zero air (less than 10 parts per million by volume of hydrocarbon in air) and;
      2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts per million by volume methane or n-hexane.
  4. Demonstrate initially and annually that each enclosure opening is maintained at negative pressure by using one of the following procedures found in §63.457(e): [§63.453(k)(4)]
    - a. An anemometer to demonstrate flow into the enclosure opening;
    - b. Measure the static pressure across the opening;
    - c. Smoke tubes to demonstrate flow into the enclosure opening;

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

- d. Any other industrial ventilation test method demonstrated to the Administrator's satisfaction.
- 5. The valve or closure mechanism shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line. Inspections shall be conducted once during each calendar month, with any two consecutive inspections being at least 21 calendar days apart.  
[§63.453(k)(5)]
- 6. If an inspection identifies visible defects in ductwork, piping, enclosures or connections to covers, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable:  
[§63.453(k)(6)]
  - a. A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.
  - b. The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified. Delays in corrective repairs beyond 15 calendar days are allowed in cases where the corrective actions or repairs are technically infeasible without a process unit shutdown or where the emissions resulting from immediate repair would be greater than the emissions likely to result from the delay of the repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.
- 7. Closed vent systems, fixed roofs, covers, or enclosures are exempt from the 30 day and annual inspection requirements, provided that the source or operator determines:
  - a. Persons conducting the inspection would be exposed to an imminent or potential danger, or
  - b. Equipment could not be inspected without elevating the individual higher than 6 feet above or beyond the work platform, walkway, or catwalk.

The source or operator shall identify all exempted equipment and explain how the equipment will be inspected during safe-to-inspect periods. The inspection frequency shall be at least once every five calendar years.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

- E. For each applicable enclosure opening, closed-vent system, and closed collection system under Specific Condition #156(D), the owner or operator shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of applicable affected equipment and shall record the following information for each inspection: [§63.454(b)]
- a. Date of inspection;
  - b. The equipment type and identification;
  - c. Results of negative pressure tests for enclosures;
  - d. Results of leak detection tests;
  - e. The nature of the defect or leak and the method of detection (i.e. visual inspection or instrument detection);
  - f. The date the defect or leak was detected and the date of each attempt to repair the defect or leak;
  - g. Repair methods applied in each attempt to repair the defect or leak;
  - h. The reason for the delay if the defect or leak is not repaired within 15 days after discovery;
  - i. The expected date of successful repair of the defect or leak if the repair is not completed within 15 days;
  - j. The date of successful repair of the defect or leak;
  - k. The position and duration of the opening of bypass line valves and the condition of any valve seals; and
  - l. The duration of the use of bypass valves on computer controlled valves.
174. Operation of the control device below minimum operating parameter values or above maximum operating parameter values established under this subpart or failure to perform procedures required by this subpart shall constitute a violation of the applicable emission standard of this subpart and be reported as a period of excess emissions. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.453(o), except as provided in §63.443(e)(2)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

175. An excess emission and continuous monitoring system performance report shall be submitted to the EPA and to the Department semi-annually. For the HVLC system, this report will include: [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.10(e)(3)(i)]
- A. Periods when any bypass valve is open while the vented source is in operation.
176. Periods of excess emissions at the HVLC System shall not be a violation provided that the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed four percent. If the four percent limit is exceeded, the release is considered an Upset Condition under Regulation #19 and must be reported immediately. These emission limits are detailed in Specific Condition #168, and #169. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.443(e)(2)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**SN-39**  
**Pulping Process Condensate Collection**

**Source Description**

The Pulping Process Condensate Collection System collects the condensates and recycles them while the gases are sent through a closed system for control. The treatment system here is to recycle the condensates to the Brownstock Washers (SN-11) as shower water as required under 40 CFR Part 63, Subpart S, §63.446(e)(1). Because the condensate is recycled to SN-11, and the non-condensable gases are sent to HVLC system for control, there are no emissions from this source.

The Condensate Collection System collects process condensates containing large concentrations of HAPs and VOCs. The condensates are recycled to the Brown Stock Wasters where emissions are controlled through the HVLC Collection System. Emission from the Condensate Collection Tank are also controlled through the HVLC Collection System. Without the use of the HVLC Collection System as a control device, the emissions of HAPS and VOC gases would exceed the 25 ton per year threshold for HAPs and the 100 tons per year for VOCs. Therefore, this is a listed unit for CAM. However, the Pulping Process Condensate Collection System is subject to 40 CFR Part 63, Subpart S with an effective date of April 15, 2001. Therefore, the HVLC Collection System is exempt from the requirements of CAM.

**Specific Conditions**

177. The pulping process condensates from the following equipment systems shall be treated to meet the requirements set forth in Specific Condition #178 through #186: [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.446(b)]
- A. Each digester system;
  - B. Each turpentine recovery system;
  - C. Each evaporator stage where weak liquor is introduced (feed stages) in the evaporator system;
  - D. Each HVLC collection system;
  - E. Each LVHC collection system; and
  - F. The evaporator vacuum system.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

178. Pulping process condensates from equipment systems listed in Specific Condition #185 shall be collected in a sufficient amount where the total HAP mass is at least 7.2 pounds of total HAP per ton of oven dried pulp based on the averaging period developed in Specific Condition #185. Testing will be performed in accordance with Specific Condition #179. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.446(c)(3)]
179. The owner or operator shall measure the total HAP concentration as methanol using EPA Reference Method #305 or NCASI Direct Injection Method DI/MOE 94.02. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.457(g)]
180. An initial performance test is required for the condensate collection system in order to demonstrate compliance with Specific Condition #178. The test must be conducted before October 16, 2001. Notification of the test date will be given to the EPA and to the Department within 60 days before the test is scheduled to begin. This report was submitted to ADEQ on November 16, 2001. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.457(a)]
181. The condensate tank located within the closed collection system must meet the following requirements: [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.446(d)(2)]
  - A. The fixed roof and all openings (e.g. access hatches, sampling ports, gauge wells) shall be designed and operated with no detectable leaks as indicated with an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements of Specific Condition #165 for the HVLC system and routed to a control device that meets the conditions of Specific Condition #21 for the #3 Wood Waste Boiler and/or Specific Condition #88 for the #1 package Boiler as a control device.
  - B. Each opening shall be maintained in a closed, sealed position (e.g. covered by a lid that is gasketed and latched) at all times that the tank contains pulping process condensates or any HAP removed from a pulping process condensate stream except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

182. The closed condensate system shall meet the requirements specified in §63.453(a) CMS Requirements; §63.453(k)-Monitoring Requirements; and §63.454(b)-Recordkeeping Requirements. The closed condensate system consists of the lines, pumps, meters, valves and drains between the condensate storage tank and the Brownstock washer showers. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.453(l)]
- A. The condensate collection tank shall maintain negative pressure at each enclosure or hood opening as demonstrated by the procedures specified in §63.457(e). Each enclosure closed during the initial performance test specified in §63.457(a) shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs. [§63.450(b)]
  - B. Each component of the closed condensate system that is operated at positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above background, as measured by the procedures specified in §63.457(d). [§63.450(c)]
  - C. Each drain valve or loop seal in the closed condensate system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations shall comply with either of the following requirements: [§63.450(d)]
    - 1. On each drain valve or loop seal, the owner or operator shall install, calibrate, maintain, and operate according to manufacturer's specifications, a flow indicator that provides a record of the presence of gas stream flow in the line at least once every 15 minutes. The flow indicator shall be installed in the line in such a way as to indicate flow in the line. In loop seals, temperature measurement is an acceptable method of demonstrating gas flow.
    - 2. For drain valves that are not computer controlled, the owner or operator shall maintain the drain valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that valve or closure mechanism cannot be opened without breaking the seal.
    - 3. A continuous record shall be kept of valve position. This record shall be kept in a form suitable for review upon request and shall be kept for at least five years.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

- D. The condensate collection system shall comply with the following requirements: [§63.453(k)]
1. For each enclosure opening, a visual inspection of the closure mechanism shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed. Inspections shall be conducted once during each calendar month, with any two consecutive inspections being at least 21 calendar days apart. [§63.453(k)(1)]
  2. Each collection system shall be visually inspected every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects. Inspections shall be conducted once during each calendar month, with any two consecutive inspections being at least 21 calendar days apart. [§63.453(k)(2)]
  3. Each opening and line in the condensate collection system shall demonstrate no detectable leaks measured initially and annually by complying with the following procedures found in §63.457(d): [§63.453(k)(3)]
    - a. Method 21, of Part 60, appendix A;
    - b. The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used;
      1. Zero air (less than 10 parts per million by volume of hydrocarbon in air) and;
      2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts per million by volume methane or n-hexane.
  4. Demonstrate initially and annually that each condensate collection tank opening is maintained at negative pressure by using one of the following procedures found in §63.457(e): [§63.453(k)(4)]
    - a. An anemometer to demonstrate flow into the enclosure opening;
    - b. Measure the static pressure across the opening;
    - c. Smoke tubes to demonstrate flow into the enclosure opening;

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

- d. Any other industrial ventilation test method demonstrated to the Administrator's satisfaction.
- 5. The valve or closure mechanism shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line. Inspections shall be conducted once during each calendar month, with any two consecutive inspections being at least 21 calendar days apart.  
[§63.453(k)(5)]
- 6. If an inspection identifies visible defects in ductwork, piping, enclosures or connections to covers, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable:  
[§63.453(k)(6)]
  - a. A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.
  - b. The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified. Delays in corrective repairs beyond 15 calendar days are allowed in cases where the corrective actions or repairs are technically infeasible without a process unit shutdown or where the emissions resulting from immediate repair would be greater than the emissions likely to result from the delay of the repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.
- 7. Closed vent systems, fixed roofs, covers, or enclosures are exempt from the 30 day and annual inspection requirements, provided that the source or operator determines:
  - a. Persons conducting the inspection would be exposed to an imminent or potential danger, or
  - b. Equipment could not be inspected without elevating the individual higher than 6 feet above or beyond the work platform, walkway, or catwalk.

The source or operator shall identify all exempted equipment and explain how the equipment will be inspected during safe-to-inspect periods. The inspection frequency shall be at least once every five calendar years.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

- E. For each applicable enclosure opening, closed-vent system, and closed collection system under Specific Condition #165(D), the owner or operator shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of applicable affected equipment and shall record the following information for each inspection: [§63.454(b)]
- a. Date of inspection;
  - b. The equipment type and identification;
  - c. Results of negative pressure tests for enclosures;
  - d. Results of leak detection tests;
  - e. The nature of the defect or leak and the method of detection, i.e. visual inspection or instrument detection;
  - f. The date the defect or leak was detected and the date of each attempt to repair the defect or leak;
  - g. Repair methods applied in each attempt to repair the defect or leak;
  - h. The reason for the delay if the defect or leak is not repaired within 15 days after discovery;
  - i. The expected date of successful repair of the defect or leak if the repair is not completed within 15 days;
  - j. The date of successful repair of the defect or leak;
  - k. The position and duration of the opening of bypass line valves and the condition of any valve seals; and
  - l. The duration of the use of bypass valves on computer controlled valves.
183. In order to meet the requirements of Specific Condition #167(A-G), the owner or operator shall install, calibrate, certify, operate and maintain according to the manufacturer's specifications, a continuous monitoring system. The CMS shall include a continuous recorder. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.453(a)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

184. A CMS shall be operated to measure the flow of collected condensate streams, flow of pulp and pulp consistency. The flows to be measured, monitored and recorded with a CMS are the ones tested in the Initial Performance Test and used to demonstrate collection of 7.2 pounds of HAP per ton of oven dried pulp produced. This includes: [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.453(i) and (n)]
- A. Condensate from the condensate collection tank to the Brown Stock washer showers;
  - B. Fresh water flow into the condensate collection tank;
  - C. Flow of pulp stock to the Brownstock washers;
  - D. Consistency of pulp to the Brownstock washers will be measured once a day manually, or by installing a continuous consistency meter that outputs to a continuous recorder;
  - E. Mass (in pounds) of HAP to the Brownstock washers;
  - F. Mass (in tons) of oven dried pulp produced (in order to calculate the daily oven dried pulp production, a daily rolling average using pulp consistency will be used);
  - G. Mass (in pounds) of HAP treated per oven dried ton of pulp produced.
185. The permittee shall maintain daily records which demonstrate compliance with Specific Condition #184(A-G). A rolling average of each parameter in Specific Condition #184(A-G) shall be used to calculate daily compliance of collection and treatment of 7.2 pounds of HAP per oven air dry tons of pulp. The averaging period for each calculation will be based on the results from the Initial Performance Test and any subsequent tests. Records shall be updated by the fifteenth day of the month following the month to which the records pertain and shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]
186. Operation of the condensate collection system below minimum operation parameter values or above maximum operating parameter values established under Subpart S or failure to perform procedures required in Specific Conditions #177 through #185 shall constitute a violation of the applicable emission standard of this subpart and be reported as a period of excess emissions. [§19.304 of Regulation #19 and 40 CFR Part 63, Subpart S, §63.453(o)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

#### **SECTION V: COMPLIANCE PLAN AND SCHEDULE**

Green Bay Packaging Inc. - Arkansas Kraft Division was in compliance with the applicable regulations cited in their current air permit during their last inspection. Green Bay Packaging Inc. - Arkansas Kraft Division will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

**SECTION VI: PLANTWIDE CONDITIONS**

1. The permittee shall notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [§19.704 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
2. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [§19.410(B) of Regulation #19 and 40 CFR Part 52, Subpart E]
3. The permittee must test any equipment scheduled for testing, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) new equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start up of the permitted source or (2) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. The permittee shall submit the compliance test results to the Department within thirty (30) days after completing the testing. [§19.702 of Regulation #19 and/or §18.1002 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
4. The permittee must provide: [§19.702 of Regulation #19 and/or §18.1002 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
  1. Sampling ports adequate for applicable test methods;
  2. Safe sampling platforms;
  3. Safe access to sampling platforms; and
  4. Utilities for sampling and testing equipment.
5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
6. This permit subsumes and incorporates all previously issued air permits for this facility. [Regulation 26 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
7. The permittee must prepare and implement a Startup, Shutdown, and Malfunction Plan (SSM). If the Department requests a review of the SSM, the permittee will make the SSM available for review. The permittee must keep a copy of the SSM at the source's location and retain all previous versions of the SSM plan for five years. [§19.304 of Regulation #19 and 40 CFR 63.6(e)(3)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

8. The permittee shall operate all Continuous Emissions Monitors in accordance with the Continuous Emission Monitoring Systems Conditions in Appendix E. [§19.703 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
9. Prior to March 13, 2007 (which is six months prior to the compliance date), the facility shall submit an application to the Department which addresses all applicable requirements of 40 CFR Part 63 Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters. [§26.1011(A)(1) of Regulation 26]

**Acid Rain (Title IV)**

10. The permittee is prohibited from causing any emissions which exceed any allowances that the source lawfully holds under Title IV of the Act or the regulations promulgated thereunder. No permit revision is required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement. This permit establishes no limit on the number of allowances held by the permittee. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement of this permit or the Act. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Act. [§26.701 of Regulation #26 and 40 CFR 70.6(a)(4)]

**Title VI Provisions**

11. The permittee shall comply with the standards for labeling of products using ozone depleting substances pursuant to 40 CFR Part 82, Subpart E:
  1. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.
  2. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
  3. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
  4. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

12. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:
  1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
  2. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
  3. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
  4. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like appliance" as defined at §82.152.)
  5. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
  6. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
13. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.
14. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant.

15. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, Significant New Alternatives Policy Program.

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

**Permit Shield**

16. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements, as of the date of permit issuance, included in and specifically identified in the following table of this condition. The permit specifically identifies the following as applicable requirements based upon the information submitted by the permittee in an application dated January 25, 2004.

**Applicable Regulations**

| Source No.                                          | Regulation            | Description                                                                                                                                           |
|-----------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Facility                                            | Regulation 18         | Arkansas Air Pollution Control Code, Regulation 18, effective February 15, 1999                                                                       |
| Facility                                            | Regulation 19         | Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective May 28, 2006                                   |
| Facility                                            | Regulation 26         | Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective September 26, 2002                                                 |
| SN-04 and SN-15                                     | 40 CFR 60, Subpart Db | New Source Performance Standards for Industrial Steam Generating Units, effective December 16, 1987                                                   |
| Facility                                            | 40 CFR 60, Subpart BB | New Source Performance Standards for Kraft Pulp Mills, effective May 20, 1986                                                                         |
| Facility                                            | 40 CFR 61, Subpart M  | National Emission Standard for Hazardous Air Pollutants for Renovation/Demolition of Asbestos                                                         |
| Facility                                            | 40 CFR 63, Subpart S  | National Emission Standard for Hazardous Air Pollutants from the Pulp and Paper Industry, effective April 15, 1998                                    |
| SN-05, SN-07, and SN-08                             | 40 CFR 63, Subpart MM | National Emission Standard for Hazardous Air Pollutants for Chemical Recovery Combustion Units at Kraft Pulp Mills with a compliance date of 3/12/04. |
| SN-39                                               | 40 CFR 63, Subpart RR | National Emission Standards for Individual Drain Systems, effective July 1, 1996                                                                      |
| SN-02, SN-11, SN-15, SN-23, SN-37, SN-38, and SN-39 | 40 CFR 64             | Compliance Assurance Monitoring, effective October 22, 1997                                                                                           |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

The permit specifically identifies the following as inapplicable based upon information submitted by the permittee in an application dated January 25, 2004.

**Inapplicable Regulations**

| <b>Source No.</b> | <b>Regulation</b> | <b>Description</b>                                                                                                                  |
|-------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Facility          | NSPS Subpart K    | New Source Performance Standards for Petroleum Storage Tanks Less than 40,000 Gallons with Construction between 6/11/73 and 5/19/78 |
| Facility          | NSPS Subpart Ka   | New Source Performance Standards for Petroleum Storage Tanks Less than 40,000 Gallons with Construction between 5/18/78 and 7/23/84 |
| Facility          | NSPS Subpart Kb   | New Source Performance Standards for Petroleum Storage Tanks Less than 40,000 Gallons with Construction After 7/23/84               |
| Facility          | NSPS Subpart HH   | New Source Performance Standards for Lime Manufacturing                                                                             |

## SECTION VII: INSIGNIFICANT ACTIVITIES

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement shall be considered a significant activity even if this activity meets the criteria of §304 of Regulation 26 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated February 6, 2002.

| Description                                 | Category           |
|---------------------------------------------|--------------------|
| Pocket Vent System Heater #1                | Group A, Number 1  |
| Pocket Vent System Heater #2                | Group A, Number 1  |
| Gasoline Storage Tank                       | Group A, Number 3  |
| Used Oil Tank                               | Group A, Number 3  |
| North Diesel Storage Tank                   | Group A, Number 3  |
| South Diesel Storage Tank                   | Group A, Number 3  |
| Diesel Oil Storage Tank                     | Group A, Number 3  |
| 50% Caustic Storage Tanks                   | Group A, Number 4  |
| Emissions From Laboratory Vents             | Group A, Number 5  |
| Sulfuric Acid Tanks (4)                     | Group A, Number 13 |
| Phosphoric Acid Tank                        | Group A, Number 13 |
| Small Fuel Oil Tanks (SN-33)                | Group A, Number 13 |
| Large Fuel Oil Tank                         | Group A, Number 13 |
| Intermediate Black Liquor Storage Tanks (2) | Group A, Number 13 |
| Heavy Black Liquor Storage Tanks (3)        | Group A, Number 13 |
| White Liquor Storage Tanks (4)              | Group A, Number 13 |
| High Density Pulp Storage Tanks (2)         | Group A, Number 13 |
| Cooling Towers                              | Group A, Number 13 |
| Salt Cake Storage Tank                      | Group A, Number 13 |
| Muriatic Acid Tote Bin                      | Group A, Number 13 |
| Tall Oil Brine Storage Tanks (3)            | Group A, Number 13 |
| Alum Storage                                | Group A, Number 13 |

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

| Description                              | Category           |
|------------------------------------------|--------------------|
| Starch Cooker                            | Group A, Number 13 |
| Sludge Press Area – Vent Exhaust         | Group A, Number 13 |
| Ferric Sulfate Storage                   | Group A, Number 13 |
| N-Sol 32 Storage                         | Group A, Number 13 |
| Secondary Fiber Plant                    | Group A, Number 13 |
| #1 Lime Silos (Sodium Carbonate) (SN-18) | Group A, Number 13 |
| #2 Lime Silos (Sodium Carbonate) (SN-19) | Group A, Number 13 |
| Starch Silo (SN-20)                      | Group A, Number 13 |
| Lime Silo – Water Plant (SN-21)          | Group A, Number 13 |

Pursuant to §26.304 of Regulation 26, the emission units, operations, or activities contained in Regulation 19, Appendix A, Group B, have been determined by the Department to be insignificant activities. Activities included in this list are allowable under this permit and need not be specifically identified.

**SECTION VIII: GENERAL PROVISIONS**

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute.[40 CFR 70.6(b)(2)]
2. This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [§26.701(B) of Regulation #26 and 40 CFR 70.6(a)(2)]
3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [§26.406 of Regulation #26]
4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [§26.701(A)(2) of Regulation #26 and 40 CFR 70.6(a)(1)(ii)]
5. The permittee must maintain the following records of monitoring information as required by this permit. [§26.701(C)(2) of Regulation #26 and 40 CFR 70.6(a)(3)(ii)(A)]
  1. The date, place as defined in this permit, and time of sampling or measurements;
  2. The date(s) analyses performed;
  3. The company or entity performing the analyses;
  4. The analytical techniques or methods used;
  5. The results of such analyses; and
  6. The operating conditions existing at the time of sampling or measurement.

**Green Bay Packaging Inc. - Arkansas Kraft Division**

**Permit #: 224-AOP-R9**

**AFIN: 15-00001**

6. The permittee must retain the records of all required monitoring data and support information for at least five (5) years from the date of the monitoring sample, measurement, report, or application. 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 this permit. [§26.701(C)(2)(b) of Regulation #26 and 40 CFR 70.6(a)(3)(ii)(B)]
7. The permittee must submit reports of all required monitoring every six (6) months. If permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due within thirty (30) days of the end of the reporting period. Although the reports are due every six months, each report shall contain a full year of data. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in §26.2 of Regulation #26 must certify all required reports. The permittee will send the reports to the address below: [§26.701(C)(3)(a) of Regulation #26 and 40 C.F.R. 70.6(a)(3)(iii)(A)]

Arkansas Department of Environmental Quality  
Air Division  
ATTN: Compliance Inspector Supervisor  
Post Office Box 8913  
Little Rock, AR 72219

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

8. The permittee shall report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit. The permittee shall make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:
  1. The facility name and location,
  2. The process unit or emission source deviating from the permit limit,
  3. The permit limit, including the identification of pollutants, from which deviation occurs,
  4. The date and time the deviation started,
  5. The duration of the deviation,
  6. The average emissions during the deviation,
  7. The probable cause of such deviations,
  8. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future, and
  9. The name of the person submitting the report.

The permittee shall make a full report in writing to the Department within five (5) business days of discovery of the occurrence. The report must include, in addition to the information required by the initial report, a schedule of actions taken or planned to eliminate future occurrences and/or to minimize the amount the permit's limits were exceeded and to reduce the length of time the limits were exceeded. The permittee may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence, and the report will serve as both the initial report and full report. [§19.601 and §19.602 of Regulation #19, §26.701(C)(3)(b) of Regulation #26, and 40 CFR 70.6(a)(3)(iii)(B)]

9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable. [§26.701(E) of Regulation #26, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6(a)(5)]
10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. §7401, et seq. and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [§26.701(F)(1) of Regulation #26 and 40 CFR 70.6(a)(6)(i)]
11. 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 to maintain compliance with the conditions of this permit. [§26.701(F)(2) of Regulation #26 and 40 CFR 70.6(a)(6)(ii)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**

**Permit #: 224-AOP-R9**

**AFIN: 15-00001**

12. The Department may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [§26.701(F)(3) of Regulation #26 and 40 CFR 70.6(a)(6)(iii)]
13. This permit does not convey any property rights of any sort, or any exclusive privilege. [§26.701(F)(4) of Regulation #26 and 40 CFR 70.6(a)(6)(iv)]
14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director 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 must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [§26.701(F)(5) of Regulation #26 and 40 CFR 70.6(a)(6)(v)]
15. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [§26.701(G) of Regulation #26 and 40 CFR 70.6(a)(70)]
16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [§26.701(H) of Regulation #26 and 40 CFR 70.6(a)(8)]
17. If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [§26.701(I)(1) of Regulation #26 and 40 CFR 70.6(a)(9)(i)]
18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [§26.702(A) and (B) of Regulation #26 and 40 CFR 70.6(b)]
19. Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Regulation 26, §26.2. [§26.703(A) of Regulation #26 and 40 CFR 70.6(c)(1)]

**Green Bay Packaging Inc. - Arkansas Kraft Division**  
**Permit #: 224-AOP-R9**  
**AFIN: 15-00001**

20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [§26.703(B) of Regulation #26 and 40 CFR 70.6(c)(2)]
  1. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
  2. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
  3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
  4. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.
21. The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually within 30 days following the last day of the anniversary month of the initial Title V permit. The permittee must also submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this permit must include the following: [§26.703(E)(3) of Regulation #26 and 40 CFR 70.6(c)(5)]
  1. The identification of each term or condition of the permit that is the basis of the certification;
  2. The compliance status;
  3. Whether compliance was continuous or intermittent;
  4. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
  5. Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and §504(b) of the Act.
22. Nothing in this permit will alter or affect the following: [Regulation 26, §26.704(C)]
  1. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
  2. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
  3. The applicable requirements of the acid rain program, consistent with §408(a) of the Act or,
  4. The ability of EPA to obtain information from a source pursuant to §114 of the Act.
23. This permit authorizes only those pollutant emitting activities addressed in this permit. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

## APPENDIX A

## Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

SOURCE: 52 FR 47842, Dec. 16, 1987, unless otherwise noted.

### § 60.40b Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu/hour).

(b) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1984, but on or before June 19, 1986, is subject to the following standards:

(1) Coal-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 million Btu/hour), inclusive, are subject to the particulate matter and nitrogen oxides standards under this subpart.

(2) Coal-fired affected facilities having a heat input capacity greater than 73 MW (250 million Btu/hour) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; § 60.40) are subject to the particulate matter and nitrogen oxides standards under this subpart and to the sulfur dioxide standards under subpart D (§ 60.43).

(3) Oil-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 million Btu/hour), inclusive, are subject to the nitrogen oxides standards under this subpart.

(4) Oil-fired affected facilities having a heat input capacity greater than 73 MW (250 million Btu/hour) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; § 60.40) are also subject to the nitrogen oxides standards under this subpart and the particulate matter and sulfur dioxide standards under subpart D (§ 60.42 and § 60.43).

(c) Affected facilities which also meet the applicability requirements under subpart J (Standards of performance for petroleum refineries; § 60.104) are subject to the particulate matter and nitrogen oxides standards under this subpart and the sulfur dioxide standards under subpart J (§ 60.104).

(d) Affected facilities which also meet the applicability requirements under subpart E (Standards of performance for incinerators; § 60.50) are sub-

ject to the nitrogen oxides and particulate matter standards under this subpart.

(e) Steam generating units meeting the applicability requirements under subpart Da (Standards of performance for electric utility steam generating units; § 60.40a) are not subject to this subpart.

(f) Any change to an existing steam generating unit for the sole purpose of combusting gases containing TRS as defined under § 60.281 is not considered a modification under § 60.14 and the steam generating unit is not subject to this subpart.

(g) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the following authorities shall be retained by the Administrator and not transferred to a State.

- (1) Section 60.44b(f).
- (2) Section 60.44b(g).
- (3) Section 60.49b(a)(4).

### § 60.41b Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

*Annual capacity factor* means the ratio between the actual heat input to a steam generating unit from the fuels listed in § 60.42b(a), § 60.43b(a), or § 60.44b(a), as applicable, during a calendar year and the potential heat input to the steam generating unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility in a calendar year.

*Byproduct/waste* means any liquid or gaseous substance produced at chemical manufacturing plants or petroleum refineries (except natural gas, distillate oil, or residual oil) and combusted in a steam generating unit for heat recovery or for disposal. Gaseous substances with carbon dioxide levels greater than 50 percent or carbon monoxide levels greater than 10 percent are not byproduct/waste for the purposes of this subpart.

*Chemical manufacturing plants* means industrial plants which are classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 28.

*Coal* means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388-77, Standard Specification for Classification of Coals by Rank (IBR—see § 60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels, including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

## § 60.41b

*Coal refuse* means any byproduct of coal mining or coal cleaning operations with an ash content greater than 50 percent, by weight, and a heating value less than 13,900 kJ/kg (6,000 Btu/lb) on a dry basis.

*Combined cycle system* means a system in which a separate source, such as a gas turbine, internal combustion engine, kiln, etc., provides exhaust gas to a heat recovery steam generating unit.

*Conventional technology* means wet flue gas desulfurization (FGD) technology, dry FGD technology, atmospheric fluidized bed combustion technology, and oil hydrosulfurization technology.

*Distillate oil* means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396-78, Standard Specifications for Fuel Oils (incorporated by reference—see § 60.17).

*Dry flue gas desulfurization technology* means a sulfur dioxide control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline slurries or solutions used in dry flue gas desulfurization technology include but are not limited to lime and sodium.

*Duct burner* means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.

*Emerging technology* means any sulfur dioxide control system that is not defined as a conventional technology under this section, and for which the owner or operator of the facility has applied to the Administrator and received approval to operate as an emerging technology under § 60.49b(a)(4).

*Federally enforceable* means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State Implementation Plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

*Fluidized bed combustion technology* means combustion of fuel in a bed or series of beds (including but not limited to bubbling bed units and circulating bed units) of limestone aggregate (or other sorbent materials) in which these materials

are forced upward by the flow of combustion air and the gaseous products of combustion.

*Fuel pretreatment* means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

*Full capacity* means operation of the steam generating unit at 90 percent or more of the maximum steady-state design heat input capacity.

*Heat input* means heat derived from combustion of fuel in a steam generating unit and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

*Heat release rate* means the steam generating unit design heat input capacity (in MW or Btu/hour) divided by the furnace volume (in cubic meters or cubic feet); the furnace volume is that volume bounded by the front furnace wall where the burner is located, the furnace side waterwall, and extending to the level just below or in front of the first row of convection pass tubes.

*Heat transfer medium* means any material that is used to transfer heat from one point to another point.

*High heat release rate* means a heat release rate greater than 730,000 J/sec-m<sup>3</sup> (70,000 Btu/hour-ft<sup>3</sup>).

*Lignite* means a type of coal classified as lignite A or lignite B by the American Society of Testing and Materials in ASTM D388-77, Standard Specification for Classification of Coals by Rank (IBR—see § 60.17).

*Low heat release rate* means a heat release rate of 730,000 J/sec-m<sup>3</sup> (70,000 Btu/hour-ft<sup>3</sup>) or less.

*Mass-feed stoker steam generating unit* means a steam generating unit where solid fuel is introduced directly into a retort or is fed directly onto a grate where it is combusted.

*Maximum heat input capacity* means the ability of a steam generating unit to combust a stated maximum amount of fuel on a steady state basis, as determined by the physical design and characteristics of the steam generating unit.

*Municipal-type solid waste* means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as glass and rock.

*Natural gas* means (1) a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2) liquid petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835-82, "Standard Specification for Liquid Petroleum Gases" (IBR—see § 60.17).

*Noncontinental area* means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

*Oil* means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil.

*Petroleum refinery* means industrial plants as classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 29.

*Potential sulfur dioxide emission rate* means the theoretical sulfur dioxide emissions (ng/l, lb/million Btu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

*Process heater* means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

*Pulverized coal-fired steam generating unit* means a steam generating unit in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the steam generating unit where it is fired in suspension. This includes both conventional pulverized coal-fired and micropulverized coal-fired steam generating units.

*Residual oil* means crude oil, fuel oil numbers 1 and 2 that have a nitrogen content greater than 0.05 weight percent, and all fuel oil numbers 4, 5 and 6, as defined by the American Society of Testing and Materials in ASTM D396-78, Standard Specifications for Fuel Oils (IBR—see § 60.17).

*Spreader stoker steam generating unit* means a steam generating unit in which solid fuel is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.

*Steam generating unit* means a device that combusts any fuel or byproduct/waste to produce steam or to heat water or any other heat transfer medium. This term includes any municipal-type solid waste incinerator with a heat recovery steam generating unit or any steam generating unit that combusts fuel and is part of a cogeneration system or a combined cycle system. This term does not include process heaters as they are defined in this subpart.

*Steam generating unit operating day* means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

*Very low sulfur oil* means an oil that contains no more than 0.5 weight percent sulfur or that, when combusted without sulfur dioxide emission

control, has a sulfur dioxide emission rate equal to or less than 215 ng/l (0.5 lb/million Btu) heat input.

*Wet flue gas desulfurization technology* means a sulfur dioxide control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gas with an alkaline slurry or solution and forming a liquid material. This definition applies to devices where the aqueous liquid material product of this contact is subsequently converted to other forms. Alkaline reagents used in wet flue gas desulfurization technology include, but are not limited to, lime, limestone, and sodium.

*Wet scrubber system* means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of particulate matter or sulfur dioxide.

*Wood* means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including, but not limited to, sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989]

#### § 60.42b Standard for sulfur dioxide.

(a) Except as provided in paragraphs (b), (c), (d), or (j) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal or oil shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 10 percent (0.10) of the potential sulfur dioxide emission rate (90 percent reduction) and that contain sulfur dioxide in excess of the emission limit determined according to the following formula:

$$E_s = (K_a H_a + K_b H_b) / (H_a + H_b)$$

where:

$E_s$  is the sulfur dioxide emission limit, in ng/l or lb/million Btu heat input,

$K_a$  is 520 ng/l (or 1.2 lb/million Btu),

$K_b$  is 340 ng/l (or 0.80 lb/million Btu),

$H_a$  is the heat input from the combustion of coal, in J (million Btu),

$H_b$  is the heat input from the combustion of oil, in J (million Btu).

Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat input to the affected facility from exhaust gases from another source,

## § 60.42b

such as gas turbines, internal combustion engines, kilns, etc.

(b) On and after the date on which the performance test is completed or required to be completed under § 60.8 of this part, whichever comes first, no owner or operator of an affected facility that combusts coal refuse alone in a fluidized bed combustion steam generating unit shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 20 percent of the potential sulfur dioxide emission rate (80 percent reduction) and that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/million Btu) heat input. If coal or oil is fired with coal refuse, the affected facility is subject to paragraph (a) or (d) of this section, as applicable.

(c) On and after the date on which the performance test is completed or is required to be completed under § 60.8 of this part, whichever comes first, no owner or operator of an affected facility that combusts coal or oil, either alone or in combination with any other fuel, and that uses an emerging technology for the control of sulfur dioxide emissions, shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 50 percent of the potential sulfur dioxide emission rate (50 percent reduction) and that contain sulfur dioxide in excess of the emission limit determined according to the following formula:

$$E_s = (K_c H_c + K_o H_o) / H_c + H_o$$

where:

$E_s$  is the sulfur dioxide emission limit, expressed in ng/J (lb/million Btu) heat input,

$K_c$  is 260 ng/J (0.60 lb/million Btu),

$K_o$  is 170 ng/J (0.40 lb/million Btu),

$H_c$  is the heat input from the combustion of coal, J (million Btu),

$H_o$  is the heat input from the combustion of oil, J (million Btu).

Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels, or from the heat input to the affected facility from exhaust gases from another source, such as gas turbines, internal combustion engines, kilns, etc.

(d) On and after the date on which the performance test is completed or required to be completed under § 60.8 of this part, whichever comes first, no owner or operator of an affected facility listed in paragraphs (d) (1), (2), or (3) of this section shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/million Btu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/million Btu) heat input if the affected facility combusts oil

other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under this paragraph.

(1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a Federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less;

(2) Affected facilities located in a noncontinental area; or

(3) Affected facilities combusting coal or oil, alone or in combination with any other fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat input to the steam generating unit is from combustion of coal and oil in the duct burner and 70 percent (0.70) or more of the heat input to the steam generating unit is from the exhaust gases entering the duct burner.

(e) Except as provided in paragraph (f) of this section, compliance with the emission limits, fuel oil sulfur limits, and/or percent reduction requirements under this section are determined on a 30-day rolling average basis.

(f) Except as provided in paragraph (j)(2) of this section, compliance with the emission limits or fuel oil sulfur limits under this section is determined on a 24-hour average basis for affected facilities that (1) have a Federally enforceable permit limiting the annual capacity factor for oil to 10 percent or less, (2) combust only very low sulfur oil, and (3) do not combust any other fuel.

(g) Except as provided in paragraph (i) of this section, the sulfur dioxide emission limits and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(h) Reductions in the potential sulfur dioxide emission rate through fuel pretreatment are not credited toward the percent reduction requirement under paragraph (c) of this section unless:

(1) Fuel pretreatment results in a 50 percent or greater reduction in potential sulfur dioxide emissions and

(2) Emissions from the pretreated fuel (without combustion or post combustion sulfur dioxide control) are equal to or less than the emission limits specified in paragraph (c) of this section.

(i) An affected facility subject to paragraph (a), (b), or (c) of this section may combust very low sulfur oil or natural gas when the sulfur dioxide control system is not being operated because of malfunction or maintenance of the sulfur dioxide control system.

(j) Percent reduction requirements are not applicable to affected facilities combusting only very low sulfur oil. The owner or operator of an affected facility combusting very low sulfur oil shall

## § 60.43b

demonstrate that the oil meets the definition of very low sulfur oil by: (1) Following the performance testing procedures as described in § 60.45b(c) or § 60.45b(d), and following the monitoring procedures as described in § 60.47b(a) or § 60.47b(b) to determine sulfur dioxide emission rate or fuel oil sulfur content; or (2) maintaining fuel receipts as described in § 60.49b(r).

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989]

### § 60.43b Standard for particulate matter.

(a) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever comes first, no owner or operator of an affected facility which combusts coal or combusts mixtures of coal with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of the following emission limits:

- (1) 22 ng/J (0.05 lb/million Btu) heat input,
- (i) If the affected facility combusts only coal, or
- (ii) If the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.
- (2) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels greater than 10 percent (0.10) and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.
- (3) 86 ng/J (0.20 lb/million Btu) heat input if the affected facility combusts coal or coal and other fuels and
  - (i) Has an annual capacity factor for coal or coal and other fuels of 30 percent (0.30) or less,
  - (ii) Has a maximum heat input capacity of 73 MW (250 million Btu/hour) or less,
  - (iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for coal or coal and other solid fuels, and
  - (iv) Construction of the affected facility commenced after June 19, 1984, and before November 25, 1986.

(b) On and after the date on which the performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts oil (or mixtures of oil with other fuels) and uses a conventional or emerging technology to reduce sulfur dioxide emissions shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of 43 ng/J (0.10 lb/million Btu) heat input.

(c) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts wood, or wood with other fuels, except coal, shall cause to be discharged from that affected facility any gases that contain particulate matter in excess of the following emission limits:

- (1) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility has an annual capacity factor greater than 30 percent (0.30) for wood.
- (2) 86 ng/J (0.20 lb/million Btu) heat input if
  - (i) The affected facility has an annual capacity factor of 30 percent (0.30) or less for wood,
  - (ii) Is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for wood, and
  - (iii) Has a maximum heat input capacity of 73 MW (250 million Btu/hour) or less.

(d) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts municipal-type solid waste or mixtures of municipal-type solid waste with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of the following emission limits:

- (1) 43 ng/J (0.10 lb/million Btu) heat input,
  - (i) If the affected facility combusts only municipal-type solid waste, or
  - (ii) If the affected facility combusts municipal-type solid waste and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.
- (2) 86 ng/J (0.20 lb/million Btu) heat input if the affected facility combusts municipal-type solid waste or municipal-type solid waste and other fuels; and
  - (i) Has an annual capacity factor for municipal-type solid waste and other fuels of 30 percent (0.30) or less,
  - (ii) Has a maximum heat input capacity of 73 MW (250 million Btu/hour) or less,
  - (iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) for municipal-type solid waste, or municipal-type solid waste and other fuels, and
  - (iv) Construction of the affected facility commenced after June 19, 1984, but before November 25, 1986.

(e) For the purposes of this section, the annual capacity factor is determined by dividing the actual heat input to the steam generating unit during the calendar year from the combustion of coal,

## § 60.44b

wood, or municipal-type solid waste, and other fuels, as applicable, by the potential heat input to the steam generating unit if the steam generating unit had been operated for 8,760 hours at the maximum design heat input capacity.

(f) On and after the date on which the initial performance test is completed or is required to be completed under 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

(g) The particulate matter and opacity standards apply at all times, except during periods of startup, shutdown or malfunction.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989]

### § 60.44b Standard for nitrogen oxides.

(a) Except as provided under paragraph (k) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that is subject to the provisions of this section and that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides (expressed as NO<sub>2</sub>) in excess of the following emission limits:

| Fuel/Steam generating unit type                                                                       | Nitrogen oxide emission limits<br>ng/J (lb/million<br>Btu) (ex-<br>pressed as<br>NO <sub>2</sub> ) heat<br>input |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| (1) Natural gas and distillate oil, except (4):                                                       |                                                                                                                  |
| (i) Low heat release rate .....                                                                       | 43 (0.10)                                                                                                        |
| (ii) High heat release rate .....                                                                     | 86 (0.20)                                                                                                        |
| (2) Residual oil:                                                                                     |                                                                                                                  |
| (i) Low heat release rate .....                                                                       | 130 (0.30)                                                                                                       |
| (ii) High heat release rate .....                                                                     | 170 (0.40)                                                                                                       |
| (3) Coal:                                                                                             |                                                                                                                  |
| (i) Mass-feed stoker .....                                                                            | 210 (0.50)                                                                                                       |
| (ii) Spreader stoker and fluidized bed combustion .....                                               | 260 (0.60)                                                                                                       |
| (iii) Pulverized coal .....                                                                           | 300 (0.70)                                                                                                       |
| (iv) Lignite, except (v) .....                                                                        | 260 (0.60)                                                                                                       |
| (v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace ..... | 340 (0.80)                                                                                                       |
| (vi) Coal-derived synthetic fuels .....                                                               | 210 (0.50)                                                                                                       |
| (4) Duct burner used in a combined cycle system:                                                      |                                                                                                                  |
| (i) Natural gas and distillate oil .....                                                              | 86 (0.20)                                                                                                        |
| (ii) Residual oil .....                                                                               | 170 (0.40)                                                                                                       |

(b) Except as provided under paragraph (k) of this section, on and after the date on which the initial performance test is completed or is required

to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts mixtures of coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of a limit determined by use of the following formula:

$$E_n = [(EL_{ng} H_{go}) + (EL_{ro} H_{ro}) + (EL_c H_c)] / (H_{go} + H_{ro} + H_c)$$

where:

$E_n$  is the nitrogen oxides emission limit (expressed as NO<sub>2</sub>), ng/J (lb/million Btu)

$EL_{ng}$  is the appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/million Btu)

$H_{go}$  is the heat input from combustion of natural gas or distillate oil,

$EL_{ro}$  is the appropriate emission limit from paragraph (a)(2) for combustion of residual oil,

$H_{ro}$  is the heat input from combustion of residual oil,

$EL_c$  is the appropriate emission limit from paragraph (a)(3) for combustion of coal, and

$H_c$  is the heat input from combustion of coal.

(c) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal or oil, or a mixture of these fuels with natural gas, and wood, municipal-type solid waste, or any other fuel shall cause to be discharged into the atmosphere any gases that contain nitrogen oxides in excess of the emission limit for the coal or oil, or mixture of these fuels with natural gas combusted in the affected facility, as determined pursuant to paragraph (a) or (b) of this section, unless the affected facility has an annual capacity factor for coal or oil, or mixture of these fuels with natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, or a mixture of these fuels with natural gas.

(d) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts natural gas with wood, municipal-type solid waste, or other solid fuel, except coal, shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of 130 ng/J (0.30 lb/million Btu) heat input unless the affected facility has an annual capacity factor for natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for natural gas.

(e) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal, oil, or natural gas with byproduct/waste shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of an emission limit determined by the following formula unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement which limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less:

$$E_n = [(EL_{n0} H_{n0}) + (EL_{r0} H_{r0}) + (EL_c H_c)] / (H_{n0} + H_{r0} + H_c)$$

where:

$E_n$  is the nitrogen oxides emission limit (expressed as  $\text{NO}_2$ ), ng/J (lb/million Btu)

$EL_{n0}$  is the appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/million Btu).

$H_{n0}$  is the heat input from combustion of natural gas, distillate oil and gaseous byproduct/waste, ng/J (lb/million Btu).

$EL_{r0}$  is the appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/million Btu)

$H_{r0}$  is the heat input from combustion of residual oil and/or liquid byproduct/waste.

$EL_c$  is the appropriate emission limit from paragraph (a)(3) for combustion of coal, and

$H_c$  is the heat input from combustion of coal.

(f) Any owner or operator of an affected facility that combusts byproduct/waste with either natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility to establish a nitrogen oxides emission limit which shall apply specifically to that affected facility when the byproduct/waste is combusted. The petition shall include sufficient and appropriate data, as determined by the Administrator, such as nitrogen oxides emissions from the affected facility, waste composition (including nitrogen content), and combustion conditions to allow the Administrator to confirm that the affected facility is unable to comply with the emission limits in paragraph (e) of this section and to determine the appropriate emission limit for the affected facility.

(1) Any owner or operator of an affected facility petitioning for a facility-specific nitrogen oxides emission limit under this section shall:

(i) Demonstrate compliance with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, by conducting a 30-day performance test as provided in § 60.46b(e). During the performance test only nat-

ural gas, distillate oil, or residual oil shall be combusted in the affected facility; and

(ii) Demonstrate that the affected facility is unable to comply with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, when gaseous or liquid byproduct/waste is combusted in the affected facility under the same conditions and using the same technological system of emission reduction applied when demonstrating compliance under paragraph (f)(1)(i) of this section.

(2) The nitrogen oxides emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, shall be applicable to the affected facility until and unless the petition is approved by the Administrator. If the petition is approved by the Administrator, a facility-specific nitrogen oxides emission limit will be established at the nitrogen oxides emission level achievable when the affected facility is combusting oil or natural gas and byproduct/waste in a manner that the Administrator determines to be consistent with minimizing nitrogen oxides emissions.

(g) Any owner or operator of an affected facility that combusts hazardous waste (as defined by 40 CFR part 261 or 40 CFR part 761) with natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility for a waiver from compliance with the nitrogen oxides emission limit which applies specifically to that affected facility. The petition must include sufficient and appropriate data, as determined by the Administrator, on nitrogen oxides emissions from the affected facility, waste destruction efficiencies, waste composition (including nitrogen content), the quantity of specific wastes to be combusted and combustion conditions to allow the Administrator to determine if the affected facility is able to comply with the nitrogen oxides emission limits required by this section. The owner or operator of the affected facility shall demonstrate that when hazardous waste is combusted in the affected facility, thermal destruction efficiency requirements for hazardous waste specified in an applicable federally enforceable requirement preclude compliance with the nitrogen oxides emission limits of this section. The nitrogen oxides emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, are applicable to the affected facility until and unless the petition is approved by the Administrator. (See 40 CFR 761.70 for regulations applicable to the incineration of materials containing polychlorinated biphenyls (PCB's).)

(h) For purposes of paragraph (i) of this section, the nitrogen oxide standards under this section

## § 60.45b

apply at all times including periods of startup, shutdown, or malfunction.

(i) Except as provided under paragraph (j) of this section, compliance with the emission limits under this section is determined on a 30-day rolling average basis.

(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance tests for any affected facilities that:

(1) Combust, alone or in combination, only natural gas, distillate oil, or residual oil with a nitrogen content of 0.30 weight percent or less;

(2) Have a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less; and

(3) Are subject to a Federally enforceable requirement limiting operation of the affected facility to the firing of natural gas, distillate oil, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil and a nitrogen content of 0.30 weight percent or less.

(k) Affected facilities that meet the criteria described in paragraphs (j) (1), (2), and (3) of this section, and that have a heat input capacity of 73 MW (250 million Btu/hour) or less, are not subject to the nitrogen oxides emission limits under this section.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51825, Dec. 18, 1989]

### § 60.45b Compliance and performance test methods and procedures for sulfur dioxide.

(a) The sulfur dioxide emission standards under § 60.42b apply at all times.

(b) In conducting the performance tests required under § 60.8, the owner or operator shall use the methods and procedures in appendix A of this part or the methods and procedures as specified in this section, except as provided in § 60.8(b). Section 60.8(f) does not apply to this section. The 30-day notice required in § 60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(c) The owner or operator of an affected facility shall conduct performance tests to determine compliance with the percent of potential sulfur dioxide emission rate (% P<sub>s</sub>) and the sulfur dioxide emission rate (E<sub>s</sub>) pursuant to § 60.42b following the procedures listed below, except as provided under paragraph (d) of this section.

(1) The initial performance test shall be conducted over the first 30 consecutive operating days

of the steam generating unit. Compliance with the sulfur dioxide standards shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.

(2) If only coal or only oil is combusted, the following procedures are used:

(i) The procedures in Method 19 are used to determine the hourly sulfur dioxide emission rate (E<sub>ho</sub>) and the 30-day average emission rate (E<sub>ao</sub>). The hourly averages used to compute the 30-day averages are obtained from the continuous emission monitoring system of § 60.47b (a) or (b).

(ii) The percent of potential sulfur dioxide emission rate (% P<sub>s</sub>) emitted to the atmosphere is computed using the following formula:

$$\% P_s = 100 (1 - \% R_p / 100) (1 - \% R_f / 100)$$

where:

% R<sub>p</sub> is the sulfur dioxide removal efficiency of the control device as determined by Method 19, in percent.

% R<sub>f</sub> is the sulfur dioxide removal efficiency of fuel pretreatment as determined by Method 19, in percent.

(3) If coal or oil is combusted with other fuels, the same procedures required in paragraph (c)(2) of this section are used, except as provided in the following:

(i) An adjusted hourly sulfur dioxide emission rate (E<sub>ho</sub><sup>a</sup>) is used in Equation 19-19 of Method 19 to compute an adjusted 30-day average emission rate (E<sub>ao</sub><sup>a</sup>). The E<sub>ho</sub> is computed using the following formula:

$$E_{ho}^a = [E_{ho} \cdot E_w (1 - X_k)] / X_k$$

where:

E<sub>ho</sub><sup>a</sup> is the adjusted hourly sulfur dioxide emission rate, ng/l (lb/million Btu).

E<sub>ho</sub> is the hourly sulfur dioxide emission rate, ng/l (lb/million Btu).

E<sub>w</sub> is the sulfur dioxide concentration in fuels other than coal and oil combusted in the affected facility, as determined by the fuel sampling and analysis procedures in Method 19, ng/l (lb/million Btu). The value E<sub>w</sub> for each fuel lot is used for each hourly average during the time that the lot is being combusted.

X<sub>k</sub> is the fraction of total heat input from fuel combustion derived from coal, oil, or coal and oil, as determined by applicable procedures in Method 19.

(ii) To compute the percent of potential sulfur dioxide emission rate (% P<sub>s</sub>), an adjusted % R<sub>s</sub> (% R<sub>s</sub><sup>a</sup>) is computed from the adjusted E<sub>ao</sub><sup>a</sup> from paragraph (b)(3)(i) of this section and an adjusted average sulfur dioxide inlet rate (E<sub>ai</sub><sup>a</sup>) using the following formula:

$$\% R_s^a = 100 (1.0 - E_{ao}^a / E_{ai}^a)$$

## § 60.45b

To compute  $E_{adj}$ , an adjusted hourly sulfur dioxide inlet rate ( $E_{in}^o$ ) is used. The  $E_{in}^o$  is computed using the following formula:

$$E_{in}^o = [E_{in} \cdot E_w (1 - X_k)] / X_k$$

where:

$E_{in}^o$  is the adjusted hourly sulfur dioxide inlet rate, ng/J (lb/million Btu).

$E_{in}$  is the hourly sulfur dioxide inlet rate, ng/J (lb/million Btu).

(4) The owner or operator of an affected facility subject to paragraph (b)(3) of this section does not have to measure parameters  $E_w$  or  $X_k$  if the owner or operator elects to assume that  $X_k=1.0$ . Owners or operators of affected facilities who assume  $X_k=1.0$  shall

(i) Determine %  $P_s$  following the procedures in paragraph (c)(2) of this section, and

(ii) Sulfur dioxide emissions ( $E_s$ ) are considered to be in compliance with sulfur dioxide emission limits under § 60.42b.

(5) The owner or operator of an affected facility that qualifies under the provisions of § 60.42b(d) does not have to measure parameters  $E_w$  or  $X_k$  under paragraph (b)(3) of this section if the owner or operator of the affected facility elects to measure sulfur dioxide emission rates of the coal or oil following the fuel sampling and analysis procedures under Method 19.

(d) Except as provided in paragraph (j), the owner or operator of an affected facility that combusts only very low sulfur oil, has an annual capacity factor for oil of 10 percent (0.10) or less, and is subject to a Federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for oil of 10 percent (0.10) or less shall:

(1) Conduct the initial performance test over 24 consecutive steam generating unit operating hours at full load;

(2) Determine compliance with the standards after the initial performance test based on the arithmetic average of the hourly emissions data during each steam generating unit operating day if a continuous emission measurement system (CEMS) is used, or based on a daily average if Method 6B or fuel sampling and analysis procedures under Method 19 are used.

(e) The owner or operator of an affected facility subject to § 60.42b(d)(1) shall demonstrate the maximum design capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. This demonstration will be made during the initial performance test and a subsequent demonstration may be requested at any other time. If the 24-hour average firing rate for the affected facility is less than the maximum design capacity provided by the manufacturer of the affected facility, the 24-hour average firing rate shall be used to determine the capacity utilization rate

for the affected facility, otherwise the maximum design capacity provided by the manufacturer is used.

(f) For the initial performance test required under § 60.8, compliance with the sulfur dioxide emission limits and percent reduction requirements under § 60.42b is based on the average emission rates and the average percent reduction for sulfur dioxide for the first 30 consecutive steam generating unit operating days, except as provided under paragraph (d) of this section. The initial performance test is the only test for which at least 30 days prior notice is required unless otherwise specified by the Administrator. The initial performance test is to be scheduled so that the first steam generating unit operating day of the 30 successive steam generating unit operating days is completed within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility. The boiler load during the 30-day period does not have to be the maximum design load, but must be representative of future operating conditions and include at least one 24-hour period at full load.

(g) After the initial performance test required under § 60.8, compliance with the sulfur dioxide emission limits and percent reduction requirements under § 60.42b is based on the average emission rates and the average percent reduction for sulfur dioxide for 30 successive steam generating unit operating days, except as provided under paragraph (d). A separate performance test is completed at the end of each steam generating unit operating day after the initial performance test, and a new 30-day average emission rate and percent reduction for sulfur dioxide are calculated to show compliance with the standard.

(h) Except as provided under paragraph (i) of this section, the owner or operator of an affected facility shall use all valid sulfur dioxide emissions data in calculating %  $P_s$  and  $E_{ho}$  under paragraph (c), of this section whether or not the minimum emissions data requirements under § 60.46b are achieved. All valid emissions data, including valid sulfur dioxides emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating %  $P_s$  and  $E_{ho}$  pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the sulfur dioxide control systems when oil is combusted as provided under § 60.42b(i), emission data are not used to calculate %  $P_s$  or  $E_s$  under § 60.42b (a), (b) or (c), however, the emissions data are used to determine compliance with the emission limit under § 60.42b(i).

(j) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the compliance and performance testing require-

## § 60.46b

ments of this section if the owner or operator obtains fuel receipts as described in § 60.49b(r).

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989]

### § 60.46b Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.

(a) The particulate matter emission standards and opacity limits under § 60.43b apply at all times except during periods of startup, shutdown, or malfunction. The nitrogen oxides emission standards under § 60.44b apply at all times.

(b) Compliance with the particulate matter emission standards under § 60.43b shall be determined through performance testing as described in paragraph (d) of this section.

(c) Compliance with the nitrogen oxides emission standards under § 60.44b shall be determined through performance testing under paragraph (e) or (f), or under paragraphs (g) and (h) of this section, as applicable.

(d) To determine compliance with the particulate matter emission limits and opacity limits under § 60.43b, the owner or operator of an affected facility shall conduct an initial performance test as required under § 60.8 using the following procedures and reference methods:

(1) Method 3B is used for gas analysis when applying Method 5 or Method 17.

(2) Method 5, Method 5B, or Method 17 shall be used to measure the concentration of particulate matter as follows:

(i) Method 5 shall be used at affected facilities without wet flue gas desulfurization (FGD) systems; and

(ii) Method 17 may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 2.1 and 2.3 of Method 5B may be used in Method 17 only if it is used after a wet FGD system. Do not use Method 17 after wet FGD systems if the effluent is saturated or laden with water droplets.

(iii) Method 5B is to be used only after wet FGD systems.

(3) Method 1 is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(4) For Method 5, the temperature of the sample gas in the probe and filter holder is monitored and is maintained at 160 °C (320 °F).

(5) For determination of particulate matter emissions, the oxygen or carbon dioxide sample is obtained simultaneously with each run of Method 5, Method 5B or Method 17 by traversing the duct at the same sampling location.

(6) For each run using Method 5, Method 5B or Method 17, the emission rate expressed in nanograms per joule heat input is determined using:

(i) The oxygen or carbon dioxide measurements and particulate matter measurements obtained under this section,

(ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 (appendix A).

(7) Method 9 is used for determining the opacity of stack emissions.

(e) To determine compliance with the emission limits for nitrogen oxides required under § 60.44b, the owner or operator of an affected facility shall conduct the performance test as required under § 60.8 using the continuous system for monitoring nitrogen oxides under § 60.48(b).

(1) For the initial compliance test, nitrogen oxides from the steam generating unit are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the nitrogen oxides emission standards under § 60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.

(2) Following the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, the owner or operator of an affected facility which combusts coal or which combusts residual oil having a nitrogen content greater than 0.30 weight percent shall determine compliance with the nitrogen oxides emission standards under § 60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(3) Following the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, the owner or operator of an affected facility which has a heat input capacity greater than 73 MW (250 million Btu/hour) and which combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the nitrogen oxides standards under § 60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling

## §60.47b

average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(4) Following the date on which the initial performance test is completed or required to be completed under §60.8 of this part, whichever date comes first, the owner or operator of an affected facility which has a heat input capacity of 73 MW (250 million Btu/hour) or less and which combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall upon request determine compliance with the nitrogen oxides standards under §60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, nitrogen oxides emissions data collected pursuant to §60.48b(g)(1) or §60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the nitrogen oxides emission standards. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(5) If the owner or operator of an affected facility which combusts residual oil does not sample and analyze the residual oil for nitrogen content, as specified in §60.49b(e), the requirements of paragraph (iii) of this section apply and the provisions of paragraph (iv) of this section are inapplicable.

(f) To determine compliance with the emission limit for nitrogen oxides required by §60.44b(a)(4) for duct burners used in combined cycle systems, the owner or operator of an affected facility shall conduct the performance test required under §60.8 using the nitrogen oxides and oxygen measurement procedures in 40 CFR part 60 appendix A, Method 20. During the performance test, one sampling site shall be located as close as practicable to the exhaust of the turbine, as provided by section 6.1.1 of Method 20. A second sampling site shall be located at the outlet to the steam generating unit. Measurements of nitrogen oxides and oxygen shall be taken at both sampling sites during the performance test. The nitrogen oxides emission rate from the combined cycle system shall be calculated by subtracting the nitrogen oxides emission rate measured at the sampling site at the outlet from the turbine from the nitrogen oxides emission rate measured at the sampling site at the outlet from the steam generating unit.

(g) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) shall demonstrate the maximum heat input capacity of the steam generating unit by operating the facility at

maximum capacity for 24 hours. The owner or operator of an affected facility shall determine the maximum heat input capacity using the heat loss method described in sections 5 and 7.3 of the ASME *Power Test Codes* 4.1 (see IBR §60.17(h)). This demonstration of maximum heat input capacity shall be made during the initial performance test for affected facilities that meet the criteria of §60.44b(j). It shall be made within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of each facility, for affected facilities meeting the criteria of §60.44b(k). Subsequent demonstrations may be required by the Administrator at any other time. If this demonstration indicates that the maximum heat input capacity of the affected facility is less than that stated by the manufacturer of the affected facility, the maximum heat input capacity determined during this demonstration shall be used to determine the capacity utilization rate for the affected facility. Otherwise, the maximum heat input capacity provided by the manufacturer is used.

(h) The owner or operator of an affected facility described in §60.44b(j) that has a heat input capacity greater than 73 MW (250 million Btu/hour) shall:

(1) Conduct an initial performance test as required under §60.8 over a minimum of 24 consecutive steam generating unit operating hours at maximum heat input capacity to demonstrate compliance with the nitrogen oxides emission standards under §60.44b using Method 7, 7A, 7E, or other approved reference methods; and

(2) Conduct subsequent performance tests once per calendar year or every 400 hours of operation (whichever comes first) to demonstrate compliance with the nitrogen oxides emission standards under §60.44b over a minimum of 3 consecutive steam generating unit operating hours at maximum heat input capacity using Method 7, 7A, 7E, or other approved reference methods.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989; 55 FR 18876, May 7, 1990]

## §60.47b Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (b) and (f) of this section, the owner or operator of an affected facility subject to the sulfur dioxide standards under §60.42b shall install, calibrate, maintain, and operate continuous emission monitoring systems (CEMS) for measuring sulfur dioxide concentrations and either oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) concentrations and shall record the output of the systems. The sulfur dioxide and either oxygen or carbon dioxide concentrations shall both

## § 60.48b

be monitored at the inlet and outlet of the sulfur dioxide control device.

(b) As an alternative to operating CEMS as required under paragraph (a) of this section, an owner or operator may elect to determine the average sulfur dioxide emissions and percent reduction by:

(1) Collecting coal or oil samples in an as-fired condition at the inlet to the steam generating unit and analyzing them for sulfur and heat content according to Method 19. Method 19 provides procedures for converting these measurements into the format to be used in calculating the average sulfur dioxide input rate, or

(2) Measuring sulfur dioxide according to Method 6B at the inlet or outlet to the sulfur dioxide control system. An initial stratification test is required to verify the adequacy of the Method 6B sampling location. The stratification test shall consist of three paired runs of a suitable sulfur dioxide and carbon dioxide measurement train operated at the candidate location and a second similar train operated according to the procedures in section 3.2 and the applicable procedures in section 7 of Performance Specification 2. Method 6B, Method 6A, or a combination of Methods 6 and 3 or 3B or Methods 6C and 3A are suitable measurement techniques. If Method 6B is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent.

(3) A daily sulfur dioxide emission rate,  $E_D$ , shall be determined using the procedure described in Method 6A, section 7.6.2 (Equation 6A-8) and stated in ng/l (lb/million Btu) heat input.

(4) The mean 30-day emission rate is calculated using the daily measured values in ng/l (lb/million Btu) for 30 successive steam generating unit operating days using equation 19-20 of Method 19.

(c) The owner or operator of an affected facility shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive boiler operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator or the reference methods and procedures as described in paragraph (b) of this section.

(d) The 1-hour average sulfur dioxide emission rates measured by the CEMS required by paragraph (a) of this section and required under § 60.13(h) is expressed in ng/l or lb/million Btu

heat input and is used to calculate the average emission rates under § 60.42b. Each 1-hour average sulfur dioxide emission rate must be based on more than 30 minutes of steam generating unit operation and include at least 2 data points with each representing a 15-minute period. Hourly sulfur dioxide emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(e) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 (appendix B).

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 (appendix F).

(3) For affected facilities combusting coal or oil, alone or in combination with other fuels, the span value of the sulfur dioxide CEMS at the inlet to the sulfur dioxide control device is 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the fuel combusted, and the span value of the CEMS at the outlet to the sulfur dioxide control device is 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the fuel combusted.

(f) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the emission monitoring requirements of this section if the owner or operator obtains fuel receipts as described in § 60.49b(r).

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, Dec. 18, 1989; 55 FR 5212, Feb. 14, 1990; 55 FR 18876, May 7, 1990]

## § 60.48b Emission monitoring for particulate matter and nitrogen oxides.

(a) The owner or operator of an affected facility subject to the opacity standard under § 60.43b shall install, calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere and record the output of the system.

(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility subject to the nitrogen oxides standards under § 60.44b shall install, calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system.

(c) The continuous monitoring systems required under paragraph (b) of this section shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is

## § 60.49b

recorded during calibration checks, and zero and span adjustments.

(d) The 1-hour average nitrogen oxides emission rates measured by the continuous nitrogen oxides monitor required by paragraph (b) of this section and required under § 60.13(h) shall be expressed in ng/J or lb/million Btu heat input and shall be used to calculate the average emission rates under § 60.44b. The 1-hour averages shall be calculated using the data points required under § 60.13(b). At least 2 data points must be used to calculate each 1-hour average.

(e) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems.

(1) For affected facilities combusting coal, wood or municipal-type solid waste, the span value for a continuous monitoring system for measuring opacity shall be between 60 and 80 percent.

(2) For affected facilities combusting coal, oil, or natural gas, the span value for nitrogen oxides is determined as follows:

| Fuel        | Span values for nitrogen oxides (PPM) |
|-------------|---------------------------------------|
| Natural gas | 500                                   |
| Oil         | 500                                   |
| Coal        | 1,000                                 |
| Mixtures    | $500(x+y)+1,000z$                     |

where:

x is the fraction of total heat input derived from natural gas.

y is the fraction of total heat input derived from oil, and

z is the fraction of total heat input derived from coal.

(3) All span values computed under paragraph (e)(2) of this section for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm.

(f) When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

(g) The owner or operator of an affected facility that has a heat input capacity of 73 MW (250 million Btu/hour) or less, and which has an annual capacity factor for residual oil having a nitrogen content of 0.30 weight percent or less, natural gas, distillate oil, or any mixture of these fuels, greater than 10 percent (0.10) shall:

(1) Comply with the provisions of paragraphs (b), (c), (d), (e)(2), (e)(3), and (f) of this section, or

(2) Monitor steam generating unit operating conditions and predict nitrogen oxides emission rates as specified in a plan submitted pursuant to § 60.49b(c).

(h) The owner or operator of an affected facility which is subject to the nitrogen oxides standards of § 60.44b(a)(4) is not required to install or operate a continuous monitoring system to measure nitrogen oxides emissions.

(i) The owner or operator of an affected facility described in § 60.44b(j) or § 60.44b(k) is not required to install or operate a continuous monitoring system for measuring nitrogen oxides emissions.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51825, Dec. 18, 1989]

## § 60.49b Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of initial startup, as provided by § 60.7. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility.

(2) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §§ 60.42b(d)(1), 60.43b(a)(2), (a)(3)(iii), (c)(2)(ii), (d)(2)(iii), 60.44b(c), (d), (e), (i), (j), (k), 60.45b(d), (g), 60.46b(h), or 60.48b(i).

(3) The annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each individual fuel fired, and,

(4) Notification that an emerging technology will be used for controlling emissions of sulfur dioxide. The Administrator will examine the description of the emerging technology and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of § 60.42b(a) unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the sulfur dioxide, particulate matter, and/or nitrogen oxides emission limits under §§ 60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B. The owner or operator of each affected facility described in § 60.44b(j) or § 60.44b(k) shall submit to the Administrator the maximum heat input capacity data

## § 60.49b

from the demonstration of the maximum heat input capacity of the affected facility.

(c) The owner or operator of each affected facility subject to the nitrogen oxides standard of § 60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions under the provisions of § 60.48b(g)(2) shall submit to the Administrator for approval a plan that identifies the operating conditions to be monitored under § 60.48b(g)(2) and the records to be maintained under § 60.49b(j). This plan shall be submitted to the Administrator for approval within 360 days of the initial startup of the affected facility. The plan shall:

(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and nitrogen oxides emission rates (i.e., ng/l or lbs/million Btu heat input). Steam generating unit operating conditions include, but are not limited to, the degree of staged combustion (i.e., the ratio of primary air to secondary and/or tertiary air) and the level of excess air (i.e., flue gas oxygen level);

(2) Include the data and information that the owner or operator used to identify the relationship between nitrogen oxides emission rates and these operating conditions;

(3) Identify how these operating conditions, including steam generating unit load, will be monitored under § 60.48b(g) on an hourly basis by the owner or operator during the period of operation of the affected facility; the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate; and the type and format of the records of these operating conditions, including steam generating unit load, that will be maintained by the owner or operator under § 60.49b(j).

If the plan is approved, the owner or operator shall maintain records of predicted nitrogen oxide emission rates and the monitored operating conditions, including steam generating unit load, identified in the plan.

(d) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for each calendar quarter. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

(e) For an affected facility that combusts residual oil and meets the criteria under §§ 60.46b(e)(4), 60.44b(j), or (k), the owner or operator shall maintain records of the nitrogen con-

tent of the residual oil combusted in the affected facility and calculate the average fuel nitrogen content on a per calendar quarter basis. The nitrogen content shall be determined using ASTM Method D3431-80, Test Method for Trace Nitrogen in Liquid Petroleum Hydrocarbons (IBR-see § 60.17), or fuel suppliers. If residual oil blends are being combusted, fuel nitrogen specifications may be prorated based on the ratio of residual oils of different nitrogen content in the fuel blend.

(f) For facilities subject to the opacity standard under § 60.43b, the owner or operator shall maintain records of opacity.

(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the nitrogen oxides standards under § 60.44b shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date.

(2) The average hourly nitrogen oxides emission rates (expressed as NO<sub>2</sub>) (ng/l or lb/million Btu heat input) measured or predicted.

(3) The 30-day average nitrogen oxides emission rates (ng/l or lb/million Btu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days.

(4) Identification of the steam generating unit operating days when the calculated 30-day average nitrogen oxides emission rates are in excess of the nitrogen oxides emissions standards under § 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken.

(5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.

(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.

(7) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(8) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.

(9) Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3.

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(h) The owner or operator of any affected facility in any category listed in paragraphs (h)(1) or (2) of this section is required to submit excess emission reports for any calendar quarter during which there are excess emissions from the affected facility. If there are no excess emissions during the calendar quarter, the owner or operator shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.

(1) Any affected facility subject to the opacity standards under § 60.43b(e) or to the operating parameter monitoring requirements under § 60.13(i)(1).

(2) Any affected facility that is subject to the nitrogen oxides standard of § 60.44b, and that

(i) Combusts natural gas, distillate oil, or residual oil with a nitrogen content of 0.3 weight percent or less, or

(ii) Has a heat input capacity of 73 MW (250 million Btu/hour) or less and is required to monitor nitrogen oxides emissions on a continuous basis under § 60.48b(g)(1) or steam generating unit operating conditions under § 60.48b(g)(2).

(3) For the purpose of § 60.43b, excess emissions are defined as all 6-minute periods during which the average opacity exceeds the opacity standards under § 60.43b(f).

(4) For purposes of § 60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average nitrogen oxides emission rate, as determined under § 60.46b(e), which exceeds the applicable emission limits in § 60.44b.

(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for nitrogen oxides under § 60.48(b) shall submit a quarterly report containing the information recorded under paragraph (g) of this section. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

(j) The owner or operator of any affected facility subject to the sulfur dioxide standards under § 60.42b shall submit written reports to the Administrator for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

(k) For each affected facility subject to the compliance and performance testing requirements of § 60.45b and the reporting requirement in paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average sulfur dioxide emission rate (ng/l or lb/million Btu heat input) measured during the reporting period, ending with the last 30-day period in the quarter; reasons for non-

compliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent reduction in sulfur dioxide emissions calculated during the reporting period, ending with the last 30-day period in the quarter; reasons for noncompliance with the emission standards; and a description of corrective actions taken.

(4) Identification of the steam generating unit operating days that coal or oil was combusted and for which sulfur dioxide or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours in the steam generating unit operating day; justification for not obtaining sufficient data; and description of corrective action taken.

(5) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(7) Identification of times when hourly averages have been obtained based on manual sampling methods.

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS.

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3.

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(11) The annual capacity factor of each fired as provided under paragraph (d) of this section.

(l) For each affected facility subject to the compliance and performance testing requirements of § 60.45b(d) and the reporting requirements of paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates when the facility was in operation during the reporting period;

(2) The 24-hour average sulfur dioxide emission rate measured for each steam generating unit operating day during the reporting period that coal or oil was combusted, ending in the last 24-hour period in the quarter; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(3) Identification of the steam generating unit operating days that coal or oil was combusted for which sulfur dioxide or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining suffi-

## § 60.49b

cient data; and description of corrective action taken.

(4) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(5) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(6) Identification of times when hourly averages have been obtained based on manual sampling methods.

(7) Identification of the times when the pollutant concentration exceeded full span of the CEMS.

(8) Description of any modifications to the CEMS which could affect the ability of the CEMS to comply with Performance Specification 2 or 3.

(9) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(m) For each affected facility subject to the sulfur dioxide standards under § 60.42b for which the minimum amount of data required under § 60.47b(f) were not obtained during a calendar quarter, the following information is reported to the Administrator in addition to that required under paragraph (k) of this section:

(1) The number of hourly averages available for outlet emission rates and inlet emission rates.

(2) The standard deviation of hourly averages for outlet emission rates and inlet emission rates, as determined in Method 19, section 7.

(3) The lower confidence limit for the mean outlet emission rate and the upper confidence limit for the mean inlet emission rate, as calculated in Method 19, section 7.

(4) The ratio of the lower confidence limit for the mean outlet emission rate and the allowable emission rate, as determined in Method 19, section 7.

(n) If a percent removal efficiency by fuel pretreatment (i.e., %  $R_f$ ) is used to determine the overall percent reduction (i.e., %  $R_o$ ) under § 60.45b, the owner or operator of the affected facility shall submit a signed statement with the quarterly report:

(1) Indicating what removal efficiency by fuel pretreatment (i.e., %  $R_f$ ) was credited for the calendar quarter;

(2) Listing the quantity, heat content, and date each pretreated fuel shipment was received during the previous calendar quarter; the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the previous calendar quarter;

(3) Documenting the transport of the fuel from the fuel pretreatment facility to the steam generating unit.

(4) Including a signed statement from the owner or operator of the fuel pretreatment facility certifying that the percent removal efficiency achieved by fuel pretreatment was determined in accordance with the provisions of Method 19 (appendix A) and listing the heat content and sulfur content of each fuel before and after fuel pretreatment.

(o) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.

(p) The owner or operator of an affected facility described in § 60.44b(j) or (k) shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date.

(2) The number of hours of operation, and

(3) A record of the hourly steam load.

(q) The owner or operator of an affected facility described in § 60.44b(j) or § 60.44b(k) shall submit to the Administrator on a quarterly basis:

(1) The annual capacity factor over the previous 12 months;

(2) The average fuel nitrogen content during the quarter, if residual oil was fired; and

(3) If the affected facility meets the criteria described in § 60.44b(j), the results of any nitrogen oxides emission tests required during the quarter, the hours of operation during the quarter, and the hours of operation since the last nitrogen oxides emission test.

(r) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under § 60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in § 60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Quarterly reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the preceding quarter.

(s) [Reserved]

(t) Facility-specific nitrogen oxides standard for Rohm and Haas Kentucky Incorporated's Boiler No. 100 located in Louisville, Kentucky:

(1) *Definitions.*

*Air ratio control damper* is defined as the part of the low nitrogen oxides burner that is adjusted to control the split of total combustion air delivered to the reducing and oxidation portions of the combustion flame.

## § 60.49b

*Flue gas recirculation line* is defined as the part of Boiler No. 100 that recirculates a portion of the boiler flue gas back into the combustion air.

(2) *Standard for nitrogen oxides.* (i) When fossil fuel alone is combusted, the nitrogen oxides emission limit for fossil fuel in § 60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the nitrogen oxides emission limit is 473 ng/l (1.1 lb/million Btu), and the air ratio control damper tee handle shall be at a minimum of 5 inches (12.7 centimeters) out of the boiler, and the flue gas recirculation line shall be operated at a minimum of 10 percent open as indicated by its valve opening position indicator.

(3) *Emission monitoring for nitrogen oxides.* (i) The air ratio control damper tee handle setting and the flue gas recirculation line valve opening position indicator setting shall be recorded during each 8-hour operating shift.

(ii) The nitrogen oxides emission limit shall be determined by the compliance and performance

test methods and procedures for nitrogen oxides in § 60.46b.

(iii) The monitoring of the nitrogen oxides emission limit shall be performed in accordance with § 60.48b.

(4) *Reporting and recordkeeping requirements.*

(i) The owner or operator of Boiler No. 100 shall submit a report on any excursions from the limits required by paragraph (b)(2) of this section to the Administrator with the quarterly report required by § 60.49b(i).

(ii) The owner or operator of Boiler No. 100 shall keep records of the monitoring required by paragraph (b)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of Boiler No. 100 shall perform all the applicable reporting and recordkeeping requirements of § 60.49b.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989; 60 FR 28062, May 30, 1995]

## APPENDIX B

## Subpart BB—Standards of Performance for Kraft Pulp Mills

### § 60.280 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities in kraft pulp mills: Digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln, and condensate stripper system. In pulp mills where kraft pulping is combined with neutral sulfite semichemical pulping, the provisions of this subpart are applicable when any portion of the material charged to an affected facility is produced by the kraft pulping operation.

(b) Except as noted in § 60.283(a)(1)(iv), any facility under paragraph (a) of this section that commences construction or modification after September 24, 1976, is subject to the requirements of this subpart.

[51 FR 18544, May 20, 1986]

### § 60.281 Definitions.

As used in this subpart, all terms not defined herein shall have the same meaning given them in the Act and in subpart A.

(a) *Kraft pulp mill* means any stationary source which produces pulp from wood by cooking (digesting) wood chips in a water solution of sodium hydroxide and sodium sulfide (white liquor) at high temperature and pressure. Regeneration of the cooking chemicals through a recovery process is also considered part of the kraft pulp mill.

(b) *Neutral sulfite semichemical pulping operation* means any operation in which pulp is produced from wood by cooking (digesting) wood chips in a solution of sodium sulfite and sodium bicarbonate, followed by mechanical defibrating (grinding).

(c) *Total reduced sulfur (TRS)* means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide, that are released during the kraft pulping operation and measured by Reference Method 16.

(d) *Digester system* means each continuous digester or each batch digester used for the cooking of wood in white liquor, and associated flash tank(s), below tank(s), chip steamer(s), and condenser(s).

(e) *Brown stock washer system* means brown stock washers and associated knotters, vacuum pumps, and filtrate tanks used to wash the pulp following the digestion system. Diffusion washers are excluded from this definition.

(f) *Multiple-effect evaporator system* means the multiple-effect evaporators and associated condenser(s) and hotwell(s) used to concentrate

the spent cooking liquid that is separated from the pulp (black liquor).

(g) *Black liquor oxidation system* means the vessels used to oxidize, with air or oxygen, the black liquor, and associated storage tank(s).

(h) *Recovery furnace* means either a straight kraft recovery furnace or a cross recovery furnace, and includes the direct-contact evaporator for a direct-contact furnace.

(i) *Straight kraft recovery furnace* means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains 7 weight percent or less of the total pulp solids from the neutral sulfite semichemical process or has green liquor sulfidity of 28 percent or less.

(j) *Cross recovery furnace* means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains more than 7 weight percent of the total pulp solids from the neutral sulfite semichemical process and has a green liquor sulfidity of more than 28 percent.

(k) *Black liquor solids* means the dry weight of the solids which enter the recovery furnace in the black liquor.

(l) *Green liquor sulfidity* means the sulfidity of the liquor which leaves the smelt dissolving tank.

(m) *Smelt dissolving tank* means a vessel used for dissolving the smelt collected from the recovery furnace.

(n) *Lime kiln* means a unit used to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.

(o) *Condensate stripper system* means a column, and associated condensers, used to strip, with air or steam, TRS compounds from condensate streams from various processes within a kraft pulp mill.

[43 FR 7572, Feb. 23, 1978, as amended at 51 FR 18544, May 20, 1986]

### § 60.282 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere:

(1) From any recovery furnace any gases which:

(i) Contain particulate matter in excess of 0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen.

(ii) Exhibit 35 percent opacity or greater.

(2) From any smelt dissolving tank any gases which contain particulate matter in excess of 0.1 g/kg black liquor solids (dry weight)[0.2 lb/ton black liquor solids (dry weight)].

### § 60.283

(3) From any lime kiln any gases which contain particulate matter in excess of:

(i) 0.15 g/dscm (0.067 gr/dscf) corrected to 10 percent oxygen, when gaseous fossil fuel is burned.

(ii) 0.30 g/dscm (0.13 gr/dscf) corrected to 10 percent oxygen, when liquid fossil fuel is burned.

[43 FR 7572, Feb. 23, 1978]

### § 60.283 Standard for total reduced sulfur (TRS).

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere:

(1) From any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the following conditions are met:

(i) The gases are combusted in a lime kiln subject to the provisions of paragraph (a)(5) of this section; or

(ii) The gases are combusted in a recovery furnace subject to the provisions of paragraphs (a)(2) or (a)(3) of this section; or

(iii) The gases are combusted with other waste gases in an incinerator or other device, or combusted in a lime kiln or recovery furnace not subject to the provisions of this subpart, and are subjected to a minimum temperature of 1200° F. for at least 0.5 second; or

(iv) It has been demonstrated to the Administrator's satisfaction by the owner or operator that incinerating the exhaust gases from a new, modified, or reconstructed brown stock washer system is technologically or economically unfeasible. Any exempt system will become subject to the provisions of this subpart if the facility is changed so that the gases can be incinerated.

(v) The gases from the digester system, brown stock washer system, or condensate stripper system are controlled by a means other than combustion. In this case, this system shall not discharge any gases to the atmosphere which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to the actual oxygen content of the untreated gas stream.

(vi) The uncontrolled exhaust gases from a new, modified, or reconstructed digester system contain TRS less than 0.005 g/kg ADP (0.01 lb/ton ADP).

(2) From any straight kraft recovery furnace any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 8 percent oxygen.

(3) From any cross recovery furnace any gases which contain TRS in excess of 25 ppm by volume on a dry basis, corrected to 8 percent oxygen.

(4) From any smelt dissolving tank any gases which contain TRS in excess of 0.016 g/kg black liquor solids as H<sub>2</sub>S (0.033 lb/ton black liquor solids as H<sub>2</sub>S).

(5) From any lime kiln any gases which contain TRS in excess of 8 ppm by volume on a dry basis, corrected to 10 percent oxygen.

[43 FR 7572, Feb. 23, 1978, as amended at 50 FR 6317, Feb. 14, 1985; 51 FR 18544, May 20, 1986]

### § 60.284 Monitoring of emissions and operations.

(a) Any owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate the following continuous monitoring systems:

(1) A continuous monitoring system to monitor and record the opacity of the gases discharged into the atmosphere from any recovery furnace. The span of this system shall be set at 70 percent opacity.

(2) Continuous monitoring systems to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from any lime kiln, recovery furnace, digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system, except where the provisions of § 60.283(a)(1)(iii) or (iv) apply. These systems shall be located downstream of the control device(s) and the spans of these continuous monitoring system(s) shall be set:

(i) At a TRS concentration of 30 ppm for the TRS continuous monitoring system, except that for any cross recovery furnace the span shall be set at 50 ppm.

(ii) At 20 percent oxygen for the continuous oxygen monitoring system.

(b) Any owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate the following continuous monitoring devices:

(1) For any incinerator, a monitoring device which measures and records the combustion temperature at the point of incineration of effluent gases which are emitted from any digester system, brown stock washer system, multiple-effect evaporator system, black liquor oxidation system, or condensate stripper system where the provisions of § 60.283(a)(1)(iii) apply. The monitoring device is to be certified by the manufacturer to be accurate within ±1 percent of the temperature being measured.

(2) For any lime kiln or smelt dissolving tank using a scrubber emission control device:

(i) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment. The monitoring device is to be certified by the manufacturer to be accurate to within a gage pressure of  $\pm 500$  pascals (ca.  $\pm 2$  inches water gage pressure).

(ii) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 15$  percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The Administrator may be consulted for approval of alternative locations.

(c) Any owner or operator subject to the provisions of this subpart shall, except where the provisions of § 60.283 (a)(1)(iv) or (a)(4) apply.

(1) Calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section.

(2) Calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace and lime kiln. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under paragraph (c)(1) of this section and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section.

(3) Correct all 12-hour average TRS concentrations to 10 volume percent oxygen, except that all 12-hour average TRS concentration from a recovery furnace shall be corrected to 8 volume percent using the following equation:

$$C_{\text{corr}} = C_{\text{meas}} \times (21 - \lambda / 21 - Y)$$

where:

$C_{\text{corr}}$  = the concentration corrected for oxygen.

$C_{\text{meas}}$  = the concentration uncorrected for oxygen.

$\lambda$  = the volumetric oxygen concentration in percentage to be corrected to (8 percent for recovery furnaces and 10 percent for lime kilns, incinerators, or other devices).

$Y$  = the measured 12-hour average volumetric oxygen concentration.

(4) Record once per shift measurements obtained from the continuous monitoring devices installed under paragraph (b)(2) of this section.

(d) For the purpose of reports required under § 60.7(c), any owner or operator subject to the provisions of this subpart shall report semiannually periods of excess emissions as follows:

(1) For emissions from any recovery furnace periods of excess emissions are:

(i) All 12-hour averages of TRS concentrations above 5 ppm by volume for straight kraft recovery furnaces and above 25 ppm by volume for cross recovery furnaces.

(ii) All 6-minute average opacities that exceed 35 percent.

(2) For emissions from any lime kiln, periods of excess emissions are all 12-hour average TRS concentration above 8 ppm by volume.

(3) For emissions from any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system periods of excess emissions are:

(i) All 12-hour average TRS concentrations above 5 ppm by volume unless the provisions of § 60.283(a)(1) (i), (ii), or (iv) apply; or

(ii) All periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200 °F, where the provisions of § 60.283(a)(1)(iii) apply.

(e) The Administrator will not consider periods of excess emissions reported under paragraph (d) of this section to be indicative of a violation of § 60.11(d) provided that:

(1) The percent of the total number of possible contiguous periods of excess emissions in a quarter (excluding periods of startup, shutdown, or malfunction and periods when the facility is not operating) during which excess emissions occur does not exceed:

(i) One percent for TRS emissions from recovery furnaces.

(ii) Six percent for average opacities from recovery furnaces.

(2) The Administrator determines that the affected facility, including air pollution control equipment, is maintained and operated in a manner which is consistent with good air pollution control practice for minimizing emissions during periods of excess emissions.

[43 FR 7572, Feb. 23, 1978, as amended at 51 FR 18545, May 20, 1986]

## § 60.285 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in § 60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section.

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.282(a) (1) and (3) as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at

## § 60.285

least 60 minutes and 0.90 dscm (31.8 dscf). Water shall be used as the cleanup solvent instead of acetone in the sample recovery procedure. The particulate concentration shall be corrected to the appropriate oxygen concentration according to § 60.284(c)(3).

(2) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the oxygen concentration. The gas sample shall be taken at the same time and at the same traverse points as the particulate sample.

(3) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

(c) The owner or operator shall determine compliance with the particular matter standard in § 60.282(a)(2) as follows:

(1) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = c_p Q_{ed} / BLS$$

where:

E=emission rate of particulate matter, g/kg (lb/ton) of BLS.

$c_p$ =concentration of particulate matter, g/dscm (lb/dscf).

$Q_{ed}$ =volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

BLS=black liquor solids (dry weight) feed rate, kg/hr (ton/hr).

(2) Method 5 shall be used to determine the particulate matter concentration ( $c_p$ ) and the volumetric flow rate ( $Q_{ed}$ ) of the effluent gas. The sampling time and sample volume shall be at least 60 minutes and 0.90 dscm (31.8 dscf). Water shall be used instead of acetone in the sample recovery.

(3) Process data shall be used to determine the black liquor solids (BLS) feed rate on a dry weight basis.

(d) The owner or operator shall determine compliance with the TRS standards in § 60.283, except § 60.283(a)(1)(vi) and (4), as follows:

(1) Method 16 shall be used to determine the TRS concentration. The TRS concentration shall be corrected to the appropriate oxygen concentration using the procedure in § 60.284(c)(3). The sampling time shall be at least 3 hours, but no longer than 6 hours.

(2) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the oxygen con-

centration. The sample shall be taken over the same time period as the TRS samples.

(3) When determining whether a furnace is a straight kraft recovery furnace or a cross recovery furnace, TAPPI Method T.624 (incorporated by reference—see § 60.17) shall be used to determine sodium sulfide, sodium hydroxide, and sodium carbonate. These determinations shall be made 3 times daily from the green liquor, and the daily average values shall be converted to sodium oxide ( $Na_2O$ ) and substituted into the following equation to determine the green liquor sulfidity:

$$GLS = 100 \frac{C_{Na_2S}}{C_{Na_2S} + C_{Na_2H} + C_{Na_2CO_3}}$$

Where:

GLS=green liquor sulfidity, percent.

$C_{Na_2S}$ =concentration of  $Na_2S$  as  $Na_2O$ , mg/liter (gr/gal).

$C_{NaOH}$ =concentration of  $NaOH$  as  $Na_2O$ , mg/liter (gr/gal).

$C_{Na_2CO_3}$ =concentration of  $Na_2CO_3$  as  $Na_2O$ , mg/liter (gr/gal).

(e) The owner or operator shall determine compliance with the TRS standards in § 60.283(a)(1)(vi) and (4) as follows:

(1) The emission rate (E) of TRS shall be computed for each run using the following equation:

$$E = C_{TRS} F Q_{sd} / P$$

where:

E=emission rate of TRS, g/kg (lb/ton) of BLS or ADP.

$C_{TRS}$ =average combined concentration of TRS, ppm.

F=conversion factor,  $0.001417 \text{ g H}_2\text{S/m}^3 \text{ ppm}$  ( $0.08844 \times 10^{-6} \text{ lb H}_2\text{S/ft}^3 \text{ ppm}$ ).

$Q_{sd}$ =volumetric flow rate of stack gas, dscm/hr (dscf/hr).

P=black liquor solids feed or pulp production rate, kg/hr (ton/hr).

(2) Method 16 shall be used to determine the TRS concentration ( $C_{TRS}$ ).

(3) Method 2 shall be used to determine the volumetric flow rate ( $Q_{sd}$ ) of the effluent gas.

(4) Process data shall be used to determine the black liquor feed rate or the pulp production rate (P).

(f) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For Method 5, Method 17 may be used if a constant value of 0.009 g/dscm (0.004 gr/dscf) is added to the results of Method 17 and the stack temperature is no greater than 205 °C (400 °F).

(2) For Method 16, Method 16A or 16B may be used if the sampling time is 60 minutes.

[54 FR 6673, Feb. 14, 1989; 54 FR 21344, May 17, 1989, as amended at 55 FR 5212, Feb. 14, 1990]

## APPENDIX C

**Title 40: Protection of Environment**

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

**Subpart RR—National Emission Standards for Individual Drain Systems**

**Source:** 61 FR 34193, July 1, 1996, unless otherwise noted.

**§ 63.960 Applicability.**

(a) The provisions of this subpart apply to the control of air emissions from individual drain systems for which another subpart of 40 CFR parts 60, 61, or 63 references the use of this subpart for such air emission control. These air emission standards for individual drain systems are placed here for administrative convenience and only apply to those owners and operators of facilities subject to the other subparts that reference this subpart. The provisions of 40 CFR part 63, subpart A—General Provisions do not apply to this subpart except as noted in the subpart that references this subpart.

(b) [Reserved]

**§ 63.961 Definitions.**

All terms used in this subpart shall have the meaning given to them in the Act and in this section. If a term is defined in both this section and in another subpart that references the use of this subpart, then the definition in this subpart shall take precedence when implementing this subpart.

*Closure device* means a cap, cover, hatch, lid, plug, seal, valve, or other type of fitting that, when the device is secured in the closed position, prevents or reduces air emissions to the atmosphere by blocking an opening to the individual drain system. Closure devices include devices that are detachable (e.g., a plug or manhole cover), manually operated (e.g., a hinged access lid or hatch), or automatically operated (e.g., a spring-loaded pressure relief valve).

*Hard-piping* means pipe or tubing that is manufactured and properly installed in accordance with relevant standards (e.g., ANSI B31–3) and good engineering practices.

*Individual drain system* means a stationary system used to convey regulated-material to a waste management unit or to discharge or disposal. The term includes hard-piping, all drains and junction boxes, together with their associated sewer lines and other junction boxes (e.g., manholes, sumps, and lift stations) conveying regulated-material. For the purpose of this subpart, an individual drain system is not a drain and collection system that is designed and operated for the sole purpose of collecting rainfall runoff (e.g., stormwater sewer system) and is segregated from all other individual drain systems.

*Junction box* means a sump, manhole, or access point to a sewer line or a lift station.

*Regulated-material* means the wastewater streams, residuals, and any other materials specified by the referencing subpart to be managed in accordance with the standards under this subpart.

*Sewer line* means a lateral, trunk line, branch line, or other conduit used to convey regulated-material to a downstream waste management unit. Sewer lines include pipes, grates, and trenches.

*Waste management unit* means the equipment, structure, or device used to convey, store, treat, or dispose of regulated-material. Examples of waste management units include: wastewater tanks, surface impoundments, individual drain systems, and biological wastewater treatment units. Examples of equipment that may be waste management units include containers, air flotation units, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units.

*Water seal* means a seal pot, p-leg trap, or other type of trap filled with water (e.g., flooded sewers that maintain liquid levels adequate to prevent air flow through the system) that creates a liquid barrier between the sewer line and the atmosphere. The liquid level of the seal must be maintained in the vertical leg of a drain in order to be considered a water seal.

[61 FR 34193, July 1, 1996, as amended at 64 FR 38989, July 20, 1999]

#### § 63.962 Standards.

(a) The owner or operator subject to this subpart shall control air emissions from the individual drain system using one or a combination of the following:

- (1) Covers, water seals, and other air emission control equipment as specified in paragraph (b) of this section.
- (2) Hard-piping.
- (3) Venting of the individual drain system through a closed vent system to a control device in accordance with the following requirements:
  - (i) The individual drain system is designed and operated such that an internal pressure in the vapor headspace in the system is maintained at a level less than atmospheric pressure when the control device is operating, and
  - (ii) The closed vent system and control device are designed and operated in accordance with the requirements of §63.693 in 40 CFR part 63, subpart DD—National Emission Standards for Hazardous Air Pollutant Standards from Off-Site Waste and Recovery Operations.

(b) Owners and operators controlling air emissions from an individual drain system in accordance with paragraph (a)(1) of this section shall meet the following requirements:

(1) The individual drain system shall be designed to segregate the organic vapors from regulated material managed in the controlled individual drain system from entering any other individual drain system that is not controlled for air emissions in accordance with the standards specified in this subpart.

(2) *Drain control requirements.* Each drain shall be equipped with either a water seal or a closure device in accordance with the following requirements:

(i) When a water seal is used, the water seal shall be designed such that either:

(A) The outlet to the pipe discharging the regulated-material extends below the liquid surface in the water seal of the drain; or

(B) A flexible shield or other device is installed which restricts wind motion across the open space between the outlet of the pipe discharging the regulated material and the drain.

(ii) When a closure device is used (e.g., securing a cap or plug on a drain that is not receiving regulated-material), the closure device shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the drain opening and the closure device.

(3) *Junction box control requirements.* Each junction box shall be equipped with controls as follows:

(i) The junction box shall be equipped with a closure device (e.g., manhole cover, access hatch) that is designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the junction box opening and the closure device.

(ii) If the junction box is vented, the junction box shall be vented in accordance with the following requirements:

(A) The junction box shall be vented through a closed vent system to a control device except as provided for in paragraph (b)(3)(ii)(B) of this section. The closed vent system and control device shall be designed and operated in accordance with the standards specified in §63.693.

(B) As an alternative to paragraph (b)(3)(ii)(A) of this section, the owner or operator may vent the junction box directly to the atmosphere when all of the following conditions are met:

(1) The junction box is filled and emptied by gravity flow (i.e., there is no pump) or is operated with no more than slight fluctuations in the liquid level. Large changes in the size of the junction box vapor headspace created by using a pump to repeatedly empty and then refill the junction box do not meet this condition.

(2) The vent pipe installed on the junction box shall be at least 90 centimeters in length and no greater than 10 centimeters in nominal inside diameter.

(3) Water seals are installed at the liquid entrance(s) to or exit from the junction box to restrict ventilation in the individual drain system and between components in the individual drain system. The owner or operator shall demonstrate (e.g., by visual inspection or smoke test) upon request by the Administrator that the junction box water seal is properly designed and restricts ventilation.

(4) *Sewer line control requirements.* Each sewer line shall not be open to the atmosphere and shall be covered or closed in a manner such that there are no visible cracks, holes, gaps, or other open spaces in the sewer line joints, seals, or other emission interfaces.

(5) *Operating requirements.* The owner or operator shall operate the air emission controls required by paragraphs (b)(2) through (b)(4) of this section in accordance with the following requirements:

(i) Each closure device shall be maintained in a closed position whenever regulated-material is in the individual drain system except when it is necessary to remove or open the closure device for sampling or removing material in the individual drain system, or for equipment inspection, maintenance, or repair.

(ii) Each drain equipped with a water seal and open to the atmosphere shall be operated to ensure that the liquid in the water seal is maintained at the appropriate level. Examples of acceptable means for complying with this provision include but are not limited to using a flow-monitoring device indicating positive flow from a main to a branch water line supplying a trap; continuously dripping water into the trap using a hose; or regular visual observations.

(iii) Each closed-vent system and the control device used to comply with paragraph (b)(3)(ii)(A) of this section shall be operated in accordance with the standards specified in 40 CFR 63.693.

[61 FR 34193, July 1, 1996, as amended at 64 FR 38990, July 20, 1999; 66 FR 1267, Jan. 8, 2001]

§ 63.963 [Reserved]

§ 63.964 Inspection and monitoring requirements.

(a) The owner or operator shall inspect the individual drain system in accordance with the following requirements:

(1) The individual drain system shall be visually inspected by the owner or operator as follows to check for defects that could result in air emissions to the atmosphere.

(i) The owner or operator shall visually inspect each drain as follows:

(A) In the case when the drain is using a water seal to control air emissions, the owner or operator shall verify appropriate liquid levels are being maintained and identify any other defects that could reduce water seal control effectiveness.

(B) In the case when the drain is using a closure device to control air emissions, the owner or operator shall visually inspect each drain to verify that the closure device is in place and there are no defects. Defects include, but are not limited to, visible cracks, holes, or gaps in the closure devices; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing plugs, caps, or other closure devices.

(ii) The owner or operator shall visually inspect each junction box to verify that closure devices are in place and there are no defects. Defects include, but are not limited to, visible cracks, holes, or gaps in the closure devices; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(iii) The owner or operator shall visually inspect the unburied portion of each sewer line to verify that all closure devices are in place and there are no defects. Defects include, but are not limited to, visible cracks, holes, gaps, or other open spaces in the sewer line joints, seals, or other emission interfaces.

(iv) The owner or operator shall perform the inspections initially at the time of installation of the water seals and closure devices for the individual drain system and, thereafter, at least once every year.

(v) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (b) of this section.

(vi) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in §63.965(a) of this subpart.

(2) The owner or operator shall inspect and monitor the closed-vent system and the control device in accordance with the requirements specified in §63.693 in 40 CFR 63 subpart DD—National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations.

(b) The owner or operator shall repair all detected defects as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 15 calendar days after detection except as provided in paragraph (b)(2) of this section.

(2) Repair of a defect may be delayed beyond 15 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the individual drain system and no alternative capacity is available at the facility site to accept the regulated-material normally managed in the individual drain system. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the regulated-material managed in the individual drain system stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(3) The owner or operator shall maintain a record of the defect repair in accordance with the requirements specified in §63.965(a)(3) of this subpart.

[61 FR 34193, July 1, 1996, as amended at 64 FR 38990, July 20, 1999]

#### **§ 63.965 Recordkeeping requirements.**

(a) Each owner or operator complying with §63.962(a)(1) of this subpart shall prepare and maintain the following records:

(1) A written site-specific individual drain system inspection plan that includes a drawing or schematic of the individual drain system and identifies each drain, junction box, and sewer line location.

(2) A record of the date that each inspection required by §63.964(a) of this subpart is performed.

(3) When applicable, a record for each defect detected during inspections required by §63.964(a) of this subpart that includes the following information: the location of the defect, a description of the defect, the date of detection, the corrective action taken to repair the defect, and the date that the corrective action was completed. In the event that repair of the defect is delayed in accordance with the provisions of §63.964(b)(2) of this section, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(b) Owners and operators that use a closed-vent system and a control device in accordance with the provisions of §63.962 shall prepare and maintain the records required for the closed-vent system and control device in accordance with the requirements of §63.693.

[61 FR 34193, July 1, 1996, as amended at 64 FR 38991, July 20, 1999; 66 FR 1267, Jan. 8, 2001]

#### **§ 63.966 Reporting requirements.**

Owners and operators that use a closed-vent system and a control device in accordance with the provisions of §63.962 shall prepare and submit to the Administrator the reports required for closed-vent systems and control devices in accordance with the requirements of §63.693.

[66 FR 1267, Jan. 8, 2001]

#### **§ 63.967 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 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 §§63.960 and 63.962. Where these standards reference subpart DD, the cited provisions will be delegated according to the delegation provisions subpart DD of this part.

(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 37355, June 23, 2003]

## APPENDIX D

## Subpart S—National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry

SOURCE: 63 FR 18617, Apr. 15, 1998, unless otherwise noted.

### § 63.440 Applicability.

(a) The provisions of this subpart apply to the owner or operator of processes that produce pulp, paper, or paperboard; that are located at a plant site that is a major source as defined in § 63.2 of subpart A of this part; and that use the following processes and materials:

(1) Kraft, soda, sulfite, or semi-chemical pulping processes using wood; or

(2) Mechanical pulping processes using wood; or

(3) Any process using secondary or non-wood fibers.

(b) The affected source to which the existing source provisions of this subpart apply is as follows:

(1) For the processes specified in paragraph (a)(1) of this section, the affected source is the total of all HAP emission points in the pulping and bleaching systems; or

(2) For the processes specified in paragraphs (a)(2) or (a)(3) of this section, the affected source is the total of all HAP emission points in the bleaching system.

(c) The new source provisions of this subpart apply to the total of all HAP emission points at new or existing sources as follows:

(1) Each affected source defined in paragraph (b)(1) of this section that commences construction or reconstruction after December 17, 1993;

(2) Each pulping system or bleaching system for the processes specified in paragraph (a)(1) of this section that commences construction or reconstruction after December 17, 1993;

(3) Each additional pulping or bleaching line at the processes specified in paragraph (a)(1) of this section, that commences construction after December 17, 1993;

(4) Each affected source defined in paragraph (b)(2) of this section that commences construction or reconstruction after March 8, 1996; or

(5) Each additional bleaching line at the processes specified in paragraphs (a)(2) or (a)(3) of this section, that commences construction after March 8, 1996.

(d) Each existing source shall achieve compliance no later than April 16, 2001, except as provided in paragraphs (d)(1) through (d)(3) of this section.

(1) Each kraft pulping system shall achieve compliance with the pulping system provisions of § 63.443 for the equipment listed in § 63.443(a)(1)(ii) through (a)(1)(v) as expeditiously as practicable, but in no event later than April 17, 2006 and the owners and operators shall establish dates, update dates, and report the dates for the milestones specified in § 63.455(b).

(2) Each dissolving-grade bleaching system at either kraft or sulfite pulping mills shall achieve compliance with the bleach plant provisions of § 63.445 of this subpart as expeditiously as practicable, but in no event later than 3 years after the promulgation of the revised effluent limitation guidelines and standards under 40 CFR 430.14 through 430.17 and 40 CFR 430.44 through 430.47.

(3) Each bleaching system complying with the Voluntary Advanced Technology Incentives Program for Effluent Limitation Guidelines in 40 CFR 430.24, shall comply with the requirements specified in either paragraph (d)(3)(i) or (d)(3)(ii) of this section for the effluent limitation guidelines and standards in 40 CFR 430.24.

(i) Comply with the bleach plant provisions of § 63.445 of this subpart as expeditiously as practicable, but in no event later than April 16, 2001.

(ii) Comply with paragraphs (d)(3)(ii)(A), (d)(3)(ii)(B), and (d)(3)(ii)(C) of this section.

(A) The owner or operator of a bleaching system shall comply with the bleach plant provisions of § 63.445 of this subpart as expeditiously as practicable, but in no event later than April 15, 2004.

(B) The owner or operator of a bleaching system shall comply with the requirements specified in either paragraph (d)(3)(ii)(B)(1) or (d)(3)(ii)(B)(2) of this section.

(1) Not increase the application rate of chlorine or hypochlorite in kilograms (kg) of bleaching agent per megagram of ODP, in the bleaching system above the average daily rates used over the three months prior to June 15, 1998 until the requirements of paragraph (d)(3)(ii)(A) of this section are met and record application rates as specified in § 63.454(c).

(2) Comply with enforceable effluent limitations guidelines for 2,3,7,8-tetrachloro-dibenzo-p-dioxin and adsorbable organic halides at least as stringent as the baseline BAT levels set out in 40 CFR 430.24(a)(1) as expeditiously as possible, but in no event later than April 16, 2001.

(C) Owners and operators shall establish dates, update dates, and report the dates for the milestones specified in § 63.455(b).

(e) Each new source, specified as the total of all HAP emission points for the sources specified in paragraph (c) of this section, shall achieve compliance upon start-up or June 15, 1998, whichever is later, as provided in § 63.6(b) of subpart A of this part.

(f) Each owner or operator of an affected source with affected process equipment shared by more than one type of pulping process, shall comply with the applicable requirement in this subpart that achieves the maximum degree of reduction in HAP emissions.

(g) Each owner or operator of an affected source specified in paragraphs (a) through (c) of this section must comply with the requirements of subpart A—General Provisions of this part, as indicated in table 1 to this subpart.

[63 FR 18617, Apr. 15, 1998, as amended at 63 FR 71389, Dec. 28, 1998]

#### § 63.441 Definitions.

All terms used in this subpart shall have the meaning given them in the CAA, in subpart A of this part, and in this section as follows:

*Acid condensate storage tank* means any storage tank containing cooking acid following the sulfur dioxide gas fortification process.

*Black liquor* means spent cooking liquor that has been separated from the pulp produced by the kraft, soda, or semi-chemical pulping process.

*Bleaching* means brightening of pulp by the addition of oxidizing chemicals or reducing chemicals.

*Bleaching line* means a group of bleaching stages arranged in series such that bleaching of the pulp progresses as the pulp moves from one stage to the next.

*Bleaching stage* means all process equipment associated with a discrete step of chemical application and removal in the bleaching process including chemical and steam mixers, bleaching towers, washers, seal (filtrate) tanks, vacuum pumps, and any other equipment serving the same function as those previously listed.

*Bleaching system* means all process equipment after high-density pulp storage prior to the first application of oxidizing chemicals or reducing chemicals following the pulping system, up to and including the final bleaching stage.

*Boiler* means any enclosed combustion device that extracts useful energy in the form of steam. A boiler is not considered a thermal oxidizer.

*Chip steamer* means a vessel used for the purpose of preheating or pretreating wood chips prior to the digester, using flash steam from the digester or live steam.

*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, including but not limited to, a thermal oxidizer, lime kiln, recovery furnace, process heater, or boiler, used for the thermal oxidation of organic hazardous air pollutant vapors.

*Decker system* means all equipment used to thicken the pulp slurry or reduce its liquid content after the pulp washing system and prior to high-density pulp storage. The decker system includes decker vents, filtrate tanks, associated vacuum pumps, and any other equipment serving the same function as those previously listed.

*Digester system* means each continuous digester or each batch digester used for the chemical treatment of wood or non-wood fibers. The digester

system equipment includes associated flash tank(s), blow tank(s), chip steamer(s) not using fresh steam, blow heat recovery accumulator(s), relief gas condenser(s), prehydrolysis unit(s) preceding the pulp washing system, and any other equipment serving the same function as those previously listed. The digester system includes any of the liquid streams or condensates associated with batch or continuous digester relief, blow, or flash steam processes.

*Emission point* means any part of a stationary source that emits hazardous air pollutants regulated under this subpart, including emissions from individual process vents, stacks, open pieces of process equipment, equipment leaks, wastewater and condensate collection and treatment system units, and those emissions that could reasonably be conveyed through a stack, chimney, or duct where such emissions first reach the environment.

*Evaporator system* means all equipment associated with increasing the solids content and/or concentrating spent cooking liquor from the pulp washing system including pre-evaporators, multi-effect evaporators, concentrators, and vacuum systems, as well as associated condensers, hotwells, and condensate streams, and any other equipment serving the same function as those previously listed.

*Flow indicator* means any device that indicates gas or liquid flow in an enclosed system.

*HAP* means a hazardous air pollutant as defined in § 63.2 of subpart A of this part.

*High volume, low concentration or HVLC collection system* means the gas collection and transport system used to convey gases from the HVLC system to a control device.

*High volume, low concentration or HVLC system* means the collection of equipment including the pulp washing, knotter, screen, decker, and oxygen delignification systems, weak liquor storage tanks, and any other equipment serving the same function as those previously listed.

*Knotter system* means equipment where knots, oversized material, or pieces of uncooked wood are removed from the pulp slurry after the digester system and prior to the pulp washing

system. The knotter system equipment includes the knotter, knot drainer tanks, ancillary tanks, and any other equipment serving the same function as those previously listed.

*Kraft pulping* means a chemical pulping process that uses a mixture of sodium hydroxide and sodium sulfide as the cooking liquor.

*Lime kiln* means an enclosed combustion device used to calcine lime mud, which consists primarily of calcium carbonate, into calcium oxide.

*Low volume, high concentration or LVHC collection system* means the gas collection and transport system used to convey gases from the LVHC system to a control device.

*Low volume, high concentration or LVHC system* means the collection of equipment including the digester, turpentine recovery, evaporator, steam stripper systems, and any other equipment serving the same function as those previously listed.

*Mechanical pulping* means a pulping process that only uses mechanical and thermo-mechanical processes to reduce wood to a fibrous mass. The mechanical pulping processes include, but are not limited to, stone groundwood, pressurized groundwood, refiner mechanical, thermal refiner mechanical, thermo-mechanical, and tandem thermo-mechanical.

*Non-wood pulping* means the production of pulp from fiber sources other than trees. The non-wood fiber sources include, but are not limited to, bagasse, cereal straw, cotton, flax straw, hemp, jute, kenaf, and leaf fibers.

*Oven-dried pulp or ODP* means a pulp sample at zero percent moisture content by weight. Pulp samples for applicability or compliance determinations for both the pulping and bleaching systems shall be unbleached pulp. For purposes of complying with mass emission limits in this subpart, megagram of ODP shall be measured to represent the amount of pulp entering and processed by the equipment system under the specified mass limit. For equipment that does not process pulp, megagram of ODP shall be measured to represent the amount of pulp that was processed to produce the gas and liquid streams.

*Oxygen delignification system* means the equipment that uses oxygen to remove lignin from pulp after high-density stock storage and prior to the bleaching system. The oxygen delignification system equipment includes the blow tank, washers, filtrate tanks, any interstage pulp storage tanks, and any other equipment serving the same function as those previously listed.

*Primary fuel* means the fuel that provides the principal heat input to the combustion device. To be considered primary, the fuel must be able to sustain operation of the combustion device without the addition of other fuels.

*Process wastewater treatment system* means a collection of equipment, a process, or specific technique that removes or destroys the HAPs in a process wastewater stream. Examples include, but are not limited to, a steam stripping unit, wastewater thermal oxidizer, or biological treatment unit.

*Pulp washing system* means all equipment used to wash pulp and separate spent cooking chemicals following the digester system and prior to the bleaching system, oxygen delignification system, or paper machine system (at unbleached mills). The pulp washing system equipment includes vacuum drum washers, diffusion washers, rotary pressure washers, horizontal belt filters, intermediate stock chests, and their associated vacuum pumps, filtrate tanks, foam breakers or tanks, and any other equipment serving the same function as those previously listed. The pulp washing system does not include deckers, screens, knotters, stock chests, or pulp storage tanks following the last stage of pulp washing.

*Pulping line* means a group of equipment arranged in series such that the wood chips are digested and the resulting pulp progresses through a sequence of steps that may include knotting, refining, washing, thickening, blending, storing, oxygen delignification, and any other equipment serving the same function as those previously listed.

*Pulping process condensates* means any HAP-containing liquid that results from contact of water with organic compounds in the pulping process. Ex-

amples of process condensates include digester system condensates, turpentine recovery system condensates, evaporator system condensates, LVHC system condensates, HVLC system condensates, and any other condensates from equipment serving the same function as those previously listed. Liquid streams that are intended for byproduct recovery are not considered process condensate streams.

*Pulping system* means all process equipment, beginning with the digester system, and up to and including the last piece of pulp conditioning equipment prior to the bleaching system, including treatment with ozone, oxygen, or peroxide before the first application of a chemical bleaching agent intended to brighten pulp. The pulping system includes pulping process condensates and can include multiple pulping lines.

*Recovery furnace* means an enclosed combustion device where concentrated spent liquor is burned to recover sodium and sulfur, produce steam, and dispose of unwanted dissolved wood components in the liquor.

*Screen system* means equipment in which oversized particles are removed from the pulp slurry prior to the bleaching or papermaking system washed stock storage.

*Secondary fiber pulping* means a pulping process that converts a fibrous material, that has previously undergone a manufacturing process, into pulp stock through the addition of water and mechanical energy. The mill then uses that pulp as the raw material in another manufactured product. These mills may also utilize chemical, heat, and mechanical processes to remove ink particles from the fiber stock.

*Semi-chemical pulping* means a pulping process that combines both chemical and mechanical pulping processes. The semi-chemical pulping process produces intermediate yields ranging from 55 to 90 percent.

*Soda pulping* means a chemical pulping process that uses sodium hydroxide as the active chemical in the cooking liquor.

*Spent liquor* means process liquid generated from the separation of cooking liquor from pulp by the pulp washing system containing dissolved organic

wood materials and residual cooking compounds.

*Steam stripper system* means a column (including associated stripper feed tanks, condensers, or heat exchangers) used to remove compounds from waste-water or condensates using steam. The steam stripper system also contains all equipment associated with a methanol rectification process including rectifiers, condensers, decanters, storage tanks, and any other equipment serving the same function as those previously listed.

*Strong liquor storage tanks* means all storage tanks containing liquor that has been concentrated in preparation for combustion or oxidation in the recovery process.

*Sulfite pulping* means a chemical pulping process that uses a mixture of sulfurous acid and bisulfite ion as the cooking liquor.

*Temperature monitoring device* means a piece of equipment used to monitor temperature and having an accuracy of  $\pm 1.0$  percent of the temperature being monitored expressed in degrees Celsius or  $\pm 0.5$  degrees Celsius ( $^{\circ}\text{C}$ ), whichever is greater.

*Thermal oxidizer* means an enclosed device that destroys organic compounds by thermal oxidation.

*Turpentine recovery system* means all equipment associated with recovering turpentine from digester system gases including condensers, decanters, storage tanks, and any other equipment serving the same function as those previously listed. The turpentine recovery system includes any liquid streams associated with the turpentine recovery process such as turpentine decanter underflow. Liquid streams that are intended for byproduct recovery are not considered turpentine recovery system condensate streams.

*Weak liquor storage tank* means any storage tank except washer filtrate tanks containing spent liquor recovered from the pulping process and prior to the evaporator system.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

§ 63.442 [Reserved]

§ 63.443 Standards for the pulping system at kraft, soda, and semi-chemical processes.

(a) The owner or operator of each pulping system using the kraft process subject to the requirements of this subpart shall control the total HAP emissions from the following equipment systems, as specified in paragraphs (c) and (d) of this section.

(1) At existing affected sources, the total HAP emissions from the following equipment systems shall be controlled:

(i) Each LVHC system;

(ii) Each knotter or screen system with total HAP mass emission rates greater than or equal to the rates specified in paragraphs (a)(1)(ii)(A) or (a)(1)(ii)(B) of this section or the combined rate specified in paragraph (a)(1)(ii)(C) of this section.

(A) Each knotter system with emissions of 0.05 kilograms or more of total HAP per megagram of ODP (0.1 pounds per ton).

(B) Each screen system with emissions of 0.10 kilograms or more of total HAP per megagram of ODP (0.2 pounds per ton).

(C) Each knotter and screen system with emissions of 0.15 kilograms or more of total HAP per megagram of ODP (0.3 pounds per ton).

(iii) Each pulp washing system;

(iv) Each decker system that:

(A) Uses any process water other than fresh water or paper machine white water; or

(B) Uses any process water with a total HAP concentration greater than 400 parts per million by weight; and

(v) Each oxygen delignification system.

(2) At new affected sources, the total HAP emissions from the equipment systems listed in paragraphs (a)(1)(i), (a)(1)(iii), and (a)(1)(v) of this section and the following equipment systems shall be controlled:

(i) Each knotter system;

(ii) Each screen system;

(iii) Each decker system; and

(iv) Each weak liquor storage tank.

(b) The owner or operator of each pulping system using a semi-chemical or soda process subject to the requirements of this subpart shall control the total HAP emissions from the following equipment systems as specified in paragraphs (c) and (d) of this section.

(1) At each existing affected source, the total HAP emissions from each LVHC system shall be controlled.

(2) At each new affected source, the total HAP emissions from each LVHC system and each pulp washing system shall be controlled.

(c) Equipment systems listed in paragraphs (a) and (b) of this section shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (d) of this section. The enclosures and closed-vent system shall meet the requirements specified in § 63.450.

(d) The control device used to reduce total HAP emissions from each equipment system listed in paragraphs (a) and (b) of this section shall:

(1) Reduce total HAP emissions by 98 percent or more by weight; or

(2) Reduce the total HAP concentration at the outlet of the thermal oxidizer to 20 parts per million or less by volume, corrected to 10 percent oxygen on a dry basis; or

(3) Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 871 °C (1600 °F) and a minimum residence time of 0.75 seconds; or

(4) Reduce total HAP emissions using a boiler, lime kiln, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone.

(e) Periods of excess emissions reported under § 63.455 shall not be a violation of § 63.443 (c) and (d) provided that the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed the following levels:

(1) One percent for control devices used to reduce the total HAP emissions from the LVHC system; and

(2) Four percent for control devices used to reduce the total HAP emissions from the HVLC system; and

(3) Four percent for control devices used to reduce the total HAP emissions from both the LVHC and HVLC systems.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

**§ 63.444 Standards for the pulping system at sulfite processes.**

(a) The owner or operator of each sulfite process subject to the requirements of this subpart shall control the total HAP emissions from the following equipment systems as specified in paragraphs (b) and (c) of this section.

(1) At existing sulfite affected sources, the total HAP emissions from the following equipment systems shall be controlled:

- (i) Each digester system vent;
- (ii) Each evaporator system vent; and
- (iii) Each pulp washing system.

(2) At new affected sources, the total HAP emissions from the equipment systems listed in paragraph (a)(1) of this section and the following equipment shall be controlled:

- (i) Each weak liquor storage tank;
- (ii) Each strong liquor storage tank; and
- (iii) Each acid condensate storage tank.

(b) Equipment listed in paragraph (a) of this section shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (c) of this section. The enclosures and closed-vent system shall meet the requirements specified in § 63.450. Emissions from equipment listed in paragraph (a) of this section that is not necessary to be reduced to meet paragraph (c) of this section is not required to be routed to a control device.

(c) The total HAP emissions from both the equipment systems listed in paragraph (a) of this section and the vents, wastewater, and condensate streams from the control device used to reduce HAP emissions, shall be controlled as follows.

(1) Each calcium-based or sodium-based sulfite pulping process shall:

(i) Emit no more than 0.44 kilograms of total HAP or methanol per megagram (0.89 pounds per ton) of ODP; or

(ii) Remove 92 percent or more by weight of the total HAP or methanol.

(2) Each magnesium-based or ammonium-based sulfite pulping process shall:

(i) Emit no more than 1.1 kilograms of total HAP or methanol per megagram (2.2 pounds per ton) of ODP; or

(ii) Remove 87 percent or more by weight of the total HAP or methanol.

**§ 63.445 Standards for the bleaching system.**

(a) Each bleaching system that does not use any chlorine or chlorinated compounds for bleaching is exempt from the requirements of this section. Owners or operators of the following bleaching systems shall meet all the provisions of this section:

(1) Bleaching systems that use chlorine;

(2) Bleaching systems bleaching pulp from kraft, sulfite, or soda pulping processes that use any chlorinated compounds; or

(3) Bleaching systems bleaching pulp from mechanical pulping processes using wood or from any process using secondary or non-wood fibers, that use chlorine dioxide.

(b) The equipment at each bleaching stage, of the bleaching systems listed in paragraph (a) of this section, where chlorinated compounds are introduced shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (c) of this section. The enclosures and closed-vent system shall meet the requirements specified in § 63.450. If process modifications are used to achieve compliance with the emission limits specified in paragraphs (c)(2) or (c)(3), enclosures and closed-vent systems are not required, unless appropriate.

(c) The control device used to reduce chlorinated HAP emissions (not including chloroform) from the equipment specified in paragraph (b) of this section shall:

(1) Reduce the total chlorinated HAP mass in the vent stream entering the

control device by 99 percent or more by weight;

(2) Achieve a treatment device outlet concentration of 10 parts per million or less by volume of total chlorinated HAP; or

(3) Achieve a treatment device outlet mass emission rate of 0.001 kg of total chlorinated HAP mass per megagram (0.002 pounds per ton) of ODP.

(d) The owner or operator of each bleaching system subject to paragraph (a)(2) of this section shall comply with paragraph (d)(1) or (d)(2) of this section to reduce chloroform air emissions to the atmosphere, except the owner or operator of each bleaching system complying with extended compliance under § 63.440(d)(3)(ii) shall comply with paragraph (d)(1) of this section.

(1) Comply with the following applicable effluent limitation guidelines and standards specified in 40 CFR part 430:

(i) Dissolving-grade kraft bleaching systems and lines, 40 CFR 430.14 through 430.17;

(ii) Paper-grade kraft and soda bleaching systems and lines, 40 CFR 430.24(a)(1) and (e), and 40 CFR 430.26 (a) and (c);

(iii) Dissolving-grade sulfite bleaching systems and lines, 40 CFR 430.44 through 430.47; or

(iv) Paper-grade sulfite bleaching systems and lines, 40 CFR 430.54(a) and (c), and 430.56(a) and (c).

(2) Use no hypochlorite or chlorine for bleaching in the bleaching system or line.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

**§ 63.446 Standards for kraft pulping process condensates.**

(a) The requirements of this section apply to owners or operators of kraft processes subject to the requirements of this subpart.

(b) The pulping process condensates from the following equipment systems shall be treated to meet the requirements specified in paragraphs (c), (d), and (e) of this section:

(1) Each digester system;

(2) Each turpentine recovery system;

(3) Each evaporator system condensate from:

(i) The vapors from each stage where weak liquor is introduced (feed stages); and

(ii) Each evaporator vacuum system for each stage where weak liquor is introduced (feed stages).

- (4) Each HVLC collection system; and
- (5) Each LVHC collection system.

(c) One of the following combinations of HAP-containing pulping process condensates generated, produced, or associated with the equipment systems listed in paragraph (b) of this section shall be subject to the requirements of paragraphs (d) and (e) of this section:

(1) All pulping process condensates from the equipment systems specified in paragraphs (b)(1) through (b)(5) of this section.

(2) The combined pulping process condensates from the equipment systems specified in paragraphs (b)(4) and (b)(5) of this section, plus pulping process condensate stream(s) that in total contain at least 65 percent of the total HAP mass from the pulping process condensates from equipment systems listed in paragraphs (b)(1) through (b)(3) of this section.

(3) The pulping process condensates from equipment systems listed in paragraphs (b)(1) through (b)(5) of this section that in total contain a total HAP mass of 3.6 kilograms or more of total HAP per megagram (7.2 pounds per ton) of ODP for mills that do not perform bleaching or 5.5 kilograms or more of total HAP per megagram (11.1 pounds per ton) of ODP for mills that perform bleaching.

(d) The pulping process condensates from the equipment systems listed in paragraph (b) of this section shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in paragraphs (d)(1) and (d)(2) of this section.

(1) Each closed collection system shall meet the individual drain system requirements specified in §§ 63.960, 63.961, and 63.962 of subpart RR of this part, except closed-vent systems and control devices shall be designed and operated in accordance with §§ 63.443(d) and 63.450, instead of in accordance with § 63.962(a)(3)(ii), (b)(3)(ii)(A), and (b)(3)(ii)(B)(5)(iii); and

(2) If a condensate tank is used in the closed collection system, the tank shall meet the following requirements:

(i) The fixed roof and all openings (e.g., access hatches, sampling ports, gauge wells) shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements in § 63.450 and routed to a control device that meets the requirements in § 63.443(d); and

(ii) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that the tank contains pulping process condensates or any HAP removed from a pulping process condensate stream except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

(e) Each pulping process condensate from the equipment systems listed in paragraph (b) of this section shall be treated according to one of the following options:

(1) Recycle the pulping process condensate to an equipment system specified in § 63.443(a) meeting the requirements specified in § 63.443(c) and (d); or

(2) Discharge the pulping process condensate below the liquid surface of a biological treatment system meeting the requirement specified in paragraph (e)(3) of this section; or

(3) Treat the pulping process condensates to reduce or destroy the total HAPs by at least 92 percent or more by weight; or

(4) At mills that do not perform bleaching, treat the pulping process condensates to remove 3.3 kilograms or more of total HAP per megagram (6.6 pounds per ton) of ODP, or achieve a total HAP concentration of 210 parts per million or less by weight at the outlet of the control device; or

(5) At mills that perform bleaching, treat the pulping process condensates to remove 5.1 kilograms or more of total HAP per megagram (10.2 pounds per ton) of ODP, or achieve a total HAP concentration of 330 parts per million or less by weight at the outlet of the control device.

(f) Each HAP removed from a pulping process condensate stream during treatment and handling under paragraphs (d) or (e) of this section, except for those treated according to paragraph (e)(2) of this section, shall be controlled as specified in § 63.443(c) and (d).

(g) For each control device (e.g. steam stripper system or other equipment serving the same function) used to treat pulping process condensates to comply with the requirements specified in paragraphs (e)(3) through (e)(5) of this section, periods of excess emissions reported under § 63.455 shall not be a violation of paragraphs (d), (e)(3) through (e)(5), and (f) of this section provided that the time of excess emissions (including periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed 10 percent. The 10 percent excess emissions allowance does not apply to treatment of pulping process condensates according to paragraph (e)(2) of this section (e.g. the biological wastewater treatment system used to treat multiple (primarily non-condensate) wastewater streams to comply with the Clean Water Act).

(h) Each owner or operator of a new or existing affected source subject to the requirements of this section shall evaluate all new or modified pulping process condensates or changes in the annual bleached or non-bleached ODP used to comply with paragraph (i) of this section, to determine if they meet the applicable requirements of this section.

(i) For the purposes of meeting the requirements in paragraphs (c)(3), (e)(4), or (e)(5) of this section at mills producing both bleached and unbleached pulp products, owners and operators may meet a prorated mass standard that is calculated by prorating the applicable mass standards (kilograms of total HAP per megagram of ODP) for bleached and unbleached pulp products specified in paragraphs (c)(3), (e)(4), or (e)(5) of this section by the ratio of annual megagrams of bleached and unbleached ODP.

[63 FR 18617, Apr. 15, 1998; 63 FR 42239, Aug. 7, 1998, as amended at 63 FR 49459, Sept. 16, 1998; 64 FR 17563, Apr. 12, 1999]

#### § 63.447 Clean condensate alternative.

As an alternative to the requirements specified in § 63.443(a)(1)(ii) through (a)(1)(v) for the control of HAP emissions from pulping systems using the kraft process, an owner or operator must demonstrate to the satisfaction of the Administrator, by meeting all the requirements below, that the total HAP emissions reductions achieved by this clean condensate alternative technology are equal to or greater than the total HAP emission reductions that would have been achieved by compliance with § 63.443(a)(1)(ii) through (a)(1)(v).

(a) For the purposes of this section only the following additional definitions apply.

(1) *Clean condensate alternative affected source* means the total of all HAP emission points in the pulping, bleaching, causticizing, and papermaking systems (exclusive of HAP emissions attributable to additives to paper machines and HAP emission points in the LVHC system).

(2) *Causticizing system* means all equipment associated with converting sodium carbonate into active sodium hydroxide. The equipment includes smelt dissolving tanks, lime mud washers and storage tanks, white and mud liquor clarifiers and storage tanks, slakers, slaker grit washers, lime kilns, green liquor clarifiers and storage tanks, and dreg washers ending with the white liquor storage tanks prior to the digester system, and any other equipment serving the same function as those previously listed.

(3) *Papermaking system* means all equipment used to convert pulp into paper, paperboard, or market pulp, including the stock storage and preparation systems, the paper or paperboard machines, and the paper machine white water system, broke recovery systems, and the systems involved in calendering, drying, on-machine coating, slitting, winding, and cutting.

(b) Each owner or operator shall install and operate a clean condensate alternative technology with a continuous monitoring system to reduce total HAP emissions by treating and reducing HAP concentrations in the pulping process water used within the clean condensate alternative affected source.

(c) Each owner or operator shall calculate HAP emissions on a kilogram per megagram of ODP basis and measure HAP emissions according to the appropriate procedures contained in §63.457.

(d) Each owner or operator shall determine the baseline HAP emissions for each equipment system and the total of all equipment systems in the clean condensate alternative affected source based on the following:

(1) Process and air pollution control equipment installed and operating on December 17, 1993, and

(2) Compliance with the following requirements that affect the level of HAP emissions from the clean condensate alternative affected source:

(i) The pulping process condensates requirements in §63.446;

(ii) The applicable effluent limitation guidelines and standards in 40 CFR part 430, subparts A, B, D, and E; and

(iii) All other applicable requirements of local, State, or Federal agencies or statutes.

(e) Each owner or operator shall determine the following HAP emission reductions from the baseline HAP emissions determined in paragraph (d) of this section for each equipment system and the total of all equipment systems in the clean condensate alternative affected source:

(1) The HAP emission reduction occurring by complying with the requirements of §63.443(a)(1)(ii) through (a)(1)(v); and

(2) The HAP emissions reduction occurring by complying with the clean condensate alternative technology.

(f) For the purposes of all requirements in this section, each owner or operator may use as an alternative, individual equipment systems (instead of total of all equipment systems) within the clean condensate alternative affected source to determine emissions and reductions to demonstrate equal or greater than the reductions that would have been achieved by compliance with §63.443(a)(1)(ii) through (a)(1)(v).

(g) The initial and updates to the control strategy report specified in §63.455(b) shall include to the extent possible the following information:

(1) A detailed description of:

(i) The equipment systems and emission points that comprise the clean condensate alternative affected source;

(ii) The air pollution control technologies that would be used to meet the requirements of §63.443(a)(1)(ii) through (a)(1)(v); and

(iii) The clean condensate alternative technology to be used.

(2) Estimates and basis for the estimates of total HAP emissions and emission reductions to fulfill the requirements of paragraphs (d), (e), and (f) of this section.

(h) Each owner or operator shall report to the Administrator by the applicable compliance date specified in §63.440(d) or (e) the rationale, calculations, test procedures, and data documentation used to demonstrate compliance with all the requirements of this section.

[63 FR 18617, Apr. 15, 1998; 63 FR 42239, Aug. 7, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

§§ 63.448-63.449 [Reserved]

§63.450 Standards for enclosures and closed-vent systems.

(a) Each enclosure and closed-vent system specified in §§63.443(c), 63.444(b), and 63.445(b) for capturing and transporting vent streams that contain HAP shall meet the requirements specified in paragraphs (b) through (d) of this section.

(b) Each enclosure shall maintain negative pressure at each enclosure or hood opening as demonstrated by the procedures specified in §63.457(e). Each enclosure or hood opening closed during the initial performance test specified in §63.457(a) shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs.

(c) Each component of the closed-vent system used to comply with §§63.443(c), 63.444(b), and 63.445(b) that is operated at positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above

background, as measured by the procedures specified in § 63.457(d).

(d) Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations in §§ 63.443, 63.444, or 63.445 shall comply with either of the following requirements:

(1) On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to manufacturer's specifications a flow indicator that provides a record of the presence of gas stream flow in the bypass line at least once every 15 minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or

(2) For bypass line valves that are not computer controlled, the owner or operator shall maintain the bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that valve or closure mechanism cannot be opened without breaking the seal.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

#### §§ 63.451-63.452 [Reserved]

#### § 63.453 Monitoring requirements.

(a) Each owner or operator subject to the standards specified in §§ 63.443(c) and (d), 63.444(b) and (c), 63.445(b) and (c), 63.446(c), (d), and (e), 63.447(b) or 63.450(d), shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS, as defined in § 63.2 of this part) as specified in paragraphs (b) through (m) of this section, except as allowed in paragraph (m) of this section. The CMS shall include a continuous recorder.

(b) A CMS shall be operated to measure the temperature in the firebox or in the ductwork immediately downstream of the firebox and before any substantial heat exchange occurs for each thermal oxidizer used to comply with the requirements of § 63.443(d)(1) through (d)(3). Owners and operators complying with the HAP concentration requirements in § 63.443(d)(2) may install a CMS to monitor the thermal oxidizer outlet total HAP or methanol

concentration, as an alternative to monitoring thermal oxidizer operating temperature.

(c) A CMS shall be operated to measure the following parameters for each gas scrubber used to comply with the bleaching system requirements of § 63.445(c) or the sulfite pulping system requirements of § 63.444(c).

(1) The pH or the oxidation/reduction potential of the gas scrubber effluent;

(2) The gas scrubber vent gas inlet flow rate; and

(3) The gas scrubber liquid influent flow rate.

(d) As an option to the requirements specified in paragraph (c) of this section, a CMS shall be operated to measure the chlorine outlet concentration of each gas scrubber used to comply with the bleaching system outlet concentration requirement specified in § 63.445(c)(2).

(e) The owner or operator of a bleaching system complying with 40 CFR 430.24, shall monitor the chlorine and hypochlorite application rates, in kg of bleaching agent per megagram of ODP, of the bleaching system during the extended compliance period specified in § 63.440(d)(3).

(f) A CMS shall be operated to measure the gas scrubber parameters specified in paragraphs (c)(1) through (c)(3) of this section or those site specific parameters determined according to the procedures specified in paragraph (n) of this section to comply with the sulfite pulping system requirements specified in § 63.444(c).

(g) A CMS shall be operated to measure the following parameters for each steam stripper used to comply with the treatment requirements in § 63.446(e)(3), (4), or (5):

(1) The process wastewater feed rate;

(2) The steam feed rate; and

(3) The process wastewater column feed temperature.

(h) As an option to the requirements specified in paragraph (g) of this section, a CMS shall be operated to measure the methanol outlet concentration to comply with the steam stripper outlet concentration requirement specified in § 63.446(e)(4) or (e)(5).

(i) A CMS shall be operated to measure the appropriate parameters determined according to the procedures

specified in paragraph (n) of this section to comply with the condensate applicability requirements specified in § 63.446(c).

(j) Each owner or operator using a biological treatment system to comply with § 63.446(e)(2) shall perform the following monitoring procedures.

(1) On a daily basis, monitor the following parameters for each biological treatment unit:

(i) Composite daily sample of outlet soluble BOD<sub>5</sub> concentration to monitor for maximum daily and maximum monthly average;

(ii) Mixed liquor volatile suspended solids;

(iii) Horsepower of aerator unit(s);

(iv) Inlet liquid flow; and

(v) Liquid temperature.

(2) Obtain daily inlet and outlet liquid grab samples from each biological treatment unit to have HAP data available to perform quarterly percent reduction tests specified in paragraph (j)(2)(ii) of this section and the compliance percent reduction tests specified in paragraph (p)(1)(i) of this section. Perform the following procedures with the liquid samples:

(i) Store the samples for 5 days as specified in § 63.457(n). The 5 day storage requirement is required since the soluble BOD<sub>5</sub> test requires 5 days to obtain results. If the results of the soluble BOD<sub>5</sub> test are outside of the range established during the initial performance test, then the archive sample shall be used to perform the percent reduction test specified in § 63.457(1).

(ii) Perform the percent reduction test procedures specified in § 63.457(1) within 45 days after the beginning of each quarter as follows.

(A) The percent reduction test performed in the first quarter (annually) shall be performed for total HAP and the percent reduction obtained from the test shall be at least as great as the total HAP reduction specified in § 63.446(e)(2).

(B) The remaining quarterly percent reduction tests shall be performed for methanol and the percent reduction obtained from the test shall be at least as great as the methanol reduction determined in the previous first-quarter test specified in paragraph (j)(2)(ii)(A) of this section.

(C) The parameter values used to calculate the percent reductions required in paragraphs (j)(2)(ii)(A) and (j)(2)(ii)(B) of this section shall be parameter values measured and samples taken in paragraph (j)(1) of this section.

(k) Each enclosure and closed-vent system used to comply with § 63.450(a) shall comply with the requirements specified in paragraphs (k)(1) through (k)(6) of this section.

(1) For each enclosure opening, a visual inspection of the closure mechanism specified in § 63.450(b) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.

(2) Each closed-vent system required by § 63.450(a) shall be visually inspected every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects.

(3) For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks as specified in § 63.450(c) measured initially and annually by the procedures in § 63.457(d).

(4) Demonstrate initially and annually that each enclosure opening is maintained at negative pressure as specified in § 63.457(e).

(5) The valve or closure mechanism specified in § 63.450(d)(2) shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.

(6) If an inspection required by paragraphs (k)(1) through (k)(5) of this section identifies visible defects in ductwork, piping, enclosures or connections to covers required by § 63.450, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable.

(i) A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than

5 calendar days after the problem is identified.

(ii) The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified. Delay of repair or corrective action is allowed if the repair or corrective action is technically infeasible without a process unit shutdown or if the owner or operator determines that the emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

(1) Each pulping process condensate closed collection system used to comply with § 63.446(d) shall comply with the requirements specified in paragraphs (1)(1) through (1)(3) of this section.

(1) Each pulping process condensate closed collection system shall be visually inspected every 30 days and shall comply with the inspection and monitoring requirements specified in § 63.964 of subpart RR of this part, except:

(i) Owners or operators shall comply with the recordkeeping requirements of § 63.454 instead of the requirements specified in § 63.964(a)(1)(vi) and (b)(3) of subpart RR of this part.

(ii) Owners or operators shall comply with the inspection and monitoring requirements for closed-vent systems and control devices specified in paragraphs (a) and (k) of this section instead of the requirements specified in § 63.964(a)(2) of subpart RR of this part.

(2) Each condensate tank used in the closed collection system shall be operated with no detectable leaks as specified in § 63.446(d)(2)(i) measured initially and annually by the procedures specified in § 63.457(d).

(3) If an inspection required by this section identifies visible defects in the closed collection system, or if an instrument reading of 500 parts per million or greater above background is measured, then corrective actions specified in § 63.964(b) of subpart RR of this part shall be taken.

(m) Each owner or operator using a control device, technique or an alternative parameter other than those specified in paragraphs (b) through (l) of this section shall install a CMS and

establish appropriate operating parameters to be monitored that demonstrate, to the Administrator's satisfaction, continuous compliance with the applicable control requirements.

(n) To establish or reestablish, the value for each operating parameter required to be monitored under paragraphs (b) through (j), (l), and (m) of this section or to establish appropriate parameters for paragraphs (f), (i), and (m) of this section, each owner or operator shall use the following procedures:

(1) During the initial performance test required in § 63.457(a) or any subsequent performance test, continuously record the operating parameter;

(2) Determinations shall be based on the control performance and parameter data monitored during the performance test, supplemented if necessary by engineering assessments and the manufacturer's recommendations;

(3) The owner or operator shall provide for the Administrator's approval the rationale for selecting the monitoring parameters necessary to comply with paragraphs (f), (i), and (m) of this section; and

(4) Provide for the Administrator's approval the rationale for the selected operating parameter value, and monitoring frequency, and averaging time. Include all data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the applicable emission standard.

(o) Each owner or operator of a control device subject to the monitoring provisions of this section shall operate the control device in a manner consistent with the minimum or maximum (as appropriate) operating parameter value or procedure required to be monitored under paragraphs (a) through (n) of this section and established under this subpart. Except as provided in paragraph (p) of this section, § 63.443(e), or § 63.446(g), operation of the control device below minimum operating parameter values or above maximum operating parameter values established under this subpart or failure to perform procedures required by this subpart shall constitute a violation of the applicable emission standard of this

subpart and be reported as a period of excess emissions.

(p) Each owner or operator of a biological treatment system complying with paragraph (j) of this section shall perform all the following requirements when the monitoring parameters specified in paragraphs (j)(1)(i) through (j)(1)(iii) of this section are below minimum operating parameter values or above maximum operating parameter values established in paragraph (n) of this section.

(1) The following shall occur and be recorded as soon as practical:

(i) Determine compliance with § 63.446(e)(2) using the percent reduction test procedures specified in § 63.457(l) and the monitoring data specified in paragraph (j)(1) of this section that coincide with the time period of the parameter excursion;

(ii) Steps shall be taken to repair or adjust the operation of the process to end the parameter excursion period; and

(iii) Steps shall be taken to minimize total HAP emissions to the atmosphere during the parameter excursion period.

(2) A parameter excursion is not a violation of the applicable emission standard if the percent reduction test specified in paragraph (p)(1)(i) of this section demonstrates compliance with § 63.446(e)(2), and no maintenance or changes have been made to the process or control device after the beginning of a parameter excursion that would influence the results of the determination.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

#### § 63.454 Recordkeeping requirements.

(a) The owner or operator of each affected source subject to the requirements of this subpart shall comply with the recordkeeping requirements of § 63.10 of subpart A of this part, as shown in table 1, and the requirements specified in paragraphs (b) through (d) of this section for the monitoring parameters specified in § 63.453.

(b) For each applicable enclosure opening, closed-vent system, and closed collection system, the owner or operator shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the compo-

nents of applicable affected equipment and shall record the following information for each inspection:

(1) Date of inspection;

(2) The equipment type and identification;

(3) Results of negative pressure tests for enclosures;

(4) Results of leak detection tests;

(5) The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);

(6) The date the defect or leak was detected and the date of each attempt to repair the defect or leak;

(7) Repair methods applied in each attempt to repair the defect or leak;

(8) The reason for the delay if the defect or leak is not repaired within 15 days after discovery;

(9) The expected date of successful repair of the defect or leak if the repair is not completed within 15 days;

(10) The date of successful repair of the defect or leak;

(11) The position and duration of opening of bypass line valves and the condition of any valve seals; and

(12) The duration of the use of bypass valves on computer controlled valves.

(c) The owner or operator of a bleaching system complying with § 63.440(d)(3)(ii)(B) shall record the daily average chlorine and hypochlorite application rates, in kg of bleaching agent per megagram of ODP, of the bleaching system until the requirements specified in § 63.440(d)(3)(ii)(A) are met.

(d) The owner or operator shall record the CMS parameters specified in § 63.453 and meet the requirements specified in paragraph (a) of this section for any new affected process equipment or pulping process condensate stream that becomes subject to the standards in this subpart due to a process change or modification.

#### § 63.455 Reporting requirements.

(a) Each owner or operator of a source subject to this subpart shall comply with the reporting requirements of subpart A of this part as specified in table 1 and all the following requirements in this section. The initial notification report specified under

§ 63.9(b)(2) of subpart A of this part shall be submitted by April 15, 1999.

(b) Each owner or operator of a kraft pulping system specified in § 63.440(d)(1) or a bleaching system specified in § 63.440(d)(3)(ii) shall submit, with the initial notification report specified under § 63.9(b)(2) of subpart A of this part and paragraph (a) of this section and update every two years thereafter, a non-binding control strategy report containing, at a minimum, the information specified in paragraphs (b)(1) through (b)(3) of this section in addition to the information required in § 63.9(b)(2) of subpart A of this part.

(1) A description of the emission controls or process modifications selected for compliance with the control requirements in this standard.

(2) A compliance schedule, including the dates by which each step toward compliance will be reached for each emission point or sets of emission points. At a minimum, the list of dates shall include:

(i) The date by which the major study(s) for determining the compliance strategy will be completed;

(ii) The date by which contracts for emission controls or process modifications will be awarded, or the date by which orders will be issued for the purchase of major components to accomplish emission controls or process changes;

(iii) The date by which on-site construction, installation of emission control equipment, or a process change is to be initiated;

(iv) The date by which on-site construction, installation of emissions control equipment, or a process change is to be completed;

(v) The date by which final compliance is to be achieved;

(vi) For compliance with paragraph § 63.440(d)(3)(ii), the tentative dates by which compliance with effluent limitation guidelines and standards intermediate pollutant load effluent reductions and as available, all the dates for the best available technology's milestones reported in the National Pollutant Discharge Elimination System authorized under section 402 of the Clean Water Act and for the best professional milestones in the Voluntary Advanced

Technology Incentives Program under 40 CFR 430.24 (b)(2); and

(vii) The date by which the final compliance tests will be performed.

(3) Until compliance is achieved, revisions or updates shall be made to the control strategy report required by paragraph (b) of this section indicating the progress made towards completing the installation of the emission controls or process modifications during the 2-year period.

(c) The owner or operator of each bleaching system complying with § 63.440(d)(3)(ii)(B) shall certify in the report specified under § 63.10(e)(3) of subpart A of this part that the daily application rates of chlorine and hypochlorite for that bleaching system have not increased as specified in § 63.440(d)(3)(ii)(B) until the requirements of § 63.440(d)(3)(ii)(A) are met.

(d) The owner or operator shall meet the requirements specified in paragraph (a) of this section upon startup of any new affected process equipment or pulping process condensate stream that becomes subject to the standards of this subpart due to a process change or modification.

#### § 63.456 [Reserved]

#### § 63.457 Test methods and procedures.

(a) *Initial performance test.* An initial performance test is required for all emission sources subject to the limitations in §§ 63.443, 63.444, 63.445, 63.446, and 63.447, except those controlled by a combustion device that is designed and operated as specified in § 63.443(d)(3) or (d)(4).

(b) *Vent sampling port locations and gas stream properties.* For purposes of selecting vent sampling port locations and determining vent gas stream properties, required in §§ 63.443, 63.444, 63.445, and 63.447, each owner or operator shall comply with the applicable procedures in paragraphs (b)(1) through (b)(6) of this section.

(1) Method 1 or 1A of part 60, appendix A, as appropriate, shall be used for selection of the sampling site as follows:

(i) To sample for vent gas concentrations and volumetric flow rates, the sampling site shall be located prior to

dilution of the vent gas stream and prior to release to the atmosphere;

(ii) For determining compliance with percent reduction requirements, sampling sites shall be located prior to the inlet of the control device and at the outlet of the control device; measurements shall be performed simultaneously at the two sampling sites; and

(iii) For determining compliance with concentration limits or mass emission rate limits, the sampling site shall be located at the outlet of the control device.

(2) No traverse site selection method is needed for vents smaller than 0.10 meter (4.0 inches) in diameter.

(3) The vent gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of part 60, appendix A, as appropriate.

(4) The moisture content of the vent gas shall be measured using Method 4 of part 60, appendix A.

(5) To determine vent gas concentrations, the owner or operator shall conduct a minimum of three test runs that are representative of normal conditions and average the resulting pollutant concentrations using the following procedures.

(i) Method 308 in Appendix A of this part shall be used to determine the methanol concentration.

(ii) Except for the modifications specified in paragraphs (b)(5)(ii)(A) through (b)(5)(ii)(K) of this section, Method 26A of part 60, appendix A shall be used to determine chlorine concentration in the vent stream.

(A) *Probe/Sampling Line.* A separate probe is not required. The sampling line shall be an appropriate length of 0.64 cm (0.25 in) OD Teflon® tubing. The sample inlet end of the sampling line shall be inserted into the stack in such a way as to not entrain liquid condensation from the vent gases. The other end shall be connected to the impingers. The length of the tubing may vary from one sampling site to another, but shall be as short as possible in each situation. If sampling is conducted in sunlight, opaque tubing shall be used. Alternatively, if transparent tubing is used, it shall be covered with opaque tape.

(B) *Impinger Train.* Three 30 milliliter (ml) capacity midjet impingers shall

be connected in series to the sampling line. The impingers shall have regular tapered stems. Silica gel shall be placed in the third impinger as a desiccant. All impinger train connectors shall be glass and/or Teflon®.

(C) *Critical orifice.* The critical orifice shall have a flow rate of 200 to 250 ml/min and shall be followed by a vacuum pump capable of providing a vacuum of 640 millimeters of mercury (mm Hg). A 45 millimeter diameter in-line Teflon 0.8 micrometer filter shall follow the impingers to protect the critical orifice and vacuum pump.

(D) The following are necessary for the analysis apparatus:

(1) Wash bottle filled with deionized water;

(2) 25 or 50 ml graduated burette and stand;

(3) Magnetic stirring apparatus and stir bar;

(4) Calibrated pH Meter;

(5) 150-250 ml beaker or flask; and

(6) A 5 ml pipette.

(E) The procedures listed in paragraphs (b)(5)(ii)(E)(1) through (b)(5)(ii)(E)(7) of this section shall be used to prepare the reagents.

(1) To prepare the 1 molarity (M) potassium dihydrogen phosphate solution, dissolve 13.61 grams (g) of potassium dihydrogen phosphate in water and dilute to 100 ml.

(2) To prepare the 1 M sodium hydroxide solution (NaOH), dissolve 4.0 g of sodium hydroxide in water and dilute to 100 ml.

(3) To prepare the buffered 2 percent potassium iodide solution, dissolve 20 g of potassium iodide in 900 ml water. Add 50 ml of the 1 M potassium dihydrogen phosphate solution and 30 ml of the 1 M sodium hydroxide solution. While stirring solution, measure the pH of solution electrometrically and add the 1 M sodium hydroxide solution to bring pH to between 6.95 and 7.05.

(4) To prepare the 0.1 normality (N) sodium thiosulfate solution, dissolve 25 g of sodium thiosulfate, pentahydrate, in 800 ml of freshly boiled and cooled distilled water in a 1-liter volumetric flask. Dilute to volume. To prepare the 0.01 N sodium thiosulfate solution, add 10.0 ml standardized 0.1 N sodium

thiosulfate solution to a 100 ml volumetric flask, and dilute to volume with water.

(5) To standardize the 0.1 N sodium thiosulfate solution, dissolve 3.249 g of anhydrous potassium bi-iodate, primary standard quality, or 3.567 g potassium iodate dried at 103  $\pm$  2 degrees Centigrade for 1 hour, in distilled water and dilute to 1000 ml to yield a 0.1000 N solution. Store in a glass-stoppered bottle. To 80 ml distilled water, add, with constant stirring, 1 ml con-

centrated sulfuric acid, 10.00 ml 0.1000 N anhydrous potassium bi-iodate, and 1 g potassium iodide. Titrate immediately with 0.1 N sodium thiosulfate titrant until the yellow color of the liberated iodine is almost discharged. Add 1 ml starch indicator solution and continue titrating until the blue color disappears. The normality of the sodium thiosulfate solution is inversely proportional to the ml of sodium thiosulfate solution consumed:

ER15ap98.000

(6) To prepare the starch indicator solution, add a small amount of cold water to 5 g starch and grind in a mortar to obtain a thin paste. Pour paste into 1 L of boiling distilled water, stir, and let settle overnight. Use clear supernate for starch indicator solution.

(7) To prepare the 10 percent sulfuric acid solution, add 10 ml of concentrated sulfuric acid to 80 ml water in a 100 ml volumetric flask. Dilute to volume.

(F) The procedures specified in paragraphs (b)(5)(ii)(F)(1) through (b)(5)(ii)(F)(5) of this section shall be used to perform the sampling.

(1) *Preparation of Collection Train.* Measure 20 ml buffered potassium iodide solution into each of the first two impingers and connect probe, impingers, filter, critical orifice, and pump. The sampling line and the impingers shall be shielded from sunlight.

(2) *Leak and Flow Check Procedure.* Plug sampling line inlet tip and turn on pump. If a flow of bubbles is visible in either of the liquid impingers, tighten fittings and adjust connections and impingers. A leakage rate not in excess of 2 percent of the sampling rate is acceptable. Carefully remove the plug from the end of the probe. Check the flow rate at the probe inlet with a bubble tube flow meter. The flow should be comparable or slightly less than the flow rate of the critical orifice with the impingers off-line. Record the flow and turn off the pump.

(3) *Sample Collection.* Insert the sampling line into the stack and secure it with the tip slightly lower than the port height. Start the pump, recording the time. End the sampling after 60 minutes, or after yellow color is observed in the second in-line impinger. Record time and remove the tubing from the vent. Recheck flow rate at sampling line inlet and turn off pump. If the flow rate has changed significantly, redo sampling with fresh capture solution. A slight variation (less than 5 percent) in flow may be averaged. With the inlet end of the line elevated above the impingers, add about 5 ml water into the inlet tip to rinse the line into the first impinger.

(4) *Sample Analysis.* Fill the burette with 0.01 N sodium thiosulfate solution to the zero mark. Combine the contents of the impingers in the beaker or flask. Stir the solution and titrate with thiosulfate until the solution is colorless. Record the volume of the first endpoint (TN, ml). Add 5 ml of the 10 percent sulfuric acid solution, and continue the titration until the contents of the flask are again colorless. Record the total volume of titrant required to go through the first and to the second endpoint (TA, ml). If the volume of neutral titer is less than 0.5 ml, repeat the testing for a longer period of time. It is important that sufficient lighting be present to clearly see the endpoints, which are determined when the solution turns from pale yellow to colorless. A lighted stirring

plate and a white background are useful for this purpose.

(5) *Interferences.* Known interfering agents of this method are sulfur dioxide and hydrogen peroxide. Sulfur dioxide, which is used to reduce oxidant residuals in some bleaching systems, reduces formed iodine to iodide in the capture solution. It is therefore a negative interference for chlorine, and in some cases could result in erroneous negative chlorine concentrations. Any agent capable of reducing iodine to iodide could interfere in this manner. A chromium trioxide impregnated filter will capture sulfur dioxide and pass chlorine and chlorine dioxide. Hydrogen peroxide, which is commonly used as a bleaching agent in modern bleaching systems, reacts with iodide to form iodine and thus can cause a positive interference in the chlorine measurement. Due to the chemistry involved, the precision of the chlorine analysis will decrease as the ratio of chlorine dioxide to chlorine increases. Slightly negative calculated concentrations of chlorine may occur when sampling a vent gas with high concentrations of chlorine dioxide and very low concentrations of chlorine.

(G) The following calculation shall be performed to determine the corrected sampling flow rate:

ER15ap98.001

Where:

$S_C$ =Corrected (dry standard) sampling flow rate, liters per minute;  
 $S_U$ =Uncorrected sampling flow rate, L/min;  
 $BP$ =Barometric pressure at time of sampling;  
 $PW$ =Saturated partial pressure of water vapor, mm Hg at temperature; and  
 $t$ =Ambient temperature, °C.

(H) The following calculation shall be performed to determine the moles of chlorine in the sample:

ER15ap98.002

Where:

$T_N$ =Volume neutral titer, ml;  
 $T_A$ =Volume acid titer (total), ml; and  
 $N_{Thio}$ =Normality of sodium thiosulfate titrant.

(I) The following calculation shall be performed to determine the concentration of chlorine in the sample:

ER15ap98.003

Where:

$S_C$ =Corrected (dry standard) sampling flow rate, liters per minute;  
 $t_S$ =Time sampled, minutes;  
 $T_N$ =Volume neutral titer, ml;  
 $T_A$ =Volume acid titer (total), ml; and  
 $N_{Thio}$ =Normality of sodium thiosulfate titrant.

(J) The following calculation shall be performed to determine the moles of chlorine dioxide in the sample:

ER15ap98.004

Where:

$T_A$ =Volume acid titer (total), ml;  
 $T_N$ =Volume neutral titer, ml; and  
 $N_{Thio}$ =Normality of sodium thiosulfate titrant.

(K) The following calculation shall be performed to determine the concentration of chlorine dioxide in the sample:

ER15ap98.005

Where:

$S_C$ =Corrected (dry standard) sampling flow rate, liters per minute;  
 $t_S$ =Time sampled, minutes;  
 $T_A$ =Volume acid titer (total), ml;  
 $T_N$ =Volume neutral titer, ml; and  
 $N_{Thio}$ =Normality of sodium thiosulfate titrant.

(iii) Any other method that measures the total HAP or methanol concentration that has been demonstrated to the Administrator's satisfaction.

(6) The minimum sampling time for each of the three test runs shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the test run.

(c) *Liquid sampling locations and properties.* For purposes of selecting liquid sampling locations and for determining properties of liquid streams such as wastewaters, process waters, and condensates required in §§ 63.444, 63.446, and

§ 63.447, the owner or operator shall comply with the following procedures:

(1) Samples shall be collected using the sampling procedures specified in Method 305 of part 60, appendix A;

(i) Where feasible, samples shall be taken from an enclosed pipe prior to the liquid stream being exposed to the atmosphere; and

(ii) When sampling from an enclosed pipe is not feasible, samples shall be collected in a manner to minimize exposure of the sample to the atmosphere and loss of HAP compounds prior to sampling.

(2) The volumetric flow rate of the entering and exiting liquid streams shall be determined using the inlet and outlet flow meters or other methods demonstrated to the Administrator's satisfaction. The volumetric flow rate measurements to determine actual mass removal shall be taken at the same time as the concentration measurements.

(3) The owner or operator shall conduct a minimum of three test runs that are representative of normal conditions and average the resulting pollutant concentrations. The minimum sampling time for each test run shall be 1 hour and the grab or composite samples shall be taken at approximately equally spaced intervals over the 1-hour test run period. The owner or operator shall use one of the following procedures to determine total HAP or methanol concentration:

(i) Method 305 in Appendix A of this part, adjusted using the following equation:

ER15ap98.006

Where:

C=Pollutant concentration for the liquid stream, parts per million by weight.

C<sub>p</sub>=Measured concentration of pollutant *i* in the liquid stream sample determined using Method 305, parts per million by weight.

f<sub>m</sub>=Pollutant-specific constant that adjusts concentration measured by Method 305 to actual liquid concentration; the f<sub>m</sub> for methanol is 0.85. Additional pollutant f<sub>m</sub> values can be found in table 34, subpart G of this part.

n=Number of individual pollutants, *i*, summed to calculate total HAP.

(ii) For determining methanol concentrations, NCASI Method DI/MEOH-94.02, Methanol in Process Liquids by GC/FID, August 1998, Methods Manual, NCASI, Research Triangle Park, NC. This test method is incorporated by reference in § 63.14(f) of subpart A of this part.

(iii) Any other method that measures total HAP concentration that has been demonstrated to the Administrator's satisfaction.

(4) To determine soluble BOD<sub>5</sub> in the effluent stream from a biological treatment unit used to comply with §§ 63.446(e)(2) and 63.453(j), the owner or operator shall use Method 405.1, of part 136, with the following modifications:

(i) Filter the sample through the filter paper, into an Erlenmeyer flask by applying a vacuum to the flask side-arm. Minimize the time for which vacuum is applied to prevent stripping of volatile organics from the sample. Replace filter paper as often as needed in order to maintain filter times of less than approximately 30 seconds per filter paper. No rinsing of sample container or filter bowl into the Erlenmeyer flask is allowed.

(ii) Perform Method 405.1 on the filtrate obtained in paragraph (c)(4) of this section. Dilution water shall be seeded with 1 milliliter of final effluent per liter of dilution water. Dilution ratios may require adjustment to reflect the lower oxygen demand of the filtered sample in comparison to the total BOD<sub>5</sub>. Three BOD bottles and different dilutions shall be used for each sample.

(d) *Detectable leak procedures.* To measure detectable leaks for closed-vent systems as specified in § 63.450 or for pulping process wastewater collection systems as specified in § 63.446(d)(2)(i), the owner or operator shall comply with the following:

(1) Method 21, of part 60, appendix A; and

(2) The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used:

(i) Zero air (less than 10 parts per million by volume of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts per million by volume methane or n-hexane.

(e) *Negative pressure procedures.* To demonstrate negative pressure at process equipment enclosure openings as specified in § 63.450(b), the owner or operator shall use one of the following procedures:

(1) An anemometer to demonstrate flow into the enclosure opening;

(2) Measure the static pressure across the opening;

(3) Smoke tubes to demonstrate flow into the enclosure opening; or

(4) Any other industrial ventilation test method demonstrated to the Administrator's satisfaction.

(f) *HAP concentration measurements.* For purposes of complying with the requirements in §§ 63.443, 63.444, and 63.447, the owner or operator shall measure the total HAP concentration as one of the following:

(1) As the sum of all individual HAPs; or

(2) As methanol.

(g) *Condensate HAP concentration measurement.* For purposes of complying with the kraft pulping condensate requirements in § 63.446, the owner or operator shall measure the total HAP concentration as methanol except for the purposes of complying with the initial performance test specified in § 63.457(a) for § 63.446(e)(2) and as specified in § 63.453(j)(2)(ii).

(h) *Bleaching HAP concentration measurement.* For purposes of complying with the bleaching system requirements in § 63.445, the owner or operator shall measure the total HAP concentration as the sum of all individual chlorinated HAPs or as chlorine.

(i) *Vent gas stream calculations.* To demonstrate compliance with the mass emission rate, mass emission rate per megagram of ODP, and percent reduction requirements for vent gas streams specified in §§ 63.443, 63.444, 63.445, and 63.447, the owner or operator shall use the following:

(1) The total HAP mass emission rate shall be calculated using the following equation:

ER15ap98.007

Where:

E=Mass emission rate of total HAP from the sampled vent, kilograms per hour.

$K_2$ =Constant,  $2.494 \times 10^{-6}$  (parts per million by volume)<sup>-1</sup> (gram-mole per standard cubic meter) (kilogram/gram) (minutes/hour), where standard temperature for (gram-mole per standard cubic meter) is 20 °C.

$C_j$ =Concentration on a dry basis of pollutant j in parts per million by volume as measured by the test methods specified in paragraph (b) of this section.

$M_j$ =Molecular weight of pollutant j, gram/gram-mole.

$Q_s$ =Vent gas stream flow rate (dry standard cubic meter per minute) at a temperature of 20 °C as indicated in paragraph (b) of this section.

n=Number of individual pollutants, i, summed to calculate total HAP.

(2) The total HAP mass emission rate per megagram of ODP shall be calculated using the following equation:

ER15ap98.008

Where:

F=Mass emission rate of total HAP from the sampled vent, in kilograms per megagram of ODP.

E=Mass emission rate of total HAP from the sampled vent, in kilograms per hour determined as specified in paragraph (i)(1) of this section.

P=The production rate of pulp during the sampling period, in megagrams of ODP per hour.

(3) The total HAP percent reduction shall be calculated using the following equation:

ER15ap98.009

Where:

R=Efficiency of control device, percent.

$E_i$ =Inlet mass emission rate of total HAP from the sampled vent, in kilograms of pollutant per hour, determined as specified in paragraph (i)(1) of this section.

$E_o$ =Outlet mass emission rate of total HAP from the sampled vent, in kilograms of pollutant per hour, determined as specified in paragraph (i)(1) of this section.

(j) *Liquid stream calculations.* To demonstrate compliance with the mass

Environmental Protection Agency, EPA

§63.457

flow rate, mass per megagram of ODP, and percent reduction requirements for liquid streams specified in §63.446, the owner or operator shall use the following:

(1) The mass flow rates of total HAP or methanol entering and exiting the treatment process shall be calculated using the following equations:

ER15ap98.010

Where:

$E_h$  = Mass flow rate of total HAP or methanol in the liquid stream entering the treatment process, kilograms per hour.

$E_e$  = Mass flow rate of total HAP or methanol in the liquid exiting the treatment process, kilograms per hour.

$K$  = Density of the liquid stream, kilograms per cubic meter.

$V_{hi}$  = Volumetric flow rate of liquid stream entering the treatment process during each run  $i$ , cubic meters per hour, determined as specified in paragraph (c) of this section.

$V_{ei}$  = Volumetric flow rate of liquid stream exiting the treatment process during each run  $i$ , cubic meters per hour, determined as specified in paragraph (c) of this section.

$C_{hi}$  = Concentration of total HAP or methanol in the stream entering the treatment process during each run  $i$ , parts per million by weight, determined as specified in paragraph (c) of this section.

$C_{ei}$  = Concentration of total HAP or methanol in the stream exiting the treatment process during each run  $i$ , parts per million by weight, determined as specified in paragraph (c) of this section.

$n$  = Number of runs.

(2) The mass of total HAP or methanol per megagram ODP shall be calculated using the following equation:

ER15ap98.011

Where:

$F$  = Mass loading of total HAP or methanol in the sample, in kilograms per megagram of ODP.

$E_e$  = Mass flow rate of total HAP or methanol in the wastewater stream in kilograms

per hour as determined using the procedures in paragraph (j)(1) of this section.

$P$  = The production rate of pulp during the sampling period in megagrams of ODP per hour.

(3) The percent reduction of total HAP across the applicable treatment process shall be calculated using the following equation:

ER15ap98.012

Where:

$R$  = Control efficiency of the treatment process, percent.

$E_h$  = Mass flow rate of total HAP in the stream entering the treatment process, kilograms per hour, as determined in paragraph (j)(1) of this section.

$E_e$  = Mass flow rate of total HAP in the stream exiting the treatment process, kilograms per hour, as determined in paragraph (j)(1) of this section.

(4) Compounds that meet the requirements specified in paragraphs (j)(4)(i) or (4)(ii) of this section are not required to be included in the mass flow rate, mass per megagram of ODP, or the mass percent reduction determinations.

(i) Compounds with concentrations at the point of determination that are below 1 part per million by weight; or

(ii) Compounds with concentrations at the point of determination that are below the lower detection limit where the lower detection limit is greater than 1 part per million by weight.

(k) *Oxygen concentration correction procedures.* To demonstrate compliance with the total HAP concentration limit of 20 ppmv in §63.443(d)(2), the concentration measured using the methods specified in paragraph (b)(5) of this section shall be corrected to 10 percent oxygen using the following procedures:

(1) The emission rate correction factor and excess air integrated sampling and analysis procedures of Methods 3A or 3B of part 60, appendix A shall be used to determine the oxygen concentration. The samples shall be taken at the same time that the HAP samples are taken.

(2) The concentration corrected to 10 percent oxygen shall be computed using the following equation:

§ 63.458

40 CFR Ch. I (7-1-99 Edition)

ER15ap98.013

Where:

$C_c$  = Concentration of total HAP corrected to 10 percent oxygen, dry basis, parts per million by volume.

$C_m$  = Concentration of total HAP dry basis, parts per million by volume, as specified in paragraph (b) of this section.

$\%O_{2d}$  = Concentration of oxygen, dry basis, percent by volume.

(l) *Biological treatment system percent reduction calculation.* To determine compliance with an open biological treatment system option specified in § 63.446(e)(2) and the monitoring requirements specified in § 63.453(j)(2), the percent reduction due to destruction in the biological treatment system shall be calculated using the following equation:

$$R = f_{hm} \times 100$$

Where:

$R$  = Destruction of total HAP or methanol in the biological treatment process, percent.

$f_{hm}$  = The fraction of total HAP or methanol removed in the biological treatment system. The site-specific biorate constants shall be determined using the procedures specified and as limited in appendix C of part 63.

(m) *Condensate segregation procedures.* The following procedures shall be used to demonstrate compliance with the condensate segregation requirements specified in § 63.446(c).

(l) To demonstrate compliance with the percent mass requirements specified in § 63.446(c)(1), the procedures specified in paragraphs (m)(1)(i) through (m)(1)(iii) of this section shall be performed.

(i) Determine the total HAP mass of all condensates from each equipment system listed in § 63.446 (b)(1) through (b)(3) using the procedures specified in paragraphs (c) and (j) of this section.

(ii) Multiply the total HAP mass determined in paragraph (m)(1)(i) of this section by 0.65 to determine the target HAP mass for the high-HAP fraction condensate stream or streams.

(iii) Compliance with the segregation requirements specified in § 63.446(c)(1) is demonstrated if the condensate stream or streams from each equipment system listed in § 63.446 (b)(1)

through (b)(3) being treated as specified in § 63.446(e) contain at least as much total HAP mass as the target total HAP mass determined in paragraph (m)(1)(ii) of this section.

(2) To demonstrate compliance with the percent mass requirements specified in § 63.446(c)(2), the procedures specified in paragraphs (m)(2)(i) through (m)(2)(ii) of this section shall be performed.

(i) Determine the total HAP mass contained in the high-HAP fraction condensates from each equipment system listed in § 63.446(b)(1) through (b)(3) and the total condensates streams from the equipment systems listed in § 63.446(b)(4) and (b)(5), using the procedures specified in paragraphs (c) and (j) of this section.

(ii) Compliance with the segregation requirements specified in § 63.446(c)(2) is demonstrated if the total HAP mass determined in paragraph (m)(2)(i) of this section is equal to or greater than the appropriate mass requirements specified in § 63.446(c)(2).

(n) *Biological treatment system monitoring sampling storage.* The inlet and outlet grab samples required to be collected in § 63.453(j)(2) shall be stored at 4 °C (40 °F) to minimize the biodegradation of the organic compounds in the samples.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17564, Apr. 12, 1999]

§ 63.458 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the CAA, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States:

(1) Section 63.6(g)—Use of an alternative nonopacity emission standard;

(2) Section 63.453(m)—Use of an alternative monitoring parameter;

(3) Section 63.457(b)(5)(iii)—Use of an alternative test method for total HAP or methanol in vents; and

(4) Section 63.457(c)(3)(ii)—Use of an alternative test method for total HAP or methanol in wastewater.

§ 63.459 [Reserved]

TABLE 1 TO SUBPART S—GENERAL PROVISIONS APPLICABILITY TO SUBPART S\*

| Reference              | Applies to Subpart S | Comment                                                                                                            |
|------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------|
| 63.1(a)(1)-(3) .....   | Yes.                 | Subpart S (this table) specifies applicability of each paragraph in subpart A to subpart S.                        |
| 63.1(a)(4) .....       | Yes .....            |                                                                                                                    |
| 63.1(a)(5) .....       | No .....             | Section reserved.                                                                                                  |
| 63.1(a)(6)-(8) .....   | Yes.                 | Section reserved.                                                                                                  |
| 63.1(a)(9) .....       | No .....             |                                                                                                                    |
| 63.1(a)(10) .....      | No .....             | Subpart S and other cross-referenced subparts specify calendar or operating day.                                   |
| 63.1(a)(11)-(14) ..... | Yes.                 | Subpart S specifies its own applicability.                                                                         |
| 63.1(b)(1) .....       | No .....             |                                                                                                                    |
| 63.1(b)(2)-(3) .....   | Yes.                 | Section reserved.                                                                                                  |
| 63.1(c)(1)-(2) .....   | Yes.                 |                                                                                                                    |
| 63.1(c)(3) .....       | No .....             | Section reserved.                                                                                                  |
| 63.1(c)(4)-(5) .....   | Yes.                 |                                                                                                                    |
| 63.1(d) .....          | No .....             | Section reserved.                                                                                                  |
| 63.1(e) .....          | Yes.                 |                                                                                                                    |
| 63.2 .....             | Yes.                 | Section reserved.                                                                                                  |
| 63.3 .....             | Yes.                 |                                                                                                                    |
| 63.4(a)(1) .....       | Yes.                 | Section reserved.                                                                                                  |
| 63.4(a)(3) .....       | No .....             |                                                                                                                    |
| 63.4(a)(4) .....       | Yes.                 | Section reserved.                                                                                                  |
| 63.4(a)(5) .....       | Yes.                 |                                                                                                                    |
| 63.4(b) .....          | Yes.                 | Section reserved.                                                                                                  |
| 63.4(c) .....          | Yes.                 |                                                                                                                    |
| 63.5(a) .....          | Yes.                 | Section reserved.                                                                                                  |
| 63.5(b)(1) .....       | Yes.                 |                                                                                                                    |
| 63.5(b)(2) .....       | No .....             | Section reserved.                                                                                                  |
| 63.5(b)(3) .....       | Yes.                 |                                                                                                                    |
| 63.5(b)(4)-(6) .....   | Yes.                 | Section reserved.                                                                                                  |
| 63.5(c) .....          | No .....             |                                                                                                                    |
| 63.5(d) .....          | Yes.                 | Section reserved.                                                                                                  |
| 63.5(e) .....          | Yes.                 |                                                                                                                    |
| 63.5(f) .....          | Yes.                 | Section reserved.                                                                                                  |
| 63.6(a) .....          | Yes.                 |                                                                                                                    |
| 63.6(b) .....          | No .....             | Subpart S specifies compliance dates for sources subject to subpart S.                                             |
| 63.6(c) .....          | No .....             |                                                                                                                    |
| 63.6(d) .....          | No .....             | Subpart S specifies compliance dates for sources subject to subpart S.                                             |
| 63.6(e) .....          | Yes.                 |                                                                                                                    |
| 63.6(f) .....          | Yes.                 | Section reserved.                                                                                                  |
| 63.6(g) .....          | Yes.                 |                                                                                                                    |
| 63.6(h) .....          | No .....             | Pertains to continuous opacity monitors that are not part of this standard.                                        |
| 63.6(i) .....          | Yes.                 |                                                                                                                    |
| 63.6(j) .....          | Yes.                 | Section reserved.                                                                                                  |
| 63.7 .....             | Yes.                 |                                                                                                                    |
| 63.8(a)(1) .....       | Yes.                 | Section reserved.                                                                                                  |
| 63.8(a)(2) .....       | Yes.                 |                                                                                                                    |
| 63.8(a)(3) .....       | No .....             | Section reserved.                                                                                                  |
| 63.8(a)(4) .....       | Yes.                 |                                                                                                                    |
| 63.8(b)(1) .....       | Yes.                 | Subpart S specifies locations to conduct monitoring.                                                               |
| 63.8(b)(2) .....       | No .....             |                                                                                                                    |
| 63.8(b)(3) .....       | Yes.                 | Section reserved.                                                                                                  |
| 63.8(c)(1) .....       | Yes.                 |                                                                                                                    |
| 63.8(c)(2) .....       | Yes.                 | Section reserved.                                                                                                  |
| 63.8(c)(3) .....       | Yes.                 |                                                                                                                    |
| 63.8(c)(4) .....       | No .....             | Subpart S allows site specific determination of monitoring frequency in § 63.453(n)(4).                            |
| 63.8(c)(5) .....       | No .....             |                                                                                                                    |
| 63.8(c)(6) .....       | Yes.                 | Pertains to continuous opacity monitors that are not part of this standard.                                        |
| 63.8(c)(7) .....       | Yes.                 |                                                                                                                    |
| 63.8(c)(8) .....       | Yes.                 | Section reserved.                                                                                                  |
| 63.8(d) .....          | Yes.                 |                                                                                                                    |
| 63.8(e) .....          | Yes.                 | Section reserved.                                                                                                  |
| 63.8(f)(1)-(5) .....   | Yes.                 |                                                                                                                    |
| 63.8(f)(6) .....       | No .....             | Subpart S does not specify relative accuracy test for CEMs.                                                        |
| 63.8(g) .....          | Yes.                 |                                                                                                                    |
| 63.9(a) .....          | Yes.                 | Initial notifications must be submitted within one year after the source becomes subject to the relevant standard. |
| 63.9(b) .....          | Yes .....            |                                                                                                                    |
| 63.9(c) .....          | Yes.                 | Section reserved.                                                                                                  |
| 63.9(d) .....          | No .....             |                                                                                                                    |
| 63.9(e) .....          | Yes.                 | Special compliance requirements are only applicable to kraft mills.                                                |

TABLE 1 TO SUBPART S—GENERAL PROVISIONS APPLICABILITY TO SUBPART S—Continued

| Reference             | Applies to Subpart S | Comment                                                                                                       |
|-----------------------|----------------------|---------------------------------------------------------------------------------------------------------------|
| 63.9(f) .....         | No .....             | Pertains to continuous opacity monitors that are not part of this standard.                                   |
| 63.9(g)(1) .....      | Yes.                 |                                                                                                               |
| 63.9(g)(2) .....      | No .....             | Pertains to continuous opacity monitors that are not part of this standard.                                   |
| 63.9(g)(3) .....      | No .....             | Subpart S does not specify relative accuracy tests; therefore no notification is required for an alternative. |
| 63.9(h) .....         | Yes.                 |                                                                                                               |
| 63.9(i) .....         | Yes.                 |                                                                                                               |
| 63.9(j) .....         | Yes.                 |                                                                                                               |
| 63.10(a) .....        | Yes.                 |                                                                                                               |
| 63.10(b) .....        | Yes.                 |                                                                                                               |
| 63.10(c) .....        | Yes.                 |                                                                                                               |
| 63.10(d)(1) .....     | Yes.                 |                                                                                                               |
| 63.10(d)(2) .....     | Yes.                 |                                                                                                               |
| 63.10(d)(3) .....     | No .....             | Pertains to continuous opacity monitors that are not part of this standard.                                   |
| 63.10(d)(4) .....     | Yes.                 |                                                                                                               |
| 63.10(d)(5) .....     | Yes.                 |                                                                                                               |
| 63.10(e)(1) .....     | Yes.                 |                                                                                                               |
| 63.10(e)(2)(i) .....  | Yes.                 |                                                                                                               |
| 63.10(e)(2)(ii) ..... | No .....             | Pertains to continuous opacity monitors that are not part of this standard.                                   |
| 63.10(e)(3) .....     | Yes.                 |                                                                                                               |
| 63.10(e)(4) .....     | No .....             | Pertains to continuous opacity monitors that are not part of this standard.                                   |
| 63.10(f) .....        | Yes.                 |                                                                                                               |
| 63.11–63.15 .....     | Yes.                 |                                                                                                               |

\* Wherever subpart A specifies "postmark" dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or courier). Submittals shall be sent by the specified dates, but a postmark is not required.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17564, Apr. 12, 1999]

## APPENDIX E

## **Title 40: Protection of Environment**

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

#### **Subpart MM—National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills**

**Source:** 66 FR 3193, Jan. 12, 2001, unless otherwise noted.

#### **§ 63.860 Applicability and designation of affected source.**

(a) The requirements of this subpart apply to the owner or operator of each kraft, soda, sulfite, or stand-alone semichemical pulp mill that is a major source of hazardous air pollutants (HAP) emissions as defined in §63.2.

(b) *Affected sources.* The requirements of this subpart apply to each new or existing affected source listed in paragraphs (b)(1) through (7) of this section:

(1) Each existing chemical recovery system (as defined in §63.861) located at a kraft or soda pulp mill.

(2) Each new nondirect contact evaporator (NDCE) recovery furnace and associated smelt dissolving tank(s) located at a kraft or soda pulp mill.

(3) Each new direct contact evaporator (DCE) recovery furnace system (as defined in §63.861) and associated smelt dissolving tank(s) located at a kraft or soda pulp mill.

(4) Each new lime kiln located at a kraft or soda pulp mill.

(5) Each new or existing sulfite combustion unit located at a sulfite pulp mill, except such existing units at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. AP-10).

(6) Each new or existing semichemical combustion unit located at a stand-alone semichemical pulp mill.

(7) The requirements of the alternative standard in §63.862(d) apply to the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14).

(c) The requirements of the General Provisions in subpart A of this part that apply to the owner or operator subject to the requirements of this subpart are identified in Table 1 to this subpart.

[66 FR 3193, Jan. 12, 2001, as amended at 68 FR 7713, Feb. 18, 2003]

§ 63.861 Definitions.

All terms used in this subpart are defined in the Clean Air Act, in subpart A of this part, or in this section. For the purposes of this subpart, if the same term is defined in subpart A or any other subpart of this part and in this section, it must have the meaning given in this section.

*Bag leak detection system* means an instrument that is capable of monitoring PM loadings in the exhaust of a fabric filter in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other principle to monitor relative PM loadings.

*Black liquor* means spent cooking liquor that has been separated from the pulp produced by the kraft, soda, or semichemical pulping process.

*Black liquor gasification* means the thermochemical conversion of black liquor into a combustible gaseous product.

*Black liquor oxidation (BLO) system* means the vessels used to oxidize the black liquor, with air or oxygen, and the associated storage tank(s).

*Black liquor solids (BLS)* means the dry weight of the solids in the black liquor that enters the recovery furnace or semichemical combustion unit.

*Black liquor solids firing rate* means the rate at which black liquor solids are fed to the recovery furnace or the semichemical combustion unit.

*Chemical recovery combustion source* means any source in the chemical recovery area of a kraft, soda, sulfite or stand-alone semichemical pulp mill that is an NDCE recovery furnace, a DCE recovery furnace system, a smelt dissolving tank, a lime kiln, a sulfite combustion unit, or a semichemical combustion unit.

*Chemical recovery system* means all existing DCE and NDCE recovery furnaces, smelt dissolving tanks, and lime kilns at a kraft or soda pulp mill. Each existing recovery furnace, smelt dissolving tank, or lime kiln is considered a process unit within a chemical recovery system.

*Direct contact evaporator (DCE) recovery furnace* means a kraft or soda recovery furnace equipped with a direct contact evaporator that concentrates strong black liquor by direct contact between the hot recovery furnace exhaust gases and the strong black liquor.

*Direct contact evaporator (DCE) recovery furnace system* means a direct contact evaporator recovery furnace and any black liquor oxidation system, if present, at the

pulp mill.

*Dry electrostatic precipitator (ESP) system* means an electrostatic precipitator with a dry bottom (*i.e.*, no black liquor, water, or other fluid is used in the ESP bottom) and a dry particulate matter return system (*i.e.*, no black liquor, water, or other fluid is used to transport the collected PM to the mix tank).

*Fabric filter* means an air pollution control device used to capture PM by filtering a gas stream through filter media; also known as a baghouse.

*Hazardous air pollutants (HAP) metals* means the sum of all emissions of antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium as measured by EPA Method 29 (40 CFR part 60, appendix A) and with all nondetect data treated as one-half of the method detection limit.

*Hog fuel dryer* means the equipment that combusts fine particles of wood waste (hog fuel) in a fluidized bed and directs the heated exhaust stream to a rotary dryer containing wet hog fuel to be dried prior to combustion in the hog fuel boiler at Weyerhaeuser Paper Company's Cosmopolis, Washington facility. The hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility is Emission Unit no. HD-14.

*Kraft pulp mill* means any stationary source that produces pulp from wood by cooking (digesting) wood chips in a solution of sodium hydroxide and sodium sulfide. The recovery process used to regenerate cooking chemicals is also considered part of the kraft pulp mill.

*Kraft recovery furnace* means a recovery furnace that is used to burn black liquor produced by the kraft pulping process, as well as any recovery furnace that burns black liquor produced from both the kraft and semichemical pulping processes, and includes the direct contact evaporator, if applicable. Includes black liquor gasification.

*Lime kiln* means the combustion unit (*e.g.*, rotary lime kiln or fluidized-bed calciner) used at a kraft or soda pulp mill to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide (CaO).

*Lime production rate* means the rate at which dry lime, measured as CaO, is produced in the lime kiln.

*Method detection limit* means the minimum concentration of an analyte that can be determined with 99 percent confidence that the true value is greater than zero.

*Modification* means, for the purposes of §63.862(a)(1)(ii)(E)(1), any physical change (excluding any routine part replacement or maintenance) or operational change (excluding any operational change that occurs during a start-up, shutdown, or

malfunction) that is made to the air pollution control device that could result in an increase in PM emissions.

*Nondetect data* means, for the purposes of this subpart, any value that is below the method detection limit.

*Nondirect contact evaporator (NDCE) recovery furnace* means a kraft or soda recovery furnace that burns black liquor that has been concentrated by indirect contact with steam.

*Particulate matter (PM)* means total particulate matter as measured by EPA Method 5, EPA Method 17 (§63.865(b)(1)), or EPA Method 29 (40 CFR part 60, appendix A).

*Process unit* means an existing DCE or NDCE recovery furnace, smelt dissolving tank, or lime kiln in a chemical recovery system at a kraft or soda mill.

*Recovery furnace* means an enclosed combustion device where concentrated black liquor produced by the kraft or soda pulping process is burned to recover pulping chemicals and produce steam. Includes black liquor gasification.

*Regenerative thermal oxidizer (RTO)* means a thermal oxidizer that transfers heat from the exhaust gas stream to the inlet gas stream by passing the exhaust stream through a bed of ceramic stoneware or other heat-absorbing medium before releasing it to the atmosphere, then reversing the gas flow so the inlet gas stream passes through the heated bed, raising the temperature of the inlet stream close to or at its ignition temperature.

*Semichemical combustion unit* means any equipment used to combust or pyrolyze black liquor at stand-alone semichemical pulp mills for the purpose of chemical recovery. Includes black liquor gasification.

*Similar process units* means all existing DCE and NDCE recovery furnaces, smelt dissolving tanks, or lime kilns at a kraft or soda pulp mill.

*Smelt dissolving tanks (SDT)* means vessels used for dissolving the smelt collected from a kraft or soda recovery furnace.

*Soda pulp mill* means any stationary source that produces pulp from wood by cooking (digesting) wood chips in a sodium hydroxide solution. The recovery process used to regenerate cooking chemicals is also considered part of the soda pulp mill.

*Soda recovery furnace* means a recovery furnace used to burn black liquor produced by the soda pulping process and includes the direct contact evaporator, if applicable. Includes black liquor gasification.

*Stand-alone semichemical pulp mill* means any stationary source that produces pulp from wood by partially digesting wood chips in a chemical solution followed by mechanical defibrating (grinding), and has an onsite chemical recovery process that is not integrated with a kraft pulp mill.

*Startup* means, for the chemical recovery system employing black liquor gasification at Georgia-Pacific's facility in Big Island, Virginia only, the end of the gasification system commissioning phase. Commissioning is that period of time in which each part of the new gasification system will be checked and operated on its own to make sure it is installed and functions properly. Commissioning will conclude with the successful completion of the gasification technology supplier's performance warranty demonstration, which proves the technology and equipment are performing to warranted levels and the system is ready to be placed in active service. For all other affected sources under this subpart, startup has the meaning given in §63.2.

*Sulfite combustion unit* means a combustion device, such as a recovery furnace or fluidized-bed reactor, where spent liquor from the sulfite pulping process (i.e., red liquor) is burned to recover pulping chemicals.

*Sulfite pulp mill* means any stationary source that produces pulp from wood by cooking (digesting) wood chips in a solution of sulfurous acid and bisulfite ions. The recovery process used to regenerate cooking chemicals is also considered part of the sulfite pulp mill.

*Total hydrocarbons (THC)* means the sum of organic compounds measured as carbon using EPA Method 25A (40 CFR part 60, appendix A).

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001; 68 FR 7713, Feb. 18, 2003]

§ 63.862 Standards.

(a) *Standards for HAP metals: existing sources.* (1) Each owner or operator of an existing kraft or soda pulp mill must comply with the requirements of either paragraph (a)(1)(i) or (ii) of this section.

(i) Each owner or operator of a kraft or soda pulp mill must comply with the PM emissions limits in paragraphs (a)(1)(i)(A) through (C) of this section.

(A) The owner or operator of each existing kraft or soda recovery furnace must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.10 gram per dry standard cubic meter (g/dscm) (0.044 grain per dry standard cubic foot (gr/dscf)) corrected to 8 percent oxygen.

(B) The owner or operator of each existing kraft or soda smelt dissolving tank must ensure that the concentration of PM in the exhaust gases discharged to the

atmosphere is less than or equal to 0.10 kilogram per megagram (kg/Mg) (0.20 pound per ton (lb/ton)) of black liquor solids fired.

(C) The owner or operator of each existing kraft or soda lime kiln must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.15 g/dscm (0.064 gr/dscf) corrected to 10 percent oxygen.

(ii) As an alternative to meeting the requirements of §63.862(a)(1)(i), each owner or operator of a kraft or soda pulp mill may establish PM emissions limits for each existing kraft or soda recovery furnace, smelt dissolving tank, and lime kiln that operates 6,300 hours per year or more by:

(A) Establishing an overall PM emission limit for each existing process unit in the chemical recovery system at the kraft or soda pulp mill using the methods in §63.865(a)(1) and (2).

(B) The emissions limits for each kraft recovery furnace, smelt dissolving tank, and lime kiln that are used to establish the overall PM limit in paragraph (a)(1)(ii)(A) of this section must not be less stringent than the emissions limitations required by §60.282 of part 60 of this chapter for any kraft recovery furnace, smelt dissolving tank, or lime kiln that is subject to the requirements of §60.282.

(C) Each owner or operator of an existing kraft or soda recovery furnace, smelt dissolving tank, or lime kiln must ensure that the PM emissions discharged to the atmosphere from each of these sources are less than or equal to the applicable PM emissions limits, established using the methods in §63.865(a)(1), that are used to establish the overall PM emissions limits in paragraph (a)(1)(ii)(A) of this section.

(D) Each owner or operator of an existing kraft or soda recovery furnace, smelt dissolving tank, or lime kiln must reestablish the emissions limits determined in paragraph (a)(1)(ii)(A) of this section if either of the actions in paragraphs (a)(1)(ii)(D)(1) and (2) of this section are taken:

(1) The air pollution control system for any existing kraft or soda recovery furnace, smelt dissolving tank, or lime kiln for which an emission limit was established in paragraph (a)(1)(ii)(A) of this section is modified (as defined in §63.861) or replaced; or

(2) Any kraft or soda recovery furnace, smelt dissolving tank, or lime kiln for which an emission limit was established in paragraph (a)(1)(ii)(A) of this section is shut down for more than 60 consecutive days.

(iii) Each owner or operator of an existing kraft or soda recovery furnace, smelt dissolving tank, or lime kiln that operates less than 6,300 hours per year must comply with the applicable PM emissions limits for that process unit provided in paragraph

(a)(1)(i) of this section.

(2) Except as specified in paragraph (d) of this section, the owner or operator of each existing sulfite combustion unit must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.092 g/dscm (0.040 gr/dscf) corrected to 8 percent oxygen.

(b) *Standards for HAP metals: new sources.* (1) The owner or operator of any new kraft or soda recovery furnace must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.034 g/dscm (0.015 gr/dscf) corrected to 8 percent oxygen.

(2) The owner or operator of any new kraft or soda smelt dissolving tank must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.06 kg/Mg (0.12 lb/ton) of black liquor solids fired.

(3) The owner or operator of any new kraft or soda lime kiln must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.023 g/dscm (0.010 gr/dscf) corrected to 10 percent oxygen.

(4) The owner or operator of any new sulfite combustion unit must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.046 g/dscm (0.020 gr/dscf) corrected to 8 percent oxygen.

(c) *Standards for gaseous organic HAP.* (1) The owner or operator of any new recovery furnace at a kraft or soda pulp mill must ensure that the concentration of gaseous organic HAP, as measured by methanol, discharged to the atmosphere is no greater than 0.012 kg/Mg (0.025 lb/ton) of black liquor solids fired.

(2) The owner or operator of each existing or new semichemical combustion unit must ensure that:

(i) The concentration of gaseous organic HAP, as measured by total hydrocarbons reported as carbon, discharged to the atmosphere is less than or equal to 1.49 kg/Mg (2.97 lb/ton) of black liquor solids fired; or

(ii) The gaseous organic HAP emissions, as measured by total hydrocarbons reported as carbon, are reduced by at least 90 percent prior to discharge of the gases to the atmosphere.

(d) *Alternative standard.* As an alternative to meeting the requirements of paragraph (a)(2) of this section, the owner or operator of the existing hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14) must ensure that the mass of PM in the exhaust gases discharged to the atmosphere from the hog fuel dryer is less than or equal to 4.535 kilograms per hour

(kg/hr) (10.0 pounds per hour (lb/hr)).

[66 FR 3193, Jan. 12, 2001, as amended at 68 FR 7713, Feb. 18, 2003; 68 FR 67954, Dec. 5, 2003]

**§ 63.863 Compliance dates.**

(a) The owner or operator of an existing affected source or process unit must comply with the requirements in this subpart no later than March 13, 2004.

(b) The owner or operator of a new affected source that has an initial startup date after March 13, 2001 must comply with the requirements in this subpart immediately upon startup of the affected source, except as specified in §63.6(b).

(c) The two existing semichemical combustion units at Georgia-Pacific Corporation's Big Island, VA facility must comply with the requirements of this subpart no later than March 13, 2004, except as provided in paragraphs (c)(1) and (c)(2) of this section.

(1) If Georgia-Pacific Corporation constructs a new black liquor gasification system at Big Island, VA, determines that its attempt to start up the new system has been a failure and, therefore, must construct another type of chemical recovery unit to replace the two existing semichemical combustion units at Big Island, then the two existing semichemical combustion units must comply with the requirements of this subpart by the earliest of the following dates: three years after Georgia-Pacific declares the gasification system a failure, upon startup of the new replacement unit(s), or March 1, 2008.

(2) After March 13, 2004 and if Georgia-Pacific Corporation constructs and successfully starts up a new black liquor gasification system, the provisions of this subpart will not apply to the two existing semichemical combustion units at Georgia-Pacific's facility in Big Island, VA for up to 1500 hours, while Georgia-Pacific conducts trials of the new gasification system on black liquor from a Kraft pulp mill.

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001; 66 FR 37593, July 19, 2001; 68 FR 46108, Aug. 5, 2003]

**§ 63.864 Monitoring requirements.**

(a)–(c) [Reserved]

(d) *Continuous opacity monitoring system (COMS)*. The owner or operator of each affected kraft or soda recovery furnace or lime kiln equipped with an ESP must install, calibrate, maintain, and operate a COMS according to the provisions in §§63.6(h) and 63.8 and paragraphs (d)(1) through (4) of this section.

(1)–(2) [Reserved]

(3) As specified in §63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in §63.8(g)(2).

(e) *Continuous parameter monitoring system (CPMS)*. For each CPMS required in this section, the owner or operator of each affected source or process unit must meet the requirements in paragraphs (e)(1) through (14) of this section.

(1)–(9) [Reserved]

(10) The owner or operator of each affected kraft or soda recovery furnace, kraft or soda lime kiln, sulfite combustion unit, or kraft or soda smelt dissolving tank equipped with a wet scrubber must install, calibrate, maintain, and operate a CPMS that can be used to determine and record the pressure drop across the scrubber and the scrubbing liquid flow rate at least once every successive 15-minute period using the procedures in §63.8(c), as well as the procedures in paragraphs (e)(10)(i) and (ii) of this section:

(i) The monitoring device used for the continuous measurement of the pressure drop of the gas stream across the scrubber must be certified by the manufacturer to be accurate to within a gage pressure of  $\pm 500$  pascals ( $\pm 2$  inches of water gage pressure); and

(ii) The monitoring device used for continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within  $\pm 5$  percent of the design scrubbing liquid flow rate.

(11) The owner or operator of each affected semichemical combustion unit equipped with an RTO must install, calibrate, maintain, and operate a CPMS that can be used to determine and record the operating temperature of the RTO at least once every successive 15-minute period using the procedures in §63.8(c). The monitor must compute and record the operating temperature at the point of incineration of effluent gases that are emitted using a temperature monitor accurate to within  $\pm 1$  percent of the temperature being measured.

(12) The owner or operator of the affected hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14) must meet the requirements in paragraphs (e)(12)(i) through (xi) of this section for each bag leak detection system.

(i) The owner or operator must install, calibrate, maintain, and operate each triboelectric bag leak detection system according to the "Fabric Filter Bag Leak

Detection Guidance," (EPA-454/R-98-015, September 1997). This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality Planning and Standards; Emissions, Monitoring and Analysis Division; Emission Measurement Center, MD-D205-02, Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network under Emission Measurement Center Continuous Emission Monitoring. The owner or operator must install, calibrate, maintain, and operate other types of bag leak detection systems in a manner consistent with the manufacturer's written specifications and recommendations.

(ii) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(iii) The bag leak detection system sensor must provide an output of relative PM loadings.

(iv) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(v) The bag leak detection system must be equipped with an audible alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(vi) For positive pressure fabric filter systems, a bag leak detector must be installed in each baghouse compartment or cell.

(vii) For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(ix) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time according to section 5.0 of the "Fabric Filter Bag Leak Detection Guidance."

(x) Following initial adjustment of the system, the sensitivity or range, averaging period, alarm set points, or alarm delay time may not be adjusted except as detailed in the site-specific monitoring plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. Record each adjustment.

(xi) The owner or operator must record the results of each inspection, calibration, and validation check.

(13) The owner or operator of each affected source or process unit that uses an ESP, wet scrubber, RTO, or fabric filter may monitor alternative control device operating parameters subject to prior written approval by the Administrator.

(14) The owner or operator of each affected source or process unit that uses an air pollution control system other than an ESP, wet scrubber, RTO, or fabric filter must provide to the Administrator an alternative monitoring request that includes the site-specific monitoring plan described in paragraph (a) of this section, a description of the control device, test results verifying the performance of the control device, the appropriate operating parameters that will be monitored, and the frequency of measuring and recording to establish continuous compliance with the standards. The alternative monitoring request is subject to the Administrator's approval. The owner or operator of the affected source or process unit must install, calibrate, operate, and maintain the monitor(s) in accordance with the alternative monitoring request approved by the Administrator. The owner or operator must include in the information submitted to the Administrator proposed performance specifications and quality assurance procedures for the monitors. The Administrator may request further information and will approve acceptable test methods and procedures. The owner or operator must monitor the parameters as approved by the Administrator using the methods and procedures in the alternative monitoring request.

(f) [Reserved]

(g) The owner or operator of each affected source or process unit complying with the gaseous organic HAP standard of §63.862(c)(1) through the use of an NDCE recovery furnace equipped with a dry ESP system is not required to conduct any continuous monitoring to demonstrate compliance with the gaseous organic HAP standard.

(h)–(i) [Reserved]

(j) *Determination of operating ranges.* (1) During the initial performance test required in §63.865, the owner or operator of any affected source or process unit must establish operating ranges for the monitoring parameters in paragraphs (e)(10) through (14) of this section, as appropriate; or

(2) The owner or operator may base operating ranges on values recorded during previous performance tests or conduct additional performance tests for the specific purpose of establishing operating ranges, provided that test data used to establish the operating ranges are or have been obtained using the test methods required in this subpart. The owner or operator of the affected source or process unit must certify that all control techniques and processes have not been modified subsequent to the testing

upon which the data used to establish the operating parameter ranges were obtained.

(3) The owner or operator of an affected source or process unit may establish expanded or replacement operating ranges for the monitoring parameter values listed in paragraphs (e)(10) through (14) of this section and established in paragraph (j)(1) or (2) of this section during subsequent performance tests using the test methods in §63.865.

(4) The owner or operator of the affected source or process unit must continuously monitor each parameter and determine the arithmetic average value of each parameter during each performance test. Multiple performance tests may be conducted to establish a range of parameter values.

(5)–(6) [Reserved]

(k) *On-going compliance provisions.* (1) Following the compliance date, owners or operators of all affected sources or process units are required to implement corrective action, as specified in the startup, shutdown, and malfunction plan prepared under §63.866(a) if the monitoring exceedances in paragraphs (k)(1)(i) through (vi) of this section occur:

(i) For a new or existing kraft or soda recovery furnace or lime kiln equipped with an ESP, when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity;

(ii) For a new or existing kraft or soda recovery furnace, kraft or soda smelt dissolving tank, kraft or soda lime kiln, or sulfite combustion unit equipped with a wet scrubber, when any 3-hour average parameter value is outside the range of values established in paragraph (j) of this section.

(iii) For a new or existing semichemical combustion unit equipped with an RTO, when any 1-hour average temperature falls below the temperature established in paragraph (j) of this section;

(iv) For the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14), when the bag leak detection system alarm sounds.

(v) For an affected source or process unit equipped with an ESP, wet scrubber, RTO, or fabric filter and monitoring alternative operating parameters established in paragraph (e)(13) of this section, when any 3-hour average value is outside the range of parameter values established in paragraph (j) of this section; and

(vi) For an affected source or process unit equipped with an alternative air pollution control system and monitoring operating parameters approved by the Administrator as established in paragraph (e)(14) of this section, when any 3-hour average value is

outside the range of parameter values established in paragraph (j) of this section.

(2) Following the compliance date, owners or operators of all affected sources or process units are in violation of the standards of §63.862 if the monitoring exceedances in paragraphs (k)(2)(i) through (vii) of this section occur:

(i) For an existing kraft or soda recovery furnace equipped with an ESP, when opacity is greater than 35 percent for 6 percent or more of the operating time within any quarterly period;

(ii) For a new kraft or soda recovery furnace or a new or existing lime kiln equipped with an ESP, when opacity is greater than 20 percent for 6 percent or more of the operating time within any quarterly period;

(iii) For a new or existing kraft or soda recovery furnace, kraft or soda smelt dissolving tank, kraft or soda lime kiln, or sulfite combustion unit equipped with a wet scrubber, when six or more 3-hour average parameter values within any 6-month reporting period are outside the range of values established in paragraph (j) of this section;

(iv) For a new or existing semichemical combustion unit equipped with an RTO, when any 3-hour average temperature falls below the temperature established in paragraph (j) of this section;

(v) For the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14), when corrective action is not initiated within 1 hour of a bag leak detection system alarm, corrective action is not completed in accordance with the startup, shutdown, and malfunction plan, and the alarm is engaged for more than 5 percent of the total operating time in a 6-month block reporting period. In calculating the operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted; if corrective action is required, each alarm is counted as a minimum of 1 hour; if corrective action is not initiated within 1 hour, the alarm time is counted as the actual amount of time taken to initiate corrective action.

(vi) For an affected source or process unit equipped with an ESP, wet scrubber, RTO, or fabric filter and monitoring alternative operating parameters established in paragraph (e)(13) of this section, when six or more 3-hour average values within any 6-month reporting period are outside the range of parameter values established in paragraph (j) of this section; and

(vii) For an affected source or process unit equipped with an alternative air pollution control system and monitoring operating parameters approved by the Administrator as established in paragraph (e)(14) of this section, when six or more 3-hour average values within any 6-month reporting period are outside the range of parameter values

established in paragraph (j) of this section.

(3) For purposes of determining the number of nonopacity monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period.

[68 FR 7713, Feb. 18, 2003, as amended at 68 FR 42605, July 18, 2003; 68 FR 67955, Dec. 5, 2003]

**§ 63.865 Performance test requirements and test methods.**

The owner or operator of each affected source or process unit subject to the requirements of this subpart is required to conduct an initial performance test using the test methods and procedures listed in §63.7 and paragraph (b) of this section, except as provided in paragraph (c)(1) of this section.

(a) The owner or operator of a process unit seeking to comply with a PM emission limit under §63.862(a)(1)(ii)(A) must use the procedures in paragraphs (a)(1) and (2) of this section:

(1) Determine the overall PM emission limit for the chemical recovery system at the mill using Equation 1 of this section as follows:

$$EL_{PM} = \frac{[(C_{ref,RF})(Q_{RFtot}) + (C_{ref,LK})(Q_{LKtot})](F1)}{(BLS_{tot})} + ER1_{refSDT} \quad (Eq. 1)$$

Where:

$EL_{PM}$  = overall PM emission limit for all existing process units in the chemical recovery system at the kraft or soda pulp mill, kg/Mg (lb/ton) of black liquor solids fired.

$C_{ref,RF}$  = reference concentration of 0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen for existing kraft or soda recovery furnaces.

$Q_{RFtot}$  = sum of the average volumetric gas flow rates measured during the performance test and corrected to 8 percent oxygen for all existing recovery furnaces in the chemical recovery system at the kraft or soda pulp mill, dry standard cubic meters per minute (dscm/min) (dry standard cubic feet per minute (dscf/min)).

$C_{ref,LK}$  = reference concentration of 0.15 g/dscm (0.064 gr/dscf) corrected to 10 percent oxygen for existing kraft or soda lime kilns.

$Q_{LKtot}$  = sum of the average volumetric gas flow rates measured during the performance test and corrected to 10 percent oxygen for all existing lime kilns in the chemical recovery system at the kraft or soda pulp mill, dscm/min (dscf/min).

F1 = conversion factor, 1.44 minutes-kilogram/day-gram (min·kg/d·g) (0.206 minutes·pound/day·grain)

(min·b/d·gr)).

$BLS_{tot}$  = sum of the average black liquor solids firing rates of all existing recovery furnaces in the chemical recovery system at the kraft or soda pulp mill measured during the performance test, megagrams per day (Mg/d) (tons per day (ton/d)) of black liquor solids fired.

$ER_{1,ref,SDT}$  = reference emission rate of 0.10 kg/Mg (0.20 lb/ton) of black liquor solids fired for existing kraft or soda smelt dissolving tanks.

(2) Establish an emission limit for each kraft or soda recovery furnace, smelt dissolving tank, and lime kiln; and, using these emissions limits, determine the overall PM emission rate for the chemical recovery system at the mill using the procedures in paragraphs (a)(2)(i) through (v) of this section, such that the overall PM emission rate calculated in paragraph (a)(2)(v) of this section is less than or equal to the overall PM emission limit determined in paragraph (a)(1) of this section, as appropriate.

(i) The PM emission rate from each affected recovery furnace must be determined using Equation 2 of this section as follows:

$$ER_{RF} = (F1)(C_{EL,RF})(Q_{RF})/(BLS) \quad (Eq. 2)$$

Where:

$ER_{RF}$  = emission rate from each recovery furnace, kg/Mg (lb/ton) of black liquor solids.

$F1$  = conversion factor, 1.44 min·kg/d·g (0.206 min·lb/d·gr).

$C_{EL,RF}$  = PM emission limit proposed by owner or operator for the recovery furnace, g/dscm (gr/dscf) corrected to 8 percent oxygen.

$Q_{RF}$  = average volumetric gas flow rate from the recovery furnace measured during the performance test and corrected to 8 percent oxygen, dscm/min (dscf/min).

$BLS$  = average black liquor solids firing rate of the recovery furnace measured during the performance test, Mg/d (ton/d) of black liquor solids.

(ii) The PM emission rate from each affected smelt dissolving tank must be determined using Equation 3 of this section as follows:

$$ER_{SDT} = (F1)(C_{EL,SDT})(Q_{SDT})/(BLS) \quad (Eq. 3)$$

Where:

$ER_{SDT}$  = emission rate from each SDT, kg/Mg (lb/ton) of black liquor solids fired.

$F1$  = conversion factor, 1.44 min·kg/d·g (0.206 min·lb/d·gr).

$C_{EL, SDT}$ =PM emission limit proposed by owner or operator for the smelt dissolving tank, g/dscm (gr/dscf).

$Q_{SDT}$ =average volumetric gas flow rate from the smelt dissolving tank measured during the performance test, dscm/min (dscf/min).

$BLS$ =average black liquor solids firing rate of the associated recovery furnace measured during the performance test, Mg/d (ton/d) of black liquor solids fired. If more than one SDT is used to dissolve the smelt from a given recovery furnace, then the black liquor solids firing rate of the furnace must be proportioned according to the size of the SDT.

(iii) The PM emission rate from each affected lime kiln must be determined using Equation 4 of this section as follows:

$$ER_{LK} = (F1)(C_{EL, LK})(Q_{LK})(CaO_{tot}/BLS_{tot})/(CaO_{LK}) \quad (Eq. 4)$$

Where:

$ER_{LK}$ =emission rate from each lime kiln, kg/Mg (lb/ton) of black liquor solids.

$F1$ =conversion factor, 1.44 min·kg/d·g (0.206 min·lb/d·gr).

$C_{EL, LK}$ =PM emission limit proposed by owner or operator for the lime kiln, g/dscm (gr/dscf) corrected to 10 percent oxygen.

$Q_{LK}$ =average volumetric gas flow rate from the lime kiln measured during the performance test and corrected to 10 percent oxygen, dscm/min (dscf/min).

$CaO_{LK}$ =lime production rate of the lime kiln, measured as CaO during the performance test, Mg/d (ton/d) of CaO.

$CaO_{tot}$ =sum of the average lime production rates for all existing lime kilns in the chemical recovery system at the mill measured as CaO during the performance test, Mg/d (ton/d).

$BLS_{tot}$ =sum of the average black liquor solids firing rates of all recovery furnaces in the chemical recovery system at the mill measured during the performance test, Mg/d (ton/d) of black liquor solids.

(iv) If more than one similar process unit is operated in the chemical recovery system at the kraft or soda pulp mill, Equation 5 of this section must be used to calculate the overall PM emission rate from all similar process units in the chemical recovery system at the mill and must be used in determining the overall PM emission rate for the chemical recovery system at the mill:

$$ER_{PU_{tot}} = ER_{PU1} (PR_{PU1}/PR_{tot}) + \dots + (ER_{PUn}) (PR_{PUn}/PR_{tot}) \quad (Eq. 5)$$

Where:

$ER_{PU_{tot}}$ =overall PM emission rate from all similar process units, kg/Mg (lb/ton) of black liquor solids fired.

$ER_{PU1}$ =PM emission rate from process unit No. 1, kg/Mg (lb/ton) of black liquor solids fired, calculated using Equation 2, 3, or 4 in paragraphs (a)(2)(i) through (iii) of this section.

$PR_{PU1}$ =black liquor solids firing rate in Mg/d (ton/d) for process unit No. 1, if process unit is a recovery furnace or SDT. The CaO production rate in Mg/d (ton/d) for process unit No. 1, if process unit is a lime kiln.

$PR_{tot}$ =total black liquor solids firing rate in Mg/d (ton/d) for all recovery furnaces in the chemical recovery system at the kraft or soda pulp mill if the similar process units are recovery furnaces or SDT, or the total CaO production rate in Mg/d (ton/d) for all lime kilns in the chemical recovery system at the mill if the similar process units are lime kilns.

$ER_{PUI}$ =PM emission rate from process unit No. i, kg/Mg (lb/ton) of black liquor solids fired.

$PR_{PUI}$ =black liquor solids firing rate in Mg/d (ton/d) for process unit No. i, if process unit is a recovery furnace or SDT. The CaO production rate in Mg/d (ton/d) for process unit No. i, if process unit is a lime kiln.

i=number of similar process units located in the chemical recovery system at the kraft or soda pulp mill.

(v) The overall PM emission rate for the chemical recovery system at the mill must be determined using Equation 6 of this section as follows:

$$ER_{tot} = ER_{RFtot} + ER_{SDTtot} + ER_{Lktot} \quad (Eq. 6)$$

Where:

$ER_{tot}$ =overall PM emission rate for the chemical recovery system at the mill, kg/Mg (lb/ton) of black liquor solids fired.

$ER_{RFtot}$ =PM emission rate from all kraft or soda recovery furnaces, calculated using Equation 2 or 5 in paragraphs (a)(2)(i) and (iv) of this section, where applicable, kg/Mg (lb/ton) of black liquor solids fired.

$ER_{SDTtot}$ =PM emission rate from all smelt dissolving tanks, calculated using Equation 3 or 5 in paragraphs (a)(2)(ii) and (iv) of this section, where applicable, kg/Mg (lb/ton) of black liquor solids fired.

$ER_{Lktot}$ =PM emission rate from all lime kilns, calculated using Equation 4 or 5 in paragraphs (a)(2)(iii) and (iv) of this section, where applicable, kg/Mg (lb/ton) of black liquor solids fired.

(vi) After the Administrator has approved the PM emissions limits for each kraft or soda recovery furnace, smelt dissolving tank, and lime kiln, the owner or operator complying with an overall PM emission limit established in §63.862(a)(1)(ii) must demonstrate compliance with the HAP metals standard by demonstrating compliance with the approved PM emissions limits for each affected kraft or soda recovery furnace, smelt dissolving tank, and lime kiln, using the test methods and procedures in paragraph (b) of this section.

(b) The owner or operator seeking to determine compliance with §63.862(a), (b), or (d)

must use the procedures in paragraphs (b)(1) through (6) of this section.

(1) For purposes of determining the concentration or mass of PM emitted from each kraft or soda recovery furnace, sulfite combustion unit, smelt dissolving tank, lime kiln, or the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14), Method 5 or 29 in appendix A of 40 CFR part 60 must be used, except that Method 17 in appendix A of 40 CFR part 60 may be used in lieu of Method 5 or Method 29 if a constant value of 0.009 g/dscm (0.004 gr/dscf) is added to the results of Method 17, and the stack temperature is no greater than 205 °C (400 °F). For Methods 5, 29, and 17, the sampling time and sample volume for each run must be at least 60 minutes and 0.90 dscm (31.8 dscf), and water must be used as the cleanup solvent instead of acetone in the sample recovery procedure.

(2) For sources complying with §63.862(a) or (b), the PM concentration must be corrected to the appropriate oxygen concentration using Equation 7 of this section as follows:

$$C_{\text{corr}} = C_{\text{meas}} \times \frac{(21 - X)}{(21 - Y)} \quad (\text{Eq. 7})$$

Where:

$C_{\text{corr}}$  = The measured concentration corrected for oxygen, g/dscm (gr/dscf);

$C_{\text{meas}}$  = The measured concentration uncorrected for oxygen, g/dscm (gr/dscf);

X = The corrected volumetric oxygen concentration (8 percent for kraft or soda recovery furnaces and sulfite combustion units and 10 percent for kraft or soda lime kilns); and

Y = The measured average volumetric oxygen concentration.

(3) Method 3A or 3B in appendix A of 40 CFR part 60 must be used to determine the oxygen concentration. The voluntary consensus standard ANSI/ASME PTC 19.10-1981—Part 10 (incorporated by reference—see §63.14) may be used as an alternative to using Method 3B. The gas sample must be taken at the same time and at the same traverse points as the particulate sample.

(4) For purposes of complying with of §63.862(a)(1)(ii)(A), the volumetric gas flow rate must be corrected to the appropriate oxygen concentration using Equation 8 of this section as follows:

$$Q_{\text{corr}} = Q_{\text{meas}} \times (21 - Y) / (21 - X) \quad (\text{Eq. 8})$$

Where:

$Q_{corr}$  = the measured volumetric gas flow rate corrected for oxygen, dscm/min (dscf/min).

$Q_{meas}$  = the measured volumetric gas flow rate uncorrected for oxygen, dscm/min (dscf/min).

Y = the measured average volumetric oxygen concentration.

X = the corrected volumetric oxygen concentration (8 percent for kraft or soda recovery furnaces and 10 percent for kraft or soda lime kilns).

(5)(i) For purposes of selecting sampling port location and number of traverse points, Method 1 or 1A in appendix A of 40 CFR part 60 must be used;

(ii) For purposes of determining stack gas velocity and volumetric flow rate, Method 2, 2A, 2C, 2D, 2F, or 2G in appendix A of 40 CFR part 60 must be used;

(iii) For purposes of conducting gas analysis, Method 3, 3A, or 3B in appendix A of 40 CFR part 60 must be used. The voluntary consensus standard ANSI/ASME PTC 19.10-1981—Part 10 (incorporated by reference—see §63.14) may be used as an alternative to using Method 3B; and

(iv) For purposes of determining moisture content of stack gas, Method 4 in appendix A of 40 CFR part 60 must be used.

(6) Process data measured during the performance test must be used to determine the black liquor solids firing rate on a dry basis and the CaO production rate.

(c) The owner or operator of each affected source or process unit complying with the gaseous organic HAP standard in §63.862(c)(1) must demonstrate compliance according to the provisions in paragraphs (c)(1) and (2) of this section.

(1) The owner or operator complying through the use of an NDCE recovery furnace equipped with a dry ESP system is not required to conduct any performance testing to demonstrate compliance with the gaseous organic HAP standard.

(2) The owner or operator complying without using an NDCE recovery furnace equipped with a dry ESP system must use Method 308 in appendix A of this part, as well as the methods listed in paragraphs (b)(5)(i) through (iv) of this section. The sampling time and sample volume for each Method 308 run must be at least 60 minutes and 0.014 dscm (0.50 dscf), respectively.

(i) The emission rate from any new NDCE recovery furnace must be determined using Equation 9 of this section as follows:

$$ER_{NDCE} = \frac{(MR_{meas})}{BLS} \quad (\text{Eq. 9})$$

Where:

$ER_{NDCE}$  = Methanol emission rate from the NDCE recovery furnace, kg/Mg (lb/ton) of black liquor solids fired;

$MR_{meas}$  = Measured methanol mass emission rate from the NDCE recovery furnace, kg/hr (lb/hr); and

BLS = Average black liquor solids firing rate of the NDCE recovery furnace, megagrams per hour (Mg/hr) (tons per hour (ton/hr)) determined using process data measured during the performance test.

(ii) The emission rate from any new DCE recovery furnace system must be determined using Equation 10 of this section as follows:

$$ER_{DCE} = \left[ \frac{(MR_{meas,RF})}{BLS_{RF}} \right] + \left[ \frac{MR_{meas,BLO}}{BLS_{BLO}} \right] \quad (\text{Eq. 10})$$

Where:

$ER_{DCE}$  = Methanol emission rate from each DCE recovery furnace system, kg/Mg (lb/ton) of black liquor solids fired;

$MR_{meas,RF}$  = Average measured methanol mass emission rate from each DCE recovery furnace, kg/hr (lb/hr);

$MR_{meas,BLO}$  = Average measured methanol mass emission rate from the black liquor oxidation system, kg/hr (lb/hr);

$BLS_{RF}$  = Average black liquor solids firing rate for each DCE recovery furnace, Mg/hr (ton/hr) determined using process data measured during the performance test; and

$BLS_{BLO}$  = The average mass rate of black liquor solids treated in the black liquor oxidation system, Mg/hr (ton/hr) determined using process data measured during the performance test.

(d) The owner or operator seeking to determine compliance with the gaseous organic HAP standards in §63.862(c)(2) for semichemical combustion units must use Method 25A in appendix A of 40 CFR part 60, as well as the methods listed in paragraphs (b)(5)(i) through (iv) of this section. The sampling time for each Method 25A run must be at least 60 minutes. The calibration gas for each Method 25A run must be propane.

(1) The emission rate from any new or existing semichemical combustion unit must be determined using Equation 11 of this section as follows:

$$ER_{scvu} = \frac{(THC_{meas})}{BLS} \quad (\text{Eq. 11})$$

Where:

$ER_{SCCU}$  = THC emission rate reported as carbon from each semichemical combustion unit, kg/Mg (lb/ton) of black liquor solids fired;

$THC_{meas}$  = Measured THC mass emission rate reported as carbon, kg/hr (lb/hr); and

BLS = Average black liquor solids firing rate, Mg/hr (ton/hr); determined using process data measured during the performance test.

(2) If the owner or operator of the semichemical combustion unit has selected the percentage reduction standards for THC, under §63.862(c)(2)(ii), the percentage reduction in THC emissions is computed using Equation 12 of this section as follows, provided that  $E_i$  and  $E_o$  are measured simultaneously:

$$(\%R_{THC}) = \left( \frac{E_i - E_o}{E_i} \right) \times 100 \quad (Eq. 12)$$

Where:

$\%R_{THC}$  = percentage reduction of total hydrocarbons emissions achieved.

$E_i$  = measured THC mass emission rate at the THC control device inlet, kg/hr (lb/hr).

$E_o$  = measured THC mass emission rate at the THC control device outlet, kg/hr (lb/hr).

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 37593, July 19, 2001; 68 FR 7716, Feb. 18, 2003; 68 FR 67955, Dec. 5, 2003]

#### § 63.866 Recordkeeping requirements.

(a) *Startup, shutdown, and malfunction plan.* The owner or operator must develop and implement a written plan as described in §63.6(e)(3) that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and control systems used to comply with the standards. In addition to the information required in §63.6(e), the plan must include the requirements in paragraphs (a)(1) and (2) of this section.

(1) Procedures for responding to any process parameter level that is inconsistent with the level(s) established under §63.864(j), including the procedures in paragraphs (a)(1)(i) and (ii) of this section:

(i) Procedures to determine and record the cause of an operating parameter

exceedance and the time the exceedance began and ended; and

(ii) Corrective actions to be taken in the event of an operating parameter exceedance, including procedures for recording the actions taken to correct the exceedance.

(2) The startup, shutdown, and malfunction plan also must include the schedules listed in paragraphs (a)(2)(i) and (ii) of this section:

(i) A maintenance schedule for each control technique that is consistent with, but not limited to, the manufacturer's instructions and recommendations for routine and long-term maintenance; and

(ii) An inspection schedule for each continuous monitoring system required under §63.864 to ensure, at least once in each 24-hour period, that each continuous monitoring system is properly functioning.

(b) The owner or operator of an affected source or process unit must maintain records of any occurrence when corrective action is required under §63.864(k)(1), and when a violation is noted under §63.864(k)(2).

(c) In addition to the general records required by §63.10(b)(2), the owner or operator must maintain records of the information in paragraphs (c)(1) through (7) of this section:

(1) Records of black liquor solids firing rates in units of Mg/d or ton/d for all recovery furnaces and semichemical combustion units;

(2) Records of CaO production rates in units of Mg/d or ton/d for all lime kilns;

(3) Records of parameter monitoring data required under §63.864, including any period when the operating parameter levels were inconsistent with the levels established during the initial performance test, with a brief explanation of the cause of the deviation, the time the deviation occurred, the time corrective action was initiated and completed, and the corrective action taken;

(4) Records and documentation of supporting calculations for compliance determinations made under §§63.865(a) through (d);

(5) Records of monitoring parameter ranges established for each affected source or process unit;

(6) Records certifying that an NDCE recovery furnace equipped with a dry ESP system is used to comply with the gaseous organic HAP standard in §63.862(c)(1).

(7) For the bag leak detection system on the hog fuel dryer fabric filter at

Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14), records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken.

(d) For operation under §63.863(c)(2), Georgia-Pacific Corporation must keep a record of the hours of operation of the two existing semichemical combustion units at their Big Island, VA facility.

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001; 68 FR 7718, Feb. 18, 2003; 69 FR 25323, May 6, 2004]

**§ 63.867 Reporting requirements.**

(a) *Notifications.* (1) The owner or operator of any affected source or process unit must submit the applicable notifications from subpart A of this part, as specified in Table 1 of this subpart.

(2) Notifications specific to Georgia-Pacific Corporation's affected sources in Big Island, Virginia.

(i) For a compliance extension under §63.863(c)(1), submit a notice that provides the date of Georgia-Pacific's determination that the black liquor gasification system is not successful and the reasons why the technology is not successful. The notice must be submitted within 15 days of Georgia-Pacific's determination, but not later than March 16, 2005.

(ii) For operation under §63.863(c)(2), submit a notice providing: a statement that Georgia-Pacific Corporation intends to run the Kraft black liquor trials, the anticipated period in which the trials will take place, and a statement explaining why the trials could not be conducted prior to March 1, 2005. The notice must be submitted at least 30 days prior to the start of the Kraft liquor trials.

(3) In addition to the requirements in subpart A of this part, the owner or operator of the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington, facility (Emission Unit no. HD-14) must include analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in §63.864(e)(12) in the Notification of Compliance Status.

(b) *Additional reporting requirements for HAP metals standards.* (1) Any owner or operator of a group of process units in a chemical recovery system at a mill complying with the PM emissions limits in §63.862(a)(1)(ii) must submit the PM emissions limits determined in §63.865(a) for each affected kraft or soda recovery furnace, smelt dissolving tank, and lime kiln to the Administrator for approval. The emissions limits must be submitted as part of the notification of compliance status required under

subpart A of this part.

(2) Any owner or operator of a group of process units in a chemical recovery system at a mill complying with the PM emissions limits in §63.862(a)(1)(ii) must submit the calculations and supporting documentation used in §63.865(a)(1) and (2) to the Administrator as part of the notification of compliance status required under subpart A of this part.

(3) After the Administrator has approved the emissions limits for any process unit, the owner or operator of a process unit must notify the Administrator before any of the actions in paragraphs (b)(3)(i) through (iv) of this section are taken:

(i) The air pollution control system for any process unit is modified or replaced;

(ii) Any kraft or soda recovery furnace, smelt dissolving tank, or lime kiln in a chemical recovery system at a kraft or soda pulp mill complying with the PM emissions limits in §63.862(a)(1)(ii) is shut down for more than 60 consecutive days;

(iii) A continuous monitoring parameter or the value or range of values of a continuous monitoring parameter for any process unit is changed; or

(iv) The black liquor solids firing rate for any kraft or soda recovery furnace during any 24-hour averaging period is increased by more than 10 percent above the level measured during the most recent performance test.

(4) An owner or operator of a group of process units in a chemical recovery system at a mill complying with the PM emissions limits in §63.862(a)(1)(ii) and seeking to perform the actions in paragraph (b)(3)(i) or (ii) of this section must recalculate the overall PM emissions limit for the group of process units and resubmit the documentation required in paragraph (b)(2) of this section to the Administrator. All modified PM emissions limits are subject to approval by the Administrator.

(c) *Excess emissions report.* The owner or operator must report quarterly if measured parameters meet any of the conditions specified in paragraph (k)(1) or (2) of §63.864. This report must contain the information specified in §63.10(c) of this part as well as the number and duration of occurrences when the source met or exceeded the conditions in §63.864(k)(1), and the number and duration of occurrences when the source met or exceeded the conditions in §63.864(k)(2). Reporting excess emissions below the violation thresholds of §63.864(k) does not constitute a violation of the applicable standard.

(1) When no exceedances of parameters have occurred, the owner or operator must submit a semiannual report stating that no excess emissions occurred during the reporting period.

(2) The owner or operator of an affected source or process unit subject to the requirements of this subpart and subpart S of this part may combine excess emissions and/or summary reports for the mill.

[66 FR 3193, Jan. 12, 2001 as amended at 66 FR 16408, Mar. 26, 2001; 68 FR 7718, Feb. 18, 2003; 68 FR 42605, July 18, 2003; 68 FR 46108, Aug. 5, 2003; 69 FR 25323, May 6, 2004]

**§ 63.868 Delegation of authority.**

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Clean Air Act, the authorities contained in paragraph (b) of this section must be retained by the Administrator and not transferred to a State.

(b) The authorities which will not be delegated to States are listed in paragraphs (b)(1) through (4) of this section:

(1) Approval of alternatives to standards in §63.862 under §63.6(g).

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

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

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

**Table 1 to Subpart MM of Part 63—General Provisions Applicability To Subpart MM**

| General provisions reference | Summary of requirements                          | Applies to subpart MM | Explanation                                                                                                             |
|------------------------------|--------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------|
| 63.1(a)(1).....              | General applicability of the General Provisions. | Yes.....              | Additional terms defined in § 63.861; when overlap between subparts A and MM of this part, subpart MM takes precedence. |
| 63.1(a)(2)-(14).....         | General applicability of the General Provisions. | Yes.....              |                                                                                                                         |
| 63.1(b)(1).....              | Initial applicability determination..            | No.....               | Subpart MM specifies the applicability in § 63.860.                                                                     |
| 63.1(b)(2).....              | Title V operating permit see 40 CFR part 70.     | Yes.....              | All major affected sources are required to obtain a title V permit.                                                     |
| 63.1(b)(3).....              | Record of the applicability determination.       | No.....               | All affected sources are subject to subpart MM according                                                                |

|                 |                                                                                                   |          |                                                                                                                                                                     |
|-----------------|---------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 63.1(c)(1)..... | Applicability of subpart A of this part after a relevant standard has been set.                   | Yes..... | to the applicability definition of subpart MM. Subpart MM clarifies the applicability of each paragraph of subpart A of this part to sources subject to subpart MM. |
| 63.1(c)(2)..... | Title V permit requirement.                                                                       | Yes..... | All major affected sources are required to obtain a title V permit. There are no area sources in the pulp and paper mill source category.                           |
| 63.1(c)(3)..... | [Reserved].....                                                                                   | NA.....  |                                                                                                                                                                     |
| 63.1(c)(4)..... | Requirements for existing source that obtains an extension of compliance.                         | Yes..... |                                                                                                                                                                     |
| 63.1(c)(5)..... | Notification requirements for an area source that increases HAP emissions to major source levels. | Yes..... |                                                                                                                                                                     |
| 63.1(d).....    | [Reserved].....                                                                                   | NA.....  |                                                                                                                                                                     |
| 63.1(e).....    | Applicability of permit program before a relevant standard has been set.                          | Yes..... |                                                                                                                                                                     |
| 63.2.....       | Definitions.....                                                                                  | Yes..... | Additional terms defined in § 63.861; when overlap between subparts A and MM of this part occurs, subpart MM takes precedence.                                      |
| 63.3.....       | Units and abbreviations.                                                                          | Yes..... |                                                                                                                                                                     |
| 63.4.....       | Prohibited activities and circumvention.                                                          | Yes..... |                                                                                                                                                                     |
| 63.5(a).....    | Construction and reconstruction applicability.                                                    | Yes..... |                                                                                                                                                                     |
| 63.5(b)(1)..... | Upon construction, relevant standards for new sources.                                            | Yes..... |                                                                                                                                                                     |
| 63.5(b)(2)..... | [Reserved].....                                                                                   | NA.....  |                                                                                                                                                                     |
| 63.5(b)(3)..... | New construction/reconstruction.                                                                  | Yes..... |                                                                                                                                                                     |
| 63.5(b)(4)..... | Construction/reconstruction                                                                       | Yes..... |                                                                                                                                                                     |

|                 |                                                                                                   |                                                                |                                                                                                                                  |
|-----------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
|                 | notification.                                                                                     |                                                                |                                                                                                                                  |
| 63.5(b)(5)..... | Construction/<br>reconstruction<br>compliance.                                                    | Yes.....                                                       |                                                                                                                                  |
| 63.5(b)(6)..... | Equipment addition or<br>process change.                                                          | Yes.....                                                       |                                                                                                                                  |
| 63.5(c).....    | [Reserved].....                                                                                   | NA.....                                                        |                                                                                                                                  |
| 63.5(d).....    | Application for<br>approval of<br>construction/<br>reconstruction.                                | Yes.....                                                       |                                                                                                                                  |
| 63.5(e).....    | Construction/<br>reconstruction<br>approval.                                                      | Yes.....                                                       |                                                                                                                                  |
| 63.5(f).....    | Construction/<br>reconstruction<br>approval based on<br>prior State<br>preconstruction<br>review. | Yes.....                                                       |                                                                                                                                  |
| 63.6(a)(1)..... | Compliance with<br>standards and<br>maintenance<br>requirements_applica<br>bility.                | Yes.....                                                       |                                                                                                                                  |
| 63.6(a)(2)..... | Requirements for area<br>source that<br>increases emissions<br>to become major.                   | Yes.....                                                       |                                                                                                                                  |
| 63.6(b).....    | Compliance dates for<br>new and<br>reconstructed<br>sources.                                      | Yes.....                                                       |                                                                                                                                  |
| 63.6(c).....    | Compliance dates for<br>existing sources.                                                         | Yes, except for sources granted<br>extensions under 63.863(c). | Subpart MM<br>specifically<br>stipulates the<br>compliance schedule<br>for existing<br>sources.                                  |
| 63.6(d).....    | [Reserved].....                                                                                   | NA.....                                                        |                                                                                                                                  |
| 63.6(e).....    | Operation and<br>maintenance<br>requirements.                                                     | Yes.....                                                       |                                                                                                                                  |
| 63.6(f).....    | Compliance with<br>nonopacity emissions<br>standards.                                             | Yes.....                                                       |                                                                                                                                  |
| 63.6(g).....    | Compliance with<br>alternative<br>nonopacity emissions<br>standards.                              | Yes.....                                                       |                                                                                                                                  |
| 63.6(h).....    | Compliance with<br>opacity and visible<br>emissions (VE)<br>standards.                            | Yes.....                                                       | Subpart MM does not<br>contain any opacity<br>or VE standards;<br>however, §63.864 specifies<br>opacity monitoring requirements. |

- 63.6(i)..... Extension of compliance with emission standards. Yes, except for sources granted extensions under 63.863(c).
- 63.6(j)..... Exemption from compliance with emissions standards. Yes.....
- 63.7(a)(1)..... Performance testing requirements\_applicability. Yes..... § 63.865(c)(1) specifies the only exemption from performance testing allowed under subpart MM.
- 63.7(a)(2)..... Performance test dates. Yes.....
- 63.7(a)(3)..... Performance test requests by Administrator under CAA section 114. Yes.....
- 63.7(b)(1)..... Notification of performance test. Yes.....
- 63.7(b)(2)..... Notification of delay in conducting a scheduled performance test. Yes.....
- 63.7(c)..... Quality assurance program. Yes.....
- 63.7(d)..... Performance testing facilities. Yes.....
- 63.7(e)..... Conduct of performance tests. Yes.....
- 63.7(f)..... Use of an alternative test method. Yes.....
- 63.7(g)..... Data analysis, recordkeeping, and reporting. Yes.....
- 63.7(h)..... Waiver of performance tests. Yes..... § 63.865(c)(1) specifies the only exemption from performance testing allowed under subpart MM.
- 63.8(a)..... Monitoring requirements\_applicability. Yes..... See § 63.864.
- 63.8(b)..... Conduct of monitoring. Yes..... See § 63.864.
- 63.8(c)..... Operation and maintenance of CMS. Yes..... See § 63.864.
- 63.8(d)..... Quality control program. Yes..... See § 63.864.
- 63.8(e)(1)..... Performance evaluation of CMS. Yes.....
- 63.8(e)(2)..... Notification of performance evaluation. Yes.....
- 63.8(e)(3)..... Submission of site-specific performance. Yes.....

evaluation test plan.

63.8(e)(4)..... Conduct of performance evaluation and performance evaluation dates. Yes.....

63.8(e)(5)..... Reporting performance evaluation results. Yes.....

63.8(f)..... Use of an alternative monitoring method. Yes.....

63.8(g)..... Reduction of monitoring data. Yes.....

63.9(a)..... Notification requirements applicability and general information. Yes.....

63.9(b)..... Initial notifications Yes.....

63.9(c)..... Request for extension of compliance. Yes.....

63.9(d)..... Notification that source subject to special compliance requirements. Yes.....

63.9(e)..... Notification of performance test. Yes.....

63.9(f)..... Notification of opacity and VE observations. Yes..... Subpart MM does not contain any opacity or VE standards; however, §63.864 specifies opacity monitoring requirements.

63.9(g)(1)..... Additional notification requirements for sources with CMS. Yes.....

63.9(g)(2)..... Notification of compliance with opacity emissions standard. Yes..... Subpart MM does not contain any opacity or VE emissions standards; however, § 63.864 specifies opacity monitoring requirements.

63.9(g)(3)..... Notification that criterion to continue use of alternative to relative accuracy testing has been exceeded. Yes.....

63.9(h)..... Notification of compliance status. Yes.....

63.9(i)..... Adjustment to time periods or postmark deadlines for submittal and review of required communications. Yes.....

63.9(j)..... Change in information already provided. Yes.....

63.10(a)..... Recordkeeping requirements applica Yes..... See § 63.866.

- bility and general information.
- 63.10(b)(1)..... Records retention.... Yes.....
- 63.10(b)(2)..... Information and documentation to support notifications and demonstrate compliance. Yes.....
- 63.10(b)(3)..... Records retention for sources not subject to relevant standard. Yes..... Applicability requirements are given in §63.860.
- 63.10(c)..... Additional recordkeeping requirements for sources with CMS.. Yes.....
- 63.10(d)(1)..... General reporting requirements. Yes.....
- 63.10(d)(2)..... Reporting results of performance tests. Yes.....
- 63.10(d)(3)..... Reporting results of opacity or VE observations. Yes..... Subpart MM does not include any opacity or VE standards; however, § 63.864 specifies opacity monitoring requirements.
- 63.10(d)(4)..... Progress reports..... Yes.....
- 63.10(d)(5)..... Periodic and immediate startup, shutdown, and malfunction reports. Yes.....
- 63.10(e)..... Additional reporting requirements for sources with CMS. Yes.....
- 63.10(f)..... Waiver of recordkeeping and reporting requirements. Yes.....
- 63.11..... Control device requirements for flares. No..... The use of flares to meet the standards in subpart MM is not anticipated.
- 63.12..... State authority and delegations. Yes.....
- 63.13..... Addresses of State air pollution control agencies and EPA Regional Offices. Yes.....
- 63.14..... Incorporations by reference. Yes.....
- 63.15..... Availability of information and confidentiality. Yes.....

---

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001]

## APPENDIX F

# Arkansas Department of Environmental Quality



## CONTINUOUS EMISSION MONITORING SYSTEMS CONDITIONS

Revised August 2004

## PREAMBLE

These conditions are intended to outline the requirements for facilities required to operate Continuous Emission Monitoring Systems/Continuous Opacity Monitoring Systems (CEMS)/(COMS). Generally there are three types of sources required to operate CEMS/COMS:

1. CEMS/COMS required by 40 CFR Part 60 or 63,
2. CEMS required by 40 CFR Part 75,
3. CEMS/COMS required by ADEQ permit for reasons other than Part 60, 63 or 75.

These CEMS/COMS conditions are not intended to supercede Part 60, 63 or 75 requirements.

- Only CEMS/COMS in the third category (those required by ADEQ permit for reasons other than Part 60, 63 or 75) shall comply with SECTION II, MONITORING REQUIREMENTS and SECTION IV, QUALITY ASSURANCE/QUALITY CONTROL.
- All CEMS/COMS shall comply with Section III, NOTIFICATION AND RECORDKEEPING.

## SECTION I

### DEFINITIONS

**Continuous Emission Monitoring System (CEMS)** - The total equipment required for the determination of a gas concentration and/or emission rate so as to include sampling, analysis and recording of emission data.

**Continuous Opacity Monitoring System (COMS)** - The total equipment required for the determination of opacity as to include sampling, analysis and recording of emission data.

**Calibration Drift (CD)** - The difference in the CEMS output reading from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustments took place.

**Back-up CEMS (Secondary CEMS)** - A CEMS with the ability to sample, analyze and record stack pollutant to determine gas concentration and/or emission rate. This CEMS is to serve as a back-up to the primary CEMS to minimize monitor downtime.

**Excess Emissions** - Any period in which the emissions exceed the permit limits.

**Monitor Downtime** - Any period during which the CEMS/COMS is unable to sample, analyze and record a minimum of four evenly spaced data points over an hour, except during one daily zero-span check during which two data points per hour are sufficient.

**Out-of-Control Period** - Begins with the time corresponding to the completion of the fifth, consecutive, daily CD check with a CD in excess of two times the allowable limit, or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit and the time corresponding to the completion of the sampling for the RATA, RAA, or CGA which exceeds the limits outlined in Section IV. Out-of-Control Period ends with the time corresponding to the completion of the CD check following corrective action with the results being within the allowable CD limit or the completion of the sampling of the subsequent successful RATA, RAA, or CGA.

**Primary CEMS** - The main reporting CEMS with the ability to sample, analyze and record stack pollutant to determine gas concentration and/or emission rate.

**Relative Accuracy (RA)** - The absolute mean difference between the gas concentration or emission rate determined by the CEMS and the value determined by the reference method plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the reference method tests of the applicable emission limit.

**Span Value** - The upper limit of a gas concentration measurement range.

## SECTION II

### MONITORING REQUIREMENTS

- A. For new sources, the installation date for the CEMS/COMS shall be no later than thirty (30) days from the date of start-up of the source.
- B. For existing sources, the installation date for the CEMS/COMS shall be no later than sixty (60) days from the issuance of the permit unless the permit requires a specific date.
- C. Within sixty (60) days of installation of a CEMS/COMS, a performance specification test (PST) must be completed. PST's are defined in 40 CFR, Part 60, Appendix B, PS 1-9. The Department may accept alternate PSTs for pollutants not covered by Appendix B on a case-by-case basis. Alternate PST's shall be approved, in writing, by the ADEQ CEM Coordinator prior to testing.
- D. Each CEMS/COMS shall have, as a minimum, a daily zero-span check. The zero-span shall be adjusted whenever the 24-hour zero or 24-hour span drift exceeds two times the limits in the applicable performance specification in 40 CFR, Part 60, Appendix B. Before any adjustments are made to either the zero or span drifts measured at the 24-hour interval the excess zero and span drifts measured must be quantified and recorded.
- E. All CEMS/COMS shall be in continuous operation and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Percent of monitor down-time is calculated by dividing the total minutes the monitor is not in operation by the total time in the calendar quarter and multiplying by one hundred. Failure to maintain operation time shall constitute a violation of the CEMS conditions.
- F. Percent of excess emissions are calculated by dividing the total minutes of excess emissions by the total time the source operated and multiplying by one hundred. Failure to maintain compliance may constitute a violation of the CEMS conditions.
- F. All CEMS measuring emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive fifteen minute period unless more cycles are required by the permit. For each CEMS, one-hour averages shall be computed from four or more data points equally spaced over each one hour period unless more data points are required by the permit.
- H. All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
- J. When the pollutant from a single affected facility is released through more than one point, a CEMS/COMS shall be installed on each point unless installation of fewer systems is approved, in writing, by the ADEQ CEM Coordinator. When more than one CEM/COM is used to monitor emissions from one affected facility the owner or operator shall report the results as required from each CEMS/COMS.

### SECTION III

#### NOTIFICATION AND RECORD KEEPING

- A. When requested to do so by an owner or operator, the ADEQ CEM Coordinator will review plans for installation or modification for the purpose of providing technical advice to the owner or operator.
- B. Each facility which operates a CEMS/COMS shall notify the ADEQ CEM Coordinator of the date for which the demonstration of the CEMS/COMS performance will commence (i.e. PST, RATA, RAA, CGA). Notification shall be received in writing no less than 15 days prior to testing. Performance test results shall be submitted to the Department within thirty days after completion of testing.
- C. Each facility which operates a CEMS/COMS shall maintain records of the occurrence and duration of start up/shut down, cleaning/soot blowing, process problems, fuel problems, or other malfunction in the operation of the affected facility which causes excess emissions. This includes any malfunction of the air pollution control equipment or any period during which a continuous monitoring device/system is inoperative.
- D. Except for Part 75 CEMs, each facility required to install a CEMS/COMS shall submit an excess emission and monitoring system performance report to the Department (Attention: Air Division, CEM Coordinator) at least quarterly, unless more frequent submittals are warranted to assess the compliance status of the facility. Quarterly reports shall be postmarked no later than the 30th day of the month following the end of each calendar quarter. Part 75 CEMs shall submit this information semi-annually and as part of Title V six (6) month reporting requirement if the facility is a Title V facility.
- E. All excess emissions shall be reported in terms of the applicable standard. Each report shall be submitted on ADEQ Quarterly Excess Emission Report Forms. Alternate forms may be used with prior written approval from the Department.
- F. Each facility which operates a CEMS/COMS must maintain on site a file of CEMS/COMS data including all raw data, corrected and adjusted, repair logs, calibration checks, adjustments, and test audits. This file must be retained for a period of at least five years, and is required to be maintained in such a condition that it can easily be audited by an inspector.
- G. Except for Part 75 CEMs, quarterly reports shall be used by the Department to determine compliance with the permit. For Part 75 CEMs, the semi-annual report shall be used.

## SECTION IV

### QUALITY ASSURANCE/QUALITY CONTROL

- A. For each CEMS/COMS a Quality Assurance/Quality Control (QA/QC) plan shall be submitted to the Department (Attn.: Air Division, CEM Coordinator). CEMS quality assurance procedures are defined in 40 CFR, Part 60, Appendix F. This plan shall be submitted within 180 days of the CEMS/COMS installation. A QA/QC plan shall consist of procedure and practices which assures acceptable level of monitor data accuracy, precision, representativeness, and availability.
- B. The submitted QA/QC plan for each CEMS/COMS shall not be considered as accepted until the facility receives a written notification of acceptance from the Department.
- C. Facilities responsible for one, or more, CEMS/COMS used for compliance monitoring shall meet these minimum requirements and are encouraged to develop and implement a more extensive QA/QC program, or to continue such programs where they already exist. Each QA/QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:
1. Calibration of CEMS/COMS
    - a. Daily calibrations (including the approximate time(s) that the daily zero and span drifts will be checked and the time required to perform these checks and return to stable operation)
  2. Calibration drift determination and adjustment of CEMS/COMS
    - a. Out-of-control period determination
    - b. Steps of corrective action
  3. Preventive maintenance of CEMS/COMS
    - a. CEMS/COMS information
      - 1) Manufacture
      - 2) Model number
      - 3) Serial number
    - b. Scheduled activities (check list)
    - c. Spare part inventory
  4. Data recording, calculations, and reporting
  5. Accuracy audit procedures including sampling and analysis methods
  6. Program of corrective action for malfunctioning CEMS/COMS
- D. A Relative Accuracy Test Audit (RATA), shall be conducted at least once every four calendar quarters. A Relative Accuracy Audit (RAA), or a Cylinder Gas Audit (CGA), may be conducted in the other three quarters but in no more than three quarters in succession. The RATA should be conducted in accordance with the applicable test procedure in 40 CFR Part 60 Appendix A and calculated in accordance with the applicable performance specification in 40 CFR Part 60 Appendix B. CGA's and RAA's should be conducted and the data calculated in accordance with the procedures outlined on 40 CFR Part 60 Appendix F.

If alternative testing procedures or methods of calculation are to be used in the RATA, RAA or CGA audits prior authorization must be obtained from the ADEQ CEM Coordinator.

E. Criteria for excessive audit inaccuracy.

**RATA**

|                                             |                                           |
|---------------------------------------------|-------------------------------------------|
| All Pollutants<br>except Carbon<br>Monoxide | > 20% Relative Accuracy                   |
| Carbon Monoxide                             | > 10% Relative Accuracy                   |
| All Pollutants<br>except Carbon<br>Monoxide | > 10% of the Applicable Standard          |
| Carbon Monoxide                             | > 5% of the Applicable Standard           |
| Diluent (O <sub>2</sub> & CO <sub>2</sub> ) | > 1.0 % O <sub>2</sub> or CO <sub>2</sub> |
| Flow                                        | > 20% Relative Accuracy                   |

**CGA**

|                                             |                                                     |
|---------------------------------------------|-----------------------------------------------------|
| Pollutant                                   | > 15% of average audit value<br>or 5 ppm difference |
| Diluent (O <sub>2</sub> & CO <sub>2</sub> ) | > 15% of average audit value<br>or 5 ppm difference |

**RAA**

|                                             |                                                                            |
|---------------------------------------------|----------------------------------------------------------------------------|
| Pollutant                                   | > 15% of the three run<br>average or > 7.5 % of the<br>applicable standard |
| Diluent (O <sub>2</sub> & CO <sub>2</sub> ) | > 15% of the three run<br>average or > 7.5 % of the<br>applicable standard |

- F. If either the zero or span drift results exceed two times the applicable drift specification in 40 CFR, Part 60, Appendix B for five consecutive, daily periods, the CEMS is out-of-control. If either the zero or span drift results exceed four times the applicable drift specification in Appendix B during a calibration drift check, the CEMS is out-of-control. If the CEMS exceeds the audit inaccuracies listed above, the CEMS is out-of-control. If a CEMS is out-of-control, the data from that out-of-control period is not counted towards meeting the minimum data availability as required and described in the applicable subpart. The end of the out-of-control period is the time corresponding to the completion of the successful daily zero or span drift or completion of the successful CGA, RAA or RATA.
- G. A back-up monitor may be placed on an emission source to minimize monitor downtime. This back-up CEMS is subject to the same QA/QC procedure and practices as the primary CEMS. The back-up CEMS shall be certified by a PST. Daily zero-span checks must be performed and recorded in accordance with standard practices. When the primary CEMS goes down, the back-up CEMS may then be engaged to sample, analyze and record the emission source pollutant until repairs are made and the primary unit is placed back in service. Records must be maintained on site when the back-up CEMS is placed in service, these records shall include at a minimum the reason the primary CEMS is out of service, the date and time the primary CEMS was out of service and the date and time the primary CEMS was placed back in service.

## APPENDIX G

| Citation                                                                                                                             | Subject                                                                   | Applies to Subpart CCCCC? | Explanation                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| § 63.8(g)(5)                                                                                                                         | Data Reduction                                                            | No                        | Subpart CCCCC specifies data that can't be used in computing averages for COMS.                                                     |
| § 63.9                                                                                                                               | Notification Requirements                                                 | Yes                       | Additional notifications for COMS in § 63.9(g) apply only to COMS for battery stacks.                                               |
| § 63.10(a), (b)(1)–(b)(2)(xii), (b)(2)(xiv), (b)(3), (c)(1)–(6), (c)(9)–(15), (d), (e)(1)–(2), (e)(4), (f), § 63.10(b)(2) (xi)–(xii) | Recordkeeping and Reporting Requirements.                                 | Yes                       | Additional records for COMS in § 63.10(c)(1)–(6), (9)–(15), and reports in § 63.10(d)(1)–(2) apply only to COMS for battery stacks. |
| § 63.10(c)(7)–(8)                                                                                                                    | CMS Records for RATA Alternative                                          | No                        | Subpart CCCCC doesn't require CEMS.                                                                                                 |
| § 63.10(c)(7)–(8)                                                                                                                    | Records of Excess Emissions and Parameter Monitoring Exceedances for CMS. | No                        | Subpart CCCCC specifies record requirements.                                                                                        |
| § 63.10(e)(3)                                                                                                                        | Excess Emission Reports                                                   | No                        | Subpart CCCCC specifies reporting requirements.                                                                                     |
| § 63.11                                                                                                                              | Control Device Requirements                                               | No                        | Subpart CCCCC does not require flares.                                                                                              |
| § 63.12                                                                                                                              | State Authority and Delegations.                                          | Yes.                      |                                                                                                                                     |
| §§ 63.13–63.15                                                                                                                       | Addresses, Incorporation by Reference, Availability of Information.       | Yes.                      |                                                                                                                                     |

**Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters**

SOURCE: 69 FR 55253, Sept. 13, 2004, unless otherwise noted.

**WHAT THIS SUBPART COVERS**

**§ 63.7480 What is the purpose of this subpart?**

This subpart establishes national emission limits and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limits and work practice standards.

**§ 63.7485 Am I subject to this subpart?**

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in § 63.7575 that is located at, or is part of, a major source of HAP as defined in § 63.2 or § 63.761 (40 CFR part 63, subpart HH, National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities), except as specified in § 63.7491.

**§ 63.7490 What is the affected source of this subpart?**

(a) This subpart applies to new, reconstructed, or existing affected sources as described in paragraphs (a)(1) and (2) of this section.

(1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory located at a major source as defined in § 63.7575.

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler or process heater located at a major source as defined in § 63.7575.

(b) A boiler or process heater is new if you commence construction of the boiler or process heater after January 13, 2003, and you meet the applicability criteria at the time you commence construction.

(c) A boiler or process heater is reconstructed if you meet the reconstruction criteria as defined in § 63.2, you commence reconstruction after January 13, 2003, and you meet the applicability criteria at the time you commence reconstruction.

(d) A boiler or process heater is existing if it is not new or reconstructed.

## Environmental Protection Agency

## § 63.7499

### § 63.7491 Are any boilers or process heaters not subject to this subpart?

The types of boilers and process heaters listed in paragraphs (a) through (o) of this section are not subject to this subpart.

(a) A municipal waste combustor covered by 40 CFR part 60, subpart AAAA, subpart BBBB, subpart Cb or subpart Eb.

(b) A hospital/medical/infectious waste incinerator covered by 40 CFR part 60, subpart Ce or subpart Ec.

(c) An electric utility steam generating unit that is a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity, and supplies more than one-third of its potential electric output capacity, and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit.

(d) A boiler or process heater required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by 40 CFR part 63, subpart EEE (e.g., hazardous waste boilers).

(e) A commercial and industrial solid waste incineration unit covered by 40 CFR part 60, subpart CCCC or subpart DDDD.

(f) A recovery boiler or furnace covered by 40 CFR part 63, subpart MM.

(g) A boiler or process heater that is used specifically for research and development. This does not include units that only provide heat or steam to a process at a research and development facility.

(h) A hot water heater as defined in this subpart.

(i) A refining kettle covered by 40 CFR part 63, subpart X.

(j) An ethylene cracking furnace covered by 40 CFR part 63, subpart YY.

(k) Blast furnace stoves as described in the EPA document, entitled "National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Plants—Background Information for Proposed Standards," (EPA-453/R-01-005).

(l) Any boiler and process heater specifically listed as an affected source in

another standard(s) under 40 CFR part 63.

(m) Any boiler and process heater specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act (CAA).

(n) Temporary boilers as defined in this subpart.

(o) Blast furnace gas fuel-fired boilers and process heaters as defined in this subpart.

### § 63.7495 When do I have to comply with this subpart?

(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by November 12, 2004 or upon startup of your boiler or process heater, whichever is later.

(b) If you have an existing boiler or process heater, you must comply with this subpart no later than September 13, 2007.

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraphs (c)(1) and (2) of this section apply to you.

(1) Any new or reconstructed boiler or process heater at the existing facility must be in compliance with this subpart upon startup.

(2) Any existing boiler or process heater at the existing facility must be in compliance with this subpart within 3 years after the facility becomes a major source.

(d) You must meet the notification requirements in § 63.7545 according to the schedule in § 63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart.

### EMISSION LIMITS AND WORK PRACTICE STANDARDS

### § 63.7499 What are the subcategories of boilers and process heaters?

The subcategories of boilers and process heaters are large solid fuel, limited use solid fuel, small solid fuel, large liquid fuel, limited use liquid fuel, small liquid fuel, large gaseous fuel, limited use gaseous fuel, and

small gaseous fuel. Each subcategory is defined in § 63.7575.

**§ 63.7500 What emission limits, work practice standards, and operating limits must I meet?**

(a) You must meet the requirements in paragraphs (a)(1) and (2) of this section.

(1) You must meet each emission limit and work practice standard in Table 1 to this subpart that applies to your boiler or process heater, except as provided under § 63.7507.

(2) You must meet each operating limit in Tables 2 through 4 to this subpart that applies to your boiler or process heater. If you use a control device or combination of control devices not covered in Tables 2 through 4 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under § 63.8(f).

(b) As provided in § 63.6(g), EPA may approve use of an alternative to the work practice standards in this section.

**GENERAL COMPLIANCE REQUIREMENTS**

**§ 63.7505 What are my general requirements for complying with this subpart?**

(a) You must be in compliance with the emission limits (including operating limits) and the work practice standards in this subpart at all times, except during periods of startup, shutdown, and malfunction.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in § 63.6(e)(1)(i).

(c) You can demonstrate compliance with any applicable emission limit using fuel analysis if the emission rate calculated according to § 63.7530(d) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using performance testing.

(d) If you demonstrate compliance with any applicable emission limit through performance testing, you must develop a site-specific monitoring plan

according to the requirements in paragraphs (d)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f).

(1) For each continuous monitoring system (CMS) required in this section, you must develop and submit to the EPA Administrator for approval a site-specific monitoring plan that addresses paragraphs (d)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan at least 60 days before your initial performance evaluation of your CMS.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

(2) In your site-specific monitoring plan, you must also address paragraphs (d)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1), (c)(3), and (c)(4)(ii);

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d); and

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c), (e)(1), and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

(e) If you have an applicable emission limit or work practice standard, you must develop and implement a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in § 63.6(e)(3).

**§ 63.7506 Do any boilers or process heaters have limited requirements?**

(a) New or reconstructed boilers and process heaters in the large liquid fuel subcategory or the limited use liquid fuel subcategory that burn only fossil fuels and other gases and do not burn any residual oil are subject to the emission limits and applicable work practice standards in Table 1 to this subpart. You are not required to conduct a performance test to demonstrate compliance with the emission limits. You are not required to set and maintain operating limits to demonstrate continuous compliance with the emission limits. However, you must meet the requirements in paragraphs (a)(1) and (2) of this section and meet the CO work practice standard in Table 1 to this subpart.

(1) To demonstrate initial compliance, you must include a signed statement in the Notification of Compliance Status report required in § 63.7545(e) that indicates you burn only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels.

(2) To demonstrate continuous compliance with the applicable emission limits, you must also keep records that demonstrate that you burn only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels. You must also include a signed statement in each semiannual compliance report required in § 63.7550 that indicates you burned only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels, during the reporting period.

(b) The affected boilers and process heaters listed in paragraphs (b)(1) through (3) of this section are subject to only the initial notification requirements in § 63.9(b) (i.e., they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSMP, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart or any other requirements in subpart A of this part).

(1) Existing large and limited use gaseous fuel units.

(2) Existing large and limited use liquid fuel units.

(3) New or reconstructed small liquid fuel units that burn only gaseous fuels or distillate oil. New or reconstructed small liquid fuel boilers and process heaters that commence burning of any other type of liquid fuel must comply with all applicable requirements of this subpart and subpart A of this part upon startup of burning the other type of liquid fuel.

(c) The affected boilers and process heaters listed in paragraphs (c)(1) through (4) of this section are not subject to the initial notification requirements in § 63.9(b) and are not subject to any requirements in this subpart or in subpart A of this part (i.e., they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSM plans, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart, or any other requirements in subpart A of this part).

(1) Existing small solid fuel boilers and process heaters.

(2) Existing small liquid fuel boilers and process heaters.

(3) Existing small gaseous fuel boilers and process heaters.

(4) New or reconstructed small gaseous fuel units.

**§ 63.7507 What are the health-based compliance alternatives for the hydrogen chloride (HCl) and total selected metals (TSM) standards?**

(a) As an alternative to the requirement for large solid fuel boilers located at a single facility to demonstrate compliance with the HCl emission limit in Table 1 to this subpart, you may demonstrate eligibility for the health-based compliance alternative for HCl emissions under the procedures prescribed in appendix A to this subpart.

(b) In lieu of complying with the TSM emission standards in Table 1 to this subpart based on the sum of emissions for the eight selected metals, you may demonstrate eligibility for complying with the TSM emission standards in Table 1 based on the sum of emissions for seven selected metals (by excluding manganese emissions from the summation of TSM emissions) under the procedures prescribed in appendix A to this subpart.

TESTING, FUEL ANALYSES, AND INITIAL COMPLIANCE REQUIREMENTS

**§ 63.7510 What are my initial compliance requirements and by what date must I conduct them?**

(a) For affected sources that elect to demonstrate compliance with any of the emission limits of this subpart through performance testing, your initial compliance requirements include conducting performance tests according to § 63.7520 and Table 5 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler or process heater according to § 63.7521 and Table 6 to this subpart, establishing operating limits according to § 63.7530 and Table 7 to this subpart, and conducting CMS performance evaluations according to § 63.7525.

(b) For affected sources that elect to demonstrate compliance with the emission limits for HCl, mercury, or TSM through fuel analysis, your initial compliance requirement is to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to § 63.7521 and Table 6 to this subpart and establish operating limits according to § 63.7530 and Table 8 to this subpart.

(c) For affected sources that have an applicable work practice standard, your initial compliance requirements depend on the subcategory and rated capacity of your boiler or process heater. If your boiler or process heater is in any of the limited use subcategories or has a heat input capacity less than 100 MMBtu per hour, your initial compliance demonstration is conducting a performance test for carbon monoxide according to Table 5 to this subpart. If your boiler or process heater is in any of the large subcategories and has a heat input capacity of 100 MMBtu per hour or greater, your initial compliance demonstration is conducting a performance evaluation of your continuous emission monitoring system for carbon monoxide according to § 63.7525(a).

(d) For existing affected sources, you must demonstrate initial compliance no later than 180 days after the compliance date that is specified for your source in § 63.7495 and according to the

applicable provisions in § 63.7(a)(2) as cited in Table 10 to this subpart.

(e) If your new or reconstructed affected source commenced construction or reconstruction between January 13, 2003 and November 12, 2004, you must demonstrate initial compliance with either the proposed emission limits and work practice standards or the promulgated emission limits and work practice standards no later than 180 days after November 12, 2004 or within 180 days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(f) If your new or reconstructed affected source commenced construction or reconstruction between January 13, 2003, and November 12, 2004, and you chose to comply with the proposed emission limits and work practice standards when demonstrating initial compliance, you must conduct a second compliance demonstration for the promulgated emission limits and work practice standards within 3 years after November 12, 2004 or within 3 years after startup of the affected source, whichever is later.

(g) If your new or reconstructed affected source commences construction or reconstruction after November 12, 2004, you must demonstrate initial compliance with the promulgated emission limits and work practice standards no later than 180 days after startup of the source.

**§ 63.7515 When must I conduct subsequent performance tests or fuel analyses?**

(a) You must conduct all applicable performance tests according to § 63.7520 on an annual basis, unless you follow the requirements listed in paragraphs (b) through (d) of this section. Annual performance tests must be completed between 10 and 12 months after the previous performance test, unless you follow the requirements listed in paragraphs (b) through (d) of this section.

(b) You can conduct performance tests less often for a given pollutant if your performance tests for the pollutant (particulate matter, HCl, mercury, or TSM) for at least 3 consecutive years show that you comply with the emission limit. In this case, you do not have to conduct a performance test for

that pollutant for the next 2 years. You must conduct a performance test during the third year and no more than 36 months after the previous performance test.

(c) If your boiler or process heater continues to meet the emission limit for particulate matter, HCl, mercury, or TSM, you may choose to conduct performance tests for these pollutants every third year, but each such performance test must be conducted no more than 36 months after the previous performance test.

(d) If a performance test shows non-compliance with an emission limit for particulate matter, HCl, mercury, or TSM, you must conduct annual performance tests for that pollutant until all performance tests over a consecutive 3-year period show compliance.

(e) If you have an applicable work practice standard for carbon monoxide and your boiler or process heater is in any of the limited use subcategories or has a heat input capacity less than 100 MMBtu per hour, you must conduct annual performance tests for carbon monoxide according to § 63.7520. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.

(f) You must conduct a fuel analysis according to § 63.7521 for each type of fuel burned no later than 5 years after the previous fuel analysis for each fuel type. If you burn a new type of fuel, you must conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. You must still meet all applicable continuous compliance requirements in § 63.7540.

(g) You must report the results of performance tests and fuel analyses within 60 days after the completion of the performance tests or fuel analyses. This report should also verify that the operating limits for your affected source have not changed or provide documentation of revised operating parameters established according to § 63.7530 and Table 7 to this subpart, as applicable. The reports for all subsequent performance tests and fuel analyses should include all applicable information required in § 63.7530.

**§ 63.7520 What performance tests and procedures must I use?**

(a) You must conduct all performance tests according to § 63.7(c), (d), (f), and (h). You must also develop a site-specific test plan according to the requirements in § 63.7(c) if you elect to demonstrate compliance through performance testing.

(b) You must conduct each performance test according to the requirements in Table 5 to this subpart.

(c) New or reconstructed boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil must demonstrate compliance according to § 63.7506(a).

(d) You must conduct each performance test under the specific conditions listed in Tables 5 and 7 to this subpart. You must conduct performance tests at the maximum normal operating load while burning the type of fuel or mixture of fuels that have the highest content of chlorine, mercury, and total selected metals, and you must demonstrate initial compliance and establish your operating limits based on these tests. These requirements could result in the need to conduct more than one performance test.

(e) You may not conduct performance tests during periods of startup, shutdown, or malfunction.

(f) You must conduct three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must last at least 1 hour.

(g) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A to part 60 of this chapter to convert the measured particulate matter concentrations, the measured HCl concentrations, the measured TSM concentrations, and the measured mercury concentrations that result from the initial performance test to pounds per million Btu heat input emission rates using F-factors.

**§ 63.7521 What fuel analyses and procedures must I use?**

(a) You must conduct fuel analyses according to the procedures in paragraphs (b) through (e) of this section

and Table 6 to this subpart, as applicable.

(b) You must develop and submit a site-specific fuel analysis plan to the EPA Administrator for review and approval according to the following procedures and requirements in paragraphs (b)(1) and (2) of this section.

(1) You must submit the fuel analysis plan no later than 60 days before the date that you intend to demonstrate compliance.

(2) You must include the information contained in paragraphs (b)(2)(i) through (vi) of this section in your fuel analysis plan.

(i) The identification of all fuel types anticipated to be burned in each boiler or process heater.

(ii) For each fuel type, the notification of whether you or a fuel supplier will be conducting the fuel analysis.

(iii) For each fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the composite samples if your procedures are different from paragraph (c) or (d) of this section. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types.

(iv) For each fuel type, the analytical methods, with the expected minimum detection levels, to be used for the measurement of selected total metals, chlorine, or mercury.

(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that will be used.

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart.

(c) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in paragraph (c)(1) or (2) of this section.

(1) If sampling from a belt (or screw) feeder, collect fuel samples according to paragraphs (c)(1)(i) and (ii) of this section.

(i) Stop the belt and withdraw a 6-inch wide sample from the full cross-

section of the stopped belt to obtain a minimum two pounds of sample. Collect all the material (fines and coarse) in the full cross-section. Transfer the sample to a clean plastic bag.

(ii) Each composite sample will consist of a minimum of three samples collected at approximately equal intervals during the testing period.

(2) If sampling from a fuel pile or truck, collect fuel samples according to paragraphs (c)(2)(i) through (iii) of this section.

(i) For each composite sample, select a minimum of five sampling locations uniformly spaced over the surface of the pile.

(ii) At each sampling site, dig into the pile to a depth of 18 inches. Insert a clean flat square shovel into the hole and withdraw a sample, making sure that large pieces do not fall off during sampling.

(iii) Transfer all samples to a clean plastic bag for further processing.

(d) Prepare each composite sample according to the procedures in paragraphs (d)(1) through (7) of this section.

(1) Thoroughly mix and pour the entire composite sample over a clean plastic sheet.

(2) Break sample pieces larger than 3 inches into smaller sizes.

(3) Make a pie shape with the entire composite sample and subdivide it into four equal parts.

(4) Separate one of the quarter samples as the first subset.

(5) If this subset is too large for grinding, repeat the procedure in paragraph (d)(3) of this section with the quarter sample and obtain a one-quarter subset from this sample.

(6) Grind the sample in a mill.

(7) Use the procedure in paragraph (d)(3) of this section to obtain a one-quarter subsample for analysis. If the quarter sample is too large, subdivide it further using the same procedure.

(e) Determine the concentration of pollutants in the fuel (mercury, chlorine, and/or total selected metals) in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 6 to this subpart.

Environmental Protection Agency

§ 63.7522

§ 63.7522 Can I use emission averaging to comply with this subpart?

(a) As an alternative to meeting the requirements of § 63.7500, if you have more than one existing large solid fuel boiler located at your facility, you may demonstrate compliance by emission averaging according to the procedures in this section in a State that does not choose to exclude emission averaging.

(b) For each existing large solid fuel boiler in the averaging group, the emission rate achieved during the initial compliance test for the HAP being averaged must not exceed the emission level that was being achieved on November 12, 2004 or the control technology employed during the initial compliance test must not be less effective for the HAP being averaged than the control technology employed on November 12, 2004.

(c) You may average particulate matter or TSM, HCl, and mercury emis-

sions from existing large solid fuel boilers to demonstrate compliance with the limits in Table 1 to this subpart if you satisfy the requirements in paragraphs (d), (e), and (f) of this section.

(d) The weighted average emissions from the existing large solid fuel boilers participating in the emissions averaging option must be in compliance with the limits in Table 1 to this subpart at all times following the compliance date specified in § 63.7495.

(e) You must demonstrate initial compliance according to paragraphs (e)(1) or (2) of this section.

(1) You must use Equation 1 of this section to demonstrate that the particulate matter or TSM, HCl, and mercury emissions from all existing large solid fuel boilers participating in the emissions averaging option do not exceed the emission limits in Table 1 to this subpart.

$$\text{AveWeighted Emissions} = \sum_{i=1}^n (Er \times Hm) + \sum_{i=1}^n Hm \quad (\text{Eq. 1})$$

Where:

AveWeighted = Average weighted emissions for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in § 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Hm = Maximum rated heat input capacity of boiler, i, in units of million Btu per hour.

n = Number of large solid fuel boilers participating in the emissions averaging option.

(2) If you are not capable of monitoring heat input, you can use Equation 2 of this section as an alternative to using equation 1 of this section to demonstrate that the particulate matter or TSM, HCl, and mercury emissions from all existing large solid fuel boilers participating in the emissions averaging option do not exceed the emission limits in Table 1 to this subpart.

$$\text{AveWeighted Emissions} = \sum_{i=1}^n (Er \times Sm \times Cf) + \sum_{i=1}^n Sm \times Cf \quad (\text{Eq. 2})$$

Where:

AveWeighted = Average weighted emission level for PM or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in § 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

§ 63.7522

40 CFR Ch. I (7-1-05 Edition)

Sm = Maximum steam generation by boiler, i, in units of pounds.

Cf = Conversion factor, calculated from the most recent compliance test, in units of million Btu of heat input per pounds of steam generated.

(f) You must demonstrate continuous compliance on a 12-month rolling average basis determined at the end of every month (12 times per year) according to paragraphs (f)(1) and (2). The

first 12-month rolling-average period begins on the compliance date specified in § 63.7495.

(1) For each calendar month, you must use Equation 3 of this section to calculate the 12-month rolling average weighted emission limit using the actual heat capacity for each existing large solid fuel boiler participating in the emissions averaging option.

$$\text{AveWeighted Emissions} = \sum_{i=1}^n (Er \times Hb) + \sum_{i=1}^n Hb \quad (\text{Eq. 3})$$

Where:

AveWeighted Emissions = 12-month rolling average weighted emission level for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate, calculated during the most recent compliance test, (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in § 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Hb = The average heat input for each calendar month of boiler, i, in units of million Btu.

n = Number of large solid fuel boilers participating in the emissions averaging option.

(2) If you are not capable of monitoring heat input, you can use Equation 4 of this section as an alternative to using Equation 3 of this section to calculate the 12-month rolling average weighted emission limit using the actual steam generation from the large solid fuel boilers participating in the emissions averaging option.

$$\text{AveWeighted Emissions} = \sum_{i=1}^n (Er \times Sa \times Cf) + \sum_{i=1}^n Sa \times Cf \quad (\text{Eq. 4})$$

Where:

AveWeighted Emissions = 12-month rolling average weighted emission level for PM or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate, calculated during the most recent compliance test (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in § 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Sa = Actual steam generation for each calendar month by boiler, i, in units of pounds.

Cf = Conversion factor, as calculated during the most recent compliance test, in units of million Btu of heat input per pounds of steam generated.

(g) You must develop and submit an implementation plan for emission averaging to the applicable regulatory authority for review and approval according to the following procedures and requirements in paragraphs (g)(1) through (4).

(1) You must submit the implementation plan no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option.

(2) You must include the information contained in paragraphs (g)(2)(i) through (vii) of this section in your implementation plan for all emission sources included in an emissions average:

(i) The identification of all existing large solid fuel boilers in the averaging group, including for each either the applicable HAP emission level or the control technology installed on;

(ii) The process parameter (heat input or steam generated) that will be monitored for each averaging group of large solid fuel boilers;

(iii) The specific control technology or pollution prevention measure to be used for each emission source in the averaging group and the date of its installation or application. If the pollution prevention measure reduces or eliminates emissions from multiple sources, the owner or operator must identify each source;

(iv) The test plan for the measurement of particulate matter (or TSM), HCl, or mercury emissions in accordance with the requirements in § 63.7520;

(v) The operating parameters to be monitored for each control system or device and a description of how the operating limits will be determined;

(vi) If you request to monitor an alternative operating parameter pursuant to § 63.7525, you must also include:

(A) A description of the parameter(s) to be monitored and an explanation of the criteria used to select the parameter(s); and

(B) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device; the frequency and content of monitoring, reporting, and recordkeeping requirements; and a demonstration, to the satisfaction of the applicable regulatory authority, that the proposed monitoring frequency is sufficient to represent control device operating conditions; and

(vii) A demonstration that compliance with each of the applicable emission limit(s) will be achieved under representative operating conditions.

(3) Upon receipt, the regulatory authority shall review and approve or disapprove the plan according to the following criteria:

(i) Whether the content of the plan includes all of the information specified in paragraph (g)(2) of this section; and

(ii) Whether the plan presents sufficient information to determine that

compliance will be achieved and maintained.

(4) The applicable regulatory authority shall not approve an emission averaging implementation plan containing any of the following provisions:

(i) Any averaging between emissions of differing pollutants or between differing sources; or

(ii) The inclusion of any emission source other than an existing large solid fuel boiler.

**§ 63.7525 What are my monitoring, installation, operation, and maintenance requirements?**

(a) If you have an applicable work practice standard for carbon monoxide, and your boiler or process heater is in any of the large subcategories and has a heat input capacity of 100 MMBtu per hour or greater, you must install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide according to the procedures in paragraphs (a)(1) through (6) of this section by the compliance date specified in § 63.7495.

(1) Each CEMS must be installed, operated, and maintained according to Performance Specification (PS) 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to § 63.7505(d).

(2) You must conduct a performance evaluation of each CEMS according to the requirements in § 63.8 and according to PS 4A of 40 CFR part 60, appendix B.

(3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) The CEMS data must be reduced as specified in § 63.8(g)(2).

(5) You must calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.

(6) For purposes of calculating data averages, you must not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when your boiler or process heater is operating at less than 50 percent of its

rated capacity. You must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out of control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

(b) If you have an applicable opacity operating limit, you must install, operate, certify and maintain each continuous opacity monitoring system (COMS) according to the procedures in paragraphs (b)(1) through (7) of this section by the compliance date specified in § 63.7495.

(1) Each COMS must be installed, operated, and maintained according to PS 1 of 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each COMS according to the requirements in § 63.8 and according to PS 1 of 40 CFR part 60, appendix B.

(3) As specified in § 63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in § 63.8(g)(2).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in § 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of § 63.8(e). Identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

(7) You must determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected for periods during which the COMS is not out of control.

(c) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each continuous parameter monitoring

system (CPMS) according to the procedures in paragraphs (c)(1) through (5) of this section by the compliance date specified in § 63.7495.

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data.

(2) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation at all times that the unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(3) For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out of control periods, or required quality assurance or control activities. You must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

(4) Determine the 3-hour block average of all recorded readings, except as provided in paragraph (c)(3) of this section.

(5) Record the results of each inspection, calibration, and validation check.

(d) If you have an operating limit that requires the use of a flow measurement device, you must meet the requirements in paragraphs (c) and (d)(1) through (4) of this section.

(1) Locate the flow sensor and other necessary equipment in a position that provides a representative flow.

(2) Use a flow sensor with a measurement sensitivity of 2 percent of the flow rate.

(3) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(4) Conduct a flow sensor calibration check at least semiannually.

(e) If you have an operating limit that requires the use of a pressure measurement device, you must meet the requirements in paragraphs (c) and (e)(1) through (6) of this section.

(1) Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure.

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a gauge with a minimum tolerance of 1.27 centimeters of water or a transducer with a minimum tolerance of 1 percent of the pressure range.

(4) Check pressure tap pluggage daily.

(5) Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

(6) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

(f) If you have an operating limit that requires the use of a pH measurement device, you must meet the requirements in paragraphs (c) and (f)(1) through (3) of this section.

(1) Locate the pH sensor in a position that provides a representative measurement of scrubber effluent pH.

(2) Ensure the sample is properly mixed and representative of the fluid to be measured.

(3) Check the pH meter's calibration on at least two points every 8 hours of process operation.

(g) If you have an operating limit that requires the use of equipment to monitor voltage and secondary current (or total power input) of an electrostatic precipitator (ESP), you must use voltage and secondary current monitoring equipment to measure voltage and secondary current to the ESP.

(h) If you have an operating limit that requires the use of equipment to monitor sorbent injection rate (e.g., weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (c) and (h)(1) through (3) of this section.

(1) Locate the device in a position(s) that provides a representative meas-

urement of the total sorbent injection rate.

(2) Install and calibrate the device in accordance with manufacturer's procedures and specifications.

(3) At least annually, calibrate the device in accordance with the manufacturer's procedures and specifications.

(i) If you elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraphs (i)(1) through (8) of this section.

(1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with the guidance provided in EPA-454/R-98-015, September 1997.

(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.

(5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(7) For positive pressure fabric filter systems that do not duct all compartments of cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.

(8) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

**§ 63.7530 How do I demonstrate initial compliance with the emission limits and work practice standards?**

(a) You must demonstrate initial compliance with each emission limit and work practice standard that applies to you by either conducting initial performance tests and establishing operating limits, as applicable, according to § 63.7520, paragraph (c) of this section, and Tables 5 and 7 to this subpart OR conducting initial fuel analyses to determine emission rates and establishing operating limits, as applicable, according to § 63.7521, paragraph (d) of this section, and Tables 6 and 8 to this subpart.

(b) New or reconstructed boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil must demonstrate compliance according to § 63.7506(a).

(c) If you demonstrate compliance through performance testing, you must establish each site-specific operating limit in Tables 2 through 4 to this subpart that applies to you according to the requirements in § 63.7520, Table 7 to this subpart, and paragraph (c)(4) of this section, as applicable. You must also conduct fuel analyses according to § 63.7521 and establish maximum fuel pollutant input levels according to paragraphs (c)(1) through (3) of this section, as applicable.

(1) You must establish the maximum chlorine fuel input ( $C_{input}$ ) during the initial performance testing according to the procedures in paragraphs (c)(1)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of chlorine.

(ii) During the performance testing for HCl, you must determine the fraction of the total heat input for each fuel type burned ( $Q_i$ ) based on the fuel mixture that has the highest content of chlorine, and the average chlorine concentration of each fuel type burned ( $C_i$ ).

(iii) You must establish a maximum chlorine input level using Equation 5 of this section.

$$C_{input} = \sum_{i=1}^n [(C_i)(Q_i)] \quad (\text{Eq. 5})$$

Where:

$C_{input}$  = Maximum amount of chlorine entering the boiler or process heater through fuels burned in units of pounds per million Btu.

$C_i$  = Arithmetic average concentration of chlorine in fuel type,  $i$ , analyzed according to § 63.7521, in units of pounds per million Btu.

$Q_i$  = Fraction of total heat input from fuel type,  $i$ , based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of "1" for  $Q_i$ .

$n$  = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

(2) If you choose to comply with the alternative TSM emission limit instead of the particulate matter emission limit, you must establish the maximum TSM fuel input level ( $TSM_{input}$ ) during the initial performance testing according to the procedures in paragraphs (c)(2)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of TSM.

(ii) During the performance testing for TSM, you must determine the fraction of total heat input from each fuel burned ( $Q_i$ ) based on the fuel mixture that has the highest content of total selected metals, and the average TSM concentration of each fuel type burned ( $M_i$ ).

(iii) You must establish a baseline TSM input level using Equation 6 of this section.

$$TSM_{input} = \sum_{i=1}^n [(M_i)(Q_i)] \quad (\text{Eq. 6})$$

Where:

$TSM_{input}$  = Maximum amount of TSM entering the boiler or process heater through fuels burned in units of pounds per million Btu.

$M_i$  = Arithmetic average concentration of TSM in fuel type,  $i$ , analyzed according to § 63.7521, in units of pounds per million Btu.

$Q_i$  = Fraction of total heat input from based fuel type,  $i$ , based on the fuel mixture that has the highest content of TSM. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of "1" for  $Q_i$ .

$n$  = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

(3) You must establish the maximum mercury fuel input level (Mercury<sub>input</sub>) during the initial performance testing using the procedures in paragraphs (c)(3)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of mercury.

(ii) During the compliance demonstration for mercury, you must determine the fraction of total heat input for each fuel burned ( $Q_i$ ) based on the fuel mixture that has the highest content of mercury, and the average mercury concentration of each fuel type burned ( $HG_i$ ).

(iii) You must establish a maximum mercury input level using Equation 7 of this section.

$$\text{Mercury}_{\text{input}} = \sum_{i=1}^n [(HG_i)(Q_i)] \quad (\text{Eq. 7})$$

Where:

Mercury<sub>input</sub> = Maximum amount of mercury entering the boiler or process heater through fuels burned in units of pounds per million Btu.

$HG_i$  = Arithmetic average concentration of mercury in fuel type,  $i$ , analyzed according to § 63.7521, in units of pounds per million Btu.

$Q_i$  = Fraction of total heat input from fuel type,  $i$ , based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of "1" for  $Q_i$ .

$n$  = Number of different fuel types burned in your boiler or process

heater for the mixture that has the highest content of mercury.

(4) You must establish parameter operating limits according to paragraphs (c)(4)(i) through (iv) of this section.

(i) For a wet scrubber, you must establish the minimum scrubber effluent pH, liquid flowrate, and pressure drop as defined in § 63.7575, as your operating limits during the three-run performance test. If you use a wet scrubber and you conduct separate performance tests for particulate matter, HCl, and mercury emissions, you must establish one set of minimum scrubber effluent pH, liquid flowrate, and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flowrate and pressure drop operating limits at the highest minimum values established during the performance tests.

(ii) For an electrostatic precipitator, you must establish the minimum voltage and secondary current (or total power input), as defined in § 63.7575, as your operating limits during the three-run performance test.

(iii) For a dry scrubber, you must establish the minimum sorbent injection rate, as defined in § 63.7575, as your operating limit during the three-run performance test.

(iv) The operating limit for boilers or process heaters with fabric filters that choose to demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in § 63.7525, and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.

(d) If you elect to demonstrate compliance with an applicable emission limit through fuel analysis, you must conduct fuel analyses according to § 63.7521 and follow the procedures in paragraphs (d)(1) through (5) of this section.

(1) If you burn more than one fuel type, you must determine the fuel mixture you could burn in your boiler or process heater that would result in the

maximum emission rates of the pollutants that you elect to demonstrate compliance through fuel analysis.

(2) You must determine the 90th percentile confidence level fuel pollutant concentration of the composite samples analyzed for each fuel type using the one-sided z-statistic test described in Equation 8 of this section.

$$P_{90} = \text{mean} + (SD \times t) \quad (\text{Eq. 8})$$

Where:

$P_{90}$  = 90th percentile confidence level pollutant concentration, in pounds per million Btu.

mean = Arithmetic average of the fuel pollutant concentration in the fuel samples analyzed according to § 63.7521, in units of pounds per million Btu.

SD = Standard deviation of the pollutant concentration in the fuel samples analyzed according to § 63.7521, in units of pounds per million Btu.

$t$  = t distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable emission limit for HCl, the HCl emission rate that you calculate for your boiler or process heater using Equation 9 of this section must be less than the applicable emission limit for HCl.

$$\text{HCl} = \sum_{i=1}^n [(C_{i90})(Q_i)(1.028)] \quad (\text{Eq. 9})$$

Where:

HCl = HCl emission rate from the boiler or process heater in units of pounds per million Btu.

$C_{i90}$  = 90th percentile confidence level concentration of chlorine in fuel type, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.

$Q_i$  = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for  $Q_i$ .

$n$  = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

1.028 = Molecular weight ratio of HCl to chlorine.

(4) To demonstrate compliance with the applicable emission limit for TSM, the TSM emission rate that you calculate for your boiler or process heater using Equation 10 of this section must be less than the applicable emission limit for TSM.

$$\text{TSM} = \sum_{i=1}^n [(M_{i90})(Q_i)] \quad (\text{Eq. 10})$$

Where:

TSM = TSM emission rate from the boiler or process heater in units of pounds per million Btu.

$M_{i90}$  = 90th percentile confidence level concentration of TSM in fuel, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.

$Q_i$  = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of total selected metals. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for  $Q_i$ .

$n$  = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

(5) To demonstrate compliance with the applicable emission limit for mercury, the mercury emission rate that you calculate for your boiler or process heater using Equation 11 of this section must be less than the applicable emission limit for mercury.

$$\text{Mercury} = \sum_{i=1}^n [(HG_{i90})(Q_i)] \quad (\text{Eq. 11})$$

Where:

Mercury = Mercury emission rate from the boiler or process heater in units of pounds per million Btu.

$HG_{i90}$  = 90th percentile confidence level concentration of mercury in fuel, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.

$Q_i$  = Fraction of total heat input from fuel type,  $i$ , based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for  $Q_i$ .

$n$  = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest mercury content.

(e) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.7545(e).

#### CONTINUOUS COMPLIANCE REQUIREMENTS

##### § 63.7535 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by § 63.7505(d).

(b) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system. Boilers and process heaters that have an applicable carbon monoxide work practice standard and are required to install and operate a CEMS, may not use data recorded during periods when the boiler or process heater is operating at less than 50 percent of its rated capacity.

##### § 63.7540 How do I demonstrate continuous compliance with the emission limits and work practice standards?

(a) You must demonstrate continuous compliance with each emission limit, operating limit, and work practice

standard in Tables 1 through 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (10) of this section.

(1) Following the date on which the initial performance test is completed or is required to be completed under §§ 63.7 and 63.7510, whichever date comes first, you must not operate above any of the applicable maximum operating limits or below any of the applicable minimum operating limits listed in Tables 2 through 4 to this subpart at all times except during periods of startup, shutdown and malfunction. Operating limits do not apply during performance tests. Operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits.

(2) You must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would either result in lower emissions of TSM, HCl, and mercury, than the applicable emission limit for each pollutant (if you demonstrate compliance through fuel analysis), or result in lower fuel input of TSM, chlorine, and mercury than the maximum values calculated during the last performance tests (if you demonstrate compliance through performance testing).

(3) If you demonstrate compliance with an applicable HCl emission limit through fuel analysis and you plan to burn a new type of fuel, you must recalculate the HCl emission rate using Equation 9 of § 63.7530 according to paragraphs (a)(3)(i) through (iii) of this section.

(i) You must determine the chlorine concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to § 63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of chlorine.

(iii) Recalculate the HCl emission rate from your boiler or process heater under these new conditions using Equation 9 of § 63.7530. The recalculated HCl

emission rate must be less than the applicable emission limit.

(4) If you demonstrate compliance with an applicable HCl emission limit through performance testing and you plan to burn a new type of fuel type or a new mixture of fuels, you must recalculate the maximum chlorine input using Equation 5 of § 63.7530. If the results of recalculating the maximum chlorine input using Equation 5 of § 63.7530 are higher than the maximum chlorine input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in § 63.7520 to demonstrate that the HCl emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(c).

(5) If you demonstrate compliance with an applicable TSM emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the TSM emission rate using Equation 10 of § 63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section.

(i) You must determine the TSM concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to § 63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of TSM.

(iii) Recalculate the TSM emission rate from your boiler or process heater under these new conditions using Equation 10 of § 63.7530. The recalculated TSM emission rate must be less than the applicable emission limit.

(6) If you demonstrate compliance with an applicable TSM emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum TSM input using Equation 6 of § 63.7530. If the results of recalculating the maximum total selected metals input using Equation 6 of § 63.7530 are higher than the maximum TSM input level established during the previous performance test, then you

must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in § 63.7520 to demonstrate that the TSM emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(c).

(7) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 11 of § 63.7530 according to the procedures specified in paragraphs (a)(7)(i) through (iii) of this section.

(i) You must determine the mercury concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to § 63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of mercury.

(iii) Recalculate the mercury emission rate from your boiler or process heater under these new conditions using Equation 11 of § 63.7530. The recalculated mercury emission rate must be less than the applicable emission limit.

(8) If you demonstrate compliance with an applicable mercury emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum mercury input using Equation 7 of § 63.7530. If the results of recalculating the maximum mercury input using Equation 7 of § 63.7530 are higher than the maximum mercury input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in § 63.7520 to demonstrate that the mercury emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(c).

(9) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak

detection system, you must initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions according to your SSMP, and operate and maintain the fabric filter system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken to initiate corrective action.

(10) If you have an applicable work practice standard for carbon monoxide, and you are required to install a CEMS according to § 63.7525(a), then you must meet the requirements in paragraphs (a)(10)(i) through (iii) of this section.

(i) You must continuously monitor carbon monoxide according to §§ 63.7525(a) and 63.7535.

(ii) Maintain a carbon monoxide emission level below your applicable carbon monoxide work practice standard in Table 1 to this subpart at all times except during periods of startup, shutdown, malfunction, and when your boiler or process heater is operating at less than 50 percent of rated capacity.

(iii) Keep records of carbon monoxide levels according to § 63.7555(b).

(b) You must report each instance in which you did not meet each emission limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that apply to you. You must also report each instance during a startup, shutdown, or malfunction when you did not meet each applicable emission limit, operating limit, and work practice standard. These instances are deviations from the emission limits and work practice stand-

ards in this subpart. These deviations must be reported according to the requirements in § 63.7550.

(c) During periods of startup, shutdown, and malfunction, you must operate in accordance with the SSMP as required in § 63.7505(e).

(d) Consistent with §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the EPA Administrator's satisfaction that you were operating in accordance with your SSMP. The EPA Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in § 63.6(e).

**§ 63.7541 How do I demonstrate continuous compliance under the emission averaging provision?**

(a) Following the compliance date, the owner or operator must demonstrate compliance with this subpart on a continuous basis by meeting the requirements of paragraphs (a)(1) through (4) of this section.

(1) For each calendar month, demonstrate compliance with the average weighted emissions limit for the existing large solid fuel boilers participating in the emissions averaging option as determined in § 63.7522(f) and (g);

(2) For each existing solid fuel boiler participating in the emissions averaging option that is equipped with a dry control system, maintain opacity at or below the applicable limit;

(3) For each existing solid fuel boiler participating in the emissions averaging option that is equipped with a wet scrubber, maintain the 3-hour average parameter values at or below the operating limits established during the most recent performance test; and

(4) For each existing solid fuel boiler participating in the emissions averaging option that has an approved alternative operating plan, maintain the 3-hour average parameter values at or below the operating limits established in the most recent performance test.

(b) Any instance where the owner or operator fails to comply with the continuous monitoring requirements in paragraphs (a)(1) through (4) of this

section, except during periods of startup, shutdown, and malfunction, is a deviation.

NOTIFICATION, REPORTS, AND RECORDS

§ 63.7545 What notifications must I submit and when?

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

(b) As specified in § 63.9(b)(2), if you startup your affected source before November 12, 2004, you must submit an Initial Notification not later than 120 days after November 12, 2004. The Initial Notification must include the information required in paragraphs (b)(1) and (2) of this section, as applicable.

(1) If your affected source has an annual capacity factor of greater than 10 percent, your Initial Notification must include the information required by § 63.9(b)(2).

(2) If your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories (the limited use solid fuel subcategory, the limited use liquid fuel subcategory, or the limited use gaseous fuel subcategory), your Initial Notification must include the information required by § 63.9(b)(2) and also a signed statement indicating your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent.

(c) As specified in § 63.9(b)(4) and (b)(5), if you startup your new or reconstructed affected source on or after November 12, 2004, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.

(d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 30 days before the performance test is scheduled to begin.

(e) If you are required to conduct an initial compliance demonstration as specified in § 63.7530(a), you must submit a Notification of Compliance Sta-

tus according to § 63.9(h)(2)(ii). For each initial compliance demonstration, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of the performance test and/or other initial compliance demonstrations according to § 63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (9), as applicable.

(1) A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.

(2) Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.

(3) Identification of whether you are complying with the particulate matter emission limit or the alternative total selected metals emission limit.

(4) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing or fuel analysis.

(5) Identification of whether you plan to demonstrate compliance by emissions averaging.

(6) A signed certification that you have met all applicable emission limits and work practice standards.

(7) A summary of the carbon monoxide emissions monitoring data and the maximum carbon monoxide emission levels recorded during the performance test to show that you have met any applicable work practice standard in Table 1 to this subpart.

(8) If your new or reconstructed boiler or process heater is in one of the liquid fuel subcategories and burns only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels, you must submit a signed statement certifying this in your Notification of Compliance Status report.

Environmental Protection Agency

§ 63.7550

(9) If you had a deviation from any emission limit or work practice standard, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.

**§ 63.7550 What reports must I submit and when?**

(a) You must submit each report in Table 9 to this subpart that applies to you.

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in § 63.7495.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in § 63.7495.

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

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

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established in-

stead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information required in paragraphs (c)(1) through (11) of this section.

(1) Company name and address.

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

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

(4) The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure.

(5) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable.

(6) A signed statement indicating that you burned no new types of fuel. Or, if you did burn a new type of fuel, you must submit the calculation of chlorine input, using Equation 5 of § 63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 9 of § 63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel, you must submit the calculation of TSM input, using Equation 6 of § 63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate using Equation 10 of § 63.7530 that demonstrates that your source is still meeting the emission limit for TSM emissions (for

boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel, you must submit the calculation of mercury input, using Equation 7 of § 63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 11 of § 63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

(7) If you wish to burn a new type of fuel and you can not demonstrate compliance with the maximum chlorine input operating limit using Equation 5 of § 63.7530, the maximum TSM input operating limit using Equation 6 of § 63.7530, or the maximum mercury input operating limit using Equation 7 of § 63.7530, you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.

(8) The hours of operation for each boiler and process heater that is subject to an emission limit for each calendar month within the semiannual reporting period. This requirement applies only to limited use boilers and process heaters.

(9) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information in § 63.10(d)(5)(i).

(10) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, and there are no deviations from the requirements for work practice standards in this subpart, a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period.

(11) If there were no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in § 63.8(c)(7), a statement that there were no periods during

which the CMSs were out of control during the reporting period.

(d) For each deviation from an emission limit or operating limit in this subpart and for each deviation from the requirements for work practice standards in this subpart that occurs at an affected source where you are not using a CMSs to comply with that emission limit, operating limit, or work practice standard, the compliance report must contain the information in paragraphs (c)(1) through (10) of this section and the information required in paragraphs (d)(1) through (4) of this section. This includes periods of startup, shutdown, and malfunction.

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

(2) A description of the deviation and which emission limit, operating limit, or work practice standard from which you deviated.

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

(4) A copy of the test report if the annual performance test showed a deviation from the emission limit for particulate matter or the alternative TSM limit, a deviation from the HCl emission limit, or a deviation from the mercury emission limit.

(e) For each deviation from an emission limitation and operating limit or work practice standard in this subpart occurring at an affected source where you are using a CMS to comply with that emission limit, operating limit, or work practice standard, you must include the information in paragraphs (c)(1) through (10) of this section and the information required in paragraphs (e)(1) through (12) of this section. This includes periods of startup, shutdown, and malfunction and any deviations from your site-specific monitoring plan as required in § 63.7505(d).

(1) The date and time that each malfunction started and stopped and description of the nature of the deviation (i.e., what you deviated from).

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

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

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

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

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

(7) A summary of the total duration of CMSs downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) An identification of each parameter that was monitored at the affected source for which there was a deviation, including opacity, carbon monoxide, and operating parameters for wet scrubbers and other control devices.

(9) A brief description of the source for which there was a deviation.

(10) A brief description of each CMS for which there was a deviation.

(11) The date of the latest CMS certification or audit for the system for which there was a deviation.

(12) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 9 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work

practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you operate a new gaseous fuel unit that is subject to the work practice standard specified in Table 1 to this subpart, and you intend to use a fuel other than natural gas or equivalent to fire the affected unit, you must submit a notification of alternative fuel use within 48 hours of the declaration of a period of natural gas curtailment or supply interruption, as defined in § 63.7575. The notification must include the information specified in paragraphs (g)(1) through (5) of this section.

(1) Company name and address.

(2) Identification of the affected unit.

(3) Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.

(4) Type of alternative fuel that you intend to use.

(5) Dates when the alternative fuel use is expected to begin and end.

#### § 63.7555 What records must I keep?

(a) You must keep records according to paragraphs (a)(1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) The records in § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests, fuel analyses, or other compliance demonstrations, performance evaluations, and opacity observations as required in § 63.10(b)(2)(viii).

(b) For each CEMS, CPMS, and COMS, you must keep records according to paragraphs (b)(1) through (5) of this section.

(1) Records described in § 63.10(b)(2)(vi) through (xi).

(2) Monitoring data for continuous opacity monitoring system during a performance evaluation as required in § 63.6(h)(7)(i) and (ii).

(3) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in § 63.8(d)(3).

(4) Request for alternatives to relative accuracy test for CEMS as required in § 63.8(f)(6)(i).

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

(c) You must keep the records required in Table 8 to this subpart including records of all monitoring data and calculated averages for applicable operating limits such as opacity, pressure drop, carbon monoxide, and pH to show continuous compliance with each emission limit, operating limit, and work practice standard that applies to you.

(d) For each boiler or process heater subject to an emission limit, you must also keep the records in paragraphs (d)(1) through (5) of this section.

(1) You must keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used.

(2) You must keep records of monthly hours of operation by each boiler or process heater. This requirement applies only to limited-use boilers and process heaters.

(3) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 5 of § 63.7530, that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of HCl emission rates, using Equation 9 of § 63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel anal-

ysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater.

(4) A copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 6 of § 63.7530, that were done to demonstrate continuous compliance with the TSM emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of TSM emission rates, using Equation 10 of § 63.7530, that were done to demonstrate compliance with the TSM emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum TSM fuel input or TSM emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate TSM fuel input, or TSM emission rates, for each boiler and process heater.

(5) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 7 of § 63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 11 of § 63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.

(e) If your boiler or process heater is subject to an emission limit or work

practice standard in Table 1 to this subpart and has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories, you must keep the records in paragraphs (e)(1) and (2) of this section.

(1) A copy of the federally enforceable permit that limits the annual capacity factor of the source to less than or equal to 10 percent.

(2) Fuel use records for the days the boiler or process heater was operating.

**§ 63.7560 In what form and how long must I keep my records?**

(a) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You can keep the records off site for the remaining 3 years.

**OTHER REQUIREMENTS AND INFORMATION**

**§ 63.7565 What parts of the General Provisions apply to me?**

Table 10 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

**§ 63.7570 Who implements and enforces this subpart?**

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

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency

under 40 CFR part 63, subpart E, the authorities listed in paragraphs (b)(1) through (5) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency, however, the U.S. EPA retains oversight of this subpart and can take enforcement actions, as appropriate.

(1) Approval of alternatives to the non-opacity emission limits and work practice standards in § 63.7500(a) and (b) under § 63.6(g).

(2) Approval of alternative opacity emission limits in § 63.7500(a) under § 63.6(h)(9).

(3) Approval of major change to test methods in Table 5 to this subpart under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

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

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

**§ 63.7575 What definitions apply to this subpart?**

Terms used in this subpart are defined in the CAA, in § 63.2 (the General Provisions), and in this section as follows:

*Annual capacity factor* means the ratio between the actual heat input to a boiler or process heater from the fuels burned during a calendar year, and the potential heat input to the boiler or process heater had it been operated for 8,760 hours during a year at the maximum steady state design heat input capacity.

*Bag leak detection system* means an instrument that is capable of monitoring particulate matter loadings in the exhaust of a fabric filter (i.e., baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

*Biomass fuel* means unadulterated wood as defined in this subpart, wood residue, and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sanderdust, chips, scraps,

slabs, millings, and shavings); animal litter; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds.

*Blast furnace gas fuel-fired boiler or process heater* means an industrial/commercial/institutional boiler or process heater that receives 90 percent or more of its total heat input (based on an annual average) from blast furnace gas.

*Boiler* means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Waste heat boilers are excluded from this definition.

*Coal* means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in ASTM D388-99i<sup>1</sup>, "Standard Specification for Classification of Coals by Rank" (incorporated by reference, see § 63.14(b)), coal refuse, and petroleum coke. Synthetic fuels derived from coal for the purpose of creating useful heat including but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures, for the purposes of this subpart. Coal derived gases are excluded from this definition.

*Coal refuse* means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (6,000 Btu per pound) on a dry basis.

*Commercial/institutional boiler* means a boiler used in commercial establishments or institutional establishments such as medical centers, research centers, institutions of higher education, hotels, and laundries to provide electricity, steam, and/or hot water.

*Construction/demolition material* means waste building material that result from the construction or demolition operations on houses and commercial and industrial buildings.

*Deviation:* (1) Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(i) Fails to meet any requirement or obligation established by this subpart

including, but not limited to, any emission limit, operating limit, or work practice standard;

(ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(iii) Fails to meet any emission limit, operating limit, or work practice standard in this subpart during start-up, shutdown, or malfunction, regardless or whether or not such failure is permitted by this subpart.

(2) A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the standard is up to the discretion of the entity responsible for enforcement of the standards.

*Distillate oil* means fuel oils, including recycled oils, that comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D396-02a, "Standard Specifications for Fuel Oils" (incorporated by reference, see § 63.14(b)).

*Dry scrubber* means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems in fluidized bed boilers and process heaters are included in this definition.

*Electric utility steam generating unit* means a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit.

*Electrostatic precipitator* means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper.

*Fabric filter* means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.

*Federally enforceable* means all limitations and conditions that are enforceable by the EPA Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

*Firetube boiler* means a boiler in which hot gases of combustion pass through the tubes and water contacts the outside surfaces of the tubes.

*Fossil fuel* means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials.

*Fuel type* means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, subbituminous coal, lignite, anthracite, biomass, construction/demolition material, salt water laden wood, creosote treated wood, tires, residual oil. Individual fuel types received from different suppliers are not considered new fuel types except for construction/demolition material.

*Gaseous fuel* includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, and biogas. Blast furnace gas is exempted from this definition.

*Heat input* means heat derived from combustion of fuel in a boiler or process heater and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns, etc.

*Hot water heater* means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous or liquid fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which the heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210 °F (99 °C).

*Industrial boiler* means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

*Large gaseous fuel subcategory* includes any watertube boiler or process heater that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.

*Large liquid fuel subcategory* includes any watertube boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent. Large gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.

*Large solid fuel subcategory* includes any watertube boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.

*Limited use gaseous fuel subcategory* includes any watertube boiler or process heater that burns gaseous fuels not combined with any liquid or solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.

*Limited use liquid fuel subcategory* includes any watertube boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent. Limited use gaseous fuel boilers and process heaters that burn liquid fuel during periods of

gas curtailment or gas supply emergencies are not included in this definition.

*Limited use solid fuel subcategory* includes any watertube boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.

*Liquid fossil fuel* means petroleum, distillate oil, residual oil and any form of liquid fuel derived from such material.

*Liquid fuel* includes, but is not limited to, distillate oil, residual oil, waste oil, and process liquids.

*Minimum pressure drop* means 90 percent of the lowest test-run average pressure drop measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

*Minimum scrubber effluent pH* means 90 percent of the lowest test-run average effluent pH measured at the outlet of the wet scrubber according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable hydrogen chloride emission limit.

*Minimum scrubber flow rate* means 90 percent of the lowest test-run average flow rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

*Minimum sorbent flow rate* means 90 percent of the lowest test-run average sorbent (or activated carbon) flow rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.

*Minimum voltage or amperage* means 90 percent of the lowest test-run average voltage or amperage to the electrostatic precipitator measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.

*Natural gas* means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquid petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835-03a, "Standard Specification for Liquid Petroleum Gases" (incorporated by reference, see §63.14(b)).

*Opacity* means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

*Particulate matter* means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an alternative method.

*Period of natural gas curtailment or supply interruption* means a period of time during which the supply of natural gas to an affected facility is halted for reasons beyond the control of the facility. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or supply interruption.

*Process heater* means an enclosed device using controlled flame, that is not a boiler, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not directly come into contact with process materials. Process heaters do not include units used for comfort heat or space heat, food preparation for on-site consumption, or autoclaves.

*Residual oil* means crude oil, and all fuel oil numbers 4, 5 and 6, as defined by the American Society for Testing and Materials in ASTM D396-02a, "Standard Specifications for Fuel Oils" (incorporated by reference, see §63.14(b)).

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

*Small gaseous fuel subcategory* includes any firetube boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment or gas supply emergencies, and any boiler or process heater that burns gaseous fuels not

Environmental Protection Agency

Pt. 63, Subpt. DDDDD, Table 1

combined with any solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.

*Small liquid fuel subcategory* includes any firetube boiler that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, and any boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input. Small gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.

*Small solid fuel subcategory* includes any firetube boiler that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, and any other boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.

*Solid fuel* includes, but is not limited to, coal, wood, biomass, tires, plastics, and other nonfossil solid materials.

*Temporary boiler* means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another. A temporary boiler that remains at a location for more than 180 consecutive days is no longer considered to be a temporary boiler. Any temporary boiler that replaces a temporary boiler at a location and is intended to perform the same or similar function will be included in calculating the consecutive time period.

*Total selected metals* means the combination of the following metallic

HAP: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium.

*Unadulterated wood* means wood or wood products that have not been painted, pigment-stained, or pressure treated with compounds such as chromate copper arsenate, pentachlorophenol, and creosote. Plywood, particle board, oriented strand board, and other types of wood products bound by glues and resins are included in this definition.

*Waste heat boiler* means a device that recovers normally unused energy and converts it to usable heat. Waste heat boilers incorporating duct or supplemental burners that are designed to supply 50 percent or more of the total rated heat input capacity of the waste heat boiler are not considered waste heat boilers, but are considered boilers. Waste heat boilers are also referred to as heat recovery steam generators.

*Watertube boiler* means a boiler in which water passes through the tubes and hot gases of combustion pass over the outside surfaces of the tubes.

*Wet scrubber* means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler or process heater to control emissions of particulate matter and/or to absorb and neutralize acid gases, such as hydrogen chloride.

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

TABLES TO SUBPART DDDDD OF PART 63

TABLE 1 TO SUBPART DDDDD OF PART 63.—EMISSION LIMITS AND WORK PRACTICE STANDARDS

As stated in § 63.7500, you must comply with the following applicable emission limits and work practice standards:

| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . .                         | You must meet the following emission limits and work practice standards . . .                                                                                              |
|---------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. New or reconstructed large solid fuel . . .                | a. Particulate Matter (or Total Selected Metals) . . . . . | 0.025 lb per MMBtu of heat input; or (0.0003 lb per MMBtu of heat input).                                                                                                  |
|                                                               | b. Hydrogen Chloride . . . . .                             | 0.02 lb per MMBtu of heat input.                                                                                                                                           |
|                                                               | c. Mercury . . . . .                                       | 0.000003 lb per MMBtu of heat input.                                                                                                                                       |
|                                                               | d. Carbon Monoxide . . . . .                               | 400 ppm by volume on a dry basis corrected to 7 percent oxygen (30-day rolling average for units 100 MMBtu/hr or greater, 3-run average for units less than 100 MMBtu/hr). |

## Pt. 63, Subpt. DDDDD, Table 2

40 CFR Ch. I (7-1-05 Edition)

As stated in § 63.7500, you must comply with the following applicable emission limits and work practice standards:

| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . .                                                                                                          | You must meet the following emission limits and work practice standards . . .                                                                                                                                                                        |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. New or reconstructed limited use solid fuel.               | a. Particulate Matter (or Total Selected Metals).<br>b. Hydrogen Chloride . . . . .<br>c. Mercury . . . . .<br>d. Carbon Monoxide . . . . . | 0.025 lb per MMBtu of heat input; or (0.0003 lb per MMBtu of heat input).<br>0.02 lb per MMBtu of heat input.<br>0.000003 lb per MMBtu of heat input.<br>400 ppm by volume on a dry basis corrected to 7 percent oxygen (3-run average).             |
| 3. New or reconstructed small solid fuel . . .                | a. Particulate Matter (or Total Selected Metals).<br>b. Hydrogen Chloride . . . . .<br>c. Mercury . . . . .                                 | 0.025 lb per MMBtu of heat input; or (0.0003 lb per MMBtu of heat input).<br>0.02 lb per MMBtu of heat input.<br>0.000003 lb per MMBtu of heat input.                                                                                                |
| 4. New reconstructed large liquid fuel . . . . .              | a. Particulate Matter . . . . .<br>b. Hydrogen Chloride . . . . .<br>c. Carbon Monoxide . . . . .                                           | 0.03 lb per MMBtu of heat input.<br>0.0005 lb per MMBtu of heat input.<br>400 ppm by volume on a dry basis corrected to 3 percent oxygen (30-day rolling average for units 100 MMBtu/hr or greater, 3-run average for units less than 100 MMBtu/hr). |
| 5. New or reconstructed limited use liquid fuel.              | a. Particulate Matter . . . . .<br>b. Hydrogen Chloride . . . . .<br>c. Carbon Monoxide . . . . .                                           | 0.03 lb per MMBtu of heat input.<br>0.0009 lb per MMBtu of heat input.<br>400 ppm by volume on a dry basis liquid corrected to 3 percent oxygen (3-run average).                                                                                     |
| 6. New or reconstructed small liquid fuel . . .               | a. Particulate Matter . . . . .<br>b. Hydrogen Chloride . . . . .                                                                           | 0.03 lb per MMBtu of heat input.<br>0.0009 lb per MMBtu of heat input.                                                                                                                                                                               |
| 7. New reconstructed large gaseous fuel                       | Carbon Monoxide . . . . .                                                                                                                   | 400 ppm by volume on a dry basis corrected to 3 percent oxygen (30-day rolling average for units 100 MMBtu/hr or greater, 3-run average for units less than 100 MMBtu/hr).                                                                           |
| 8. New or reconstructed limited use gaseous fuel.             | Carbon Monoxide . . . . .                                                                                                                   | 400 ppm by volume on a dry basis corrected to 3 percent oxygen (3-run average).                                                                                                                                                                      |
| 9. Existing large solid fuel . . . . .                        | a. Particulate Matter (or Total Selected Metals).<br>b. Hydrogen Chloride . . . . .<br>c. Mercury . . . . .                                 | 0.07 lb per MMBtu of heat input; or (0.001 lb per MMBtu of heat input).<br>0.09 lb per MMBtu of heat input.<br>0.000009 lb per MMBtu of heat input.                                                                                                  |
| 10. Existing limited use solid fuel . . . . .                 | Particulate Matter (or Total Selected Metals).                                                                                              | 0.21 lb per MMBtu of heat input; or (0.004 lb per MMBtu of heat input).                                                                                                                                                                              |

TABLE 2 TO SUBPART DDDDD OF PART 63.—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH PARTICULATE MATTER EMISSION LIMITS

As stated in § 63.7500, you must comply with the applicable operating limits:

| If you demonstrate compliance with applicable particulate matter emission limits using . . . | You must meet these operating limits . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Wet scrubber control . . . . .                                                            | a. Maintain the minimum pressure drop and liquid flow-rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for particulate matter.                                                                                                                                                                                                                                                                                                                                                                     |
| 2. Fabric filter control . . . . .                                                           | a. Install and operate a bag leak detection system according to § 63.7525 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period; or<br>b. This option is for boilers and process heaters that operate dry control systems. Existing boilers and process heaters must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (1-hour block average). |

## Environmental Protection Agency

## Pt. 63, Subpt. DDDDD, Table 3

As stated in § 63.7500, you must comply with the applicable operating limits:

| If you demonstrate compliance with applicable particulate matter emission limits using . . . | You must meet these operating limits . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. Electrostatic precipitator control .....                                                  | <p>a. This option is for boilers and process heaters that operate dry control systems. Existing boilers and process heaters must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (1-hour block average); or</p> <p>b. This option is only for boilers and process heaters that operate additional wet control systems. Maintain the minimum voltage and secondary current or total power input of the electrostatic precipitator at or above the operating limits established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for particulate matter.</p> |
| 4. Any other control type .....                                                              | This option is for boilers and process heaters that operate dry control systems. Existing boilers and process heaters must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

TABLE 3 TO SUBPART DDDDD OF PART 63.—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH MERCURY EMISSION LIMITS AND BOILERS AND PROCESS HEATERS THAT CHOOSE TO COMPLY WITH THE ALTERNATIVE TOTAL SELECTED METALS EMISSION LIMITS

As stated in § 63.7500, you must comply with the applicable operating limits:

| If you demonstrate compliance with applicable mercury and/or total selected metals emission limits using . . . | You must meet these operating limits . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Wet scrubber control .....                                                                                  | Maintain the minimum pressure drop and liquid flow-rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limits for mercury and/or total selected metals.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2. Fabric filter control .....                                                                                 | <p>a. Install and operate a bag leak detection system according to § 63.7525 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period; or</p> <p>b. This option is for boilers and process heaters that operate dry control systems. Existing sources must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New sources must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).</p>                                                                                                                                                                                                                 |
| 3. Electrostatic precipitator control .....                                                                    | <p>a. This option is for boilers and process heaters that operate dry control systems. Existing sources must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New sources must maintain opacity to less than or equal to 10 percent opacity (1-hour block average); or</p> <p>b. This option is only for boilers and process heaters that operate additional wet control systems. Maintain the minimum voltage and secondary current or total power input of the electrostatic precipitator at or above the operating limits established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limits for mercury and/or total selected metals.</p> |

## Pt. 63, Subpt. DDDDD, Table 4

## 40 CFR Ch. I (7-1-05 Edition)

As stated in § 63.7500, you must comply with the applicable operating limits:

| If you demonstrate compliance with applicable mercury and/or total selected metals emission limits using . . . | You must meet these operating limits . . .                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4. Dry scrubber or carbon injection control . . . . .                                                          | Maintain the minimum sorbent or carbon injection rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for mercury.                                                                                              |
| 5. Any other control type . . . . .                                                                            | This option is only for boilers and process heaters that operate dry control systems. Existing sources must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New sources must maintain opacity to less than or equal to 10 percent opacity (1-hour block average). |
| 6. Fuel analysis . . . . .                                                                                     | Maintain the fuel type or fuel mixture such that the mercury and/or total selected metals emission rates calculated according to § 63.7530(d)(4) and/or (5) is less than the applicable emission limits for mercury and/or total selected metals.                                                                                                              |

TABLE 4 TO SUBPART DDDDD OF PART 63.—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH HYDROGEN CHLORIDE EMISSION LIMITS

As stated in § 63.7500, you must comply with the following applicable operating limits:

| If you demonstrate compliance with applicable hydrogen chloride emission limits using . . . . . | You must meet these operating limits . . .                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Wet scrubber control . . . . .                                                               | Maintain the minimum scrubber effluent pH, pressure drop, and liquid flow-rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for hydrogen chloride. |
| 2. Dry scrubber control . . . . .                                                               | Maintain the minimum sorbent injection rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for hydrogen chloride.                                    |
| 3. Fuel analysis . . . . .                                                                      | Maintain the fuel type or fuel mixture such that the hydrogen chloride emission rate calculated according to § 63.7530(d)(3) is less than the applicable emission limit for hydrogen chloride.                                                                                                       |

TABLE 5 TO SUBPART DDDDD OF PART 63.—PERFORMANCE TESTING REQUIREMENTS

As stated in § 63.7520, you must comply with the following requirements for performance test for existing, new or reconstructed affected sources:

| To conduct a performance test for the following pollutant . . . . . | You must . . .                                                                                                                                                                                                                                                                                                                                                                                                                         | Using . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Particulate Matter . . . . .                                     | <p>a. Select sampling ports location and the number of traverse points.</p> <p>b. Determine velocity and volumetric flow-rate of the stack gas.</p> <p>c. Determine oxygen and carbon dioxide concentrations of the stack gas.</p> <p>d. Measure the moisture content of the stack gas.</p> <p>e. Measure the particulate matter emission concentration.</p> <p>f. Convert emissions concentration to lb per MMBtu emission rates.</p> | <p>Method 1 in appendix A to part 60 of this chapter.</p> <p>Method 2, 2F, or 2G in appendix A to part 60 of this chapter.</p> <p>Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(f)).</p> <p>Method 4 in appendix A to part 60 of this chapter.</p> <p>Method 5 or 17 (positive pressure fabric filters must use Method 5D) in appendix A to part 60 of this chapter.</p> <p>Method 19 F-factor methodology in appendix A to part 60 of this chapter.</p> |

Environmental Protection Agency

Pt. 63, Subpt. DDDDD, Table 6

As stated in § 63.7520, you must comply with the following requirements for performance test for existing, new or reconstructed affected sources:

| To conduct a performance test for the following pollutant . . . | You must . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Using . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. Total selected metals . . . . .                              | <ul style="list-style-type: none"> <li>a. Select sampling ports location and the number of traverse points.</li> <li>b. Determine velocity and volumetric flow-rate of the stack gas.</li> <li>c. Determine oxygen and carbon dioxide concentrations of the stack gas.</li> <li>d. Measure the moisture content of the stack gas.</li> <li>e. Measure the total selected metals emission concentration.</li> <li>f. Convert emissions concentration to lb per MMBtu emission rates.</li> </ul> | <ul style="list-style-type: none"> <li>Method 1 in appendix A to part 60 of this chapter.</li> <li>Method 2, 2F, or 2G in appendix A to part 60 of this chapter.</li> <li>Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(i)).</li> <li>Method 4 in appendix A to part 60 of this chapter.</li> <li>Method 29 in appendix A to part 60 of this chapter.</li> <li>Method 19 F-factor methodology in appendix A to part 60 of this chapter.</li> </ul>                                                                                                       |
| 3. Hydrogen chloride . . . . .                                  | <ul style="list-style-type: none"> <li>a. Select sampling ports location and the number of traverse points.</li> <li>b. Determine velocity and volumetric flow-rate of the stack gas.</li> <li>c. Determine oxygen and carbon dioxide concentrations of the stack gas.</li> <li>d. Measure the moisture content of the stack gas.</li> <li>e. Measure the hydrogen chloride emission concentration.</li> <li>f. Convert emissions concentration to lb per MMBtu emission rates.</li> </ul>     | <ul style="list-style-type: none"> <li>Method 1 in appendix A to part 60 of this chapter.</li> <li>Method 2, 2F, or 2G in appendix A to part 60 of this chapter.</li> <li>Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(i)).</li> <li>Method 4 in appendix A to part 60 of this chapter.</li> <li>Method 26 or 26A in appendix A to part 60 of this chapter.</li> <li>Method 19 F-factor methodology in appendix A to part 60 of this chapter.</li> </ul>                                                                                                |
| 4. Mercury . . . . .                                            | <ul style="list-style-type: none"> <li>a. Select sampling ports location and the number of traverse points.</li> <li>b. Determine velocity and volumetric flow-rate of the stack gas.</li> <li>c. Determine oxygen and carbon dioxide concentrations of the stack gas.</li> <li>d. Measure the moisture content of the stack gas.</li> <li>e. Measure the mercury emission concentration.</li> <li>f. Convert emissions concentration to lb per MMBtu emission rates.</li> </ul>               | <ul style="list-style-type: none"> <li>Method 1 in appendix A to part 60 of this chapter.</li> <li>Method 2, 2F, or 2G in appendix A to part 60 of this chapter.</li> <li>Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(i)).</li> <li>Method 4 in appendix A to part 60 of this chapter.</li> <li>Method 29 in appendix A to part 60 of this chapter or Method 101A in appendix B to part 61 of this chapter or ASTM Method D6784-02 (IBR, see § 63.14(b)).</li> <li>Method 19 F-factor methodology in appendix A to part 60 of this chapter.</li> </ul> |
| 5. Carbon Monoxide . . . . .                                    | <ul style="list-style-type: none"> <li>a. Select the sampling ports location and the number of traverse points.</li> <li>b. Determine oxygen and carbon dioxide concentrations of the stack gas.</li> <li>c. Measure the moisture content of the stack gas.</li> <li>d. Measure the carbon monoxide emission concentration.</li> </ul>                                                                                                                                                         | <ul style="list-style-type: none"> <li>Method 1 in appendix A to part 60 of this chapter.</li> <li>Method 3A or 3B in appendix A to part 60 of this chapter, or ASTM D6522-00 (IBR, see § 63.14(b)), or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(i)).</li> <li>Method 4 in appendix A to part 60 of this chapter.</li> <li>Method 10, 10A, or 10B in appendix A to part 60 of this chapter, or ASTM D6522-00 (IBR, see § 63.14(b)) when the fuel is natural gas.</li> </ul>                                                                                                                                      |

TABLE 6 TO SUBPART DDDDD OF PART 63.—FUEL ANALYSIS REQUIREMENTS

## Pt. 63, Subpt. DDDDD, Table 6

## 40 CFR Ch. I (7-1-05 Edition)

As stated in § 63.7521, you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources:

| To conduct a fuel analysis for the following pollutant . . . | You must . . .                                                                                                                                                                                                                                                                                                                                                                                                        | Using . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Mercury . . . . .                                         | <p>a. Collect fuel samples . . . . .</p> <p>b. Composite fuel samples . . . . .</p> <p>c. Prepare composited fuel samples . . . . .</p> <p>d. Determine heat content of the fuel type.</p> <p>e. Determine moisture content of the fuel type.</p> <p>f. Measure mercury concentration in fuel sample.</p> <p>g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content.</p>               | <p>Procedure in § 63.7521(c) or ASTM D2234-00*1 (for coal)(IBR, see § 63.14(b)) or ASTM D6323-98 (2003)(for biomass)(IBR, see § 63.14(b)) or equivalent.</p> <p>Procedure in § 63.7521(d) or equivalent.</p> <p>SW-846-3050B (for solid samples) or SW-846-3020A (for liquid samples) or ASTM D2013-01 (for coal)(IBR, see § 63.14(b)) or ASTM D5198-92 (2003) (for biomass)(IBR, see § 63.14(b)) or equivalent.</p> <p>ASTM D5865-03a (for coal)(IBR, see § 63.14(b)) or ASTM E711-87 (1996) (for biomass)(IBR, see § 63.14(b)) or equivalent.</p> <p>ASTM D3173-02 (IBR, see § 63.14(b)) or ASTM E871-82 (1998)(IBR, see § 63.14(b)) or equivalent.</p> <p>ASTM D3684-01 (for coal)(IBR, see § 63.14(b)) or SW-846-7471A (for solid samples) or SW-846-7470A (for liquid samples).</p> |
| 2. Total selected metals . . . . .                           | <p>a. Collect fuel samples . . . . .</p> <p>b. Composite fuel samples . . . . .</p> <p>c. Prepare composited fuel samples . . . . .</p> <p>d. Determine heat content of the fuel type.</p> <p>e. Determine moisture content of the fuel type.</p> <p>f. Measure total selected metals concentration in fuel sample.</p> <p>g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content.</p> | <p>Procedure in § 63.7521(c) or ASTM D2234-00*1 (for coal)(IBR, see § 63.14(b)) or ASTM D6323-98 (2003) (for biomass)(IBR, see § 63.14(b)) or equivalent.</p> <p>Procedure in § 63.7521(d) or equivalent.</p> <p>SW-846-3050B (for solid samples) or SW-846-3020A (for liquid samples) or ASTM D2013-01 (for coal)(IBR, see § 63.14(b)) or ASTM D5198-92 (2003)(for biomass)(IBR, see § 63.14(b)) or equivalent.</p> <p>ASTM D5865-03a (for coal)(IBR, see § 63.14(b)) or ASTM E 711-87 (for biomass)(IBR, see § 63.14(b)) or equivalent.</p> <p>ASTM D3173-02 (IBR, see § 63.14(b)) or ASTM E871 (IBR, see § 63.14(b)) or equivalent.</p> <p>SW-846-6010B or ASTM D3683-94 (2000) (for coal) (IBR, see § 63.14(b)) or ASTM E885-88 (1996) (for biomass)(IBR, see § 63.14(b)).</p>       |
| 3. Hydrogen chloride . . . . .                               | <p>a. Collect fuel samples . . . . .</p> <p>b. Composite fuel samples . . . . .</p> <p>c. Prepare composited fuel samples . . . . .</p> <p>d. Determine heat content of the fuel type.</p>                                                                                                                                                                                                                            | <p>Procedure in § 63.7521(c) or ASTM D2234*1 (for coal)(IBR, see § 63.14(b)) or ASTM D6323-98 (2003) (for biomass)(IBR, see § 63.14(b)) or equivalent.</p> <p>Procedure in § 63.7521(d) or equivalent.</p> <p>SW-846-3050B (for solid samples) or SW-846-3020A (for liquid samples) or ASTM D2013-01 (for coal)(IBR, see § 63.14(b)) or ASTM D5198-92 (2003) (for biomass)(IBR, see § 63.14(b)) or equivalent.</p> <p>ASTM D5865-03a (for coal)(IBR, see § 63.14(b)) or ASTM E711-87 (1996) (for biomass)(IBR, see § 63.14(b)) or equivalent.</p>                                                                                                                                                                                                                                        |

Environmental Protection Agency

Pt. 63, Subpt. DDDDD, Table 7

As stated in § 63.7521, you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources:

| To conduct a fuel analysis for the following pollutant . . . | You must . . .                                                                                                                                                                                                | Using . . .                                                                                                                                                                                       |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                              | <p>e. Determine moisture content of the fuel type.</p> <p>f. Measure chlorine concentration in fuel sample.</p> <p>g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content.</p> | <p>ASTM D3173-02 (IBR, see § 63.14(b)) or ASTM E871-82 (1998)(IBR, see § 63.14(b)) or equivalent.</p> <p>SW-846-6250 or ASTM E776-87 (1996) (for biomass)(IBR, see § 63.14(b)) or equivalent.</p> |

TABLE 7 TO SUBPART DDDDD OF PART 63.—ESTABLISHING OPERATING LIMITS

As stated in § 63.7520, you must comply with the following requirements for establishing operating limits:

| If you have an applicable emission limit for . . .        | And your operating limits are based on . . .                                                                     | You must . . .                                                                                                      | Using . . .                                                                                                                                   | According to the following requirements                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Particulate matter, mercury, or total selected metals. | a. Wet scrubber operating parameters.                                                                            | i. Establish a site-specific minimum pressure drop and minimum flow rate operating limit according to § 63.7530(c). | (1) Data from the pressure drop and liquid flow rate monitors and the particulate matter, mercury, or total selected metals performance test. | (a) You must collect pressure drop and liquid flow-rate data every 15 minutes during the entire period of the performance tests;<br>(b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run.                                 |
|                                                           | b. Electrostatic precipitator operating parameters (option only for units with additional wet scrubber control). | i. Establish a site-specific minimum voltage and secondary current or total power input according to § 63.7530(c).  | (1) Data from the pressure drop and liquid flow rate monitors and the particulate matter, mercury, or total selected metals performance test. | (a) You must collect voltage and secondary current or total power input data every 15 minutes during the entire period of the performance tests;<br>(b) Determine the average voltage and secondary current or total power input for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run. |
| 2. Hydrogen Chloride . . . . .                            | a. Wet scrubber operating parameters.                                                                            | i. Establish a site-specific minimum pressure drop and minimum flow rate operating limit according to § 63.7530(c). | (1) Data from the pH, pressure drop, and liquid flow-rate monitors and the hydrogen chloride performance test.                                | (a) You must collect pH, pressure drop, and liquid flow-rate data every 15 minutes during the entire period of the performance tests;<br>(b) Determine the average pH, pressure drop, and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run.                       |
|                                                           | b. Dry scrubber operating parameters.                                                                            | i. Establish a site-specific minimum sorbent injection rate operating limit according to § 63.7530(c).              | (1) Data from the sorbent injection rate monitors and hydrogen chloride performance test.                                                     | (a) You must collect sorbent injection rate data every 15 minutes during the entire period of the performance tests;<br>(b) Determine the average sorbent injection rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run.                                                         |

Environmental Protection Agency

Pt. 63, Subpt. DDDDD, Table 9

TABLE 8 TO SUBPART DDDDD OF PART  
63.—DEMONSTRATING CONTINUOUS  
COMPLIANCE

As stated in § 63.7540, you must show continuous compliance with the emission limitations for affected sources according to the following:

| If you must meet the following operating limits or work practice standards . . .  | You must demonstrate continuous compliance by . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Opacity .....                                                                  | <ul style="list-style-type: none"> <li>a. Collecting the opacity monitoring system data according to §§ 63.7525(b) and 63.7535; and</li> <li>b. Reducing the opacity monitoring data to 6-minute averages; and</li> <li>c. Maintaining opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent for existing sources; or maintaining opacity to less than or equal to 10 percent (1-hour block average) for new sources.</li> </ul> |
| 2. Fabric Filter Bag Leak Detection Operation .....                               | Installing and operating a bag leak detection system according to § 63.7525 and operating the fabric filter such that the requirements in § 63.7540(a)(9) are met.                                                                                                                                                                                                                                                                                                                                            |
| 3. Wet Scrubber Pressure Drop and Liquid Flow-rate .....                          | <ul style="list-style-type: none"> <li>a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§ 63.7525 and 63.7535; and</li> <li>b. Reducing the data to 3-hour block averages; and</li> <li>c. Maintaining the 3-hour average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to § 63.7530(c).</li> </ul>                                                                                          |
| 4. Wet Scrubber pH .....                                                          | <ul style="list-style-type: none"> <li>a. Collecting the pH monitoring system data according to §§ 63.7525 and 63.7535; and</li> <li>b. Reducing the data to 3-hour block averages; and</li> <li>c. Maintaining the 3-hour average pH at or above the operating limit established during the performance test according to § 63.7530(c).</li> </ul>                                                                                                                                                           |
| 5. Dry Scrubber Sorbent or Carbon Injection Rate .....                            | <ul style="list-style-type: none"> <li>a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to §§ 63.7525 and 63.7535; and</li> <li>b. Reducing the data to 3-hour block averages; and</li> <li>c. Maintaining the 3-hour average sorbent or carbon injection rate at or above the operating limit established during the performance test according to §§ 63.7530(c).</li> </ul>                                                                         |
| 6. Electrostatic Precipitator Secondary Current and Voltage or Total Power Input. | <ul style="list-style-type: none"> <li>a. Collecting the secondary current and voltage or total power input monitoring system data for the electrostatic precipitator according to §§ 63.7525 and 63.7535; and</li> <li>b. Reducing the data to 3-hour block averages; and</li> <li>c. Maintaining the 3-hour average secondary current and voltage or total power input at or above the operating limits established during the performance test according to §§ 63.7530(c).</li> </ul>                      |
| 7. Fuel Pollutant Content .....                                                   | <ul style="list-style-type: none"> <li>a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to § 63.7530(c) or (d) as applicable; and</li> <li>b. Keeping monthly records of fuel use according to § 63.7540(a).</li> </ul>                                                                                                                                                                                                           |

TABLE 9 TO SUBPART DDDDD OF PART  
63.—REPORTING REQUIREMENTS

As stated in § 63.7550, you must comply with the following requirements for reports:

| You must submit a(n)       | The report must contain . . .                                | You must submit the report . . .                            |
|----------------------------|--------------------------------------------------------------|-------------------------------------------------------------|
| 1. Compliance report ..... | a. Information required in § 63.7550(c)(1) through (11); and | Semiannually according to the requirements in § 63.7550(b). |

As stated in § 63.7550, you must comply with the following requirements for reports:

| You must submit a(n)                                                                                                                                                                                                                                                                                               | The report must contain . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | You must submit the report . . .                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>2. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard.</p> | <p>b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards in Table 6 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in § 63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and</p> <p>c. If you have a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report must contain the information in § 63.7550(d). If there were periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control, as specified in § 63.8(c)(7), the report must contain the information in § 63.7550(e); and</p> <p>d. If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in § 63.10(d)(5)(i)</p> <p>a. Actions taken for the event; and</p> <p>b. The information in § 63.10(d)(5)(ii)</p> | <p>i. By fax or telephone within 2 working days after starting actions inconsistent with the plan; and</p> <p>ii. By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority.</p> |

TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

| Citation         | Subject                                                                    | Brief description                                                                                                                                                                                                                                                      | Applicable |
|------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| § 63.1           | Applicability                                                              | Initial Applicability Determination; Applicability After Standard Established; Permit Requirements; Extensions; Notifications.                                                                                                                                         | Yes.       |
| § 63.2           | Definitions                                                                | Definitions for part 63 standards                                                                                                                                                                                                                                      | Yes.       |
| § 63.3           | Units and Abbreviations                                                    | Units and abbreviations for part 63 standards                                                                                                                                                                                                                          | Yes.       |
| § 63.4           | Prohibited Activities                                                      | Prohibited Activities; Compliance date; Circumvention, Severability.                                                                                                                                                                                                   | Yes.       |
| § 63.5           | Construction/Reconstruction                                                | Applicability; applications; approvals                                                                                                                                                                                                                                 | Yes.       |
| § 63.6(a)        | Applicability                                                              | GP apply unless compliance extension; and GP apply to area sources that become major.                                                                                                                                                                                  | Yes.       |
| § 63.6(b)(1)-(4) | Compliance Dates for New and Reconstructed sources                         | Standards apply at effective date, 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for 112(f).                                                                                                                     | Yes.       |
| § 63.6(b)(5)     | Notification                                                               | Must notify if commenced construction or reconstruction after proposal.                                                                                                                                                                                                | Yes.       |
| § 63.6(b)(6)     | [Reserved]                                                                 |                                                                                                                                                                                                                                                                        |            |
| § 63.6(b)(7)     | Compliance Dates for New and Reconstructed Area Sources That Become Major. | Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source.                                                                                        | Yes.       |
| § 63.6(c)(1)-(2) | Compliance Dates for Existing Sources                                      | Comply according to date in subpart, which must be no later than 3 years after effective date; and for 112(f) standards, comply within 90 days of effective date unless compliance extension.                                                                          | Yes.       |
| § 63.6(c)(3)-(4) | [Reserved]                                                                 |                                                                                                                                                                                                                                                                        |            |
| § 63.6(c)(5)     | Compliance Dates for Existing Area Sources That Become Major.              | Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (for example, 3 years).                                                                                                               | Yes.       |
| § 63.6(d)        | [Reserved]                                                                 |                                                                                                                                                                                                                                                                        |            |
| § 63.6(e)(1)-(2) | Operation & Maintenance                                                    | Operate to minimize emissions at all times; and Correct malfunctions as soon as practicable; and Operation and maintenance requirements independently enforceable; Information Administrator will use to determine if operation and maintenance requirements were met. | Yes.       |
| § 63.5(e)(3)     | Startup, Shutdown, and Malfunction Plan (SSMP)                             | Requirement for SSM and startup, shutdown, malfunction plan; and content of SSMP.                                                                                                                                                                                      | Yes.       |
| § 63.6(f)(1)     | Compliance Except During SSM                                               | Comply with emission standards at all times except during SSM.                                                                                                                                                                                                         | Yes.       |
| § 63.6(f)(2)-(3) | Methods for Determining Compliance                                         | Compliance based on performance test, operation and maintenance plans, records, inspection.                                                                                                                                                                            | Yes.       |
| § 63.6(g)(1)-(3) | Alternative Standard                                                       | Procedures for getting an alternative standard                                                                                                                                                                                                                         | Yes.       |
| § 63.6(h)(1)     | Compliance with Opacity/VE Standards                                       | Comply with opacity/VE emission limitations at all times except during SSM.                                                                                                                                                                                            | Yes.       |
| § 63.6(h)(2)(i)  | Determining Compliance with Opacity/Visible Emission (VE) Standards.       | If standard does not state test method, use Method 9 for opacity and Method 22 for VE.                                                                                                                                                                                 | No.        |

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

| Citation                       | Subject                                                                            | Brief description                                                                                                                                                                                                                                                                                                 | Applicable |
|--------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| § 63.6(h)(2)(ii) .....         | [Reserved]                                                                         |                                                                                                                                                                                                                                                                                                                   |            |
| § 63.6(h)(2)(iii) .....        | Using Previous Tests to Demonstrate Compliance with Opacity/VE Standards           | Criteria for when previous opacity/VE testing can be used to show compliance with this subpart.                                                                                                                                                                                                                   | Yes.       |
| § 63.6(h)(3) .....             | [Reserved]                                                                         |                                                                                                                                                                                                                                                                                                                   |            |
| § 63.6(h)(4) .....             | Notification of Opacity/VE Observation Date .....                                  | Notify Administrator of anticipated date of observation                                                                                                                                                                                                                                                           | No.        |
| § 63.6(h)(5)(i),(ii)-(v) ..... | Conducting Opacity/VE Observations .....                                           | Dates and Schedule for conducting opacity/VE observations.                                                                                                                                                                                                                                                        | No.        |
| § 63.6(h)(5)(ii) .....         | Opacity Test Duration and Averaging Times .....                                    | Must have at least 3 hours of observation with thirty, 6-minute averages.                                                                                                                                                                                                                                         | No.        |
| § 63.6(h)(6) .....             | Records of Conditions During Opacity/VE observations                               | Keep records available and allow Administrator to inspect.                                                                                                                                                                                                                                                        | No.        |
| § 63.6(h)(7)(i) .....          | Report continuous opacity monitoring system Monitoring Data from Performance Test. | Submit continuous opacity monitoring system data with other performance test data.                                                                                                                                                                                                                                | Yes.       |
| § 63.6(h)(7)(ii) .....         | Using continuous opacity monitoring system instead of Method 9.                    | Can submit continuous opacity monitoring system data instead of Method 9 results even if subpart requires Method 9, but must notify Administrator before performance test.                                                                                                                                        | No.        |
| § 63.6(h)(7)(iii) .....        | Averaging time for continuous opacity monitoring system during performance test.   | To determine compliance, must reduce continuous opacity monitoring system data to 6-minute averages.                                                                                                                                                                                                              | Yes.       |
| § 63.6(h)(7)(iv) .....         | Continuous opacity monitoring system requirements                                  | Demonstrate that continuous opacity monitoring system performance evaluations are conducted according to §§ 63.8(a), continuous opacity monitoring systems are properly maintained and operated according to § 63.8(c) and data quality as § 63.8(d).                                                             | Yes.       |
| § 63.6(h)(7)(v) .....          | Determining Compliance with Opacity/VE Standards                                   | Continuous opacity monitoring system is probative but not conclusive evidence of compliance with opacity standard, even if Method 9 observation shows otherwise. Requirements for continuous opacity monitoring system to be probative evidence-proper maintenance, meeting PS 1, and data have not been altered. | Yes.       |
| § 63.6(h)(8) .....             | Determining Compliance with Opacity/VE Standards                                   | Administrator will use all continuous opacity monitoring system, Method 9, and Method 22 results, as well as information about operation and maintenance to determine compliance.                                                                                                                                 | Yes.       |
| § 63.6(h)(9) .....             | Adjusted Opacity Standard                                                          | Procedures for Administrator to adjust an opacity standard.                                                                                                                                                                                                                                                       | Yes.       |
| § 63.6(i)(1)-(14) .....        | Compliance Extension                                                               | Procedures and criteria for Administrator to grant compliance extension.                                                                                                                                                                                                                                          | Yes.       |
| § 63.6(j) .....                | Presidential Compliance Exemption                                                  | President may exempt source category from requirement to comply with rule.                                                                                                                                                                                                                                        | Yes.       |
| § 63.7(a)(1) .....             | Performance Test Dates                                                             | Dates for Conducting Initial Performance Testing and Other Compliance Demonstrations.                                                                                                                                                                                                                             | Yes.       |

|                             |                                                   |                                                                                                                                                                                                                                                                                   |      |
|-----------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| § 63.7(a)(2) .....          | Performance Test Dates .....                      | New source with initial startup date before effective date has 180 days after effective date to demonstrate compliance                                                                                                                                                            | Yes. |
| § 63.7(a)(2)(ii-viii) ..... | [Reserved]                                        |                                                                                                                                                                                                                                                                                   |      |
| § 63.7(a)(2)(ix) .....      | Performance Test Dates .....                      | 1. New source that commenced construction between proposal and promulgation dates, when promulgated standard is more stringent than proposed standard, has 180 days after effective date or 180 days after startup of source, whichever is later, to demonstrate compliance; and. | Yes. |
|                             |                                                   | 2. If source initially demonstrates compliance with less stringent proposed standard, it has 3 years and 180 days after the effective date of the standard or 180 days after startup of source, whichever is later, to demonstrate compliance with promulgated standard.          | No.  |
| § 63.7(a)(3) .....          | Section 114 Authority .....                       | Administrator may require a performance test under CAA Section 114 at any time.                                                                                                                                                                                                   | Yes. |
| § 63.7(b)(1) .....          | Notification of Performance Test .....            | Must notify Administrator 60 days before the test .....                                                                                                                                                                                                                           | No.  |
| § 63.7(b)(2) .....          | Notification of Rescheduling .....                | If rescheduling a performance test is necessary, must notify Administrator 5 days before scheduled date of rescheduled date.                                                                                                                                                      | Yes. |
| § 63.7(c) .....             | Quality Assurance/Test Plan .....                 | Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; and performance audit requirements; and internal and external QA procedures for testing.                                               | Yes. |
| § 63.7(d) .....             | Testing Facilities .....                          | Requirements for testing facilities .....                                                                                                                                                                                                                                         | Yes. |
| § 63.7(e)(1) .....          | Conditions for Conducting Performance Tests ..... | 1. Performance tests must be conducted under representative conditions; and                                                                                                                                                                                                       | No.  |
|                             |                                                   | 2. Cannot conduct performance tests during SSM; and                                                                                                                                                                                                                               | Yes. |
|                             |                                                   | 3. Not a deviation to exceed standard during SSM; and                                                                                                                                                                                                                             | Yes. |
|                             |                                                   | 4. Upon request of Administrator, make available records necessary to determine conditions of performance tests.                                                                                                                                                                  | Yes. |
| § 63.7(e)(2) .....          | Conditions for Conducting Performance Tests ..... | Must conduct according to rule and EPA test methods unless Administrator approves alternative.                                                                                                                                                                                    | Yes. |
| § 63.7(e)(3) .....          | Test Run Duration .....                           | Must have three separate test runs; and Compliance is based on arithmetic mean of three runs; and conditions when data from an additional test run can be used.                                                                                                                   | Yes. |
| § 63.7(e)(4) .....          | Interaction with other sections of the Act .....  | Nothing in § 63.7(e)(1) through (4) can abrogate the Administrator's authority to require testing under Section 114 of the Act.                                                                                                                                                   | Yes. |
| § 63.7(f) .....             | Alternative Test Method .....                     | Procedures by which Administrator can grant approval to use an alternative test method.                                                                                                                                                                                           | Yes. |
| § 63.7(g) .....             | Performance Test Data Analysis .....              | Must include raw data in performance test report; and must submit performance test data 60 days after end of test with the Notification of Compliance Status; and keep data for 5 years.                                                                                          | Yes. |

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

| Citation             | Subject                                                   | Brief description                                                                                                                                                                                                                                                                                                                                       | Applicable |
|----------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| § 63.7(h)            | Waiver of Tests                                           | Procedures for Administrator to waive performance test.                                                                                                                                                                                                                                                                                                 | Yes.       |
| § 63.8(a)(1)         | Applicability of Monitoring Requirements                  | Subject to all monitoring requirements in standard                                                                                                                                                                                                                                                                                                      | Yes.       |
| § 63.8(a)(2)         | Performance Specifications                                | Performance Specifications in appendix B of part 60 apply.                                                                                                                                                                                                                                                                                              | Yes.       |
| § 63.8(a)(3)         | [Reserved]                                                |                                                                                                                                                                                                                                                                                                                                                         |            |
| § 63.8(a)(4)         | Monitoring with Flares                                    | Unless your rule says otherwise, the requirements for flares in § 63.11 apply.                                                                                                                                                                                                                                                                          | No.        |
| § 63.8(b)(1)(i)-(ii) | Monitoring                                                | Must conduct monitoring according to standard unless Administrator approves alternative.                                                                                                                                                                                                                                                                | Yes.       |
| § 63.8(b)(1)(iii)    | Monitoring                                                | Flares not subject to this section unless otherwise specified in relevant standard.                                                                                                                                                                                                                                                                     | No.        |
| § 63.8(b)(2)-(3)     | Multiple Effluents and Multiple Monitoring Systems        | Specific requirements for installing monitoring systems; and must install on each effluent before it is combined and before it is released to the atmosphere unless Administrator approves otherwise; and if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup. | Yes.       |
| § 63.8(c)(1)         | Monitoring System Operation and Maintenance               | Maintain monitoring system in a manner consistent with good air pollution control practices.                                                                                                                                                                                                                                                            | Yes.       |
| § 63.8(c)(1)(i)      | Routine and Predictable SSMP                              | Maintain and operate CMS according to § 63.6(e)(1)                                                                                                                                                                                                                                                                                                      | Yes.       |
| § 63.8(c)(1)(ii)     | SSMP not in SSMP                                          | Must keep necessary parts available for routine repairs of CMSs.                                                                                                                                                                                                                                                                                        | Yes.       |
| § 63.8(c)(1)(iii)    | Compliance with Operation and Maintenance Requirements.   | Must develop and implement an SSMP for CMSs                                                                                                                                                                                                                                                                                                             | Yes.       |
| § 63.8(c)(2)-(3)     | Monitoring System Installation                            | Must install to get representative emission and parameter measurements; and must verify operational status before or at performance test.                                                                                                                                                                                                               | Yes.       |
| § 63.8(c)(4)         | Continuous Monitoring System (CMS) Requirements           | CMSs must be operating except during breakdown, out-of-control, repair, maintenance, and high-level calibration drifts.                                                                                                                                                                                                                                 | No.        |
| § 63.8(c)(4)(i)      | Continuous Monitoring System (CMS) Requirements           | Continuous opacity monitoring system must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period.                                                                                                                                                | Yes.       |
| § 63.8(c)(4)(ii)     | Continuous Monitoring System (CMS) Requirements           | Continuous emissions monitoring system must have a minimum of one cycle of operation for each successive 15-minute period.                                                                                                                                                                                                                              | No.        |
| § 63.8(c)(5)         | Continuous Opacity Monitoring system (COMS) Requirements. | Must do daily zero and high level calibrations                                                                                                                                                                                                                                                                                                          | Yes.       |
| § 63.8(c)(6)         | Continuous Monitoring System (CMS) Requirements           | Must do daily zero and high level calibrations                                                                                                                                                                                                                                                                                                          | No.        |
| § 63.8(c)(7)-(8)     | Continuous Monitoring Systems Requirements                | Out-of-control periods, including reporting                                                                                                                                                                                                                                                                                                             | Yes.       |

|                        |                                                                         |                                                                                                                                                                                                                               |      |
|------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| § 63.8(d) .....        | Continuous Monitoring Systems Quality Control .....                     | Requirements for continuous monitoring systems quality control, including calibration, etc.; and must keep quality control plan on record for the life of the affected source. Keep old versions for 5 years after revisions. | Yes. |
| § 63.8(e) .....        | Continuous monitoring systems Performance Evaluation .....              | Notification, performance evaluation test plan, reports                                                                                                                                                                       | Yes. |
| § 63.8(f)(1)-(5) ..... | Alternative Monitoring Method .....                                     | Procedures for Administrator to approve alternative monitoring.                                                                                                                                                               | Yes. |
| § 63.8(f)(6) .....     | Alternative to Relative Accuracy Test .....                             | Procedures for Administrator to approve alternative relative accuracy tests for continuous emissions monitoring system.                                                                                                       | No.  |
| § 63.8(g)(1)-(4) ..... | Data Reduction .....                                                    | Continuous opacity monitoring system 6-minute averages calculated over at least 36 evenly spaced data points; and continuous emissions monitoring system 1-hour averages computed over at least 4 equally spaced data points. | Yes. |
| § 63.8(g)(5) .....     | Data Reduction .....                                                    | Data that cannot be used in computing averages for continuous emissions monitoring system and continuous opacity monitoring system.                                                                                           | No.  |
| § 63.9(a) .....        | Notification Requirements .....                                         | Applicability and State Delegation .....                                                                                                                                                                                      | Yes. |
| § 63.9(b)(1)-(5) ..... | Initial Notifications .....                                             | Submit notification 120 days after effective date; and Notification of intent to construct/reconstruct; and Notification of commencement of construct/reconstruct; Notification of startup; and Contents of each.             | Yes. |
| § 63.9(c) .....        | Request for Compliance Extension .....                                  | Can request if cannot comply by date or if installed BACT/LAER.                                                                                                                                                               | Yes. |
| § 63.9(d) .....        | Notification of Special Compliance Requirements for New Source .....    | For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date.                                                                                                     | Yes. |
| § 63.9(e) .....        | Notification of Performance Test .....                                  | Notify Administrator 60 days prior .....                                                                                                                                                                                      | No.  |
| § 63.9(f) .....        | Notification of VE/Opacity Test .....                                   | Notify Administrator 30 days prior .....                                                                                                                                                                                      | No.  |
| § 63.9(g) .....        | Additional Notifications When Using Continuous Monitoring Systems ..... | Notification of performance evaluation; and notification using continuous opacity monitoring system data; and notification that exceeded criterion for relative accuracy.                                                     | Yes. |
| § 63.9(h)(1)-(6) ..... | Notification of Compliance Status .....                                 | Contents; and due 60 days after end of performance test or other compliance demonstration, and when to submit to Federal vs. State authority.                                                                                 | Yes. |
| § 63.9(i) .....        | Adjustment of Submittal Deadlines .....                                 | Procedures for Administrator to approve change in when notifications must be submitted.                                                                                                                                       | Yes. |
| § 63.9(j) .....        | Change in Previous Information .....                                    | Must submit within 15 days after the change .....                                                                                                                                                                             | Yes. |
| § 63.10(a) .....       | Recordkeeping/Reporting .....                                           | Applies to all, unless compliance extension; and when to submit to Federal vs. State authority; and procedures for owners of more than 1 source.                                                                              | Yes. |
| § 63.10(b)(1) .....    | Recordkeeping/Reporting .....                                           | General Requirements; and keep all records readily available and keep for 5 years.                                                                                                                                            | Yes. |

As stated in § 63.7585, you must comply with the applicable General Provisions according to the following:

| Citation                        | Subject                                               | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                            | Applicable |
|---------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| § 63.10(b)(2)(i)-(v)            | Records related to Startup, Shutdown, and Malfunction | Occurrence of each of operation (process, equipment); and occurrence of each malfunction of air pollution equipment; and maintenance of air pollution control equipment; and actions during startup, shutdown, and malfunction.                                                                                                                                                                                                                              | Yes.       |
| § 63.10(b)(2)(vi) and (x-xi)    | Continuous monitoring systems Records                 | Malfunctions, inoperative, out-of-control; and calibration checks; and adjustments, maintenance.                                                                                                                                                                                                                                                                                                                                                             | Yes.       |
| § 63.10(b)(2)(vii)-(ix)         | Records                                               | Measurements to demonstrate compliance with emission limitations; and performance test, performance evaluation, and visible emission observation results; and measurements to determine conditions of performance tests and performance evaluations.                                                                                                                                                                                                         | Yes.       |
| § 63.10(b)(2)(xii)              | Records                                               | Records when under waiver                                                                                                                                                                                                                                                                                                                                                                                                                                    | Yes.       |
| § 63.10(b)(2)(xiii)             | Records                                               | Records when using alternative to relative accuracy test.                                                                                                                                                                                                                                                                                                                                                                                                    | No.        |
| § 63.10(b)(2)(xiv)              | Records                                               | All documentation supporting Initial Notification and Notification of Compliance Status.                                                                                                                                                                                                                                                                                                                                                                     | Yes.       |
| § 63.10(b)(3)                   | Records                                               | Applicability Determinations                                                                                                                                                                                                                                                                                                                                                                                                                                 | Yes.       |
| § 63.10(c)(1),(5)-(8),(10)-(15) | Records                                               | Additional Records for continuous monitoring systems                                                                                                                                                                                                                                                                                                                                                                                                         | Yes.       |
| § 63.10(c)(7)-(9)               | Records                                               | Records of excess emissions and parameter monitoring exceedances for continuous monitoring systems.                                                                                                                                                                                                                                                                                                                                                          | No.        |
| § 63.10(d)(1)                   | General Reporting Requirements                        | Requirement to report                                                                                                                                                                                                                                                                                                                                                                                                                                        | Yes.       |
| § 63.10(d)(2)                   | Report of Performance Test Results                    | When to submit to Federal or State authority                                                                                                                                                                                                                                                                                                                                                                                                                 | Yes.       |
| § 63.10(d)(3)                   | Reporting Opacity or VE Observations                  | What to report and when                                                                                                                                                                                                                                                                                                                                                                                                                                      | Yes.       |
| § 63.10(d)(4)                   | Progress Reports                                      | Must submit progress reports on schedule if under compliance extension.                                                                                                                                                                                                                                                                                                                                                                                      | Yes.       |
| § 63.10(d)(5)                   | Startup, Shutdown, and Malfunction Reports            | Contents and submission                                                                                                                                                                                                                                                                                                                                                                                                                                      | Yes.       |
| § 63.10(e)(1)(2)                | Additional continuous monitoring systems Reports      | Must report results for each CEM on a unit; and written copy of performance evaluation; and 3 copies of continuous opacity monitoring system performance evaluation.                                                                                                                                                                                                                                                                                         | Yes.       |
| § 63.10(e)(3)                   | Reports                                               | Excess Emission Reports                                                                                                                                                                                                                                                                                                                                                                                                                                      | No.        |
| § 63.10(e)(3)(i-iii)            | Reports                                               | Schedule for reporting excess emissions and parameter monitor exceedance (now defined as deviations).                                                                                                                                                                                                                                                                                                                                                        | No.        |
| § 63.10(e)(3)(iv-v)             | Excess Emissions Reports                              | Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedance (now defined as deviations); and provision to request semiannual reporting after compliance for one year; and submit report by 30th day following end of quarter or calendar half; and if there has not been an exceedance or excess emission (now defined as deviations), report contents is a statement that there have been no deviations. | No.        |

Pt. 63, Suppl. DDDDD, Table 10

40 CFR Ch. I (7-1-05 Edition)

|                              |                                                        |                                                                                                                                                                             |      |
|------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| § 63.10(e)(3)(iv-v) .....    | Excess Emissions Reports .....                         | Must submit report containing all of the information in § 63.10(c)(5-13), § 63.8(c)(7-8).                                                                                   | No.  |
| § 63.10(e)(3)(vi-viii) ..... | Excess Emissions Report and Summary Report .....       | Requirements for reporting excess emissions for continuous monitoring systems (now called deviations); Requires all of the information in § 63.10(c)(5-13), § 63.8(c)(7-8). | No.  |
| § 63.10(e)(4) .....          | Reporting continuous opacity monitoring system data .. | Must submit continuous opacity monitoring system data with performance test data.                                                                                           | Yes. |
| § 63.10(f) .....             | Waiver for Recordkeeping/Reporting .....               | Procedures for Administrator to waive .....                                                                                                                                 | Yes. |
| § 63.11 .....                | Flares .....                                           | Requirements for flares .....                                                                                                                                               | No.  |
| § 63.12 .....                | Delegation .....                                       | State authority to enforce standards .....                                                                                                                                  | Yes. |
| § 63.13 .....                | Addresses .....                                        | Addresses where reports, notifications, and requests are sent.                                                                                                              | Yes. |
| § 63.14 .....                | Incorporation by Reference .....                       | Test methods incorporated by reference .....                                                                                                                                | Yes. |
| § 63.15 .....                | Availability of Information .....                      | Public and confidential information .....                                                                                                                                   | Yes. |

Environmental Protection Agency

Pt. 63, Subpt. DDDDD, Table 10

APPENDIX A TO SUBPART DDDDD—  
METHODOLOGY AND CRITERIA FOR  
DEMONSTRATING ELIGIBILITY FOR  
THE HEALTH-BASED COMPLIANCE AL-  
TERNATIVES SPECIFIED FOR THE  
LARGE SOLID FUEL SUBCATEGORY

1. PURPOSE/INTRODUCTION

This appendix provides the methodology and criteria for demonstrating that your affected source is eligible for the compliance alternative for the HCl emission limit and/or the total selected metals (TSM) emission limit. This appendix specifies emissions testing methods that you must use to determine HCl, chlorine, and manganese emissions from the affected units and what parts of the affected source facility must be included in the eligibility demonstration. You must demonstrate that your affected source is eligible for the health-based compliance alternatives using either a look-up table analysis (based on the look-up tables included in this appendix) or a site-specific compliance demonstration performed according to the criteria specified in this appendix. This appendix also specifies how and when you file any eligibility demonstrations for your affected source and how to show that your affected source remains eligible for the health-based compliance alternatives in the future.

2. WHO IS ELIGIBLE TO DEMONSTRATE THAT THEY QUALIFY FOR THE HEALTH-BASED COMPLIANCE ALTERNATIVES?

Each new, reconstructed, or existing affected source may demonstrate that they are eligible for the health-based compliance alternatives. Section 63.7490 of subpart DDDDD defines the affected source and explains which affected sources are new, existing, or reconstructed.

3. WHAT PARTS OF MY FACILITY HAVE TO BE INCLUDED IN THE HEALTH-BASED ELIGIBILITY DEMONSTRATION?

If you are attempting to determine your eligibility for the compliance alternative for HCl, you must include every emission point subject to subpart DDDDD that emits either HCl or Cl<sub>2</sub> in the eligibility demonstration.

If you are attempting to determine your eligibility for the compliance alternative for TSM, you must include every emission point subject to subpart DDDDD that emits manganese in the eligibility demonstration.

4. HOW DO I DETERMINE HAP EMISSIONS FROM MY AFFECTED SOURCE?

(a) You must conduct HAP emissions tests or fuel analysis for every emission point cov-

ered under subpart DDDDD within the affected source facility according to the requirements in paragraphs (b) through (f) of this section and the methods specified in Table 1 of this appendix.

(1) If you are attempting to determine your eligibility for the compliance alternative for HCl, you must test the subpart DDDDD units at your facility for both HCl and Cl<sub>2</sub>. When conducting fuel analysis, you must assume any chlorine detected will be emitted as Cl<sub>2</sub>.

(2) If you are attempting to determine your eligibility for the compliance alternative for TSM, you must test the subpart DDDDD units at your facility for manganese.

(b) *Periods when emissions tests must be conducted.*

(1) You must not conduct emissions tests during periods of startup, shutdown, or malfunction, as specified in §63.7(e)(1).

(2) You must test under worst-case operating conditions as defined in this appendix. You must describe your worst-case operating conditions in your performance test report for the process and control systems (if applicable) and explain why the conditions are worst-case.

(c) *Number of test runs.* You must conduct three separate test runs for each test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.

(d) *Sampling locations.* Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.

(e) *Collection of monitoring data for HAP control devices.* During the emissions test, you must collect operating parameter monitoring system data at least every 15 minutes during the entire emissions test and establish the site-specific operating requirements in Tables 3 or 4, as appropriate, of subpart DDDDD using data from the monitoring system and the procedures specified in §63.7530 of subpart DDDDD.

(f) *Nondetect data.* You may treat emissions of an individual HAP as zero if all of the test runs result in a nondetect measurement and the condition in paragraph (f)(1) of this section is met for the manganese test method. Otherwise, nondetect data for individual HAP must be treated as one-half of the method detection limit.

(1) For manganese measured using Method 29 in appendix A to 40 CFR part 60, you analyze samples using atomic absorption spectroscopy (AAS).

(g) You must determine the maximum hourly emission rate for each appropriate emission point according to Equation 1 of this appendix.

$$\text{Max Hourly Emissions} = \sum_{i=1}^n (E_r \times H_m) \quad (\text{Eq. 1})$$

Where:

Max Hourly Emissions = Maximum hourly emissions for hydrogen chloride, chlorine, or manganese, in units of pounds per hour.

$E_r$  = Emission rate (the 3-run average as determined according to Table 1 of this appendix or the pollutant concentration in the fuel samples analyzed according to §63.7521) for hydrogen chloride, chlorine, or manganese, in units of pounds per million Btu of heat input.

$H_m$  = Maximum rated heat input capacity of appropriate emission point, in units of million Btu per hour.

5. WHAT ARE THE CRITERIA FOR DETERMINING IF MY FACILITY IS ELIGIBLE FOR THE HEALTH-BASED COMPLIANCE ALTERNATIVES?

(a) Determine the HAP emissions from each appropriate emission point within the affected source facility using the procedures specified in section 4 of this appendix.

(b) Demonstrate that your facility is eligible for either of the health-based compliance alternatives using either the methods described in section 6 of this appendix (look-up table analysis) or section 7 of this appendix (site-specific compliance demonstration).

(c) Your facility is eligible for the health-based compliance alternative for HCl if one of the following two statements is true:

(1) The calculated HCl-equivalent emission rate is below the appropriate value in the look-up table;

(2) Your site-specific compliance demonstration indicates that your maximum HI for HCl and  $\text{Cl}_2$  at a location where people live is less than or equal to 1.0.

(d) Your facility is eligible for the health-based compliance alternative for TSM if one of the following two statements is true:

(1) The manganese emission rate for all your subpart DDDDD sources is below the appropriate value in the look-up table;

(2) Your site-specific compliance demonstration indicates that your maximum HQ for manganese at a location where people live is less than or equal to 1.0.

6. HOW DO I CONDUCT A LOOK-UP TABLE ANALYSIS?

You may use look-up tables to demonstrate that your facility is eligible for either the compliance alternative for the HCl emission limit or the compliance alternative for TSM emission limit.

(a) *HCl health-based compliance alternative.*

(1) To calculate the total toxicity-weighted HCl-equivalent emission rate for your facility, first calculate the total affected source emission rate of HCl by summing the maximum hourly HCl emission rates from all your subpart DDDDD sources. Then, similarly, calculate the total affected source emission rate for  $\text{Cl}_2$ . Finally, calculate the toxicity-weighted emission rate (expressed in HCl equivalents) according to Equation 2 of this appendix.

$$ER_{tw} = \sum (ER_i \times (RfC_{HCl} / RfC_i)) \quad (\text{Eq. 2})$$

Where:

$ER_{tw}$  is the HCl-equivalent emission rate, lb/hr.

$ER_i$  is the emission rate of HAP  $i$  in lbs/hr

$RfC_i$  is the reference concentration of HAP  $i$

$RfC_{HCl}$  is the reference concentration of HCl ( $RfCs$  for HCl and  $\text{Cl}_2$  can be found at <http://www.epa.gov/ttn/atw/toxsource/summary.html>).

(2) The calculated HCl-equivalent emission rate will then be compared to the appropriate allowable emission rate in Table 2 of this appendix. To determine the correct value from the table, an average value for the appropriate subpart DDDDD emission points should be used for stack height and

the minimum distance between any appropriate subpart DDDDD stack at the facility and the property boundary should be used for property boundary distance. Appropriate emission points and stacks are those that emit HCl and/or  $\text{Cl}_2$ . If one or both of these values does not match the exact values in the lookup tables, then use the next lowest table value. (NOTE: If your average stack height is less than 5 meters, you must use the 5 meter row.) Your facility is eligible to comply with the health-based alternative HCl emission limit if your toxicity-weighted HCl equivalent emission rate, determined using the methods specified in this appendix,

does not exceed the appropriate value in Table 2 of this appendix.

(b) *TSM Compliance Alternative.* To calculate the total manganese emission rate for your affected source, sum the maximum hourly manganese emission rates for all your subpart DDDDD sources. The calculated manganese emission rate will then be compared to the allowable emission rate in the Table 3 of this appendix. To determine the correct value from the table, an average value for the appropriate subpart DDDDD emission points should be used for stack height and the minimum distance between any appropriate subpart DDDDD stack at the facility and the property boundary should be used for property boundary distance. Appropriate emission points and stacks are those that emit manganese. If one or both of these values does not match the exact values in the lookup tables, then use the next lowest table value. (NOTE: If your average stack height is less than 5 meters, you must use the 5 meter row.) Your facility may exclude manganese when demonstrating compliance with the TSM emission limit if your manganese emission rate, determined using the methods specified in this appendix, does not exceed the appropriate value specified in Table 3 of this appendix.

#### 7. HOW DO I CONDUCT A SITE-SPECIFIC COMPLIANCE DEMONSTRATION?

If you fail to demonstrate that your facility is able to comply with one or both of the alternative health-based emission standards using the look-up table approach, you may choose to perform a site-specific compliance demonstration for your facility. You may use any scientifically-accepted peer-reviewed risk assessment methodology for your site-specific compliance demonstration. An example of one approach for performing a site-specific compliance demonstration for air toxics can be found in the EPA's "Air Toxics Risk Assessment Reference Library, Volume 2, Site-Specific Risk Assessment Technical Resource Document", which may be obtained through the EPA's Air Toxics Web site at [http://www.epa.gov/ttn/fera/risk\\_atoxic.html](http://www.epa.gov/ttn/fera/risk_atoxic.html).

(a) Your facility is eligible for the HCl alternative compliance option if your site-specific compliance demonstration shows that the maximum HI for HCl and Cl<sub>2</sub> from your subpart DDDDD sources is less than or equal to 1.0.

(b) Your facility is eligible for the TSM alternative compliance option if your site-specific compliance demonstration shows that the maximum HQ for manganese from your subpart DDDDD sources is less than or equal to 1.0.

(c) At a minimum, your site-specific compliance demonstration must:

(1) Estimate long-term inhalation exposures through the estimation of annual or multi-year average ambient concentrations;

(2) Estimate the inhalation exposure for the individual most exposed to the facility's emissions;

(3) Use site-specific, quality-assured data wherever possible;

(4) Use health-protective default assumptions wherever site-specific data are not available, and;

(5) Contain adequate documentation of the data and methods used for the assessment so that it is transparent and can be reproduced by an experienced risk assessor and emissions measurement expert.

(d) Your site-specific compliance demonstration need not:

(1) Assume any attenuation of exposure concentrations due to the penetration of outdoor pollutants into indoor exposure areas;

(2) Assume any reaction or deposition of the emitted pollutants during transport from the emission point to the point of exposure.

#### 8. WHAT MUST MY HEALTH-BASED ELIGIBILITY DEMONSTRATION CONTAIN?

(a) Your health-based eligibility demonstration must contain, at a minimum, the information specified in paragraphs (a)(1) through (6) of this section.

(1) Identification of each appropriate emission point at the affected source facility, including the maximum rated capacity of each appropriate emission point.

(2) Stack parameters for each appropriate emission point including, but not limited to, the parameters listed in paragraphs (a)(2)(i) through (iv) below:

(i) Emission release type.

(ii) Stack height, stack area, stack gas temperature, and stack gas exit velocity.

(iii) Plot plan showing all emission points, nearby residences, and fence line.

(iv) Identification of any control devices used to reduce emissions from each appropriate emission point.

(3) Emission test reports for each pollutant and appropriate emission point which has been tested using the test methods specified in Table 1 of this appendix, including a description of the process parameters identified as being worst case. Fuel analyses for each fuel and emission point which has been conducted including collection and analytical methods used.

(4) Identification of the RFC values used in your look-up table analysis or site-specific compliance demonstration.

(5) Calculations used to determine the HCl-equivalent or manganese emission rates according to sections 6(a) or (b) of this appendix.

(6) Identification of the controlling process factors (including, but not limited to, fuel type, heat input rate, type of control devices, process parameters reflecting the

emissions rates used for your eligibility demonstration) that will become Federally enforceable permit conditions used to show that your facility remains eligible for the health-based compliance alternatives.

(b) If you use the look-up table analysis in section 6 of this appendix to demonstrate that your facility is eligible for either health-based compliance alternative, your eligibility demonstration must contain, at a minimum, the information in paragraphs (a) and (b)(1) through (3) of this section.

(1) Calculations used to determine the average stack height of the subpart DDDDD emission points that emit either manganese or HCl and Cl<sub>2</sub>.

(2) Identification of the subpart DDDDD emission point, that emits either manganese or HCl and Cl<sub>2</sub>, with the minimum distance to the property boundary of the facility.

(3) Comparison of the values in the look-up tables (Tables 2 and 3 of this appendix) to your maximum HCl-equivalent or manganese emission rates.

(c) If you use a site-specific compliance demonstration as described in section 7 of this appendix to demonstrate that your facility is eligible, your eligibility demonstration must contain, at a minimum, the information in paragraphs (a) and (c)(1) through (7) of this section:

(1) Identification of the risk assessment methodology used.

(2) Documentation of the fate and transport model used.

(3) Documentation of the fate and transport model inputs, including the information described in paragraphs (a)(1) through (5) of this section converted to the dimensions required for the model and all of the following that apply: meteorological data; building, land use, and terrain data; receptor locations and population data; and other facility-specific parameters input into the model.

(4) Documentation of the fate and transport model outputs.

(5) Documentation of any exposure assessment and risk characterization calculations.

(6) Comparison of the HQ HI to the limit of 1.0.

#### 9. WHEN DO I HAVE TO COMPLETE AND SUBMIT MY HEALTH-BASED ELIGIBILITY DEMONSTRATION?

(a) If you have an existing affected source, you must complete and submit your eligibility demonstration to your permitting authority, along with a signed certification that the demonstration is an accurate depiction of your facility, no later than the date one year prior to the compliance date of subpart DDDDD. A separate copy of the eligibility demonstration must be submitted to: U.S. EPA, Risk and Exposure Assessment Group, Emission Standards Division (C404-01), Attn: Group Leader, Research Triangle

Park, North Carolina 27711, electronic mail address [REAG@epa.gov](mailto:REAG@epa.gov).

(b) If you have a new or reconstructed affected source that starts up before the effective date of subpart DDDDD, or an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP before the effective date of subpart DDDDD, then you must comply with the requirements of subpart DDDDD until your eligibility demonstration is completed and submitted to your permitting authority.

(c) If you have a new or reconstructed affected source that starts up after the effective date of subpart DDDDD, or an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP after the effective date for subpart DDDDD, then you must follow the schedule in paragraphs (c)(1) and (2) of this section.

(1) You must complete and submit a preliminary eligibility demonstration based on the information (e.g., equipment types, estimated emission rates, etc.) used to obtain your title V permit. You must base your preliminary eligibility demonstration on the maximum emissions allowed under your title V permit. If the preliminary eligibility demonstration indicates that your affected source facility is eligible for either compliance alternative, then you may start up your new affected source and your new affected source will be considered in compliance with the alternative HCl standard and subject to the compliance requirements in this appendix or, in the case of manganese, your compliance demonstration with the TSM emission limit is based on 7 metals (excluding manganese).

(2) You must conduct the emission tests or fuel analysis specified in section 4 of this appendix upon initial startup and use the results of these emissions tests to complete and submit your eligibility demonstration within 180 days following your initial startup date. To be eligible, you must meet the criteria in section 11 of this appendix within 18 months following initial startup of your affected source.

#### 10. WHEN DO I BECOME ELIGIBLE FOR THE HEALTH-BASED COMPLIANCE ALTERNATIVES?

To be eligible for either health-based compliance alternative, the parameters that defined your affected source as eligible for the health-based compliance alternatives (including, but not limited to, fuel type, fuel mix (annual average), type of control devices, process parameters reflecting the emissions rates used for your eligibility demonstration) must be submitted for incorporation as Federally enforceable limits into your title V permit. If you do not meet these criteria, then your affected source is subject to the applicable emission limits, operating

limits, and work practice standards in Subpart DDDDD.

#### 11. HOW DO I ENSURE THAT MY FACILITY REMAINS ELIGIBLE FOR THE HEALTH-BASED COMPLIANCE ALTERNATIVES?

(a) You must update your eligibility demonstration and resubmit it each time you have a process change, such that any of the parameters that defined your affected source changes in a way that could result in increased HAP emissions (including, but not limited to, fuel type, fuel mix (annual average), change in type of control device, changes in process parameters documented as worst-case conditions during the emissions testing used for your approved eligibility demonstration).

(b) If you are updating your eligibility demonstration to account for an action in paragraph (a) of this section, then you must perform emission testing or fuel analysis according to section 4 of this appendix for the subpart DDDDD emission points that may have increased HAP emissions beyond the levels reflected in your previously approved eligibility demonstration due to the process change. You must submit your revised eligibility demonstration to the permitting authority prior to revising your permit to incorporate the process change. If your updated eligibility demonstration indicates that your affected source is no longer eligible for the health-based compliance alternatives, then you must comply with the applicable emission limits, operating limits, and compliance requirements in Subpart DDDDD prior to making the process change and revising your permit.

#### 12. WHAT RECORDS MUST I KEEP?

You must keep records of the information used in developing the eligibility demonstration for your affected source, including all of

the information specified in section 8 of this appendix.

#### 13. DEFINITIONS

The definitions in §63.7575 of subpart DDDDD apply to this appendix. Additional definitions applicable for this appendix are as follows:

**Hazard Index (HI)** means the sum of more than one hazard quotient for multiple substances and/or multiple exposure pathways.

**Hazard Quotient (HQ)** means the ratio of the predicted media concentration of a pollutant to the media concentration at which no adverse effects are expected. For inhalation exposures, the HQ is calculated as the air concentration divided by the RfC.

**Look-up table analysis** means a risk screening analysis based on comparing the HAP or HAP-equivalent emission rate from the affected source to the appropriate maximum allowable HAP or HAP-equivalent emission rates specified in Tables 2 and 3 of this appendix.

**Reference Concentration (RfC)** means an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from various types of human or animal data, with uncertainty factors generally applied to reflect limitations of the data used.

**Worst-case operating conditions** means operation of an affected unit during emissions testing under the conditions that result in the highest HAP emissions or that result in the emissions stream composition (including HAP and non-HAP) that is most challenging for the control device if a control device is used. For example, worst-case conditions could include operation of an affected unit firing solid fuel likely to produce the most HAP.

TABLE 1 TO APPENDIX B OF SUBPART DDDDD—EMISSION TEST METHODS

| For . . .                                                                                         | You must . . .                                                      | Using . . .                                          |
|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------|
| (1) Each subpart DDDDD emission point for which you choose to use a compliance alternative.       | Select sampling ports' location and the number of traverse points.  | Method 1 of 40 CFR part 60, appendix A.              |
| (2) Each subpart DDDDD emission point for which you choose to use a compliance alternative.       | Determine velocity and volumetric flow rate.                        | Method 2, 2F, or 2G in appendix A to 40 CFR part 60. |
| (3) Each subpart DDDDD emission point for which you choose to use a compliance alternative.       | Conduct gas molecular weight analysis . . .                         | Method 3A or 3B in appendix A to 40 CFR part 60.     |
| (4) Each subpart DDDDD emission point for which you choose to use a compliance alternative.       | Measure moisture content of the stack gas.                          | Method 4 in appendix A to 40 CFR part 60.            |
| (5) Each subpart DDDDD emission point for which you choose to use the HCl compliance alternative. | Measure the hydrogen chloride and chlorine emission concentrations. | Method 26 or 26A in appendix A to 40 CFR part 60.    |
| (6) Each subpart DDDDD emission point for which you choose to use the TSM compliance alternative. | Measure the manganese emission concentration.                       | Method 29 in appendix A to 40 CFR part 60.           |

TABLE 1 TO APPENDIX B OF SUBPART DDDDD—EMISSION TEST METHODS—Continued

| For . . .                                                                                   | You must . . .                                                  | Using . . .                                                              |
|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------|
| (7) Each subpart DDDDD emission point for which you choose to use a compliance alternative. | Convert emissions concentration to lb per MMBtu emission rates. | Method 19 F-factor methodology in appendix A to part 60 of this chapter. |

TABLE 2 TO APPENDIX A OF SUBPART DDDDD—ALLOWABLE TOXICITY-WEIGHTED EMISSION RATE EXPRESSED IN HCl EQUIVALENTS (lbs/hr)

| Stack ht. (m) | Distance to property boundary (m) |       |       |       |       |       |       |       |       |        |        |        |
|---------------|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
|               | 0                                 | 50    | 100   | 150   | 200   | 250   | 500   | 1000  | 1500  | 2000   | 3000   | 5000   |
| 5             | 114.9                             | 114.9 | 114.9 | 114.9 | 114.9 | 114.9 | 144.3 | 287.3 | 373.0 | 373.0  | 373.0  | 373.0  |
| 10            | 188.5                             | 188.5 | 188.5 | 188.5 | 188.5 | 188.5 | 188.3 | 328.0 | 432.5 | 432.5  | 432.5  | 432.5  |
| 20            | 386.1                             | 386.1 | 386.1 | 386.1 | 386.1 | 386.1 | 386.1 | 425.4 | 580.0 | 602.7  | 602.7  | 602.7  |
| 30            | 396.1                             | 396.1 | 396.1 | 396.1 | 396.1 | 396.1 | 396.1 | 436.3 | 596.2 | 690.6  | 807.8  | 816.5  |
| 40            | 408.1                             | 408.1 | 408.1 | 408.1 | 408.1 | 408.1 | 408.1 | 448.2 | 613.3 | 715.5  | 832.2  | 966.0  |
| 50            | 421.4                             | 421.4 | 421.4 | 421.4 | 421.4 | 421.4 | 421.4 | 460.6 | 631.0 | 746.3  | 858.2  | 1002.8 |
| 60            | 435.5                             | 435.5 | 435.5 | 435.5 | 435.5 | 435.5 | 435.5 | 473.4 | 649.0 | 778.6  | 885.0  | 1043.4 |
| 70            | 450.2                             | 450.2 | 450.2 | 450.2 | 450.2 | 450.2 | 450.2 | 486.8 | 667.4 | 813.8  | 912.4  | 1087.4 |
| 80            | 465.5                             | 465.5 | 465.5 | 465.5 | 465.5 | 465.5 | 465.5 | 500.0 | 685.9 | 849.8  | 940.9  | 1134.8 |
| 100           | 497.5                             | 497.5 | 497.5 | 497.5 | 497.5 | 497.5 | 497.5 | 527.4 | 723.6 | 917.1  | 1001.2 | 1241.3 |
| 200           | 677.3                             | 677.3 | 677.3 | 677.3 | 677.3 | 677.3 | 677.3 | 682.3 | 919.8 | 1167.1 | 1390.4 | 1924.6 |

TABLE 3 TO APPENDIX A OF SUBPART DDDDD—ALLOWABLE MANGANESE EMISSION RATE (lbs/hr)

| Stack ht. (m) | Distance to property boundary (m) |      |      |      |      |      |      |      |      |      |      |      |
|---------------|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|
|               | 0                                 | 50   | 100  | 150  | 200  | 250  | 500  | 1000 | 1500 | 2000 | 3000 | 5000 |
| 5             | 0.29                              | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.36 | 0.72 | 0.93 | 0.93 | 0.93 | 0.94 |
| 10            | 0.47                              | 0.47 | 0.47 | 0.47 | 0.47 | 0.47 | 0.48 | 0.82 | 1.08 | 1.08 | 1.08 | 1.08 |
| 20            | 0.97                              | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 1.06 | 1.45 | 1.51 | 1.51 | 1.51 |
| 30            | 0.99                              | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 1.09 | 1.49 | 1.72 | 2.02 | 2.04 |
| 40            | 1.02                              | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.12 | 1.53 | 1.79 | 2.08 | 2.42 |
| 50            | 1.05                              | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.15 | 1.58 | 1.87 | 2.15 | 2.51 |
| 60            | 1.09                              | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.18 | 1.62 | 1.95 | 2.21 | 2.61 |
| 70            | 1.13                              | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.22 | 1.67 | 2.03 | 2.28 | 2.72 |
| 80            | 1.16                              | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 | 1.25 | 1.71 | 2.12 | 2.35 | 2.84 |
| 100           | 1.24                              | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.32 | 1.81 | 2.29 | 2.50 | 3.10 |
| 200           | 1.69                              | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.71 | 2.30 | 2.92 | 3.48 | 4.81 |