

# ADEQ

ARKANSAS  
Department of Environmental Quality

September 17, 2009

Kelley Crouch, Sr. Process Engineer  
Domtar A.W. LLC  
285 Highway 71 South  
Ashdown, AR 71822

Dear Ms. Crouch:

The enclosed Permit No. 0287-AOP-R8 is issued pursuant to the Arkansas Operating Permit Program, Regulation # 26.

After considering the facts and requirements of A.C.A. §8-4-101 et seq., and implementing regulations, I have determined that Permit No. 0287-AOP-R8 for the construction, operation and maintenance of an air pollution control system for Domtar A.W. LLC to be issued and effective on the date specified in the permit, unless a Commission review has been properly requested under Arkansas Department of Pollution Control & Ecology Commission's Administrative Procedures, Regulation 8.603, within thirty (30) days after service of this decision.

All persons submitting written comments during this thirty (30) day period, and all other persons entitled to do so, may request an adjudicatory hearing and Commission review on whether the decision of the Director should be reversed or modified. Such a request shall be in the form and manner required by Regulation 8.603.

Sincerely,



Mike Bates  
Chief, Air Division



## RESPONSE TO COMMENTS

**Domtar A.W. LLC**  
**Permit No.: 287-AOP-R8**  
**AFIN: 41-00002**

On July 27, 2009 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:

### Comment #1

Section II: INTRODUCTION page 6 first paragraph, first line, there is still reference to old name "Domtar Industries Inc.". It should be Domtar A.W. LLC. I think most other occurrences of the old name were corrected.

### Response to Comment #1

Agree. An additional instance of "Domtar Industries" was found on Page 118 of the draft permit. Both known instances have been revised as requested.

### Comment#2

Emission Summary section, page 14, in Total Allowable Emissions section, VOC emission rate limit is listed as 702.6 lb/hr and 3051.6 tpy in R8. In the current Title V, R7, the VOC limit is listed as 1592.9 lb/hr and 3144.9 tpy. I am curious as to the reason for this decrease in the total VOC limit?

### Response to Comment #2

The Emission Summary table in R7 has an error in total VOC emission limits due to summation. This error was correct with R8.

### Comment #3

Emission Summary section, page 16, Source Number 14, the VOC limit is listed as 136.0 lb/hr in R8 and in R7 it was 137.0 lb/hr. I am confused by this change also, since there have been no changes around VOC's on this source.

### Response to Comment #3

The Emission Summary Table for SN-14 was revised to match the VOC limit (136.0 tpy) listed in Specific Condition # 116.

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Comment #4

Emission Summary section, page 17, Source Number 30A-F, in the tpy column, the statement “Included in SN-02” is listed. This should say “Included in SN-02 and SN-09”. Both are sources to the PCC Carbonators and emissions are accounted for in each.

Response to Comment #4

Agree. The requested change has been made.

Comment #5

Section VI: Plantwide Conditions, page 116, under the Acid Rain (Title IV) paragraph, the last line states “A copy of the facility’s Acid Rain Permit is attached in an appendix to this Title V permit.” This statement is not in R7, and I am not familiar with this requirement.

Response to Comment #5

The facility is not an affect source under the Acid Rain (Title IV) Program. Therefore, this condition has been removed.

# ADEQ OPERATING AIR PERMIT

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

Permit No. : 0287-AOP-R8

IS ISSUED TO:

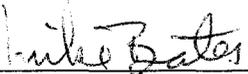
Domtar A.W. LLC  
285 Highway 71 South  
Ashdown, AR 71822  
Little River County  
AFIN: 41-00002

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:

July 19, 2005 AND July 18, 2010

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

Signed:

  
\_\_\_\_\_  
Mike Bates  
Chief, Air Division

September 17, 2009  
Date

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Appendix A – 40 CFR Part 60, Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units  
Appendix B – ADEQ Continuous Emission Monitoring System Conditions  
Appendix C – 40 CFR Part 60, Subpart BB, Standards of Performance for Kraft Pulp Mills  
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Appendix G – 40 CFR Part 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984  
Appendix H – 40 CFR Part 63, Subpart RR, National Emission Standards for Individual Drain Systems  
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#### 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

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**SECTION I: FACILITY INFORMATION**

PERMITTEE: Domtar A.W. LLC

AFIN: 41-00002

PERMIT NUMBER: 0287-AOP-R8

FACILITY ADDRESS: 285 Highway 71 South  
Ashdown, AR 71822

MAILING ADDRESS: 285 Highway 71 South  
Ashdown, AR 71822

COUNTY: Little River County

CONTACT NAME: Kelley Crouch

CONTACT POSITION: Sr. Process Engineer

TELEPHONE NUMBER: 870-898-2711

REVIEWING ENGINEER: Charles Hurt, P.E.

UTM North South (Y): Zone 15: 3722982.16 m

UTM East West (X): Zone 15: 396805.35 m

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## SECTION II: INTRODUCTION

### Summary of Permit Activity

Domtar A.W. LLC. –Ashdown Mill (AFIN: 41-00002) operates a paper mill located at 285 Highway 71 South in Ashdown, Arkansas 71822. Domtar requested a modification to include a tenth weak black liquor tank constructed at the weak black liquor tanks (SN-36). The new tank was proposed to allow an existing tank to be temporarily taken out of service for inspection and repair. The emissions increase associated with the new tank is 0.18 tpy VOC, 0.03 tpy total reduced sulfur, and 0.18 tpy methanol.

### Process Description

Nos. 2 and 3 Wood yards produce approximately 10,000 total tons of wood chips per day. These chips are fed to the 1A digesters, the 1B digesters, or the Kamyr continuous digester. The 1A digesters produce approximately 800-850 tons of unbleached hardwood each day, as do the 1B digesters. Five digesters serve both the 1 A and 1 B lines.

The No. 2 Pulp Mill uses a continuous Kamyr digester to produce approximately 900-950 tons per day of unbleached pulp. Brown stock washers wash the pulp and send the pulp to the mill's oxygen delignification system. The oxygen delignification system (O2 Delig) uses elemental oxygen and oxidized white liquor to break down the lignin in the softwood pulp before the pulp gets to the bleach plant.

The 1A, 1B, and No. 2 Bleach Plants receive pulp from the 1A, 1B, and No. 2 pulp mills, respectively. The bleach plants primarily use chlorine dioxide to bleach the pulp until it is suitable for making quality paper or pulp. The 1A bleach plant processes approximately 750-800 tons per day of bleached pulp due to losses in bleaching. 1B processes approximately the same tonnage, and the No. 2 Bleach Plant produces about 850-900 tons per day. All this bleached pulp is sent to the pulp dryer or to one of four paper machines.

The pulp dryer produces approximately 450-500 tons per day of either softwood or hardwood market pulp. This pulp is used internally to make paper grades or sold to external customers. The No. 61 Paper Machine produces approximately 350 tons per day of paper; No. 62 produces approximately 600 tons per day; No. 63 produces about 575-600 tons per day; and No. 64 produces about 1000 tons per day. Paper tonnage also includes fillers used to develop brightness, opaque finish, and other quality metrics in the finished product. The paper from the machines is either sold in roll form or sent to the converting operations. In converting, the paper rolls are processed into 8 x 11" sheets (or other sizes), stacked into reams, and packed into cartons for shipment to outside customers.

### Power and Chemical Recovery

Black liquor is a byproduct of cooking the chips in all three pulping lines. The evaporators evaporate water to concentrate the solids in the black liquor (called weak black liquor due to its

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relatively low dissolved solids content). The recovery boilers burn concentrated black liquor solids. The two recovery boilers burn approximately 4,000 tons of black liquor solids ( $\approx 55\%$  in No. 3 Recovery,  $\approx 45\%$  in No. 2 Recovery) each day.

The molten liquor from the bottom of the recovery boilers is mixed in the dissolving tank with weak wash from the recausticizing area to form green liquor. The green liquor is clarified and mixed with hot lime (CaO) from the two lime kilns in one of two slakers. The liquor and lime react to form calcium carbonate (CaCO<sub>3</sub>) and sodium hydroxide (NaOH). The NaOH is the primary constituent of white liquor, the chemical used to cook chips in each hardwood and softwood digester. The CaCO<sub>3</sub> is sent to the lime kilns where it is calcined, driving off the CO<sub>2</sub> to form CaO to be used in the slaker again. The No. 2 Lime Kiln produces approximately 275-350 tons per day of lime, and the No. 3 Lime Kiln produces about 350-450 tons per day of lime. Dregs from the green liquor clarifier are washed in order to recover any remaining inorganics that can be used in the chemical recovery process. After washing, the dregs are sent to the lime waste landfill. Approximately 150 tons per day of dregs may be produced each day. Grits from the slaker (gravel, hard-burned lime, etc.) amount to about 8 tons per day and are disposed of in the lime waste landfill.

Fiber not used on the paper machines is sent to the wastewater treatment plant. This fiber is recovered in three wastewater clarifiers and is dewatered using one of three screw presses. The dried fiber (sludge or wastewater treatment plant residual) is sent to an on-site landfill for disposal. Approximately 50 dry tons of sludge are generated daily.

Three power boilers are used in conjunction with the recovery boilers to produce steam used for power generation. The No. 1 Power Boiler burns about 500-650 tons per day of bark from the wood yard. The No. 2 Power Boiler burns about 300 tons per day of bark and 600 tons per day of bituminous coal. The No. 3 Power Boiler burns about 800-1000 tons per day of bark. Steam generation rates average about 120 klbs/hr, 600 klbs/hr, and 200 klbs/hr for Nos. 1, 2 and 3 Power Boilers, respectively.

The package boiler can be used to supplement steam demand during upset conditions or shutdowns of other boilers. It is typically used less than 25% of any operating quarter.

### Wastewater Treatment System

The mill's process sewers flow to an effluent lift pit, and then pumped to a splitter box. The effluent is then sent to one of three effluent clarifiers for removal of primary sludge. The sludge slurry is sent to the screw presses and the supernatant goes back to the splitter box. The effluent goes through one of the two pre-settling ponds before it enters the first aeration pond. After extensive aeration using surface and sub-surface aerators (68 aerators at 75 hp each), the effluent flows to the second aeration pond which uses 33 aerators to further treat the effluent. After the aeration zones, a quiescent stabilization pond retains the effluent for about three weeks before it is discharged to the Red River. Approximately 55 million gallons of process effluent are discharged each day.

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### Auxiliary Processes Description

Several auxiliary operations are necessary to maintain the facility. These include steam production for power generation, water, electricity, compressed air, precipitated calcium carbonate for the paper machines, treatment of wastewater, sludge handling, solid and hazardous waste disposal, routine maintenance, painting, road repair, fuel storage, and other chemicals and byproduct loading or unloading activities.

### Steam Generation with Power Boilers

The power process consists of generating the steam, electricity, and compressed air for the other processes within the facility. The mill's steam and electricity requirements for the facility are partially met by the steam and power generated in the recovery process. Three (3) power boilers and one package boiler generate additional steam and electricity. The Nos. 1 and 3 Power Boilers burn natural gas, bark, pelletized paper fuel, and tire-derived fuel for steam generation. The No. 1 Power Boiler can also burn No. 6 Fuel Oil and specification grade used oil during natural gas curtailments. The No. 1 Power Boiler's oil system fires periodically to maintain readiness. The No. 2 Power Boiler (Coal Boiler) burns coal, bark, wood waste, No. 6 Fuel Oil, specification grade used oil, natural gas, pelletized paper fuel, tire-derived fuel, and non-condensable gases. The package boiler, SN-11, burns only natural gas and is used primarily during outages of one of the other boilers. It is also periodically fired to maintain readiness.

Fuel storage for the power area consists of two (2) No. 6 Fuel Oil storage tanks and a smaller day tank. Oil is delivered by tank trucks or tank cars and pumped to either of the storage tanks. The mill adds used oil from the mill's lubricating systems and vehicles to the fuel oil storage tanks. The oil is heated in the tanks and circulated to allow for pumping to the various combustion sources when needed. The oil is then pumped to the day tank before being distributed to the various sources.

### Power Generation Emission Points

Each of the boilers emits NO<sub>x</sub>, VOC, CO, and PM. The No. 2 Power Boiler also emits SO<sub>2</sub>, HCl, and lead due to burning coal. Previous permitting actions established limits for all of these pollutants and testing has been done to demonstrate compliance. The specific results for each unit are discussed in the regulatory applicability sections. The power generation area also has fugitive emissions from storage of boiler water chemicals and steam vents, both of which fall under the category of Group B insignificant activities found in Regulation 19. Other trace organics are emitted from the power boilers due to burning bark and coal. These emissions are quantified based on boiler throughput and NCASI emission factors in separate sections of the application. Emissions from the fuel oil storage tanks have been estimated using AP-42 factors, and are considered insignificant based on Regulation 19, Appendix A-3.

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### Coal Handling System

The primary fuel in the No. 2 Power Boiler (SN-05) is coal. The coal is normally processed directly from rail cars by shaking the cars to unload the coal into a conveyor system that carries the coal into one of three (3) storage silos operated in parallel. The silos feed coal pulverizers that reduce the large pieces of coal to fine particles suitable for quick combustion in the boiler. The pulverized coal is pneumatically conveyed to the boiler by compressed air. Particulate matter from the coal combustion process is removed by scrubbers and transported to a fly-ash pond by a wet slurry pipeline.

Coal is also stockpiled onsite in two open piles. The coal is transferred from the piles to trucks or railcar with a front end loader or other mobile equipment. The railcars of coal are then sent to the shaker as mentioned previously.

### Coal Handling Emissions

Emissions from the coal handling system are fugitive dust from the handling, storage, transportation, and pulverizing of the coal, as well as possible fugitive dust from the ash handling system.

### Non-condensable Gas System Process Description

Noncondensable gases (NCG) consist of nitrogen, total reduced sulfur (TRS) compounds, methanol, acetone, sulfur dioxide (SO<sub>2</sub>), and minor quantities of other compounds such as methyl ethyl ketone. The gases are produced during the cooking of the chips in the pulp area, as well as in the evaporator area where weak black liquor is concentrated. The gases from the batch digesters (1A and 1B pulp mills), continuous digester (No. 2 Pulp Mill), turpentine system, and evaporator areas are collected and incinerated in either the No. 2 Power Boiler (SN-05, coal boiler) or the No. 2 Lime Kiln (SN-09). The gases may be routed to either source to allow for system repairs or outages on either destruction source. The No. 2 Power Boiler is equipped with an SO<sub>2</sub> monitor and two venturi scrubbers to help monitor and control TRS destruction. In accordance with NSPS, Subpart BB, the No. 2 Power Boiler also has a continuous flame pyrometer to measure the temperature at the point of NCG injection. The temperature at the injection point must remain at 1200 °F at all times that NCG are being sent to the boiler. The No. 2 Lime Kiln has a TRS monitor to measure any unburned NCG that might make it through the kiln. No temperature monitoring is required under Subpart BB due to the extreme temperatures present in the kiln.

### NCG Emissions

The emissions from the NCG system are controlled by incineration. The collection and incineration of the gases result in formation of SO<sub>2</sub>. Both the No. 2 Lime Kiln and the No. 2 Power Boiler have wet scrubbers that control these emissions (SO<sub>2</sub> is water-soluble). The No. 2 Power Boiler also monitors SO<sub>2</sub> directly and maintains compliance with its lb/MMBtu and lb/hr limits by the addition of sodium hydroxide and/or bleach plant caustic extract.

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Occasionally, one or both of the incineration devices are down, or the system that generates the NCG from the various process areas experiences an upset condition. These failures result in the release of NCG to the atmosphere. When incineration devices vent, the vents from the incineration devices flow through a small pipe attached to the No. 2 Power Boiler stack, and release at the same height as the top of the stack. All NCG vents are reported as required by ADEQ, as well as by 40 CFR 63, Subpart S (Pulp and Paper MACT I).

#### Chemical Unloading and Loading Process Description

The various chemicals used throughout the facility are received by tank or hopper trucks, rail cars, barrels, tote bins, or other containers. Several unloading areas are located throughout the facility to accommodate the various materials. Bulk chemicals are transported to the appropriate storage vessel by truck or internal switch engine. Unloading the chemicals into vessels consists of direct pumping from the tank car or tank truck to the storage tank, while tote bins and barrels are unloaded with fork trucks. Turpentine, soap, and black liquor are chemical by-products that are stored on-site and shipped from the facility on a regular basis.

#### Chemical Unloading and Loading Emission Points

Primary emissions from the chemical unloading areas are fugitive in nature. Emissions have been quantified for the various tanks and the unloading processes associated with them by using NCASI or other established factors. Emissions from the tote bins and barrel handling are considered insignificant and have not been quantified. Emissions from the black liquor and soap handling are also considered insignificant based on the Insignificant Activities Group B list included with this application. Turpentine emissions from the storage tank and decanter have been quantified using AP-42 or NCASI factors.

#### Raw Water Treatment Process Description

Water from Millwood Lake is delivered to the Ashdown Mill through an open canal. The water is clarified with alum and caustic in one of three accelerators (clarifiers). Process water is then filtered and sent to one of two clear wells that are covered with plastic floating tops. Chlorine dioxide is added inline to the water for disinfection. This addition does not cause any substantial emissions because it takes place within the piping after clarification. Other specialty chemicals are added for the portion of the raw water that is used as boiler feed water. The water treatment plant also houses the high-pressure water pumps used for firefighting. The pumps can run on diesel fuel as a backup during electrical failures, and the diesel fuel is stored in four tanks throughout the area. These pumps and generators fall under the category of Group B insignificant activities found in Regulation 19.

#### Raw Water Treatment Emission Points

The primary emissions from the raw water treatment facility are fugitives from chemical and diesel storage tanks. All emissions from the raw water treatment area are considered insignificant.

### Wastewater Treatment Process Description

Wastewater from all of the manufacturing areas of the mill are collected and routed to a pumping station (lift pit) and then to a splitter box where the flow is directed to one of three (3) clarifiers operating in parallel for primary clarification. An emergency generator is used to power the pumps only during electrical outages. The bleach plant acid and caustic sewers, as well as foul condensate sewers, are not routed to the clarifiers. The bleach plant sewers bypass the clarifiers and enter the wastewater treatment system downstream from the clarifier discharge, and the foul condensate sewers are hard-piped and sent directly into the first aeration pond of the wastewater treatment system.

Sludge removed in the primary clarifiers is pumped to one of three (3) screw presses where it is thickened to approximately 50% solids. The presses are housed inside a building and are considered insignificant sources. The de-watered sludge is hauled to an on-site, permitted landfill for disposal.

After leaving the clarifiers, wastewater flows to either the north or south pre-settling pond (approximately 15 acres each). These ponds serve to remove solids not removed by the clarifiers, and to prevent settling in the aeration ponds. Under normal circumstances, only one settling pond is in service at a time, but occasionally both ponds will be in service, or the wastewater will bypass the ponds altogether and go directly to the first aeration pond. Wastewater flows from the settling ponds to the first aeration basin which is approximately 125 acres in total surface area. Mechanical aerators are installed in this basin for aerobic treatment of the wastewater. The water flows from the first aeration basin to the second aeration basin which is approximately the same size. Further aeration takes place in this basin, though less aerators are used, and there is a quiescent zone where no aeration takes place. From the second basin, wastewater flows into the final stabilization pond. The final pond is approximately 500 acres in surface area and has no mechanical aeration. After approximately 30 days in the wastewater treatment system, the water is discharged to the Red River through a partially concreted canal.

### Wastewater Treatment Emissions

The emissions from the wastewater treatment system are fugitive from the lift pit, splitter box, clarifiers, sludge dewatering system, landfill, settling ponds, and aeration ponds. The largest emissions are from the aeration basins and consist primarily of methanol. Modeling using NCASI's Organic Compound Elimination Pathway Model (NOCEPM) was conducted to establish the current permit limits for the wastewater treatment system. Fugitive emissions from the landfill have been calculated using chemical concentrations and mass balances. A detailed section for the emissions from these areas is included.

### Wood Waste Reclamation

A wood waste reclamation system reclaims oversized (reject) wood from the wood yards and processes the wood for use as fuel in any of the three power boilers. The wood is ground with a tub grinder and hauled to the bark piles for conveying into the boilers. Emissions from the wood

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waste reclamation system are fugitive dusting and combustion byproducts from the tub grinder's engine.

### Precipitated Calcium Carbonate System

Lime is brought in by rail or truck and stored in silos. The precipitated calcium carbonate (PCC) plant scrubs carbon dioxide from either the No. 2 or No. 3 Lime Kiln flue gas to manufacture PCC. The process involves scrubbing the flue gases to remove particulate, cooling the gases to maintain product quality, and reacting the gas with slaked lime to produce PCC. The PCC is then stored in tanks in the paper machine area so that it can be pumped to the paper machines as needed.

### PCC Emissions

The PCC plant is not a combustion source and testing has shown that NO<sub>x</sub> and VOC emissions are actually decreased as they are processed through the calcium carbonate production process. Testing for TRS and SO<sub>2</sub> on similar plants has shown reductions as high as 80%. Particulate emissions from each lime kiln are also reduced in the primary scrubbers and the subsequent scrubbing in the PCC process. The only emissions that can actually be created in the PCC area are particulates. Because of the large reduction in particulate from the primary scrubbers, the net effect on particulate emissions is a large reduction.

Emission limits have been put in place through previous permits, and stack testing is conducted once every five years to demonstrate compliance with environmental limits. The last tests showed the carbonators to be in full compliance with permitted limits.

### Maintenance Processes

Maintenance activities are an essential part of efficient operation of the equipment in the mill. These activities are on going throughout all areas of the facility and range from minor repairs by one mechanic to extended shutdowns requiring several days and extensive manpower. Maintenance also assumes responsibility for upkeep of the yards, roads, and parking lots located on the mill site.

Painting is done by an outside contractor who maintains a shop area on the facility's property. The painting operation generates hazardous waste that is stored onsite in accordance with the mill's hazardous waste procedures. The mill is a small quantity generator of hazardous waste.

### Maintenance Emissions

Emissions generated in the maintenance process consist mainly of fugitive VOC from lubricants, degreasers, solvents, surfactants, and adhesives. Welding, sandblasting, and demolition activities also emit some fugitive emissions. Repairs to pipes, valves, and tanks may result in the release of small amounts of chemicals. Hazardous waste storage is limited to containers of 55 gallons or less and any emissions from the area are fugitives generated in the transfer process.

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Mill Trash and Sludge Landfill Emissions

Emissions from the mill trash and sludge landfills consist entirely of fugitive dust and some organics from the sludge. The dust is generated from vehicle traffic over a dirt road approximately 0.45 miles long. A round trip consists of 0.9 miles and an estimated 37 trips per day are made on the road. The organic emissions are from the trace quantities of methanol and other organics remaining in the sludge after dewatering. Because the bleach plant sewers enter the wastewater treatment system after sludge is removed, no organics from those sources are present in the sludge.

**Regulations**

The following table contains the regulations applicable to this permit.

Regulations
<i>Arkansas Air Pollution Control Code, Regulation 18, effective January 25, 2009</i>
<i>Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective January 25, 2009</i>
<i>Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective January 25, 2009</i>
<i>40 CFR §52.21 – Prevention of Significant Deterioration</i>
<i>40 CFR 60, Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (SN-01)</i>
<i>40 CFR 60, Subpart BB – Standards of Performance for Kraft Pulp Mills (SN-02, SN-05, SN-06, SN-08, SN-09, SN-14 and SN-15)</i>
<i>40 CFR 60, Subpart D – Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971 (SN-05)</i>
<i>40 CFR 63 Subpart S (MACT I) – National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry (SN-16, SN-17, SN-18 and SN-46)</i>
<i>40 CFR 63, Subpart MM – National Emission Standard for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semicemical Pulp Mills (SN-02, SN-06, SN-08, SN-09, SN-14 and SN-15)</i>

**Emission Summary**

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				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy

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EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM	495.9	2149.7
		PM <sub>10</sub>	495.9	2149.7
		SO <sub>2</sub>	3090.4	8111.2
		VOC	702.6	3051.6
		CO	2997.4	12880.3
		NO <sub>x</sub>	1877.6	7923.7
HAPs* (included in PM <sub>10</sub> or VOC total except Chlorine and HCl)		Acetaldehyde	2.40	10.56
		Benzene	1.38	6.06
		Chlorine	6.30	27.68
		Chloroform	23.30	101.89
		Formaldehyde	3.21	14.08
		Hydrogen Chloride	163.65	716.80
		Lead	0.03	0.10
		Methanol	124.73	539.10
		Naphthalene	1.00	4.38
		Styrene	3.29	0.58
Air Contaminants **		Acetone	16.30	71.50
		Ammonia	103.10	451.20
		Barium	0.84	3.68
		Chlorine Dioxide	7.00	30.72
		Phosphoric Acid	0.01	0.10
		Sulfuric Acid	4.36	32.94
		Toluene	0.02	0.090
		TRS	30.36	127.73
01	No. 3 Power Boiler	PM	19.8	86.5
		PM <sub>10</sub>	19.8	86.5
		SO <sub>2</sub>	62.0	271.6
		VOC	21.3	93.3
		CO	276.5	1211.1
		NO <sub>x</sub>	237.0	1038.1
		Acetaldehyde	0.21	0.92
		Benzene	0.21	0.92
		Naphthalene	0.50	2.19

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EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
02	No. 3 Lime Kiln	PM	8.6	37.7
		PM <sub>10</sub>	8.6	37.7
		SO <sub>2</sub>	13.3	58.3
		VOC	14.6	63.9
		CO	55.0	240.9
		NO <sub>x</sub>	66.5	291.3
		Benzene	0.24	1.06
		Methanol	1.31	5.74
		TRS	1.34	5.90
03	No. 1 Power Boiler	PM	40.6	177.8
		PM <sub>10</sub>	40.6	177.8
		SO <sub>2</sub>	1285.0	214.0
		VOC	43.0	214.6
		CO	164.0	718.3
		NO <sub>x</sub>	247.5	1084.1
		Acetaldehyde	0.77	3.38
		Barium	0.84	3.68
		Benzene	0.49	2.15
Hydrogen Chloride	52.20	228.60		
05	No. 2 Power Boiler	PM	82.0	359.2
		PM <sub>10</sub>	82.0	359.2
		SO <sub>2</sub>	983.0	4305.5
		VOC	92.0	403.0
		CO	266.0	1165.0
		NO <sub>x</sub>	574.0	2514.1
		Acetaldehyde	0.21	0.92
		Benzene	0.21	0.92
		Hydrogen Chloride	5.75	25.19
		Lead	0.03	0.10
		Naphthalene	0.50	2.19
06	No. 2 Recovery Boiler	PM	84.4	369.7
		PM <sub>10</sub>	84.4	369.7
		SO <sub>2</sub>	286.0	1252.7
		VOC	46.7	204.6
		CO	980.0	4292.4
		NO <sub>x</sub>	309.2	1354.3
		Formaldehyde	0.72	3.16
		Hydrogen Chloride	51.20	224.30
		Methanol	1.18	5.17
		Styrene	3.22	0.27
		Sulfuric Acid	0.06	14.10
		TRS	7.40	32.40

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EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
08	No. 2 Smelt Tank Vents	PM	18.0	78.8
		PM <sub>10</sub>	18.0	78.8
		SO <sub>2</sub>	10.6	46.4
		VOC	9.3	40.7
		Ammonia	40.00	175.20
		Formaldehyde	0.36	1.56
		Methanol	5.40	23.66
		TRS	2.10	9.20
09	No. 2 Lime Kiln	PM	51.0	223.4
		PM <sub>10</sub>	51.0	223.4
		SO <sub>2</sub>	16.7	73.2
		VOC	17.1	74.9
		CO	55.0	240.9
		NO <sub>x</sub>	68.6	300.5
		Benzene	0.23	1.01
		Formaldehyde	0.02	0.09
		Methanol	1.18	5.17
		Toluene	0.02	0.09
TRS	8.00	35.00		
11	No. 2 Package Boiler	PM	0.6	2.6
		PM <sub>10</sub>	0.6	2.6
		SO <sub>2</sub>	0.2	0.9
		VOC	0.3	1.3
		CO	25.4	111.3
		NO <sub>x</sub>	27.4	120.0
14	No. 3 Recovery Boiler	PM	93.5	409.5
		PM <sub>10</sub>	93.5	409.5
		SO <sub>2</sub>	425.0	1861.5
		VOC	136.0	600.1
		CO	856.0	3749.3
		NO <sub>x</sub>	270.0	1182.6
		Formaldehyde	0.87	3.82
		Hydrogen Chloride	54.50	238.71
		Methanol	0.46	2.02
		Styrene	0.07	0.31
		Sulfuric Acid	4.20	18.40
		TRS	6.60	28.90

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EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
15	No. 3 Smelt Dissolving Tank	PM	18.7	81.9
		PM <sub>10</sub>	18.7	81.9
		SO <sub>2</sub>	5.1	22.3
		VOC	9.9	43.5
		Ammonia	45.00	197.10
		Formaldehyde	0.58	2.55
		Methanol	0.34	1.49
		TRS	1.60	7.00
16, 17, and 18	No. 1A, 1B and 2 Bleachplant Vents	VOC	32.0	141.9
		CO	240.4	1053.0
		Chlorine	6.00	26.36
		Chlorine Dioxide	4.00	17.58
		Chloroform	16.50	72.29
20	ERCO ClO <sub>2</sub> Generator	Chlorine	0.30	1.32
		Chlorine Dioxide	3.00	13.14
21	Effluent Treatment Lagoons	VOC	12.8	55.7
		Chloroform	6.80	29.60
		Formaldehyde	0.46	2.02
		Methanol	5.50	24.00
22	No. 1A and 1B Brownstock Washer Vents	VOC	59.2	259.1
		Acetone	8.80	38.60
		Formaldehyde	0.20	0.88
		Methanol	59.00	258.20
23	Methanol Storage Tank	VOC	1.0	4.0
		Methanol	0.91	4.00
24	Ammonia Storage Tank	Ammonia	0.10	0.10
25	Nutrient Storage Tank	Phosphoric Acid	0.01	0.10
26	Sulfuric Acid Tanks	Sulfuric Acid	0.10	0.44
28	Formic Acid Tanks	VOC	0.2	0.9
29	Recausticizer Vents	VOC	3.0	12.8
		Acetaldehyde	0.5	2.2
		Ammonia	18.0	78.8
		Methanol	2.4	10.5
30A-F	PCC Carbonators	PM	4.8	Included in SN-02 and SN-09
		PM <sub>10</sub>	4.8	
		SO <sub>2</sub>	2.4	
		VOC	12.6	
		CO	54.6	
		NO <sub>x</sub>	65.4	
		TRS	0.36	

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EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
36	Weak Black Liquor Tanks	VOC	8.0	32.0
		Methanol	6.92	27.60
		TRS	0.94	0.53
37	Pulp Dryer	VOC	4.7	20.5
		Acetaldehyde	0.70	3.10
		Methanol	2.60	11.40
38	No. 2 and No. 3 Woodyards	VOC	123.0	540.0
40	No. 1A and 1B Digester Chip Fill Exhausts	VOC	10.0	44.0
		Methanol	5.75	25.10
		TRS	2.02	8.80
41	Sludge Landfill	VOC	11.6	51.0
		Methanol	0.28	1.23
42	No. 2 Decker	VOC	5.6	24.5
		Acetone	7.5	32.9
		Methanol	3.30	10.10
43	Tub Grinder	PM	0.9	2.9
		PM <sub>10</sub>	0.9	2.9
		SO <sub>2</sub>	1.1	4.8
		VOC	0.5	1.6
		CO	8.0	25.8
		NO <sub>x</sub>	12.0	38.7
44a	Paper Machine 61	VOC	2.0	8.8
		Methanol	2.00	8.80
44b	Paper Machine 62	VOC	4.7	20.6
		Methanol	4.70	20.60
44c	Paper Machine 63	VOC	5.6	24.6
		Methanol	5.60	24.60
44d	Paper Machine 64	VOC	6.8	29.8
		Methanol	6.80	29.80
45	Oxygen Delignification System	VOC	9.1	39.9
		CO	16.5	72.3
		Methanol	9.10	39.90
46	Haul Roads – Fugitive Emissions	PM	73.0	319.7
		PM <sub>10</sub>	73.0	319.7

\*HAPs included in the VOC totals. Other HAPs are not included in any other totals unless specifically stated.

\*\*Air Contaminants such as ammonia, acetone, and certain halogenated solvents are not VOCs or HAPs.

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

Nekoosa-Edwards Paper Company originally constructed the facility from 1966 to 1968 and began operation in July 1968. The facility registered with ADEQ in 1968. Original equipment included the No. 1 Power Boiler (SN-03), the No. 1 Recovery Boiler (no longer in service as a recovery boiler), and the No. 1 Smelt Dissolving Tank (no longer in service). Nekoosa-Edwards Paper Company amended the registration in 1970 to include the No. 1 Package Boiler (no longer in service).

Permit 287-A was issued in 1975. This modification included the installation of the No. 2 Power Boiler (SN-05) and the No. 62 Paper Machine.

Permit 287-A was modified in 1978 to include the No. 2 Recovery Boiler, the No. 2 Smelt Tank Vents, the No. 2 Lime Kiln, the Kamyr digester, a diffusion washer, the No. 2 Evaporators, the No. 2 Bleach Plant, a new pulp dryer, the No. 2 wood yard and the No. 63 Paper Machine. The original pulp dryer and the No. 1 Lime Kiln were shutdown and removed from service. This was a permitting action under the Prevention of Significant Deterioration (PSD) regulations. The Environmental Protection Agency (EPA) reviewed the PSD permitting action.

Permit 287-A was modified a second time later in 1978 to amend the stack height on the recovery boiler from 336 feet to 295 feet.

Permit 287-AR-3 was issued in 1985. This was a PSD permitting action to include installation of the No. 1 Package Boiler (removed from service) and the No. 2 Package Boiler (SN-11). Additionally the capacity of the No. 2 Power Boiler (SN-05) was increased from 500,000 pounds per hour steam to 575,000, the capacity of the No. 2 Recovery Boiler (SN-06) was increased from 3.5 million pounds of black liquor solids (BLS) per day to 4.4 million, and the capacity of the No. 2 Smelt Dissolving Tanks (SN-08) was increased from 45,583 pounds per hour of salt cake to 57,292.

Permit 287-AR-4 was issued on March 24, 1987. This permitting action replaced the No. 1 Package Boiler with the No. 3 Package Boiler (SN-12).

Permit 287-AR-5 was issued June 24, 1987. Permit 287-AR-4 was a PSD permitting action for the replacement of the No. 1 Recovery Boiler and No. 1 Smelt Dissolving Tanks with the No. 3 Recovery Boiler and the No. 3 Smelt Dissolving Tanks.

Permit 946-A was issued on July 14, 1989. This was a PSD permitting action allowing conversion of the old No. 1 Recovery Boiler to the No. 3 Power Boiler (SN-01). Additionally, this permit allowed the installation of the No. 3 Lime Kiln (SN-02). Georgia-Pacific acquired the permit in 1991.

Permit 287-AR-6 was issued on December 31, 1991. This permitting action allowed an increase in the BLS firing rate in the No. 3 Recovery Boiler.

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Permit 287-AR-7 was issued on May 24, 1993. This permitting action consolidated permit 287-AR-6 and permit 946-A and allowed the installation of a precipitated calcium carbonate (PCC) facility.

Permit #287-AOP-R0 was issued on June 1, 1999. The construction of the new bleaching stages for the 1A and the 1B Bleachplants were included in this permit as well as the construction of an oxygen delignification system for the No. 2 Pulp Mill. These projects were necessary for the facility to convert to 100% chlorine dioxide bleaching. Several sources and/or pollutants not previously requiring a permit were listed in the permit. This resulted in an increase in the permitted emissions from this facility. A diesel-powered generator was added to operate lift pumps that move mill effluent from the lift pit to the wastewater treatment system as an insignificant activity.

Permit #287-AOP-R1 was the second operating permit issued to Georgia-Pacific Corporation - Ashdown Operations under Regulation 26. This modified permit, issued on July 12, 2000, added Tire Derived Fuel (TDF) to the permissible fuels list for the No. 2 Power Boiler and allowed the installation of a new causticizer to the recausticizer vent, spoiler bars in the dryers of the papermachine designated as source SN-44a that increased the speed of the machine by approximately 10 feet per minute, and another hood exhaust fan on the papermachine designated as source SN-44b. Typographical errors were corrected in this permit.

Permit #287-AOP-R2 was issued on June 15, 2001. This modification allowed recycled sanitary products, consisting of cellulose and polypropylene as a fuel for the three Power Boilers. It also allowed a request to maintain flue gas temperatures above a specified minimum temperature only when bark feed rates exceed 10% of the boiler capacity, since natural gas burns with negligible VOC emission rates. A higher consumption rate for fuel oil was allowed for the #1 Power Boiler (SN-01) and the No. 2 Lime Kiln (SN-09) based on the reduced sulfur content of the fuel currently available; SO<sub>2</sub> emissions will be unchanged. The Engineering Department proposed to add a new air-paper separator to an existing cyclone in the converting area that will slow the trim stream and allow the trim to fall out. This was added to the list of insignificant items. On August 7, 2001, the above permit was officially transferred to Domtar A. W. Corporation.

Permit #287-AOP-R3 was issued on August 8, 2002. This modification was necessary as a result of stack testing that showed that CO emission rates were higher for SN-16 and SN-17 (1A and 1B Bleachplants) and also allowed increased emissions of CO from SN-45, the oxygen delignification system. The BACT review of similar processes elsewhere showed a wide range of CO emissions with no correlation with any known processing factors and no control requirements. CO emissions at other bleach plants ranged from 0.65 lb/ton to 1.4 lb/ton with Domtar on the high side at 1.89 lb/ton. BACT was determined to be "no controls". The increase in CO of 515.2 tpy required a PSD review that determined concentrations at the plant perimeter were well below the NAAQS.

A CMS for gas scrubber vent gas inlet flow rate was also replaced with an equivalent continuous monitoring of amperage on the induced draft fans based on a letter from EPA/Toxic & Inspection Coordination branch. A diesel-powered generator operated lift pump was added to

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operate lift pumps that move mill effluent from the inlet canal to the waste water treatment system as an insignificant activity.

Permit #287-AOP-R4 was issued on July 19, 2005. The permit updated the process descriptions for the three bleachplants (SN-16, SN-17 and SN-18) and applicable regulations reviewed for all sources. Storage tanks with less than 10 tpy of VOC emissions and under 5 tpy of total HAP emissions are under Insignificant Activities.

The renewal permit incorporated the following specifically requested changes:  
The High Density Storage Tanks (formerly SN-39) are no longer included in the list of permitted sources. The permit lists the tanks as Insignificant Activities. Facility total emissions were adjusted for this reduction.

The compliance date for the MACT standard (40 CFR, Part 63, Subpart MM) was March 13, 2004. The sources No. 3 Lime Kiln (SN-02), No. 2 Recovery Boiler (SN-06), No. 2 Smelt Dissolving Tank (SN-08), No. 2 Lime Kiln (SN-09), No. 3 Recovery Boiler (SN-14) and No. 3 Smelt Dissolving Tank (SN-15) are affected sources for Subpart MM. SN-02, SN-06, SN-08, SN-09, SN-14 and SN-15 have new specific conditions relating to Subpart MM.

The two lime kilns (SN-02 and SN-09) were connected to the two silo vents to the slaker scrubbers associated with the Reausticizer Vents (SN-29) when the lime kilns are not in operation. Emissions of pollutants from this source remained unchanged.

The renewal permit included a modification to install an additional carbonator to the five PC Carbonators previously permitted (SN-30 through SN-35); the Department authorized the installation in a letter dated May 10, 1996.

The permit allowed the #2 Lime Kiln (SN-09) to use larger quantities of fuel oil as a substitute for natural gas. Domtar submitted data to demonstrate absorption of SO<sub>2</sub> during the calcination process which, is a major factor in removal of SO<sub>2</sub> emissions. The permit omitted a previous requirement for maintaining the ratio of natural gas flow rate to the stack oxygen content within a specified range because of the use of up to 100% fuel oil in the fuel mix allowed in the permit. The permit revised emissions based on current AP-42 factors and maximum usage of residual oil. Domtar will rely on CEMS to operate the kiln to meet the lower permitted emission rates. The permit allowed changing of the exhaust fans above the paper machines (SN-44a, b, c, and d) to provide false ceilings in order to minimize condensation on the paper rolls. The Ammonia Storage Tank (formerly SN-24) deleted from permit.

The permit omitted reference to former source SN-46 as part of the pre-bleach washer, as it was actually included in SN-17 emissions.

The permit incorporated permitted limits based on 10% of the heat rating (in tons/24 hours) to establish upper limits. (Plant Wide Conditions Nos. 8 and No. 9) The permit dropped previous requirements for measuring and recording flue gas exit temperatures, as stack test data shows acceptable rates of VOC destruction under normal operating procedures and combustion temperatures. The permit discontinued testing for acetaldehyde and benzene after testing

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demonstrated the HAPs were below detectable levels. The permit added reprocessed fuel oil as a fuel for the #1 Power Boiler, No. 2 Power Boiler and the #2 Lime Kiln.

Permit 287-AOP-R5 was issued on October 13, 2005. This permit modification changed the scrubber parameters for the bleach plant scrubbers (SN-16, SN-17 and SN-18) based on testing, allowed the use of weak wash water in the No. 3 Smelt Dissolving Tank (SN-15), allowed the use of COD instead of BOD5 for testing of the wastewater treatment facility and deleted the requirement to test the mixed liquor volatile suspended solids.

Permit 287-AOP-R6 was issued on July 12, 2006. This permit incorporated several changes to the facility. These changes included allowing weak wash to be used on the Number 2 Smelt Dissolving Tank Vent Scrubbers (SN-08), allowing petroleum coke to be burned as fuel in the No. 2 Power Boiler (SN-05), allowing No. 6 fuel oil to be burned as fuel in the #3 Lime Kiln (SN-02), and correcting various typographical errors. This modification also incorporated alternate compliance methods for 40 CFR Part 63, Subpart S under the clean condensate alternative provisions of the subpart. Finally, the facility removed the No. 3 package boiler (SN-12) and its associated emissions from the permit.

Permit 287-AOP R7 was issued on January 29, 2008. This modification quantified emissions from the haul roads (SN-46) for the first time, added a coal storage pile to the insignificant activities list, added a wet electrostatic precipitator as a control device for particulate emissions for SN-03, and corrected typographical errors.

## SECTION IV: SPECIFIC CONDITIONS

### SN-01 No. 3 Power Boiler

#### Source Description

The No. 3 Power Boiler was originally the mill's No. 1 Recovery Boiler, but was converted to a power boiler in 1990-91. Startup as a power boiler was in April, 1991. Due to its design heat input rate (790 MMBtu/hr) and date of installation/construction, the boiler is subject to 40 CFR 60, Subparts A and Db. The No. 3 Power Boiler is also subject to 40 CFR 52, Subpart A.

The No. 3 Power Boiler burns primarily bark with gas used to maintain the header pressure and assist combustion. Under normal operating conditions, the bark feed rate is between 50 and 65 tons per hour, and no gas is necessary to maintain steam requirements. Currently, No. 3 Power Boiler burns no NCGs (noncondensable gases, including TRS and VOCs).

The No. 3 Power Boiler has a moving grate (hydragrate), combustion air system including over fire air, and a two chamber electrostatic precipitators (ESP) for particulate control. The permitted particulate matter emission limit for the unit is 19.8 lb/hr (derived from PSD permitting activity), and a stack test every five years to verify the ESP's performance. The 0.025 lb/MMBtu limit for PM was a result of PSD permitting action.

#### Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with the PM<sub>10</sub> emission rates through compliance with Specific Condition 12. The permittee shall demonstrate compliance with the VOC emission rates through compliance with Specific Condition 13. The permittee shall demonstrate compliance with the SO<sub>2</sub> emission rates through compliance with Specific Condition 6. Compliance with the CO and NO<sub>x</sub> emission rates shall be demonstrated through compliance with Specific Conditions 4.d and 5. [Regulation 19, §19.501 *et seq.*, and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	19.8	86.5
SO <sub>2</sub>	62.0	271.6
VOC	21.3	93.3
CO	276.5	1211.1
NO <sub>x</sub>	237.0	1038.1

2. The permittee shall not exceed the emission rates set forth in the following table. The lb/MMBtu rates apply only after the boiler has reached stable operating conditions after increasing to a production rate greater than 250,000 lb/hr of steam. Compliance with the lb/MMBtu emission rate for CO shall be demonstrated by recording the amount of fuel

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used during applicable periods each day, multiplying by the appropriate heating value, totaling the Btu input for the period and dividing by the number of hours of stable steam production. For determining the CO emission rate, the permittee shall use only the hours of stable steam production above 250,000 lb/hr. A steam production monitor shall be used to establish operational periods when stable rates are above 250,000 lb/hr. Compliance with the PM, SO<sub>2</sub>, VOC, and NO<sub>x</sub> emission rates shall be demonstrated through compliance with Specific Conditions 12, 6, 13 and 4.d respectively. [Regulation 19, §19.901 and 40 CFR Part 52, Subpart E]

Pollutant	Emission Limit (lb/MMBtu)
PM	0.025
SO <sub>2</sub>	0.10
VOC	0.027
CO	0.35
NO <sub>x</sub>	0.30

3. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with the PM emission rate through compliance with Specific Condition 12. Testing indicated compliance with the acetaldehyde, benzene, and naphthalene emission rates. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	19.8	86.5
Acetaldehyde	0.21	0.92
Benzene	0.21	0.92
Naphthalene	0.50	2.19

4. This source is subject to 40 CFR Part 60, Subpart A, General Provisions and 40 CFR 60, Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units due to installation after June 19, 1984 and a heat input capacity greater than 100 MMBtu/hr. A copy of Subpart Db is included in Appendix A of this permit. The permittee is subject, but not limited to the following provisions: [Regulation 19, §19.304 and 40 CFR Part 60, Subpart Db]
- a. Particulate matter emissions will not exceed 0.1 lb/MMBtu while combusting wood waste. (Note: The permittee is restricted to a lower rate of 0.025 lb/MMBtu due to a PSD permitting action.) [40 CFR §60.43b(c)(1)]
  - b. The permittee shall not exceed 20% opacity (6-minute average), except for one 6 minute period per hour of not more than 27 percent opacity. Compliance shall be demonstrated through use of a continuous opacity monitor. [40 CFR §63.43b(f) and 40 CFR Part 52, Subpart E]

- c. The particulate standard and opacity standard apply at all times except during periods of startup, shutdown or malfunction. [40 CFR §63.43b(g)]
- d. The permittee shall not emit in excess on 0.3 lb/MMBtu of NO<sub>x</sub> while combusting natural gas with wood. [40 CFR §63.44b(d)]
- e. The NO<sub>x</sub> emission standard applies at all times except during periods of startup, shutdown and malfunction. [40 CFR §63.44b(h)]
- f. Compliance with the NO<sub>x</sub> emission standard is determined on a 30-day rolling average basis. [40 CFR §63.44b(i)]
- g. The permittee 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. The permittee shall comply with the ADEQ CEMS operating conditions in Appendix B. [40 CFR §63.48b(a), Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
- h. The permittee shall install, calibrate, maintain and operate a CEMS for measuring the NO<sub>x</sub> emissions discharged to the atmosphere and record the output of the system. The permittee used a CO<sub>2</sub> monitor as the diluent monitor. The permittee shall comply with the ADEQ CEMS operating conditions in Appendix B. [40 CFR §63.48b(b), Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
- i. The permittee shall record and maintain records of the amounts of fuel combusted during each day and calculate the annual capacity factor individually for natural gas and wood for each calendar quarter. The annual capacity factor is determined on a twelve-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. [40 CFR §60.49b(d)]
- j. The permittee shall maintain records of opacity. The permittee shall maintain these records on site and make them available to Department personnel upon request. [40 CFR §60.49b(f)]
- k. The permittee shall maintain records of the following information for each steam generating unit operating day:
  - i. Calendar date.
  - ii. The average hourly nitrogen oxides emission rates (expressed as NO<sub>2</sub>) (ng/J or lb/MMBtu heat input) measured or predicted.
  - iii. The 30-day average nitrogen oxides emission rates (ng/J or lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxides emission rates for the preceding thirty steam generating unit operating days.
  - iv. 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 emission standards under §60.44, with the reason for such excess emissions as well as a description of corrective actions taken.
- v. Identification of the steam generating unit operating days for which pollutant have not been obtained, including reasons for not obtaining sufficient data and a description of the corrective action taken.
  - vi. Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.
  - vii. Identification of “F” factor used for calculations, method of determinations, and type of fuel combusted.
  - viii. Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.
  - ix. 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.
  - x. Results of daily CEMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1. [40 CFR §60.49b(g)]
- l. The permittee is required to submit excess emissions reports for any calendar quarter during which there are excess emissions of NO<sub>x</sub> 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. [40 CFR §60.49b(g)]
  - m. The permittee shall submit a quarterly report containing the information recorded under 40 CFR §60.49(b)g) for nitrogen oxides under §60.48b. All quarterly reports must be post marked by the 30<sup>th</sup> day following the end of each calendar quarter. This report will contain the information required by Specific Condition 4(k)(i-ix). [40 CFR §60.49b(i)]
  - n. The permittee shall maintain all records required under this section for a period of 2 years following the date of such record. The permittee shall maintain the records on site and make them available to Department personnel upon request. [40 CFR §60.49b(o)]
- 5. The permittee shall install, calibrate, maintain and operate a CEMS for measuring the CO emissions discharged to the atmosphere and record the output of the system. The permittee shall comply with the ADEQ CEMS operating conditions in Appendix B. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
  - 6. The permittee shall only use the following fuels to fire this source: bark, including bark and wood chips used to absorb oil spills, wood waste, pelletized paper fuel, recycled sanitary products composed of cellulose and propylene, natural gas and tire derived fuel

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(TDF). Plantwide Condition 13 establishes plant wide limits on the 24-hour usage of TDF. [Regulation 19, §19.705, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

7. If the permittee isolates a chamber of the ESP for repair, the permittee may operate the boiler. Readings from the Continuous Opacity Monitor shall demonstrate compliance with the emission rates. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR 70.6]
8. If both chambers of the ESP must shutdown for repair at the same time, natural gas is the only fuel allowed to fire the No. 3 Power Boiler. Readings from the Continuous Opacity Monitor shall demonstrate compliance with the emission rates. The permittee shall note in the operating record times when both ESPs are shutdown for maintenance. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6]
9. The dual chamber ESP operates for control of particulates and is a Pollutant Specific Emission Unit (PSEU) under the applicability requirements of CAM. The CAM plan requires continuous monitoring of the opacity using the COM. Quality Assurance for the CEMS used for measurement of particulates is in Appendix B. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR 64.2(a)(1), (2) and (3)]
10. The heat input to source SN-01 shall not exceed 790 MMBtu/hr. The use of the following heating values of each fuel, as described in Specific Condition 11, determines the total heat input to the boiler: [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR 70.6]

Fuel	BTU Value
Natural Gas	1.02 MMBtu per 1000 scf
Bark and Wood Waste	8.5 MMBtu per ton
Pelletized Fuel	16.0 MMBtu per ton
Tire Derived Fuel	27.0 MMBtu per ton

11. The permittee shall demonstrate compliance with the heat input limit in Specific Condition 10 by recording the amount of each fuel used each operating day, multiplying the amount of each fuel used by the appropriate heating value, totaling the Btu value, and dividing by twenty-four. The value for each day shall be averaged with the other days in a calendar month and a twelve-month rolling average calculated at the end of each month. The permittee shall update the records daily, keep the records on-site, and make the records available to Department personnel upon request. The permittee shall submit an annual total and each month's individual data to the Department in accordance with General Provision No. 7. [Regulation 19, §19.705 and §19.901 and 40 CFR Part 52, Subpart E]

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12. The permittee shall test source SN-01 every five years for particulate matter using EPA Reference Methods 5 and 202. The PM<sub>10</sub> test shall use either EPA Reference Methods 201A and 202 or 5 and 202. By using Method 5 and 202 for PM<sub>10</sub>, the facility shall assume all collected particulate is PM<sub>10</sub>. The permittee shall conduct all tests in accordance with Plantwide Condition 3. This test shall take place with the maximum rate of bark or wood waste fuel and with a minimal amount of natural gas fuel in the boiler. [Regulation 19, §19.702, 40 CFR Part 52, Subpart E, Regulation 18, §18.1002, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
13. The permittee shall test source SN-01 every five years for volatile organic compound emissions using EPA Reference Method 25A. The permittee shall conduct all tests in accordance with Plantwide Condition 3. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]
14. The carbon monoxide limit is a thirty-day rolling average. Days when the unit is not operating are not included in the thirty-day rolling average. The permittee shall maintain a thirty-day rolling average and a twelve-month rolling average. The permittee shall update the records no later than the fifteenth day following the last day the 30-day rolling average that the records represent, keep the records on-site, and make the records available to Department personnel upon request. The permittee shall submit to the Department each 30-day average and a 12-month rolling average pursuant to General Condition 7 [Regulation 19, §19.501 and 40 CFR Part 52, Subpart E]

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SN-02  
No. 3 Lime Kiln

Source Description

Lime mud, which is primarily calcium carbonate, is sent to the lime kiln for calcining (removal of CO<sub>2</sub>) and reuse in the reaction with green liquor. The No. 3 Lime Kiln (SN-02), last modified in 1991, is natural gas and #6 fuel oil fired with a heat input capacity of 153 MMBtu/hr. Non-condensable gases may not be incinerated in the No. 3 Lime Kiln.

An electrostatic precipitator controls particulate matter emissions from this source. CEMS monitor the TRS and the CO emissions from the No. 3 Lime Kiln. A continuous opacity monitor (COM) is also located at this source.

Stack gas from this lime kiln feeds the Precipitated Calcium Carbonate (PCC) plant. Because emissions from this source will be lower when the PCC plant is in operation, the annual emissions from the PCC plant have been included in the annual emissions for the No. 3 Lime Kiln.

During shutdown periods, the two lime silos for SN-02 and SN-09 will be connected to the slaker scrubbers instead of the lime kilns while the kilns are inspected and repaired. Due to its date of installation (1991), this source is subject to 40 CFR Part 60, Subpart BB, "Standards of Performance for Kraft Pulp Mills." The source is also subject to 40 CFR Part 63, Subpart MM—"National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semicemical Pulp Mills". Since the source is subject to a MACT, the CAM rule does not apply. Fuel to air ratios are continuously monitored and adjusted to maximize heat input and limit emissions, but this is not considered a control device, although it is a preventive measure. Permit opacity limits, annual particulate emission rates and emission limits in terms of lb/MMBtu of particulates represent the required emission limitations.

Specific Conditions

15. The permittee shall not exceed the emission rates in the following table. Compliance with PM<sub>10</sub> limits shall be demonstrated by proper operation of the ESP and testing required in Specific Condition 22. Compliance with the sulfur dioxide emission rates shall be demonstrated by compliance with Specific Condition 24. Compliance with the volatile organic compounds emission rate shall be demonstrated through compliance with Specific Condition 23. Compliance with the carbon monoxide rates shall be demonstrated through compliance with Specific Condition 21. Compliance with the oxides of nitrogen emission rates shall be demonstrated through compliance with Specific Condition 31. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	8.6	37.7

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Pollutant	lb/hr	tpy
SO <sub>2</sub>	13.3	58.3
VOC	14.6	63.9
CO	55.0	240.9
NO <sub>x</sub>	66.5	291.3

16. The permittee shall not exceed the emission rates set forth in the following table. The rates below, with the exception of the PM rate, apply only when the lime kiln produces at least 100 tons per day. The permittee is responsible for maintaining production records (Specific Condition 33.j.i) to demonstrate when the emission rates apply. The permittee shall demonstrate compliance with the PM limit by proper operation of the ESP. The permittee shall demonstrate compliance with the sulfur dioxide emission rates through compliance with Specific Condition 25. Compliance with the volatile organic compounds emission rate shall be demonstrated through compliance with Specific Conditions 23. Compliance with the carbon monoxide rates shall be demonstrated through compliance with Specific Condition 21. Compliance with the oxides of nitrogen emission rates shall be demonstrated through compliance with Specific Condition 31. Compliance with the TRS emission rate shall be demonstrated through compliance with Specific Condition 18.c. [Regulation 19, §19.901 and 40 CFR Part 52, Subpart E].

Pollutant	Emission Limit
PM	0.034 gr/dscf**
SO <sub>2</sub>	0.727 lb/ton of lime
VOC	0.795 lb/ton of lime
CO	3.0 lb/ton of lime
NO <sub>x</sub>	3.63 lb/ton of lime
TRS**	8 ppmv (dry basis)

\*\*Corrected to 10% oxygen

17. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the PM emission rate shall be demonstrated by proper operation of the ESP. Previous testing demonstrated compliance with the benzene and methanol limits. Compliance with the TRS limit shall be demonstrated through compliance with Specific Condition 18.c. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	8.6	37.7
Benzene	0.24	1.06
Methanol	1.31	5.74
TRS	1.34	5.9

18. This source is subject to 40 CFR Part 60, Subpart A, General Provisions and 40 CFR Part 60, Subpart BB, *Standards of Performance for Kraft Pulp Mills*, due to commencement

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of construction after September 24, 1976. A copy of Subpart BB can be found in Appendix C. The permittee is subject, but not limited to the following provisions: [Regulation 19, §19.304 and 40 CFR Part 60, Subpart BB]

- a. PM emissions shall not exceed 0.066 gr/dscf corrected to 10 percent oxygen when burning gaseous fossil fuel. (Note: 40 CFR §63.862(a)(i)(C) requires a 0.064 gr/dscf) [40 CFR §60.282(a)(3)(i) and 40 CFR §63.(a)(i)(C)]
- b. Total reduced sulfur emissions from SN-02 shall not exceed 8ppm by volume on a dry basis, corrected to 10 percent oxygen. [40 CFR §60.283(a)(5) and Regulation 19, §19.804]
- c. The permittee shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the concentration of the TRS emissions on a dry basis and the percent oxygen by volume on a dry basis in the gases discharged to the atmosphere from source SN-02. Appendix B contains a copy of the ADEQ CEMS conditions. The permittee must locate the CEMs downstream of the control device and set the spans of the CEMs as stated below. The permittee previously demonstrated that the CEMs meet the required spans. The permittee must notify the Department in writing before modifying either monitoring system.
  - i. TRS Concentration of 30 ppm for the TRS continuous monitoring system, and
  - ii. At 25 percent oxygen for the continuous oxygen monitoring system. [40 CFR §60.284(a)(2), Regulation 19, §19.703, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
- d. The permittee shall calculate and record on a daily basis twelve-hour average TRS concentrations for the two consecutive periods of the operating day. The permittee shall determine each twelve-hour average as the arithmetic mean of the appropriate twelve contiguous one-hour average total reduced sulfur concentrations provided by the continuous monitoring system required under 40 CFR §60.284(a)(2). The permittee shall keep the records on-site and make the records available to Department personnel. [40 CFR §60.284(c)(1)]
- e. The permittee shall calculate and record on a daily basis twelve-hour average oxygen concentrations for the two consecutive periods of each operating day for source SN-02. The twelve-hour averages shall correspond to the twelve-hour average TRS concentrations under 40 CFR §60.284(c)(1) and determined as an arithmetic mean of the appropriate twelve contiguous one-hour average oxygen concentrations provided by each continuous monitoring system installed under 40 CFR §60.284(a)(2). The permittee shall keep the records on-site and make the records available to Department personnel. [40 CFR §60.284(c)(2)]
- f. The permittee will correct all twelve-hour average TRS concentrations to ten volume percent oxygen using the following equation: [40 CFR §60.284(c)(3)]

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$$C_{corr} = C_{Meas} * \left( \frac{(21 - X)}{(21 - Y)} \right)$$

where:

$C_{corr}$  = the concentration corrected for oxygen

$C_{meas}$  = the concentration uncorrected for oxygen

X = the volumetric oxygen concentration in percentage to be corrected to 10 percent

Y = the measured 12-hour average volumetric oxygen concentration

- g. For the purposes of reports required under §60.7(c), the permittee shall report semiannually periods of excess emissions from source SN-02. Periods of excess emissions are defined as 12-hour average TRS concentrations above 8 ppm by volume. [40 CFR §60.284(d)(2)]
- h. The Director shall not consider periods of excess emissions reported under 40 CFR §60.284(d) to be indicative of a violation of §60.11(d) provided that the Director determines the affected facility, including air pollution control equipment, is maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions during periods of excess emissions. [40 CFR §60.284(e)]

19. Visible emissions may not exceed the limits specified in the following table as measured by EPA Reference Method 9. Compliance shall be demonstrated through the use of a COMS.

SN	Limit	Regulatory Citation
02	20%	Regulation 19, §19.503 and 40 CFR Part52, Subpart E

- 20. The permittee shall install, calibrate, maintain and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere from this source. The permittee shall comply with the ADEQ CEMS conditions found in Appendix B. [Regulation 19, §19.705, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
- 21. The permittee shall install, calibrate, maintain, and operate a CEMS for measuring CO emissions. A copy of the CEMS conditions is in Appendix B of this permit. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
- 22. The permittee shall test source SN-02 every five years for particulate matter using EPA Reference Methods 5 and 202. The  $PM_{10}$  test shall use either EPA Reference Methods 201A and 202 or 5 and 202. By using Method 5 and 202 for  $PM_{10}$ , the facility shall assume all collected particulate is  $PM_{10}$ . The permittee shall conduct all tests in accordance with Plantwide Condition 3. [Regulation 19, §19.702, 40 CFR Part 52, Subpart E, Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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23. The permittee shall test source SN-02 every five years for volatile organic compound emissions using EPA Reference Method 25A. The permittee shall conduct all tests in accordance with Plantwide Condition 3. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]
24. The permittee shall only use pipeline quality natural gas, No. 6 fuel oil, reprocessed oil and onsite generated used fuel oil as fuel to fire the No. 3 Lime Kiln. The average sulfur content of the fuel oil shall not exceed 3.0% by weight. [Regulation 19, §19.705, 40 CFR Part 52, Subpart E, 40 CFR Part 70.6, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
25. The permittee shall either test each shipment of fuel oil or obtain the manufacturer's certification of the sulfur content of the fuel fired at this source. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]
26. The permittee shall not use in excess of 7,500,000 gallons of fuel oil at SN-02 per consecutive twelve month period. [Regulation 19, §19.705, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
27. The permittee shall maintain records of the amount of fuel oil fired at this source and the sulfur content of the fuel oil. These records shall be maintained on site and made available to Department personnel upon request. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]
28. The permittee shall operate the No. 3 Lime Kiln at a maximum of 75% of the kiln's rated capacity when isolating one pre-coat filter for cleaning. The use of CEMS shall demonstrate compliance with the emission rates. The permittee shall note in the operating record the periods when a pre-coat filter is cleaned. [Regulation 19, §19.705, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
29. The permittee shall maintain a minimum of 65% solids on a 30-day rolling average in the lime mud fed to source SN-02. Compliance shall be demonstrated through compliance with Specific Condition 30. [Regulation 19, §19.705, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
30. The permittee shall measure and record the solids content of the lime mud fed to source SN-02 at least once per day while the kiln is in operation. The permittee shall update the records no later than the fifteenth day of the month following the last 30-day rolling average that the records represent. These records shall be kept on site and made available to Department personnel upon request. [Regulation 19, §19.705, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
31. The NO<sub>x</sub> emissions shall be calculated using the equations below. The permittee shall calculate the NO<sub>x</sub> emissions at least once every 15 minutes. The average hourly NO<sub>x</sub>

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emission rate shall be calculated using four or more data points equally spaced over an hour. The minimum data availability shall be 95% of this kiln's operating hours. The equation below may be changed based on emissions testing after the Department approves the test results and the new equation. The information used to calculate NO<sub>x</sub> emissions for SN-02 shall be made available to Department personnel upon request. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

$$C_{NO_x} = -74.5742 + (24.1788*HO) + (0.985984*N)$$
$$E_{NO_x} = C_{NO_x} * DSCF/hr * (1.194*10^{-7})$$

Where:

$C_{NO_x}$  = NO<sub>x</sub> concentration, 1-hr avg., ppm  
 $E_{NO_x}$  = NO<sub>x</sub> emissions, 1-hr avg., lb/hr  
N = total natural gas flow, 1000 standard cubic feet per hour  
DSCF/hr = stack flow rate, dry standard cubic feet per hour  
 $1.194*10^{-7}$  = Conversion factor, ppm NO<sub>x</sub> to lbs/dscf  
HO = kiln hood oxygen concentration, percent

32. The CO and NO<sub>x</sub> emission limits for this source are 30-day rolling averages. Days when the unit is not operating shall not be included in the 30-day rolling average. The permittee shall update the records no later than the fifteenth day following the last day of the 30-day rolling average period that the records represent. These records shall be kept on site and made available to Department Personnel upon request. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]
33. The No. 3 Lime Kiln is considered an affected source pursuant to 40 CFR Part 63, Subpart MM, *National Emissions Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semichemical Pulp Mills*. A copy of Subpart MM may be found in Appendix E. This source is subject, but not limited to, the following conditions: [Regulation 19, §19.304 and 40 CFR Part 63, Subpart MM]
  - a. The permittee may comply with the PM standards for the exhaust gases discharged to the atmosphere from SN-02 by ensuring the concentration of PM in the exhaust gases discharged to the atmosphere from SN-02 is less than or equal to 0.15 g/dscm (0.064 gr/dscf) corrected to 10 percent oxygen. [40 CFR §63.862(a)(i)(C)]
  - b. The permittee must install, calibrate, maintain and operate a continuous opacity monitoring system (COMS) for SN-02. [40 CFR §63.684(d)]
  - c. The 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. [40 CFR §63.864(d)(3)]

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- d. The permittee must reduce the COMS data to 6-minute averages calculated from 36 or more data points equally spaced over each 6-minute period. [40 CFR §63.864(d)(4)]
- e. The permittee must implement corrective action, as specified in the startup, shutdown and malfunction plan if the average of ten consecutive 6-minute averages result in a measured opacity of greater than 20 percent. [40 CFR §63.864(k)(1)(i)]
- f. The permittee is in violation of the standards of §63.862 when opacity is greater than 20 percent for 6 percent or more of the operating time within any quarterly period. [40 CFR §63.864(k)(2)(ii)]
- g. The permittee must conduct an initial performance test using the test methods and procedures listed in §63.7 and 40 CFR §63.865(a) or 63.865(b), except as provided in 40 CFR §63.865(c)(1). This testing was performed on September 12, 2004.
- h. The permittee must develop and implement a written plan as described in §63.6(e)(3) that contains the specific procedures to be followed for operating 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 (a)(2) of 40 CFR §63.866. [40 CFR §63.866(a)]
  - 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.
  - iii. The startup, shutdown and malfunction plan must also include the schedules listed in paragraphs (a)(2)(i) and (ii) of 40 CFR §63.866:
    - 1. 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
    - 2. 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.
- i. 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). The permittee shall keep these records on site and make them available to Department personnel upon request. [40 CFR §63.866(b)]

- j. In addition to the general records required by §63.10(b)(2), the owner or operator must maintain records of the information required in paragraphs (c)(1) through (c)(7) of 40 CFR §63.866:
  - i. Records of the CaO production rates in units of Mg/d r ton/d for all lime kilns;
  - ii. Records of the 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;
  - iii. Records and documentation of supporting calculations for compliance determinations made under §§63.865(a) through (d);
  - iv. Records of monitoring parameter ranges established for each affected source or process unit; [40 CFR §63.866(c)]
- k. The owner or operator of any affected source or process unit must submit the applicable notifications for Subpart A of this part, as specified in Table 1 of §40.867. [40 CFR §63.867(a)]
- l. The owner or operator must report quarterly if measured parameters meet any of the conditions specified in paragraphs (k)(1) or (k)(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.
  - i. 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.
  - ii. 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. The permittee shall submit these reports in accordance with General Provision 7 of this permit. [40 CFR §63.867(c)]

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SN-03  
No. 1 Power Boiler

Source Description

The No. 1 Power Boiler, installed in 1967-68, is original to the Ashdown Mill. Due to the date of installation, the No. 1 Power Boiler is not subject to the New Source Performance Standards for Industrial Boilers (D, Da, or Db).

The No. 1 Power Boiler combusts bark, wood waste, tire-derived fuel (TDF), municipal yard waste pelletized paper fuel (PPF), No. 6 fuel oil, reprocessed fuel oil, and natural gas and has a heat input rating of 580 MMBtu/hr. Bark is delivered to a surge bin from the wood yard before being sent to a separate conveyor feeding the No. 1 Power Boiler. The bark handling system feeds wood waste, PPF, TDF, and municipal yard waste to the boiler. Natural gas supplements other fuels during high steam demand periods to maintain the 850-psig steam header.

The No. 1 Power Boiler is equipped with a traveling grate, a combustion air system, and a wet ESP for particulate removal. The permitted emission rate for PM/PM<sub>10</sub> is 40.6 lb/hr, which, at design heat input, is 0.07 lb PM/MMBtu. Carbon monoxide, particulates and NO<sub>x</sub> are tested every five years to verify compliance with permitted limits.

Particulate matter emissions from this boiler are controlled by the use of a wet ESP. The permittee tested this source for acetaldehyde and benzene emissions as required under Permit #287-AOP-R0. Because the emissions were below detectable levels during the testing, the permittee is not required to conduct any further testing for acetaldehyde and benzene from this source.

Specific Conditions

34. The permittee shall not exceed the emission rates set forth in the following table. Compliance with PM<sub>10</sub> limits shall be demonstrated through compliance with Specific Conditions 42 and 43. Compliance with the sulfur dioxide emission rates shall be demonstrated by compliance with Specific Conditions 40. Compliance with the volatile organic compounds emission rate shall be demonstrated through compliance with Specific Condition 44. Compliance with the carbon monoxide rates shall be demonstrated through compliance with Specific Condition 45. Compliance with the oxides of nitrogen emission rates shall be demonstrated through compliance with Specific Condition 46. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	40.6	177.8
SO <sub>2</sub>	1285.0	214.0
VOC	43.0	214.6
CO	164.0	718.3
NO <sub>x</sub>	247.5	1084.1

35. The permittee shall not exceed the emission rates set forth in the following table. Compliance with PM limits shall be demonstrated through compliance with Specific Conditions 42 and 43. Compliance with the barium, acetaldehyde, and benzene emission rates has been demonstrated by previously performed emissions testing. Compliance with the HCl limit shall be demonstrated through compliance with Specific Condition 47. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	40.6	177.8
Acetaldehyde	0.77	3.38
Barium	0.84	3.68
Benzene	0.49	2.15
Hydrogen Chloride	52.2	228.6

36. Visible emissions from this source may not exceed the limits specified in the following table as measured by EPA Reference Method 9 when firing only natural gas.

SN	Limit	Regulatory Citation
03	5%	Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

37. Visible emissions from this source may not exceed the limits specified in the following table as measured by EPA Reference Method 9 when firing fuel other than natural gas. Compliance shall be demonstrated through compliance with Specific Condition 38.

SN	Limit	Regulatory Citation
03	40%	Regulation 19, §19.503 and 40 CFR Part 52, Subpart E

38. The permittee shall perform weekly observations of the opacity from this source. These observations shall be conducted by personnel familiar with the facility's visible emissions. The facility shall maintain personnel trained, but not necessarily certified, in EPA Reference Method 9. If visible emissions which appear to be in excess of the permitted opacity are detected, the facility shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that the visible emissions did not appear to be in excess of the permitted opacity following the corrective action. The facility shall maintain records which contain the following items in order to demonstrate compliance with this condition. These records shall be updated on a weekly basis, kept on site, and made available to Department personnel upon request.

- a. The date and time of the observation;

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- b. Whether visible emissions which appeared to be above the permitted level were detected;
  - c. If visible emissions which appeared to be above the permitted level were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
  - d. The name of the person conducting the observations. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]
39. The sulfur content of the fuel oil used as fuel at this source shall not exceed 3.0% by weight and the total SO<sub>2</sub> emissions shall not exceed 214 tons in any consecutive twelve month period, as calculated monthly from total fuel usage and batch sulfur content using the following equation.
- $$\text{SO}_2 \text{ tons} = [(\text{Fuel oil gallons/batch})(7.88 \text{ lb/gal})(\text{Weight \% S in batch}/100)(2.0 \text{ SO}_2/\text{S})]/2000$$
- [Regulation 19, §19.705, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
40. The permittee shall either test each batch of fuel oil received for sulfur content or receive a manufacturer's certification of the sulfur content of each batch of fuel oil to demonstrate compliance with Specific Condition 39. The permittee shall update these records within 10 days of receipt of each batch of fuel oil. These records shall be kept on site and made available to Department personnel upon request. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]
41. The permittee shall fire only bark, including bark and wood chips used to absorb oil spills, wood waste, municipal yard waste, recycled sanitary products composed of cellulose and polypropylene, pelletized paper fuel, No. 6 fuel oil, used oil generated on site, natural gas, reprocessed fuel oil, and tire derived fuel (TDF) as fuel in No. 1 Power Boiler (SN-03). Plantwide Condition 14 establishes limits on the 24-hour usage of TDF. [Regulation 19, §19.705, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
42. The permittee shall conduct stack testing to verify the particulate matter emission rates listed above no later than March 11, 2008. This testing shall be performed with the wet electrostatic precipitator (WESP) units operating. During this testing, the permittee shall establish the operating parameters for the WESPs. A copy of these operating parameters shall be submitted to the Department along with the test results. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
43. The permittee shall conduct tests to verify compliance with the PM/PM<sub>10</sub> emission rates for this source a minimum of once every five years. The permittee shall use EPA

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Reference Method 5 and 202 to demonstrate compliance with the PM limits contained in Specific Condition 35. The permittee shall use EPA Reference Methods 201A and 202 or 5 and 202 to demonstrate compliance with the PM<sub>10</sub> limits contained in Specific Condition 34. By using Method 5 and 202 for PM<sub>10</sub>, the facility shall assume all collected particulate is PM<sub>10</sub>. Testing shall be performed pursuant to Plantwide Condition 3. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]

44. The permittee shall conduct testing to verify compliance with the VOC emission rates from this source a minimum of once every five years. This testing shall be conducted using EPA Reference Method 25A. Testing shall be performed pursuant to Plantwide Condition 3. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]
45. The permittee shall conduct testing to verify compliance with the CO emission rates from this source a minimum of once every five years. This testing shall be conducted using EPA Reference Method 10B. Testing shall be performed pursuant to Plantwide Condition 3. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]
46. The permittee shall conduct testing to verify compliance with the NO<sub>x</sub> emission rates from this source a minimum of once every five years. This testing shall be conducted using EPA Reference Method 7E. Testing shall be performed pursuant to Plantwide Condition 3. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]
47. The permittee shall conduct testing to verify compliance with the HCl emission rates from this source a minimum of once a year until three consecutive years of passing test results have been obtained. Once three consecutive tests have been passed the testing shall be performed a minimum of once every three years. This testing shall be conducted using EPA Reference Method 26 or 26A. Testing shall be performed pursuant to Plantwide Condition 3. [Regulation 18, §1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
48. The permittee shall not use in excess of 2,700,000 gallons of fuel oil at this source per consecutive 12-month period. [Regulation 19, §19.705 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
49. The permittee shall maintain records of the amount of fuel oil combusted at this source. The permittee shall maintain a monthly and rolling twelve month total. These records shall be updated by the fifteenth day of the month following the month to which the records pertain. These records shall be kept on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General provision 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

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SN-05  
No. 2 Power Boiler

Source Description

The mill installed the No. 2 Power Boiler in 1975, with startup of the unit in February of 1976. Due to its design heat input rate (820 MMBtu/hr) and date of installation/construction, the boiler is subject to 40 CFR 60, Subpart D, *Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971*. It is also subject to 40 CFR 52, Subpart A (PSD Regulations), and 40 CFR 60, Subpart BB, *Standards of Performance for Kraft Pulp and Paper Mills*.

The No. 2 Power Boiler primarily fires pulverized bituminous coal. The boiler also burns small amounts of bark to help control NO<sub>x</sub> emissions. The boiler also burns PPF, TDF, municipal yard waste, No. 6 Fuel Oil, used oil, natural gas, petroleum coke and reprocessed oil. The No. 2 Power Boiler is normally base-loaded to supply steam for the 850 psig header, but can be operated as a swing boiler as well. When the boiler is under normal conditions, the boiler fires no gas. The heat input rating for the unit, regardless of fuel mix, is 820 MMBtu/hr. Currently, the No. 2 Power Boiler is the primary combustion source used for incinerating HAPs in LVHC gas streams with a required minimum temperature and retention time to assure efficient destruction.

The No. 2 Power Boiler is equipped with a traveling grate, combustion air system including over fire air, multiclones for particulate removal, and two venturi scrubbers in parallel for removal of remaining particulates and SO<sub>2</sub>. The SO<sub>2</sub> loading to the boiler is significant since the boiler can burn non-condensable gases (Subpart BB) and pulverized coal. This permit modification allows new stack testing at reduced heat inputs to allow the establishment of new parameters for the pressure drop across the individual scrubbers.

The No. 2 Power Boiler is subject to the CAM Rule. The only applicable Pollutant Specific Emission Units (PSEU) are for SO<sub>2</sub> and particulate emissions, as this source has two scrubbers in parallel to control SO<sub>2</sub> and particulate emissions by absorption and chemical reaction with caustic solution and pulp mill extraction stage filtrate. Scrubber differential pressure and recirculation flow to both scrubbers are maintained within set ranges to ensure compliance. The scrubbing fluid is composed of sodium hydroxide, water and pulp mill extraction stage filtrate. The PM/PM<sub>10</sub> emission limit for the No. 2 Power Boiler is 82 lb/hr. Using the design heat input, the typical PM emission rate at full load would be 0.1 lb/MMBtu, and stack testing has shown very similar values.

Continuous Emissions Monitoring Systems (CEMS) are in place for NO<sub>x</sub>, SO<sub>2</sub>, and CO. The boiler operates under a surrogate for showing compliance with its particulate and opacity limits.

Specific Conditions

50. The permittee shall not exceed the emission rates set forth in the following table. Compliance with PM<sub>10</sub> and lead limits shall be demonstrated through compliance with Specific Condition 60. Compliance with the sulfur dioxide emission rates shall be demonstrated by compliance with Specific Condition 54. Compliance with the volatile organic compounds emission rate shall be demonstrated through compliance with Specific Condition 59. Compliance with the carbon monoxide rates shall be demonstrated through compliance with Specific Condition 58. Compliance with the oxides of nitrogen emission rates shall be demonstrated through compliance with Specific Condition 54. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	82.0	359.2
SO <sub>2</sub>	983.0	4305.5
VOC	92.0	403.0
CO	266.0	1165.0
NO <sub>x</sub>	574.0	2514.1
Lead	0.03	0.1

51. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the PM emission rates shall be demonstrated through compliance with Specific Condition 60. Compliance with the SO<sub>2</sub> emission rate shall be demonstrated through compliance with Specific Condition 54. Compliance with the NO<sub>x</sub> emission rate shall be demonstrated through compliance with Specific Condition 54. [Regulation 19, §19.901 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	Emission Limit
PM	0.1 lb/MMBtu
SO <sub>2</sub>	1.2 lb/MMBtu
NO <sub>x</sub>	0.7 lb/MMBtu

52. The permittee shall not exceed the emission rates set forth in the following table. Compliance with PM limits shall be demonstrated through compliance with Specific Condition 60. Compliance with the HCl emission rates shall be demonstrated through compliance with Specific Condition 59. Compliance with the acetaldehyde, benzene and naphthalene emission rates has been demonstrated by previously performed emissions testing. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	82.0	359.2
Acetaldehyde	0.21	0.92
Benzene	0.21	0.92

Pollutant	lb/hr	tpy
Hydrogen Chloride	5.75	25.19
Naphthalene	0.50	2.19

53. This source is considered an affected source under 40 CFR Part 60, Subpart A and 40 CFR 60, Subpart D, *Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971*, due to a heat input rate of 250 MMBtu/hr and an installation date of 1975. A copy of Subpart D may be found in Appendix F. This source is subject, but not limited to, the following conditions: [Regulation 19, §19.304 and 40 CFR Part 60, Subpart D]

- a. The permittee shall not cause to be discharged into the atmosphere any gases which contain particulate matter in excess of 0.10 lb/MMBtu derived from fossil fuel or fossil fuel and wood residue. [40 CFR §60.42(a)(1)]
- b. Visible emission shall not exceed 20% opacity as measured by EPA Reference Method 9, except for one six-minute period per hour of not more than 27% opacity. [40 CFR §60.42(a)(1)]
- c. The permittee shall not cause to be discharged into the atmosphere any gases which contain sulfur dioxide in excess of 0.80 lb/MMBtu derived from liquid fossil fuel or liquid fossil fuel and wood residue. [40 CFR §60.43(a)(1)]
- d. The permittee shall not cause to be discharged into the atmosphere any gases which contain sulfur dioxide in excess of 1.2 lb/MMBtu from any solid fossil fuel or solid fossil fuel and wood residue. [40 CFR §60.43(a)(1)] When fossil fuels are burned simultaneously in combination, the applicable SO<sub>2</sub> standard (in ng/J) shall be determined by prorating using the following formula. [40 CFR §60.43(b)]

$$PS_{SO2} = \frac{(y * 340) + (z * 520)}{(y + z)}$$

where:

PS<sub>SO2</sub> is the prorated standard for sulfur dioxide when burning different fuel simultaneously, in nanograms per joule heat input derived from all fossil fuels and wood residue fired

Y is the percentage of total heat input derived from liquid fossil fuel

Z is the percentage of total heat input derived from solid fossil fuel

- e. The basis for compliance is the total heat input from all fossil fuels burned, including gaseous fuels. [40 CFR §60.43(c)]
- f. The permittee shall not cause to be discharged into the atmosphere any gases which contain nitrogen oxides, expressed as NO<sub>2</sub>, in excess of:
  - i. 86 nanograms per joule heat input (0.20 lb per million Btu) derived from gaseous fossil fuel.

- ii. 129 nanograms per joule heat input (0.30 lb per million Btu) derived from liquid fossil fuel, liquid fossil fuel and wood residue, or gaseous fossil fuel and wood residue.
  - iii. 300 nanograms per joule heat input (0.70 lb per million Btu) derived from solid fossil fuel or solid fossil fuel and wood residue (except lignite or a solid fossil fuel containing 25 percent, by weight, or more of coal refuse). [40 CFR §60.44(a)(1-3)]
- g. Except as provided under Specific Condition 53.h, when different fossil fuel are burned simultaneously in any combination, the applicable NO<sub>x</sub> standard (in ng/J) is determined by prorating using the following formula. [40 CFR §60.44(b)]

$$PS_{NO_x} = \frac{x(86)+y(130)+z(300)}{x+y+z}$$

where:

PS<sub>NO<sub>x</sub></sub> = is the prorated standard for nitrogen oxides when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;

x = is the percentage of total heat input derived from gaseous fossil fuel;

y = is the percentage of total heat input derived from liquid fossil fuel; and,

z = is the percentage of total heat input derived from solid fossil fuel (except lignite).

- h. When a fossil fuel containing at least 25 percent, by weight, of coal refuse is burned in combination with gaseous, liquid, or other solid fossil fuel or wood residue, the standard for nitrogen oxides does not apply. [40 CFR 60.44(c)]
54. The permittee shall install, calibrate, maintain and operate continuous emissions monitoring systems for measuring SO<sub>2</sub> emissions, NO<sub>x</sub> emissions and either oxygen or carbon dioxide. The CEMS shall have readouts which demonstrate compliance with any of the applicable limits for the pollutant in question. The permittee shall comply with the ADEQ CEMS conditions found in Appendix B. [40 CFR §60.45(a), Regulation 19, §19.304 and §19.703, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
55. The permittee shall submit an excess emissions report to the Director semiannually for each six-month period in the calendar year. All semiannual reports must be postmarked by the 30<sup>th</sup> day following the end of the six-month period. Each excess emissions report and MSP report shall include the information required in 40 CFR §60.7(c). Periods of excess emissions and monitoring system downtime that shall be reported are defined as follows:

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- a. Any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of sulfur dioxide as measured by a CEM exceed the applicable standard in 40 CFR §60.43 or
  - b. Any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of nitrogen oxides as measured by a CEM exceed the applicable standard in 40 CFR §60.44
56. This source is considered an affected source under 40 CFR Part 60, Subpart BB, *Standards of Performance for Kraft Pulp Mills*, because SN-05 combusts non-condensable gases produced at other sources subject to Subpart BB. A copy of Subpart BB may be found in Appendix C. This source is subject, but not limited to, the following conditions: [Regulation 19, §19.304 and 40 CFR Part 60, Subpart BB]
- a. The non-condensable gases incinerated at SN-05 shall be subjected to a minimum temperature of 1200 °F for at least 0.5 seconds. Previous tests indicate the permittee meets the required retention times. [40 CFR §60.283(a)(1)(iii) and Regulation 19, §19.804]
  - b. The permittee shall install, calibrate, maintain and operate a monitoring device which measures and records the combustion temperature at the point of incineration of effluent gases emitted from any digester system, brown stock washer system, black liquor oxidation system or condensate stripper system where the provisions of §60.283(a)(1)(iii) apply. The monitoring system is to be certified to be accurate within  $\pm 1$  percent of the temperature being measured. [40 CFR §60.284(b)(1)]
57. The permittee shall maintain records of the combustion temperature required in Specific Condition 56.b. These records shall contain a rolling hourly average of the combustion temperature. These records shall be maintained on site and made available to Department personnel upon request. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]
58. The permittee shall install, calibrate, maintain and operate a continuous emissions monitoring system for measuring CO. This CEMS shall give a readout which demonstrates compliance with the applicable limits for CO. The permittee shall comply with the ADEQ CEMS conditions found in Appendix B. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
59. The permittee shall perform stack testing to verify the VOC and HCl emission rates listed for SN-05 using EPA Reference Method 25A and 26A respectively. This testing shall be performed a minimum of once every five years. This testing shall be performed pursuant to Plantwide Condition 3. [Regulation 18, §18.1002, Regulation 19, §19.702, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
60. The permittee shall conduct tests to verify compliance with the PM/PM<sub>10</sub> emission rates for this source a minimum of once every five years. The permittee shall use EPA

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Reference Method 5 and 202 to demonstrate compliance with the PM limits contained in Specific Condition 52. The permittee shall use EPA Reference Methods 201A and 202 or 5 and 202 to demonstrate compliance with the PM<sub>10</sub> limits contained in Specific Condition 49. By using Method 5 and 202 for PM<sub>10</sub>, the facility shall assume all collected particulate is PM<sub>10</sub>. Testing shall be performed pursuant to Plantwide Condition 3. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]

61. The permittee shall fire only the following items in the #2 Power Boiler (SN-05): non-condensable gases, bark and wood chips used to absorb oil spills, wood waste, municipal yard waste, natural gas, coal, used oil generated on site, recycled sanitary products based on cellulose and polypropylene, No. 6 fuel oil, reprocessed fuel oil, tire derived fuel (TDF), and petroleum coke. Plantwide Condition 14 establishes plant wide limits on the 24-hour usage of TDF. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR Part 70.6]
62. The permittee shall maintain records of fuels fired at this source, times fuel used and applicable SO<sub>2</sub> and NO<sub>x</sub> limits to demonstrate compliance with the fuel-specific NSPS and PSD limits. These records shall be kept on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Provision 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]
63. The carbon monoxide emission limits for this source are based on 30-day rolling averages. Days when the unit is not operating are not included in the 30-day rolling average. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]
64. In lieu of the continuous opacity monitor required by 40 CFR §60.45 and 40 CFR §60.284(a)(1), the permittee shall comply with the following EPA approved monitoring plan. The Department determined and the permittee agreed that compliance with the following requirements shall also demonstrate compliance with the particulate matter and the lead emission rates.
  - a. maintain a minimum flow rate of scrubbing liquid flow rate of 1,500 gallons per minute;
  - b. maintain the pressure drop of the gas stream across the scrubber at or above 10 in. H<sub>2</sub>O, and
  - c. continuously monitor and record the scrubbing liquid flow rate and the pressure drop of the gas stream across the scrubber.
65. The permittee shall maintain records of the scrubbing liquid flow rate and the pressure drop of the gas stream across the scrubber for a period of at least two years following the date of the records. These records shall be kept on site and made available to Department personnel upon request. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]
66. The permittee shall submit report of excess emissions to the Department on a semiannual basis. All reports shall be postmarked by the 30<sup>th</sup> day of the month following the end of

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each semiannual period. The permittee shall submit the excess monitoring reports in accordance with General Provision 7. Excess emissions are defined as follows:  
[Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

- a. Any period when the 1-hour average scrubbing liquid flow rate is less than 1,500 gallons per minute, and
- b. Any period when the 1-hour average pressure drop of the gas stream across the scrubber is less than 10 inches H<sub>2</sub>O.
- c. The permittee may test the parameters of sections "a" and "b" of this specific condition and operate one or both scrubbers to demonstrate that required emission rates can be met with modified parameters at lower heat inputs to the boiler. The permittee shall submit a protocol describing the tests and the time required to establish the new parameters before conducting the tests. Upon acceptance of the new operational parameters for the individual scrubbers, the permittee may submit a permit modification to substitute the new parameters for those specified in sections "a" and "b" of this specific condition. [§19.304 and §19.703 of Regulation 19, 40 CFR Part 52, Subpart E, 40 CFR §60.13(i), and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and §18.1004 of Regulation 18]

SN-06  
No. 2 Recovery Boiler

Source Description

The No. 2 Recovery Boiler, last modified in 1989, has a heat input capacity of 1,160 MMBtu/hr. No. 2 Recovery Boiler combusts black liquor solids to recover inorganic chemicals. Fuel oil, on-site generated used fuel oil, reprocessed fuel oil and natural gas are also combusted in this boiler. An electrostatic precipitator controls emissions. Continuous emission monitoring systems are in place for opacity, total reduced sulfur, sulfur dioxide, carbon monoxide, and oxides of nitrogen.

This source is subject to the provisions of 40 CFR Part 60, Subpart BB "Standards of Performance for Kraft Pulp Mills", 40 CFR Part 63, Subpart MM, "National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills" and 40 CFR Part 63, Subpart MM, "National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills." The No. 2 Recovery Boiler underwent a PSD review in Permit 287-AR-3.

Specific Conditions

67. The permittee shall not exceed the emission rates set forth in the following table. Compliance with PM<sub>10</sub> limits shall be demonstrated through compliance with Specific Condition 79. Compliance with the volatile organic compounds emission rate shall be demonstrated through compliance with Specific Condition 78. Compliance with the carbon monoxide rates shall be demonstrated through compliance with Specific Condition 72. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	84.4	369.7
VOC	46.7	204.6
CO	980.0	4292.4

68. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the PM emission rates shall be demonstrated through compliance with Specific Condition 79. Compliance with the SO<sub>2</sub> emission rate shall be demonstrated through compliance with Specific Condition 73. Compliance with the NO<sub>x</sub> emission rate shall be demonstrated through compliance with Specific Condition 74. [Regulation 19, §19.901 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM	84.4	369.7
SO <sub>2</sub>	286.0	1252.7
NO <sub>x</sub>	309.2	1354.3

69. The permittee shall not exceed the emission rates set forth in the following table. Compliance with PM limits shall be demonstrated through compliance with Specific Condition 79. Compliance with the HCl emission rates shall be demonstrated through compliance with Specific Condition 76. Compliance with the sulfuric acid emission rates shall be demonstrated through compliance with Specific Condition 77. Compliance with the formaldehyde, methanol and styrene emission rates has been demonstrated by previously performed emissions testing. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	84.4	369.7
Formaldehyde	0.72	3.16
Hydrogen Chloride	51.2	224.3
Methanol	1.18	5.17
Styrene	3.22	0.27
Sulfuric Acid	0.06	14.1
TRS	7.4	32.4

70. Visible emissions shall not exceed the limits specified in the following table as measured by EPA Reference Method 9. Compliance shall be demonstrated through compliance with Specific Condition 83.b.

SN	Limit	Regulatory Citation
06	20%	Regulation 19, §19.503 and 40 CFR Part 52, Subpart E

71. This source is considered an affected source under 40 CFR Part 60, Subpart BB, *Standards of Performance for Kraft Pulp Mills*, because SN-06 was installed in 1989. A copy of Subpart BB may be found in Appendix C. This source is subject, but not limited to, the following conditions: [Regulation 19, §19.304, 40 CFR Part 60, Subpart A and 40 CFR Part 60, Subpart BB]
- a. The permittee shall not cause a discharge into the atmosphere of any gases which contain particulate matter in excess of 0.10 g/dscm (0.044 gr/dscf), corrected to 8 percent oxygen. [40 CFR §60.282(a)(1)(i)]
  - b. The permittee shall not cause a discharge into the atmosphere of any gases which exhibit 35% opacity or greater. (Note: Specific Condition 70 requires a 20% opacity) [40 CFR §60.282(a)(1)(ii)]
  - c. The permittee shall not cause a discharge into the atmosphere of any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 8 percent oxygen. [40 CFR §60.283(a)(4)]
  - d. The permittee shall install, calibrate, maintain and operate a continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent oxygen by volume on a dry basis in the gases discharged

into the atmosphere from SN-06. These systems shall be located downstream of the control device and the span of the continuous monitoring system shall be set as stated below. The permittee has demonstrated that the CEMS meet the span requirements and shall notify the Department before modifying either monitoring system. This CEMS shall comply with the Department's standards found in Appendix B. [40 CFR §60.284(a)(2)]

- i. At a TRS concentration of 30 ppm for the TRS monitoring system; and
  - ii. At 25 percent oxygen for the continuous oxygen monitoring system.
- e. The permittee shall calculate and record, on a daily basis, the 12-hour average TRS concentrations for the two consecutive periods of each operating day. The permittee shall determine each 12-hour average as the arithmetic mean of the appropriate 12 continuous 1-hour average TRS concentrations provided by the CEMS. The permittee shall maintain these records on site and make them available to Department personnel upon request. [40 CFR §60.284(c)(2)]
- f. The permittee shall calculate and record, on a daily basis, the 12-hour average oxygen concentrations for the two consecutive periods of each operating day. These 12-hour averages shall correspond to the 12-hour TRS concentrations. The permittee shall determine each 12-hour average as the arithmetic mean of the appropriate 12 continuous 1-hour average oxygen concentrations provided by the CEMS. The permittee shall maintain these records on site and make them available to Department personnel upon request. [40 CFR §60.284(c)(2)]
- g. The permittee shall correct the 12-hour average TRS concentration to 8% oxygen using the following equation. [40 CFR §60.284(c)(3)]

$$C_{corr} = C_{meas} * [(21-X)/(21-Y)]$$

Where:

$C_{corr}$  = the concentration corrected for oxygen

$C_{meas}$  = the concentration TRS measure by the CEM

X = the volumetric oxygen concentration in percentage to be corrected to 8 percent

Y = the measured 12-hour average volumetric oxygen concentration

- h. For the purpose or reports required under §60.7(c), the permittee shall report semiannually periods of excess emissions as follows: [40 CFR §60.284(d)(1)]
- i. All 12-hour averages or TRS concentrations above 5 ppm by volume; and
  - ii. All 6-minute average opacities exceeding 35 percent.
- i. The permittee shall be required to report as excess emissions all 6-minute average opacities that exceed 20% ( the opacity limit required by Regulation 19). However, only those emissions which exceed 35% opacity shall be considered possible violations of Subpart BB.

- j. The Director shall not consider periods of excess emissions reported under §60.284(d) to be indicative of a violation of §60.11(d) provided that: [40 CFR §60.284(e)]
    - i. The percent of the total number of possible continuous 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 do not exceed;
      - 1. One percent for TRS emissions from recovery furnaces
      - 2. Six percent average opacities from recovery furnaces
    - ii. The Director 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.
72. The permittee shall install, calibrate, maintain and operate a continuous emissions monitoring system for measuring CO emissions from this source. This CEMS shall give a readout which demonstrates compliance with the applicable limits for CO. The permittee shall comply with the ADEQ CEMS conditions found in Appendix B. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
73. The permittee shall install, calibrate, maintain and operate a continuous emissions monitoring system for measuring SO<sub>2</sub> emissions from this source. This CEMS shall give a readout which demonstrates compliance with the applicable limits for SO<sub>2</sub>. The permittee shall comply with the ADEQ CEMS conditions found in Appendix B. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
74. The permittee shall install, calibrate, maintain and operate a continuous emissions monitoring system for measuring NO<sub>x</sub> emissions from this source. This CEMS shall give a readout which demonstrates compliance with the applicable limits for NO<sub>x</sub>. The permittee shall comply with the ADEQ CEMS conditions found in Appendix B. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
75. The permittee shall demonstrate compliance with the HCl emission rates by the use of the CEMS for SO<sub>2</sub> and the following equations. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

$$PPMHCl = \frac{(1.28 * PPM_{SO_2})}{(1 + (PPM_{SO_2} * 0.017))}$$

$$HCl_{lbs/hr} = HCl_{PPM} * 0.0947E - 7 * DSCFH$$

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76. The permittee shall calculate the hourly HCl emissions using the one-hour average PPM SO<sub>2</sub> values obtained from the CEMS. The permittee shall keep the records on-site and make the records available to Department personnel upon request. The permittee shall submit an annual total and each month's individual data to the Department in accordance with General Provision 7. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
77. A sulfur dioxide emission rate in excess of 250 ppm based on a three-hour average, as read by the CEMS for this pollutant, shall be considered a violation of the sulfuric acid emission rate. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
78. The permittee shall conduct stack testing to verify the VOC emission rates found in Specific Condition 67. This testing shall be conducted at least once every five years using EPA Reference Method 25A. This testing shall be conducted in accordance with Plantwide Condition 3. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]
79. The permittee shall conduct stack testing to verify the PM and PM<sub>10</sub> emission rates found in Specific Condition 67. This testing shall be conducted at least once every five years using EPA Reference Methods 5 and 202 for PM and EPA Reference Methods 201A and 202 or 5 and 202 for PM<sub>10</sub>. By using Methods 5 and 202 for PM<sub>10</sub>, the permittee shall assume all collected particulate is PM<sub>10</sub>. This testing shall be conducted in accordance with Plantwide Condition 3. [Regulation 18, §18.1002, Regulation 19, §19.702, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR Part 52, Subpart E]
80. The permittee shall maintain a minimum floor tube temperature of 400°F on a 3-hour average at SN-06. This limit applies only when the boiler is firing in excess of 1.5 million pounds per day of black liquor solids. The permittee shall install, calibrate, maintain and operate a continuous monitoring device to measure and record the floor tube temperature at SN-06. This monitor shall record the temperature at least once every 15 minutes and store each hour's average in a database. The permittee shall submit semiannual reports showing the 3-hour average temperatures that are below the minimum and the monthly average temperature. These records shall be submitted in accordance with General Provision 7. [Regulation 19, §19.703 and §19.705, 40 CFR Part 70.6, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
81. The permittee shall maintain records of the pounds per day of black liquor solids fired at SN-06 when not complying with the minimum floor tube temperature. The permittee shall update the records whenever the minimum temperature is below 400°F. These records shall be kept on site and made available to Department personnel upon request. [Regulation 19, §19.703 and §19.705, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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82. The CO emission limits for this source are 30-day rolling averages and the NO<sub>x</sub> emission limits are 3-hour averages. Days when the unit is not operating shall not be included in the 30-day rolling average. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]
83. This source (SN-06) is considered an affected source under 40 CFR Part 63, Subpart MM, *National Emissions Standards for Hazardous Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semichemical Pulp Mills*. A copy of Subpart MM may be found in Appendix E. This source is subject, but not limited to, the following conditions: [Regulation 19, §19.304 and 40 CFR Part 63, Subpart MM]
- a. The permittee 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. [40 CFR §63.862(a)(1)(i)(a)]
  - b. The permittee shall install, calibrate, maintain and operate a continuous monitoring system to monitor and record the opacity of the gases discharged to the atmosphere from SN-06. The span of this system shall be set at 70 percent opacity. The permittee shall comply with the ADEQ CEMS conditions found in Appendix B. [40 CFR §63.864]
  - c. The 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. [40 CFR §63.864(d)(3)]
  - d. The COMS data must be reduced to 6-minute averages calculated from 36 or more data points equally spaced over each 6-minute period. [Regulation No. 19 §19.304 and 40 CFR §63.864(d)(4)]
  - e. The permittee shall implement corrective action, as specified in the startup, shutdown and malfunction plan, if the average of ten consecutive 6-minute averages results in a measurement greater than 20 percent opacity. [40 CFR §63.864(k)(1)(i)]
  - f. The permittee is in violation of the standards of §63.682 when opacity is greater than 20 percent for 6 percent or more of the operating time within any quarterly period. [40 CFR §63.864(k)(2)(ii)]
  - g. The permittee shall conduct an initial performance test using the test methods and procedures listed in §63.7 and 40 CFR §63.865(a) or §63.865(b), except as provided in 40 CFR §63.865(c)(1). The permittee completed the initial performance test on September 7, 2004. [40 CFR §63.865]
  - h. The permittee shall develop and implement a written plan as described in §63.6(e)(3) that contains the 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 contain the requirements in paragraphs (a)(1) and (2) of §63.866. [40 CFR §63.866(a)]

- i. Procedures to determine and record the cause of an operating parameter exceedance and the time an 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 to correct the exceedance.
- iii. The startup, shutdown and malfunction plan shall also include the schedule listed in paragraphs (a)(2)(i) and (ii) of §63.866.
  1. A maintenance schedule for each control technique that is consistent with, but not limited to, the manufacturer's instructions for routine and long-term maintenance; and
  2. An inspection schedule for each continuous monitoring system required under §63.864 to ensure, at least once in each 24-hour period, that each monitoring system is properly functioning.
- i. The permittee shall 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). [40 CFR §63.866(b)]
- j. In addition to the general records required by §63.10(b)(2), the permittee must maintain records of the information in paragraphs (c)(1) through (7) of §63.866. [40 CFR §63.866(c)]
  - i. Record of the black liquor solids firing rates in units of Mg/d or ton/d for all recovery furnaces;
  - ii. Records of the 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 of the deviation occurred, the time corrective action was initiated and completed, and the corrective action taken;
  - iii. Records and documentation of supporting calculations for compliance determinations made under §§63.865(a) through (d);
  - iv. Records of monitoring parameter ranges established for each affected source or process unit and
  - v. Records certifying that an NDCE recovery furnace equipped with a dry ESP was used to comply with the gaseous organic HAP standard in §63.862(c)(1).
- k. The permittee must submit the applicable notifications from Subpart A of this part, as specified in Table 1 of §63.867. [40 CFR §63.867(a)]
- l. The permittee must report quarterly if measured parameters meet any of the conditions specified in paragraph (k)(1) or (2) of §63.864. This report must

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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. [40 CFR §63.867(c)]

- i. 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.
- ii. The permittee may combine excess emissions and/or summary reports for the mill. The permittee must submit the reports in accordance with General Provision 7.

SN-08  
No. 2 Smelt Dissolving Tank

Source Description

The No. 2 Smelt Dissolving Tank, last modified in 1989, processes the molten sodium smelt from the No. 2 Recovery Boiler. A scrubber controls emissions of particulate matter and total reduced sulfur. Weak wash from the lime mud pressure filters and precoat washers is used as a scrubbing media at this source. The pressure drop and the scrubbing medium flow rate are continuously monitored at this source.

This source is subject to the provisions of 40 CFR Part 60, Subpart BB - Standards of Performance for Kraft Pulp Mills due to its date of installation. The source is subject to 40 CFR Part 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.

The permittee tested source SN-08 for formaldehyde as required under Permit #287-AOP-R0. The formaldehyde emissions were below detectable levels. Therefore, the permittee is not required to perform further testing for formaldehyde at source SN-08 at this time.

Specific Conditions

84. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Conditions 93 and 94. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	18.0	78.8
VOC	9.3	40.7

85. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 95.c. [Regulation 19, §19.901 *et seq.*, and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM	18.0	78.8
SO <sub>2</sub>	10.6	46.4

86. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 89.c. [Regulation 19, §19.908, and 40 CFR Part 52, Subpart E]

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Pollutant	Emission Limit
TRS	0.0168 g/kg BLS

87. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the ammonia emission limits shall be demonstrated through compliance with Specific Condition 92. Compliance with the methanol emission rates shall be demonstrated through compliance with Specific Condition 94. Compliance with the formaldehyde emission rates was demonstrated by stack testing performed in December 1999. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Ammonia	40.0	175.2
Formaldehyde	0.36	1.56
Methanol	5.4	23.66
TRS	2.1	9.2

88. Visible emissions may not exceed the limits set forth in the following table as measured by EPA Reference Method 9. [40 CFR Part 52, Subpart E]

SN	Limit	Regulatory Citation
08	20%	Regulation 19, §19.503

89. This source is subject the provisions of 40 CFR Part 60, Subpart A-*General Provisions* and is considered an affected source under 40 CFR Part 60, Subpart BB, *Standards of Performance for Kraft Pulp Mills* due to an installation date of 1989. A copy of Subpart BB may be found in Appendix C of this permit. This source is subject, but not limited to, the following conditions. [Regulation 19, §19.304 and 40 CFR 60, Subpart BB]

- a. The permittee may not cause a discharge into the atmosphere 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)]. [40 CFR §60.282(a)(2)]
- b. TRS emissions from this source shall not exceed 0.0168 g/kg measured as grams H<sub>2</sub>S/kg black liquor solids on a 12-hour average (0.033 lb/ton black liquor solids as H<sub>2</sub>S). [40 CFR §60.283(a)(4)]
- c. The permittee shall install, calibrate, maintain and operate a monitoring device at this source for the continuous measurement of the pressure loss of the gas stream by the control equipment. The manufacturer must certify the monitoring device to be accurate within a gage pressure of ±500 Pascal's (ca. ± 2 inches water gage pressure). This requirement is superseded by the more stringent requirement of scrubber flow monitoring in Specific Condition 95. [40 CFR §60.284(b)(2)(i), Regulation 19, §19.703, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

- d. The permittee shall install, calibrate, maintain and operate a monitoring device at this source for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The manufacturer must certify the monitoring device to be accurate within  $\pm 15\%$  of the design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubbing liquid discharge point. The Administrator and the Director may be consulted for approval of alternate locations. [40 CFR §60.284(b)(2)(ii), Regulation 19, §19.703, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
  - e. The permittee shall record, at least once per shift, the measurements obtained from the continuous monitoring devices installed under 40 CFR §60.284(b)(2). [40 CFR §60.284(b)(4)]
90. The permittee shall maintain records for the monitoring required in Specific Condition 89. These records shall be updated no later than the tenth day of the month following the month which the records represent. These records shall be kept on site and made available to Department personnel upon request. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]
91. The permittee shall conduct testing a minimum of once every five years to verify compliance with the TRS emission rates for this source. This testing shall be performed in accordance with Plantwide Condition 3. [Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
92. The permittee shall conduct testing a minimum of once every five years to verify compliance with the ammonia emission rates for this source. This testing shall be performed using EPA Reference Method 206. This testing shall be performed in accordance with Plantwide Condition 3. [Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
93. The permittee shall conduct testing a minimum of once every five years to verify the PM emission rates for this source. This testing shall be performed using EPA Reference Methods 5 and 202. The permittee shall perform PM<sub>10</sub> testing using either EPA Reference Methods 201A and 202 or 5 and 202. By using Methods 5 and 202 for PM<sub>10</sub>, the permittee shall assume all collected particulate is PM<sub>10</sub>. This testing shall be performed in accordance with Plantwide Condition 3. [Regulation 19, 19.702, Regulation 18, 18.1002, 40 CFR Part 52 Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
94. The permittee shall conduct testing a minimum of once every five years to verify compliance with the VOC emission rates for this source. This testing shall be performed using EPA Reference Method 25A. This testing shall be performed in accordance with Plantwide Condition 3. The permittee shall also monitor the scrubber flow rate during the testing in order to demonstrate that the VOC emissions will be below the permitted

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levels when the flow rate is at or near the minimum required by Specific Condition 95.c. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]

95. The No. 2 Smelt Tank Vent is considered an affected source under 40 CFR Part 63, Subpart MM, *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semichemical Pulp Mills*. A copy of Subpart MM may be found in Appendix E of this permit. This source is subject, but not limited to, the following requirements. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart MM]
- a. The maximum 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 lb per ton (lb/ton)) of black liquor solids fired. [§63.862(a)(i)(B)]
  - b. The permittee must install, calibrate, maintain and operate a Continuous Parameter Monitoring System (CPMS) 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 §68.3(c), as well as the procedures in (e)(10)(i) and (ii) of 40 CFR §63.864. [40 CFR §63.864(e)]
    - 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 within a gage pressure of ±500 Pascals (±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 ±5 percent of the design scrubbing liquid flow rate.
  - c. During the initial performance test required in §63.865, the permittee established the operating ranges for the monitoring parameters in 40 CFR §63.864(e)(10). The permittee must maintain the scrubber parameters listed in the following table. Compliance shall be demonstrated through compliance with Specific Condition 95.j. [40 CFR §63.864(j)]

SN-08 No. 2 Smelt Dissolving Tank Scrubber Parameters	Scrubber Flow	Minimum 45 gpm
	Scrubber Pressure Drop	Minimum 9 in. H <sub>2</sub> O

- d. The permittee may establish expanded or replacement operating ranges for the monitoring parameter values listed in 40 CFR §63.864(e)(10) and established in 40 CFR §63.864(j)(1) or (2) during subsequent performance tests using the test methods in §63.865. [40 CFR §63.864(j)(3)]
- e. The permittee must continuously monitor each parameter and determine the arithmetic average value of each parameter during each performance test. The permittee may conduct multiple performance tests to establish a range of parameter values. [40 CFR §63.864(j)(4)]

- f. The permittee must implement corrective action as specified in the startup, shutdown and malfunction plan prepared under §63.866(a) if any 3-hour average parameter is outside the range of values established in Specific Condition 95.c. [40 CFR §63.864(k)]
- g. The permittee is in violation of the standards of §63.862 when six or more 3-hour average parameter values within any 6-month reporting period are outside the range of values established in 40 CFR §63.864(j). [40 CFR §63.864(k)(ii)]
- h. The permittee 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 permittee must include the requirements in 40 CFR 63.866(a)(1) and (2). [40 CFR §63.866(a)]
  - i. Procedures to determine and record the cause of an operating parameter exceedance and the time an 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.
  - iii. The startup, shutdown and malfunction plan must also include the schedules listed in 40 CFR §63.866(a)(2)(i) and (ii):
    - 1. 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
    - 2. 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.
- i. The permittee must maintain records of any occurrence when corrective action is required under §63.8634(k)(1), and when a violation is noted under §63.864(k)(2). The permittee must submit records of corrective action to the Department in accordance with General Condition 7. [40 CFR §63.866(c)]
- j. In addition to the general records required by §63.10(b)(2), the permittee must maintain records of the information in 40 CFR §63.866(c)(1) through (7). [40 CFR §63.866(c)]
  - i. 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;

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- ii. Records and documentation of supporting calculations for compliance determinations made under §63.865(a) through (d); and
  - iii. Records of the monitoring parameter ranges established for each affected source or process unit.
- k. The permittee must submit the applicable notifications from Subpart A of this part as specified in Table 1 of 40 CFR §63.867. [40 CFR §63.867(a)]
- l. The permittee must report quarterly if measured parameters meet any of the conditions specified in 40 CFR §63.864(k)(1) or (2). 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. [40 CFR §63.867(c)]
- i. When no exceedances of parameters have occurred, the permittee must submit a semiannual report stating that no excess emissions occurred during the reporting period.
  - ii. The permittee may combine the Subpart MM and Subpart S excess emissions and/or summary reports for the mill. This report shall be submitted in accordance with General Condition 7.

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SN-09  
No. 2 Lime Kiln

Source Description

The primary fuels for the No. 2 Lime Kiln, last modified in 1979, are natural gas and #6 fuel oil. The No. 2 Lime Kiln may also incinerate non-condensable gases. CEMS are in place at this source to monitor the carbon monoxide and the TRS emissions. Stack test data showed that nearly all of the SO<sub>2</sub> from the combustion of fuel oil reacts with CaO in the kiln. A venturi scrubber is an additional control of SO<sub>2</sub> emissions from this source. Based on stack tests, the combination of these two processes for removing SO<sub>2</sub> from fuel oil combustion at the maximum rate has a combined efficiency of over 99%.

During shutdown periods, the two lime silos for SN-02 and SN-09 will be connected to the slaker scrubbers instead of the lime kilns while the kilns are being inspected and repaired.

Due to its date of installation, this source is subject to 40 CFR Part 60, Subpart BB, *Standards of Performance for Kraft Pulp Mills*. The source is also subject to 40 CFR Part 63, Subpart MM—*National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills*. Since the source is subject to a MACT, the CAM rule does not apply.

Specific Conditions

96. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the PM<sub>10</sub> emission rates shall be demonstrated through compliance with Specific Condition 112.c. Compliance with the SO<sub>2</sub> emission rates shall be demonstrated through compliance with Specific Condition 104. Compliance with the VOC emission rates shall be demonstrated through compliance with Specific Condition 109. Compliance with the CO emission rates shall be demonstrated through compliance with Specific Condition 102 and compliance with the NO<sub>x</sub> emission rates shall be demonstrated through compliance with Specific Condition 110. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	51.0	223.4
SO <sub>2</sub>	16.7	73.2
VOC	17.1	74.9
CO	55.0	240.9
NO <sub>x</sub>	68.6	300.5

97. The permittee shall not exceed the emission rates set forth in the following table. Compliance shall be demonstrated through compliance with Specific Condition 101.d. [Regulation 19, §19.804 *et seq.*, and 40 CFR Part 52, Subpart E]

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Pollutant	Concentration
TRS	8 ppmv *
*Corrected to 10% O <sub>2</sub> by volume	

98. The permittee shall not exceed the emission rates set forth in the following table. Compliance shall be demonstrated through compliance with Specific Condition 112.c. [Regulation 19, §19.901 *et seq.*, and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM	51.0	223.4

99. The permittee shall not exceed the emission rates set forth in the following table. Compliance with these emission rates has been demonstrated through stack testing. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Benzene	0.23	1.01
Methanol	1.18	5.17
Formaldehyde	0.02	0.09
Toluene	0.02	0.09
TRS	8.0	35.0

100. Visible emissions shall not exceed the limits specified in the following table as measured by Reference Method 9. Compliance shall be demonstrated through compliance with Specific Condition 112.c. [40 CFR Part 52, Subpart E]

SN	Limit	Regulatory Citation
09	20%	Regulation 19, §19.503

101. This source is subject to the provisions of 40 CFR Part 60, Subpart A-*General Provisions* and is considered an affected source under 40 CFR Part 60, Subpart BB, *Standards of Performance for Kraft Pulp Mills* due to an installation date of 1989. A copy of Subpart BB may be found in Appendix C of this permit. This source is subject, but not limited to, the following conditions. [Regulation 19, §19.304 and 40 CFR 60, Subpart BB]

- a. Particulate matter emissions shall not exceed 0.064 gr/dscf corrected to 10 percent oxygen when burning gaseous fossil fuels. [40 CFR 60.282(a)(3)(i)]
- b. Particulate matter emissions shall not exceed 0.13 gr/dscf corrected to 10 percent oxygen when burning liquid fossil fuel. [40 CFR 60.282(a)(3)(ii)]
- c. Total reduced sulfur emissions shall not exceed 8 ppm by volume on a dry basis, corrected to 10 percent oxygen. [40 CFR §60.283(a)(5) and regulation 19, §19.804]

- d. The permittee shall install, calibrate, maintain and operate a continuous monitoring system to monitor and record the concentration of the TRS emissions on a dry basis and the percent oxygen by volume on a dry basis in the gases discharged to the atmosphere from this source. These systems shall be located downstream of the control device and the spans of these continuous monitoring systems shall be set as follows: [40 CFR §60.284(a)(2)]
  - i. At a TRS concentration of 30 ppm for the TRS continuous monitoring system.
  - ii. At 25 percent oxygen for the continuous oxygen monitoring system.
- e. The permittee shall install, calibrate, maintain and operate a continuous monitoring system for the continuous measurement of the pressure loss of the gas stream by the control equipment. The manufacturer must certify the device to be accurate within a gage pressure of  $\pm 500$  Pascals (ca.  $\pm 2$  inches water gage pressure). This requirement is superseded by the more stringent requirement of scrubber flow monitoring in Specific Condition 112. [40 CFR §60.284(b)(2)(i)]
- f. The permittee shall install, calibrate, maintain and operate a continuous monitoring system for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device is to be certified to be accurate to within  $\pm 15$  percent of the design liquid supply pressure. The pressure sensor or trap is to be located close to the scrubber liquid discharge point. The permittee may consult the Administrator and the Director for approval of alternate locations. [40 CFR §60.284(b)(2)(ii)]
- g. The permittee shall calculate and record, on a daily basis, the 12-hour average TRS concentrations for the two consecutive periods of the operating day. The permittee shall determine each 12-hour average as the arithmetic mean of the appropriate 12 contiguous 1-hour average TRS concentrations provided by the continuous monitoring system required under 40 CFR §60.284(a)(2). [40 CFR §60.284(c)(1)]
- h. The permittee shall calculate and record, on a daily basis, the 12-hour average oxygen concentrations for the two consecutive periods of the operating day. The 12-hour averages shall correspond to the 12-hour average TRS concentrations under 40 CFR §60.284(c)(1) and shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by the continuous monitoring system required under 40 CFR §60.284(a)(2). [40 CFR §60.284(c)(2)]
- i. The permittee shall correct all 12-hour average TRS concentrations to 10 percent oxygen by volume using the following equation: [40 CFR §60.284(c)(3)]

$$C_{\text{corr}} = C_{\text{meas}} \times [(21 - X)/(21 - Y)]$$

Where:

$C_{\text{corr}}$  = the concentration corrected for oxygen

$C_{\text{meas}}$  = the concentration uncorrected for oxygen

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X = the volumetric oxygen concentration in percentage to be corrected to 10 percent

Y = the measured 12-hour average volumetric oxygen concentration

- j. The permittee shall record, once per eight-hour shift, the measurements obtained from the CEMS installed for liquid supply pressure and gas pressure drop. These records shall be maintained on site and made available to Department personnel upon request. [40 CFR §60.284(c)(4)]
  - k. The permittee shall report semiannually periods of excess emissions from this source. Periods of excess emissions are 12-hour average TRS concentrations above 8 ppm by volume. [40 CFR §60.284(d)(2)]
  - l. The Administrator or Director shall not consider periods of excess emissions reported under 40 CFR §60.284(d)(2) to be indicative of a violation of §60.11(d) provided that the Administrator determines that the permittee operated and maintained the unit, including air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions during periods of excess emissions. [40 CFR §60.284(e)]
102. The permittee shall install, calibrate, maintain and operate a CEMS for measuring CO emissions which gives a readout in pounds per hour. This CEMS shall comply with the requirements of the ADEQ CEMS condition in Appendix B. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
103. The lime kiln may use only pipeline quality natural gas, reprocessed fuel oil, on-site generated used fuel oil and No. 6 fuel oil as fuels. The lime kiln may also incinerate non-condensable gases as allowed by 40 CFR 60, Subpart BB. [Regulation 19, §19.705, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
104. The monthly average sulfur content of the fuel oil shall not exceed 3.0% by weight. Regulation 19, §19.705, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
105. The permittee shall either test each shipment of fuel oil or obtain manufacturer's certification of the sulfur content in order to demonstrate compliance with Specific Condition 104. These records shall be kept on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Condition 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]
106. The permittee shall not use in excess of 5,400,000 gallons of fuel oil per consecutive 12-month period this source (SN-09). [Regulation 19, §19.705, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
107. The permittee shall maintain records of the amount of fuel oil fired at SN-09 in order to demonstrate compliance with Specific Condition 106. These records shall be maintained

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on a monthly basis and updated by the 15<sup>th</sup> day of the month following the month to which they pertain. The records shall be maintained on site and made available to Department personnel upon request. Each month's individual data as well as a 12-month total shall be submitted to the Department in accordance with General Condition 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

108. The permittee shall maintain a minimum of 65% solids, based on a 30-day rolling average, in the lime mud fed to SN-09 to demonstrate compliance with the VOC emission rates. [Regulation 19, §19.705, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
109. The permittee shall measure and record the solids content of the lime mud fed to SN-09 at least once per day while the kiln is in operation in order to demonstrate compliance with Specific Condition 108. These records shall be kept on site and made available to Department personnel upon request. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
110. The permittee shall verify compliance with the NO<sub>x</sub> emission rates through stack testing using EPA Reference Method 7E. This testing shall be performed a minimum of once per year. This testing shall be conducted according to the requirements in Plantwide Condition 3. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]
111. The CO emission limits for this source are based on a 30-day rolling average. Days when the unit is not operating are not included in the 30-day rolling average. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]
112. This source is considered an affected source under 40 CFR Part 63, Subpart MM, *National Emissions Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-alone Semichemical Pulp Mills*. A copy of Subpart MM can be found in Appendix E. This source is subject, but not limited to, the following conditions. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart MM]
  - a. The permittee may comply with the PM standards in §63.862 for the exhaust gases discharged to the atmosphere from SN-09 by ensuring the concentration of PM is less than or equal to 0.15 g/dscm (0.064 gr/dscf) corrected to 10 percent oxygen. [40 CFR §63.862(a)(i)(c)]
  - b. The permittee must install, calibrate, maintain and operate a Continuous Parameter Monitoring System (CPMS) 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 40 CFR §63.864(e)(10)(i) and (ii). [40 CFR §63.864(e)]
    - 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 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 flowrate.
- c. During the initial performance test, completed September 2004, required under §63.865, the permittee established the operating ranges for the monitoring parameters in paragraphs 40 CFR §63.864(e)(10). The permittee established the following parameters for the scrubber at SN-09. [40 CFR §63.864(j)]

SN-09 No. 2 Lim Kiln	Scrubber Liquor Flow	Minimum 1500 gal/min
	Scrubber Pressure Drop ( $\Delta P$ )	Minimum 10 in. H <sub>2</sub> O

- d. The permittee may establish expanded or replacement operating ranges for the monitoring parameter values listed in 40 CFR §63.864(e)(10) and established in paragraph 40 CFR §63.864(j)(1) or (2) during subsequent performance tests using the test methods in §63.865. [40 CFR §63.864(j)(3)]
- e. The permittee must continuously monitor each parameter and determine the arithmetic average value of each parameter during performance test. The permittee may conduct multiple performance tests to establish a range of parameter values. [40 CFR §63.864(j)(4)]
- f. The permittee must implement corrective action, as specified in the startup, shutdown and malfunction plan prepared under §63.866(a) if any 3-hour average parameter value is outside the range of values established in section (c) of this Specific Condition. [40 CFR §63.864(k)]
- g. The permittee is in violation of the standards of 63.862 when six or more 3-hour average parameter values within any 6-month reporting period are outside the range of values established in 40 CFR §63.864(j).
- h. The permittee must conduct an initial performance test using the test methods and procedures listed in §63.7 and 40 CFR §63.865(a) or (b), except as provided in 40 CFR §63.865(c)(1), using the following methods: [40 CFR §63.865]
  - i. The permittee 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 processes 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 40 CFR §63.866(a)(1) and (2). [40 CFR §63.866(a)]
    - 1. Procedures to determine and record the cause of an operating parameter exceedance and the time the exceedance began and ended; and

2. Corrective actions to be taken in the event of an operating parameter exceedance, including procedures for recording the actions taken to correct the exceedance.
3. The startup, shutdown and malfunction plan also must include the schedules listed in 40 CFR §63.866(a)(2)(i) and (ii):
  - a. 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
  - b. 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.
- i. The permittee must maintain records of any occurrence when corrective action is required under 40 CFR §63.864(k)(1), and when a violation is noted under 40 CFR §63.864(k)(2). [40 CFR §63.866(b)]
- j. In addition to the general records required by §63.10(b)(2), the permittee must maintain records of the information in 40 CFR §63.866(c)(1) through (7): [40 CFR §63.866(c)]
  - i. Records of CaO production rates in units of Mg/d or ton/d for all lime kilns;
  - ii. Records of the 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;
  - iii. Records and documentation of supporting calculations for compliance determinations made under §§63.865(a) through (d);
  - iv. Records of monitoring parameter ranges established for each affected source or process unit.
- k. The permittee must submit the applicable notifications from Subpart A of this part, as specified in Table 1 of this subpart 40 CFR §63.867. [40 CFR §63.867(a)]

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1. The permittee must report quarterly if the measured parameters meet any of the conditions specified in 40 CFR §63.864(k)(1) or (2). 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. [40 CFR §63.867(c)]
  - i. 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.
  - ii. The permittee may combine the excess emissions and/or summary reports for Subpart S with the reports required by Subpart MM. The reports shall be submitted in accordance with General Condition 7.

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SN-11  
No. 2 Natural Gas Fired Package Boiler

Source Description

Source SN-11 is the No. 2 natural gas-fired Package Boiler, with a heat input capacity of 210 MMBtu/hr. This source is not subject to an NSPS subpart based on the date of installation. The No. 2 Natural Gas-Fired Package Boiler was subject to a PSD review in Permit No. 287-AR-3. BACT was natural gas as fuel for SO<sub>2</sub> and PM and low excess air (8-12%) for NO<sub>x</sub>.

Specific Conditions

113. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by using only pipeline quality natural gas as fuel at this source. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	0.6	2.6
SO <sub>2</sub>	0.2	0.9
VOC	0.3	1.3
CO	25.4	111.3
NO <sub>x</sub>	27.4	120.0

114. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by using only pipeline quality natural gas as fuel at this source. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.6	2.6

115. Visible emissions at this source shall not exceed 5% as measured by EPA Reference Method 9. Compliance shall be demonstrated by using only pipeline quality natural gas as fuel at this source. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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SN-14  
No. 3 Recovery Boiler

Source Description

The No. 3 Recovery Boiler, last modified in 1989, has a heat input capacity of 1,088 MMBtu/hr. Black liquor solids are combusted in this boiler to recover inorganic chemicals. Fuel oil and natural gas are also combusted in this boiler.

An electrostatic precipitator controls emissions. Continuous emission monitoring systems are in place for opacity, sulfur dioxide, total reduced sulfur, carbon monoxide, and oxides of nitrogen.

Due to its date of installation, this source is subject to 40 CFR Part 60, Subpart BB - Standards of Performance for Kraft Pulp Mills. The source is also subject to 40 CFR, Part 63, Subpart MM, "National Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semichemical Pulp Mills."

The permittee tested source SN-14 for formaldehyde emissions as required under Permit #287-AOP-R0. The formaldehyde emissions were determined to be below detectable levels. Therefore, the permittee is not required to perform further testing for formaldehyde from source SN-14 at this time.

Specific Conditions

116. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the VOC limits shall be demonstrated through compliance with Specific Condition 128. Compliance with the CO emission limits shall be demonstrated through the use of CEMS as required in Specific Condition 124. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	136.0	600.1
CO	856.0	3749.3

117. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the SO<sub>2</sub> and NO<sub>x</sub> emissions limits shall be demonstrated through the use of CEMS as required in Specific Conditions 125 and 123. Compliance with the PM<sub>10</sub> emission limits shall be demonstrated through the use of a COMS as required by Specific Condition 134.b. [Regulation 19, §19.501 *et seq.*, Regulation 19, §19.901, and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	93.5	409.5
SO <sub>2</sub>	425.0	1861.5

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Pollutant	lb/hr	tpy
NO <sub>x</sub>	270.0	1182.6

118. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the TRS emission limits shall be demonstrated through the use of CEMS as required in Specific Condition 121.e. [Regulation 19, §19.901, Regulation 19, §19.801 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
TRS	6.6	28.9

119. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the PM emission limits shall be demonstrated through the use of COMS as required in Specific Condition 134.b. [Regulation 19, §19.901, Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	93.5	409.5

120. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the sulfuric acid limits shall be demonstrated through compliance with Specific Condition 132. Compliance with the hydrogen chloride emission limits shall be demonstrated through the use of CEMS as required in Specific Condition 125 and the equation in Specific Condition 130. Compliance with the TRS emission limits shall be demonstrated through the use of CEMS as required in Specific Condition 121.e. Compliance with the methanol, formaldehyde, and the styrene emission limits has been demonstrated through testing. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	93.5	409.5
Formaldehyde	0.87	3.82
Hydrogen Chloride	54.5	238.71
Methanol	0.46	2.02
Styrene	0.07	0.31
Sulfuric Acid	4.2	18.4
TRS	6.6	28.9

121. This source is considered an affected source under 40 CFR Part 60, Subpart A, *General Conditions* and 40 CFR Part 60, Subpart BB, *Standards of Performance for Kraft Pulp Mills* due to an installation date in 1989. A copy of Subpart BB may be found in Appendix C. This source is subject, but not limited to, the following conditions. [Regulation 19, §19.304 and 40 CFR 60 Subpart BB]

- a. The permittee shall not cause a discharge into the atmosphere from this source any gases which contain particulate matter in excess of 0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen. [40 CFR 60.283(a)(1)(i)]
- b. The permittee shall not cause a discharge into the atmosphere from this source any gases which exhibit an opacity of 35% or greater. (Note: Specific Condition 122 requires opacity of 20%) [40 CFR 60.283(a)(1)(ii)]
- c. The permittee shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the opacity of the gases discharged into the atmosphere from source SN-14. The span of this system will be set at 70 percent opacity. The permittee shall comply with the requirements of the ADEQ CEMS conditions in Appendix B. [40 CFR §60.284(a)(1) and §19.304 of Regulation 19]
- d. Total reduced sulfur emissions shall not exceed 5 ppm by volume on a dry basis, corrected to 8 percent oxygen. [40 CFR §60.283(a)(2) and Regulation 19, §19.804]
- e. The permittee shall install, calibrate, maintain and operate a continuous monitoring system to monitor and record the concentration of the TRS emissions on a dry basis and the percent oxygen by volume on a dry basis in the gases discharged to the atmosphere from this source. These systems shall be located downstream of the control device and the spans of these continuous monitoring systems shall be set as follows. The permittee demonstrated that these monitors meet the required spans and will be required to notify the Department before modifying either monitoring system. [40 CFR §60.284(a)(2)]
  - i. At a TRS concentration of 30 ppm for the TRS continuous monitoring system.
  - ii. At 25 percent oxygen for the continuous oxygen monitoring system.
- f. The permittee shall calculate and record, on a daily basis, the 12-hour average TRS concentrations for the two consecutive periods of the operating day. The permittee shall determine each 12-hour average as the arithmetic mean of the appropriate 12 contiguous 1-hour average TRS concentrations provided by the continuous monitoring system required under 40 CFR §60.284(a)(2). [40 CFR §60.284(c)(1)]
- g. The permittee shall calculate and record, on a daily basis, the 12-hour average oxygen concentrations for the two consecutive periods of the operating day. The 12-hour averages shall correspond to the 12-hour average TRS concentrations under 40 CFR §60.284(c)(1) and shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by the continuous monitoring system required under 40 CFR §60.284(a)(2). [40 CFR §60.284(c)(2)]
- h. The permittee shall correct all 12-hour average TRS concentrations to 8 percent oxygen by volume using the following equation: [40 CFR §60.284(c)(3)]

$$C_{\text{corr}} = C_{\text{meas}} \times [(21 - X)/(21 - Y)]$$

Where:

$C_{corr}$  = the concentration corrected for oxygen

$C_{meas}$  = the concentration uncorrected for oxygen

X = the volumetric oxygen concentration in percentage to be corrected to 8 percent

Y = the measured 12-hour average volumetric oxygen concentration

- i. 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. [40 CFR §60.284(d)(1)]
  - i. All 12-hour averages or TRS concentrations above 5 ppm by volume; and
  - ii. All 6-minute average opacities that exceed 35 percent. The permittee will be required to report as excess emissions all 6-minute average opacities that exceed 20 percent. However, only those emissions exceeding 35 percent opacity would be considered possible violations of 40 CFR Part 60, Subpart BB.
  
- j. The Administrator will not consider periods of excess emissions reported under 40 CFR §60.284(d) to be indicative of a violation of §60.11(d) provided that: [40 CFR §60.284(e)]
  - i. 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 do not exceed:
    - 1. One percent for TRS emissions from recovery furnaces
    - 2. Six percent average opacities from recovery furnaces
  - ii. 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.

122. Visible emissions may not exceed the limits specified in the following table as measured by EPA Reference Method 9. Compliance shall be demonstrated through the use of a COMS.

SN	Limit	Regulatory Citation
14	20%	Regulation 19, §19.503 and 40 CFR Part52, Subpart E

123. The permittee shall install, calibrate, maintain and operate a continuous emissions monitoring system for measuring NO<sub>x</sub> emissions from this source. This CEMS shall give

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- a readout which demonstrates compliance with the applicable limits for NO<sub>x</sub>. The permittee shall comply with the ADEQ CEMS conditions found in Appendix B. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
124. The permittee shall install, calibrate, maintain and operate a continuous emissions monitoring system for measuring CO emissions from this source. This CEMS shall give a readout which demonstrates compliance with the applicable limits for CO. The permittee shall comply with the ADEQ CEMS conditions found in Appendix B. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
125. The permittee shall install, calibrate, maintain and operate a continuous emissions monitoring system for measuring SO<sub>2</sub> emissions from this source. This CEMS shall give a readout which demonstrates compliance with the applicable limits for SO<sub>2</sub>. The permittee shall comply with the ADEQ CEMS conditions found in Appendix B. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
126. The permittee shall maintain a minimum floor tube temperature of 400 °F on a 3-hour average at SN-14. This limit applies only when the boiler is firing in excess of 1.5 million pounds per day of black liquor solids. The permittee shall install, calibrate, maintain and operate a continuous monitoring device to measure and record the floor tube temperature at SN-14. This monitor shall record the temperature at least once every 15 minutes and store each hour's average in a database. The permittee shall submit semiannual reports showing the 3-hour average temperatures that are below the minimum and the monthly average temperature. These records shall be submitted in accordance with General Provision 7. [Regulation 19, §19.703 and §19.705, 40 CFR Part 70.6, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
127. The permittee shall maintain records of the black liquor solids fired at this source when not complying with the minimum floor tube temperature of 400 °F to demonstrate whether the minimum temperature requirement is in effect. The permittee shall update the records when the temperature is less than 400 °F, keep the records on site and make the records available to Department personnel upon request. [Regulation 19, §19.703 and §19.705, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
128. The permittee shall conduct stack testing a minimum of once every five years to verify compliance with the VOC emission limits for this source. This testing shall be performed using EPA Reference Method 25A. This testing shall be conducted in accordance with Plantwide Condition 3. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]

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129. The permittee shall maintain records of the pounds per day of black liquor solids fired at SN-06 when not complying with the minimum floor tube temperature. The permittee shall update the records whenever the minimum temperature is below 400°F. These records shall be kept on site and made available to Department personnel upon request. [Regulation 19, §19.703 and §19.705, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

130. The permittee shall demonstrate compliance with the hydrogen chloride emission rates by the use of the CEMS for sulfur dioxide and the following equations. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

$$\text{HCl}_{\text{ppm}} = (1.28 * \text{SO}_{2\text{ppm}}) / (1 + (\text{SO}_{2\text{ppm}} * 0.017))$$

$$\text{HCl}_{\text{lb/hr}} = \text{HCl}_{\text{ppm}} * 0.0947 * 1\text{E-}7 * \text{DSCFH}$$

131. The permittee shall calculate the hourly HCl emissions using the one-hour average PPM SO<sub>2</sub> values obtained from the CEMS. The permittee shall keep the calculation on site and make the calculations available to Department personnel upon request. The permittee shall submit an annual total and each individual month's data in accordance with General Provision 7. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

132. A sulfur dioxide emission rate in excess of 250 ppm on a three-hour average as read by the CEMS for this pollutant shall be considered a violation of the sulfuric acid emission rate. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

133. The CO emission limits for this source are based on 30-day rolling averages while the SO<sub>2</sub> and NO<sub>x</sub> emission limits for this source are based on 3-hour averages. Days when the unit is not operating shall not be included in the 30-day rolling average. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

134. This source is considered an affected source pursuant to 40 CFR Part 63, Subpart MM, *National Emissions Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semichemical Pulp Mills*. A copy of Subpart MM may be found in Appendix E. This source is subject, but not limited to, the following conditions: [Regulation 19, §19.304 and 40 CFR Part 63, Subpart MM]

- a. The permittee shall ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen. [40 CFR §63.862(a)(i)(A)]
- b. The permittee must install, calibrate, maintain and operate a continuous opacity monitoring system (COMS) to monitor and record the opacity of gases discharged

- into the atmosphere from this source. The span of this system shall be set at 70 percent opacity. [40 CFR §63.864]
- c. The 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. [40 CFR §63.864(d)(3)]
  - d. The permittee must reduce the COMS data to 6-minute averages calculated from 36 or more data points equally spaced over each 6-minute period. [40 CFR §63.864(d)(4)]
  - e. The permittee must implement corrective action, as specified in the startup, shutdown and malfunction plan if the average of ten consecutive 6-minute averages result in a measured opacity of greater than 20 percent. [40 CFR §63.864(k)(1)(i)]
  - f. The permittee is in violation of the standards of §63.862 when opacity is greater than 20 percent for 6 percent or more of the operating time within any quarterly period. [40 CFR §63.864(k)(2)(ii)]
  - g. The permittee must conduct an initial performance test using the test methods and procedures listed in §63.7 and 40 CFR §63.865(a) or 63.865(b), except as provided in 40 CFR §63.865(c)(1). This testing was performed on September 12, 2004.
  - h. The permittee must develop and implement a written plan as described in §63.6(e)(3) that contains the specific procedures to be followed for operating 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 (a)(2) of 40 CFR §63.866. [40 CFR §63.866(a)]
    - 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.
    - iii. The startup, shutdown and malfunction plan must also include the schedules listed in paragraphs (a)(2)(i) and (ii) of 40 CFR §63.866:
      - 1. 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
      - 2. 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.
  - i. The owner or operator of an affected source or process unit must maintain records of any occurrence when corrective action is required is required under

- §63.864(k)(1), and when a violation is noted under §63.864(k)(2). The permittee shall keep these records on site and make them available to Department personnel upon request. [40 CFR §63.866(b)]
- j. In addition to the general records required by §63.10(b)(2), the owner or operator must maintain records of the information required in 40 CFR §63.866(c)(1) through (c)(7):
- i. Records of the black liquor solids firing rates in units of Mg/d r ton/d for all recovery furnaces;
  - ii. Records of the 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;
  - iii. Records and documentation of supporting calculations for compliance determinations made under §§63.865(a) through (d);
  - iv. Records of monitoring parameter ranges established for each affected source or process unit; and
  - v. Records certifying that an NDCE recovery furnace equipped with a dry ESP was used to comply with the gaseous organic HAP standard in 40 CFR §63.862(c)(1). [40 CFR §63.866(c)]
- k. The owner or operator of any affected source or process unit must submit the applicable notifications for Subpart A of this part, as specified in Table 1 of 40 CFR §63.867. [40 CFR §63.867(a)]
- l. The owner or operator must report quarterly if measured parameters meet any of the conditions specified in paragraphs (k)(1) or (k)(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.
- i. 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.
  - ii. 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. The permittee shall submit these reports in accordance with General Provision 7 of this permit. [40 CFR §63.867(c)]

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SN-15  
No. 3 Smelt Dissolving Tank

Source Description

SN-15 is the No. 3 Smelt Dissolving Tank. This source is subject to 40 CFR Part 60, Subpart BB - Standards of Performance for Kraft Pulp Mills due an installation date of 1989.

Compliance with the scrubber parameters will demonstrate compliance with the emission rates for particulate matter, sulfur dioxide, and TRS. Compliance with the scrubber parameters will also demonstrate compliance with the opacity limit for this source. The No. 3 Smelt Dissolving Tank uses weak wash as the scrubbing medium.

The permittee has tested source SN-15 for formaldehyde emissions. The results of this test showed that any formaldehyde emissions are below detectable levels. Therefore, the permittee is not required to perform further testing for formaldehyde at source SN-15. Testing for methanol emission rates will be discontinued with this permit as tests conducted on February 25, 2003, had an average methanol emission rate of 0.114 lb/hr.

Specific Conditions

135. 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 the testing requirement set forth in Specific Condition 143. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	9.9	43.5

136. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the PM/PM<sub>10</sub> limits shall be demonstrated through compliance with Specific Condition 144.c. Compliance with the SO<sub>2</sub> limits shall be demonstrated through compliance with Specific Condition 144.c. [Regulation 19, §19.901, Regulation 19, §19.501 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM	18.7	81.9
PM <sub>10</sub>	18.7	81.9
SO <sub>2</sub>	5.1	22.3

137. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with

Specific Condition 140.c. [Regulation 19, §19.901, Regulation 19, §19.804 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
TRS	1.6	7.0

138. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the PM and methanol limits shall be demonstrated through compliance with Specific Condition 144.c. Compliance with the ammonia limits shall be demonstrated through compliance with Specific Condition 142. Compliance with the formaldehyde emission rates was demonstrated by stack testing performed February 5, 2003. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM	18.7	81.9
Ammonia	45.0	197.1
Formaldehyde	0.58	2.55
Methanol	0.34	1.49
TRS	1.60	7.00

139. Visible emissions from this source shall not exceed 20% opacity as measured by EPA Reference Method 9. Compliance shall be demonstrated through compliance with Specific Condition 144.c. [Regulation 19, 19.503 and 40 CFR Part 52, Subpart E]
140. This source is subject to the provisions of 40 CFR Part 60, Subpart A-*General Provisions* and is considered an affected source under 40 CFR Part 60, Subpart BB, *Standards of Performance for Kraft Pulp Mills* due to an installation date of 1989. A copy of Subpart BB may be found in Appendix C of this permit. This source is subject, but not limited to, the following conditions. [Regulation 19, §19.304 and 40 CFR 60, Subpart BB]
- a. The permittee may not cause a discharge into the atmosphere 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)]. Monitoring of the scrubber parameters shall demonstrate compliance with the PM limit and the monitoring required in Specific Condition 144.c. [40 CFR §60.282(a)(2)]
  - b. TRS emissions from this source shall not exceed 0.0168 g/kg measured as grams H<sub>2</sub>S/kg black liquor solids on a 12-hour average (0.33 lb/ton black liquor solids as H<sub>2</sub>S). Monitoring of the scrubber parameters and the CEMS shall demonstrate compliance with the TRS limit and the monitoring required by Specific Condition 144.e. [40 CFR §60.283(a)(4)]
  - c. The permittee shall install, calibrate, maintain and operate a monitoring device at this source for the continuous measurement of the pressure loss of the gas stream by the control equipment. The manufacturer must certify the monitoring device to be accurate within a gage pressure of ±500 Pascal's (ca. ± 2 inches water gage

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- pressure). This requirement is superseded by the more stringent requirement of scrubber flow monitoring in Specific Condition 144. [40 CFR §60.284(b)(2)(i), Regulation 19, §19.703, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
- d. The permittee shall install, calibrate, maintain and operate a monitoring device at this source for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The manufacturer must certify the monitoring device to be accurate within  $\pm 15\%$  of the design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubbing liquid discharge point. The Administrator and the Director may be consulted for approval of alternate locations. [40 CFR §60.284(b)(2)(ii), Regulation 19, §19.703, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
- e. The permittee shall record, at least once per shift, the measurements obtained from the continuous monitoring devices installed under 40 CFR §60.284(b)(2). [40 CFR §60.284(c)(4)]
141. The permittee shall conduct testing to verify compliance with the TRS emission limits a minimum of once every five years. This testing shall be conducted using EPA Reference Method 16. This testing shall be performed in accordance with Plantwide Condition 3. [Regulation 19, §19.804]
142. The permittee shall conduct testing to verify compliance with the ammonia emission limits a minimum of once every five years. This testing shall be conducted using EPA Reference Method 206. This testing shall be performed in accordance with Plantwide Condition 3. [Regulation 18, §18.1002 and A.C.A. §8-4-203 as reference by A.C.A. §8-4-304 and §8-4-311]
143. The permittee shall conduct testing to verify compliance with the VOC emission limits a minimum of once every five years. This testing shall be conducted using EPA Reference Method 25A. This testing shall be performed in accordance with Plantwide Condition 3. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]
144. This source is considered an affected source under 40 CFR Part 63, Subpart MM, *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semichemical Pulp Mills*. A copy of Subpart MM may be found in Appendix E of this permit. This source is subject, but not limited to, the following requirements. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart MM]
- a. The maximum 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 lb per ton (lb/ton)) of black liquor solids fired. [§63.862(a)(i)(B)]
- b. The permittee must install, calibrate, maintain and operate a Continuous Parameter Monitoring System (CPMS) 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 §68.3(c), as well as the procedures in (e)(10)(i) and (ii) of 40 CFR §63.864. [40 CFR §63.864(e)]

- 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 within a gage pressure of ±500 Pascals (±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 ±5 percent of the design scrubbing liquid flow rate.
- c. During the initial performance test required in §63.865, the permittee established the operating ranges for the monitoring parameters in 40 CFR §63.864(e)(10). The permittee may use weak wash as the scrubbing liquor. The permittee must maintain the scrubber parameters listed in the following table. [40 CFR §63.864(j)]

SN-15 No. 3 Smelt Dissolving Tank Scrubber Parameters	Scrubber Liquor Flow	Minimum 175 gpm
	Scrubber Pressure Drop ( $\Delta P$ )	Minimum 2.85 in. H <sub>2</sub> O

- d. The permittee may establish expanded or replacement operating ranges for the monitoring parameter values listed in 40 CFR §63.864(e)(10) and established in 40 CFR §63.864(j)(1) or (2) during subsequent performance tests using the test methods in §63.865. [40 CFR §63.864(j)(3)]
- e. The permittee must continuously monitor each parameter and determine the arithmetic average value of each parameter during each performance test. The permittee may conduct multiple performance tests to establish a range of parameter values. [40 CFR §63.864(j)(4)]
- f. The permittee must implement corrective action as specified in the startup, shutdown and malfunction plan prepared under §63.866(a) if any 3-hour average parameter is outside the range of values established in Specific Condition 144.c. [40 CFR §63.864(k)]
- g. The permittee is in violation of the standards of §63.862 when six or more 3-hour average parameter values within any 6-month reporting period are outside the range of values established in 40 CFR §63.864(j). [40 CFR §63.864(k)(iii)]
- h. The permittee 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 permittee must include the requirements in 40 CFR 63.866(a)(1) and (2). [40 CFR §63.866(a)]
- i. Procedures to determine and record the cause of an operating parameter exceedance and the time an 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.
- iii. The startup, shutdown and malfunction plan must also include the schedules listed in 40 CFR §63.866(a)(2)(i) and (ii):
  - 1. 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
  - 2. 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.
- i. The permittee 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). The permittee must submit records of corrective action to the Department in accordance with General Condition 7. [40 CFR §63.866(c)]
- j. In addition to the general records required by §63.10(b)(2), the permittee must maintain records of the information in 40 CFR §63.866(c)(1) through (7). [40 CFR §63.866(c)]
  - i. 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;
  - ii. Records and documentation of supporting calculations for compliance determinations made under §63.865(a) through (d); and
  - iii. Records of the monitoring parameter ranges established for each affected source or process unit.
- k. The permittee must submit the applicable notifications from Subpart A of this part as specified in Table 1 of 40 CFR §63.867. [40 CFR §63.867(a)]
- l. The permittee must report quarterly if measured parameters meet any of the conditions specified in 40 CFR §63.864(k)(1) or (2). 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. [40 CFR §63.867(c)]

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- i. When no exceedances of parameters have occurred, the permittee must submit a semiannual report stating that no excess emissions occurred during the reporting period.
  
- m. The permittee may combine the Subpart MM and Subpart S excess emissions and/or summary reports for the mill. This report shall be submitted in accordance with General Condition 7. [40 CFR §63.867(c)(2)]

SN-16, 17 and 18  
 No. 1A, 1B and 2 Bleachplant Vents

Source Description

The No.1A Bleachplant Vents (SN-16), the No. 1B Bleachplant Vents (SN-17) and the No. 2 Bleachplant Vents (SN-18), primarily use chlorine dioxide, oxygen, hydrogen peroxide, and sodium hydroxide for bleaching the brownstock. Individual wet scrubbers associated with SN-16, SN-17 and SN-18 control the emissions from the bleachplants. Airflow through the scrubbers is controlled indirectly by the amperage to the induced draft fans used with each scrubber. SN-16 and SN-17 have a single fan, while SN-18 has two fans which alternate in operation. White liquor or other chlorine neutralizing chemicals are used as the scrubbing liquid.

An additional bleaching stage was added to facilitate the conversion from chlorine bleaching to 100% chlorine dioxide substitution. Emissions from the Pre-bleach Washer (the No. 1B Pre-Bleach Washer) and bleach tower vents are routed to the SN-17 scrubber. Emissions from the ClO<sub>2</sub> storage tank vents are routed to the SN-18 scrubber. Seal tank vents are connected to the SN-17 scrubber after being collected in the Pre-bleach Washer. Emissions from the SVP R-8 ClO<sub>2</sub> generator are not listed as a separate source, since they are included with SN-18 controlled emissions.

This source is subject to the MACT I Cluster Rule, 40 CFR §63 Subpart S, *National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry*, due to the use of chlorinated compounds in the bleaching process as outlined in §63.445.

Specific Conditions

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

Pollutant	lb/hr	tpy
VOC	32.0	141.9
CO	240.4	1053.0

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

Pollutant	lb/hr	tpy
Chlorine	6.0	26.36
Chlorine Dioxide	4.0	17.58

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Pollutant	lb/hr	tpy
Chloroform	16.5	72.29

147. The permittee shall test SN-16, 17 and 18 a minimum of once every five years to verify compliance with the chloroform, chlorine and chlorine dioxide emission rates using the testing method found in NCASI Special Report 91-07, *Measurement and Quality Assurance Procedures for Determining Chloroform, Chlorine and Chlorine Dioxide Releases from Pulp Bleach Plants*. This testing shall be conducted in accordance with Plantwide Condition 3. The permittee shall also measure the scrubber liquid flow rate during the testing in order to establish the parameters that will be used to demonstrate compliance with the permitted emission rates. [Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
148. The permittee shall test SN-16, 17 and 18 a minimum of once every five years to verify compliance with the VOC and CO emission rates using EPA Reference Methods 25A and 10B respectively. This testing shall be conducted in accordance with Plantwide Condition 3. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]
149. The permittee will comply with and monitor the scrubber liquid flow rates and the amperage of the induced draft fans at sources SN-16, SN-17 and SN-18, established by the testing required by Specific Condition 150. The permittee will also record the flow rates and the fan amperage once per eight-hour shift and average the three daily readings. The permittee will keep all readings and averages on site and make the records available to Department personnel upon request. The permittee will submit the daily averages to the Department in accordance with General Provision 7. [§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]
150. These sources, which make up the Bleach Plant, are considered affected sources under 40 CFR Part 63, Subpart S, *National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry*. A copy of Subpart S can be found in Appendix D of this permit. These sources are subject, but not limited to, the following conditions. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart S]
- a. The permittee may use no chlorine or hypochlorite in any of the bleaching systems. [40 CFR §63.445(d)(2)]
  - b. The equipment at each bleaching stage, of the bleaching systems listed in 40 CFR §63.644(a), 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 40 CFR §63.644(c). The enclosures and closed-vent system shall meet the requirements specified in Plantwide Conditions 19.o through 19.t. [40 CFR §63.445(b)]
  - c. The control device used to reduce chlorinated HAP emissions (not including chloroform) from the equipment specified in 40 CFR §63.443(c) shall:

- i. Reduce the total chlorinated HAP mass in the vent stream entering the control device by 99 percent or more by weight;
  - ii. Achieve a treatment device outlet concentration of 10 ppm or less by volume of total chlorinated HAP; or
  - iii. 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 oven-dried pulp. [40 CFR63.445(c)]
- d. The permittee 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 40 CFR §63.453(c) and (d), except as allowed in 40 CFR §63.453(m). The CMS shall include continuous recorders for measuring the recirculation flow rate and the inlet pH of the scrubbing liquor. [40 CFR §63.453(a)]
- e. A CMS shall be operated to measure the following parameters for each gas scrubber used to comply with the bleaching requirements of 40 CFR §63.445(c).
- i. The scrubbing liquor at all three bleaching units shall be maintained at a pH of 8.5 or greater to assure that the scrubber outlet concentration of chlorinated HAP is 10 ppm or less by volume based on hourly averages. If the minimum pH is not met on an hourly average basis, the reason for this control failure shall be determined and reported as necessary.
  - ii. The permittee shall determine the gas scrubber inlet flow rate under the requirements of 40 CFR §63.453(m) by monitoring the amperage rates of the draft fans. The permittee shall maintain the amperage rates to the induced draft fans associated with the three scrubbers within the ranges listed in the following table.

SN	Minimum Amperage	Maximum Amperage
16	65	105
17	50	105
18	30	80

- iii. The flow rates of the scrubbers shall be maintained at the following recirculation rates or higher for the three scrubbers. [40 CFR63.445(c), Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Flow Rate (gpm)
16	300
17	300
18	350

- f. The flow of gaseous effluent into the scrubbers shall be determined indirectly by the amperage measured on the induced draft fans that blow pollutants to the Bleach Plant Scrubbers (SN-16, 17 and 18). To ensure compliance with Subpart S, the substituted parameter shall be monitored for effectiveness with the following tests and inspections. [40 CFR §63.453(a)]
  - i. An annual pressure differential test shall be performed to ensure that the Bleach Plant Scrubber fans maintain the required negative pressure across the system;
  - ii. Monthly visual inspections under the Leak Detection and Repair plan for the scrubber fans and associated process;
  - iii. Periodic preventive maintenance of the Bleach Plant Scrubber fan to ensure proper operation;
  - iv. An initial performance test to determine the acceptable range of electrical current to the fans that provides an acceptable pressure differential across the scrubber system; and
  - v. The gas scrubber liquid influent flow rate.
- g. As an option to the requirements specified in 40 CFR §63.450(c), the permittee may opt to measure the chlorine outlet concentration of each gas scrubber used to comply with the bleaching system outlet concentration requirement specified in 40 CFR §63.445(c)(2). [40 CFR §63.453(d)]
- h. The closed vent system must comply with the requirements in Plantwide Conditions 19.w through 19.dd and 24 and 25. [40 CFR §63.453(k)]
- i. The permittee shall set the flow indicator on each bypass line specified in 40 CFR §63.450(d)(1) to provide a record of the presence of gas stream flow in the bypass line at least once every 15 minutes. [40 CFR §63.455(e)]
- j. The permittee shall comply with the recordkeeping requirements specified in Plantwide Condition 26. [40 CFR §63.455]

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SN-20  
ERCO ClO<sub>2</sub> Generator

Source Description

SN-20 is the ERCO ClO<sub>2</sub> Generator. The permit allows Domtar to operate the chlorine dioxide generator at capacity for 8,760 hours per year. Therefore, Domtar keeps no annual records for this source. Domtar will demonstrate compliance by the required testing and monitoring for this source. Domtar performed testing for volatile organic compounds from this source in the past. VOCs were below the detection level.

Specific Conditions

151. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 152. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Chlorine	0.3	1.32
Chlorine Dioxide	3.0	13.14

152. The permittee shall test this source a minimum of once every five years to verify compliance with the chlorine and chlorine dioxide emission rates using the testing method found in NCASI Special Report 91-07, *Measurement and Quality Assurance Procedures for Determining Chloroform, Chlorine and Chlorine Dioxide Releases from Pulp Bleach Plants*. This testing shall be conducted in accordance with Plantwide Condition 3. The permittee shall also monitor the temperature of the absorption water in order to determine a maximum temperature that demonstrates compliance with the emission rates found in Specific Condition 151. [Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
153. The permittee shall record the temperature of the absorption water once per eight-hour shift to demonstrate compliance with Specific Condition 152. [Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN-21  
Effluent Treatment Lagoons

Source Description

SN-21 designates the emissions from the surface of the Effluent Treatment Lagoons.

The effluent treatment system is also used as an affected source under the clean condensate alternative (CCA) described in 40 CFR Part 63, §63.447. The treatment system includes the primary clarifiers, open trench and pre-settling ponds, as well as the aeration ponds used for biological treatment of the mill's effluent. Under CCA, the permittee offsets emissions from HVLC sources in the mill by routing pulping condensates through the hardpiped header directly beneath the surface of the aeration pond. This rerouting prevents uncontrolled emissions from the individual portions of the effluent treatment system by keeping the condensates out of open sewers where they could easily volatilize. The permittee has accepted more stringent condensate collection and treatment requirements in order to comply with the clean condensate alternative under 40 CFR 63, Subpart S.

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 through compliance with Specific Conditions 160 and 185. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	12.8	55.7

155. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 156.a. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Chloroform	6.8	29.6
Formaldehyde	0.46	2.02
Methanol	5.5	24.0

156. The requirements of this section apply to owners or operators of Kraft processes subject to the requirements of 40 CFR Subpart S, *National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry*. A copy of Subpart S may be found in Appendix D of this permit. [Regulation 19, §19.304 and 40 CFR §63.446(a)]

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- a. The permittee shall conduct daily monitoring of the site-specific parameters established according to the procedures specified in 40 CFR §63.453(n) and perform the following monitoring procedures: [40 CFR §63.453(j)(2)]
  - i. On a daily basis, the permittee shall monitor the outlet COD from the first aeration pond. If the COD exceeds 634 mg/l, the permittee shall implement the procedures for parametric excursions listed in 40 CFR §63.453(p);
  - ii. On a daily basis, the permittee will monitor the horsepower-hours applied to the effluent treatment system. If the total horsepower-hours fall below 11,600 hp-hr, the permittee shall implement the procedures listed in 40 CFR §63.453(p);
  - iii. Inlet liquid flow; and
  - iv. Liquid temperature.
- b. The permittee shall 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 40 CFR §63.453(j) and (j)(2)(ii) and the compliance percent reduction tests specified in 40 CFR §63.453(j)(p)(1)(i). The permittee shall perform the following procedures with the liquid samples:
  - i. Perform the percent reduction test procedures specified in 40 CFR §63.457(l) within 45 days after the beginning of each quarter as follows;
    1. The percent reduction test performed in the first quarter (annually) will 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 40 CFR §63.446(e)(2).
    2. The remaining quarterly percent reduction test shall be performed for methanol and the percent reduction obtained from the test will be at least as great as the methanol reduction determined in the first quarter test specified in 40 CFR §63.453(j)(2)(ii)(A).
- c. The parameter values used to calculate the percent reductions required in 40 CFR §63.453(j)(2)(ii)(A) and (B) shall be the parameter values measured and the samples taken under 40 CFR §63.453(j)(1) of this section.
- d. Each owner or operator of a biological treatment system complying with 40 CFR §63.453(j) shall meet all of the following requirements when the monitoring parameters specified in 40 CFR §63.453(j)(1)(i) through (iii) are below the minimum operating parameter values or above the maximum operating parameter values established in 40 CFR §63.453(n). [40 CFR §63.453(p)]
  - i. The following shall occur and be recorded as soon as practical:

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1. determine compliance with 40 CFR §63.446(e)(2) using the percent reduction test procedures specified in 40 CFR §63.457(l) and the monitoring data specified in 40 CFR §63.453(j)(1) that coincide with the time period of the parameter excursion;
  2. Steps shall be taken to repair or adjust the operation of the process to end the parameter excursion period; and
  3. Steps shall be taken to minimize total HAP emissions to the atmosphere during the parameter excursion period.
- e. A parameter excursion is not a violation of the applicable emission standard if the percent reduction test specified in 40 CFR §63.453(p)(1)(i) demonstrates compliance with 40 CFR §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.
- f. The permittee shall perform an initial performance test (IPT) within 180 days of permit issuance in order to determine compliance with the clean condensate alternative. The level of over-collecting required to demonstrate compliance with the clean condensate alternative by offsetting the HVLC emissions shall be established by the IPT and shall be no less than 14.4 lb/odtp. Compliance with the collection requirements under 40 CFR §63.446 and §63.447 shall be demonstrated by the new combined collection limit, at an appropriate averaging period. [40 CFR §63.453(a)]

SN-22  
 No. 1A and 1B Brownstock Washers Vents

Source Description

Source SN-22 consists of the drum and belt washers used to wash the spent cooking chemicals from the brownstock. The liquid formed in this washing process is weak black liquor. The Weak Black Liquor Tanks (SN-36) store the weak black liquor from the washing process. No control equipment is associated with the brownstock washers.

Specific Conditions

157. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with the methanol emission rates set forth in Specific Condition 160. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	59.2	259.1

158. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with the acetone and methanol emission rates through compliance with Specific Condition 160. Compliance with the formaldehyde emission rates has been demonstrated through previous testing. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetone	8.8	38.6
Formaldehyde	0.2	0.88
Methanol	59.0	258.2

159. The methanol concentration in the shower water at this source shall not exceed 300 ppm and the acetone concentration shall not exceed 200 ppm. Compliance shall be demonstrated through compliance with Specific Condition 160. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
160. The permittee shall test the shower water at this source at least once per year to obtain the methanol and acetone concentrations using EPA Reference Method 25D or NCASI Method DI/MEOH-94-02, *Methanol in Processed Liquids by GC/FID*, August 1998, Methods Manual, NCASI, Research Triangle Park, NC. These records shall be maintained on site and made available to Department personnel upon request. If the test results exceed the limits established in Specific Condition 157, the permittee must test for that pollutant on a weekly basis for a minimum of ten consecutive weeks. Once ten consecutive tests give passing results, the permittee may resume annual testing. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN-23, 24, 25, 26, and 28  
 Storage Tanks

Source Description

These tanks store various chemicals used at this facility. The former SN-24 tank is no longer in operation. Throughput records will demonstrate compliance with the emission rates.

Source SN-23, installed in 1989, is subject to the provisions of 40 CFR Part 60, Subpart Kb, due to its size and its date of installation. None of the other storage tanks listed in this section are subject to any of the New Source Performance Standards.

Specific Conditions

161. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Conditions 164 and 168. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

SN	Pollutant	lb/hr	tpy
23	VOC	1.0	4.0
28	VOC	0.2	0.9

162. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 164 and 167. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Pollutant	lb/hr	tpy
23	Methanol	0.91	4.0
24	Ammonia	0.1	0.1
25	Phosphoric Acid	0.01	0.1
26	Sulfuric Acid	0.1	0.44

163. SN-23 is considered an affected source under 40 CFR Part 60, Subpart A, *General Provisions* and 40 CFR Part 60, Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984*. A copy of Subpart Kb may be found in Appendix G. This source is subject, but not limited to, the following condition. [Regulation 19, 19.304 and 40 CFR Part 60, Subpart Kb]

- a. The permittee shall keep readily accessible records showing the dimensions of this storage vessel and an analysis showing the capacity of the storage vessel. [40 CFR §60.116b(b)]

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- b. The permittee will notify the Administrator within 30 days when the maximum true vapor pressure exceeds 27.6 kPa. The vapor pressure may be obtained from standard reference texts, determined by ASTM Method D2879-83, measured by an appropriate method approved by the Administrator, or calculated by an appropriate method approved by the Administrator. The appropriate MSDS may be used to determine the vapor pressure of the material stored at source SN-23. [§19.304 and §60.116b(d)]
164. The permittee shall store only methanol in SN-23. The methanol throughput at this source shall not exceed 18,850,000 pounds per consecutive twelve month period. The permittee shall maintain records of the methanol throughput at this source. These records shall be maintained on a monthly basis and updated by the fifteenth day of the month following the month to which the records pertain. These records shall be maintained on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Provision 7. [Regulation 19, §19.705, 40 CFR Part 52, Subpart E, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
165. The permittee shall store only ammonia in SN-24. The ammonia throughput at this source shall not exceed 800,000 pounds per consecutive twelve month period. The permittee shall maintain records of the ammonia throughput at this source. These records shall be maintained on a monthly basis and updated by the fifteenth day of the month following the month to which the records pertain. These records shall be maintained on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Provision 7. [Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
166. The permittee shall store only nutrient solutions containing phosphoric acid in SN-25. The phosphoric acid throughput at this source shall not exceed 1.5 million pounds per consecutive twelve month period. The permittee shall maintain records of the phosphoric acid throughput at this source. These records shall be maintained on a monthly basis and updated by the fifteenth day of the month following the month to which the records pertain. These records shall be maintained on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Provision 7. [Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
167. The permittee shall store only sulfuric acid in SN-26. The sulfuric acid throughput at this source shall not exceed 105,102,000 pounds per consecutive twelve month period. The permittee shall maintain records of the sulfuric acid throughput at this source. These records shall be maintained on a monthly basis and updated by the fifteenth day of the month following the month to which the records pertain. These records shall be maintained on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Provision 7. [Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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168. The permittee shall store only formic acid in SN-28. The formic acid throughput at this source shall not exceed 5,336,000 pounds per consecutive twelve month period. The permittee shall maintain records of the formic acid throughput at this source. These records shall be maintained on a monthly basis and updated by the fifteenth day of the month following the month to which the records pertain. These records shall be maintained on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Provision 7. [Regulation 19, §19.705, 40 CFR Part 52, Subpart E, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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SN-29  
Recausticizer Vents

Source Description

The Recausticizer vents are Source SN-29. Normal operation of the two recausticizers includes slaking of lime with green liquor from one of the recovery boilers.

Scrubbers provide emission controls for the slakers on both of the recausticizers lines. While workers are in the kilns for inspection or maintenance, the scrubbers may also receive the vents from the lime silos that normally vent to the kilns in order to minimize dusting in the area.

Specific Conditions

169. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 171. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	3.0	12.8

170. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 171. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetaldehyde	0.51	2.24
Ammonia	18.0	78.8
Methanol	2.4	10.52

171. The permittee shall not process more than 420,500 tons of lime at this source per consecutive twelve month period. Compliance shall be demonstrated through compliance with Specific Condition 172. [Regulation 18, §18.1004, Regulation 19, §19.705, 40 CFR 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
172. The permittee shall maintain records of the amount of lime processed at this source. These records shall be maintained on a monthly basis and updated by the fifteenth day of the month following the month to which the records pertain. These records shall be maintained on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Provision 7. [Regulation 18, §18.1004, Regulation 19, §19.705, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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SN-30A through F  
PCC Carbonators

Source Description

The PCC Plant receives lime via rail or truck and stores the lime in on-site silos. The precipitated calcium carbonate (PCC) plant scrubs carbon dioxide from the two lime kiln stacks to manufacture PCC. The process takes the stack gases from either kiln, scrubs the gases to remove particulates, cools the gases to maintain product quality and reacts the gases with the slacked lime to produce PCC. The PCC is then stored in tanks until pumped to one of the paper machines.

The PCC plant is not a combustion source, and testing showed that NO<sub>x</sub> and VOC emissions decrease as they are processed through the calcium carbonate production process. Testing for TRS and SO<sub>2</sub> on similar plants showed reductions as high as 80%. Particulate emissions from each lime kiln are also reduced in the primary scrubbers and the subsequent scrubbing in the PCC process. The only emissions actually created in the PCC area are particulates. Because of the large reduction in particulate from the primary scrubbers, the net effect on particulate emissions is a large reduction.

Currently, there are six PCC Carbonators located at this facility. The PCC process does not create any new emissions. The lime kiln exhaust gases cause all emissions. Therefore, the annual emissions for these sources are included in the lime kiln emissions (SN-02). The hourly rates have been "bundled" for these individual sources.

Specific Conditions

173. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Conditions 175 and 176. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

SN	Pollutant	lb/hr
30A through F	PM <sub>10</sub>	4.8
	SO <sub>2</sub>	2.4
	VOC	12.6
	CO	54.6
	NO <sub>x</sub>	65.4

174. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Conditions 175 and 176. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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SN	Pollutant	lb/hr
30A through F	PM	4.8
	TRS	0.36

175. The permittee shall test at least two of the PCC carbonators a minimum of once every five years for the pollutants listed below using the indicated test methods. The Department reserves the right to determine which of the PCC carbonators to test. [Regulation 19, §19.702, Regulation 18, §18.1002, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	EPA Reference Method
SO <sub>2</sub>	6C
VOC	25A
NO <sub>x</sub>	7E
CO	10B

176. The permittee shall test at least two of the PCC carbonators at least once every five years for particulate matter using EPA Reference Methods 5 and 202. The PM<sub>10</sub> test shall use either EPA Reference Methods 201A and 202 or 5 and 202. By using Methods 5 and 202 the facility shall assume all collected particulate matter is PM<sub>10</sub>. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]

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SN-36  
Weak Black Liquor Tanks  
(Tanks #1 through #9 and #10)

Source Description

Emissions for SN-36 are from the ten weak black liquor tanks. The weak black liquor washing lines send the weak black liquor to one of the weak black liquor tanks before sending the weak black liquor to the recovery process. No control equipment is associated with any of the weak black liquor tanks.

The tenth tank (SN-36-10T) is a 700,000 gallon tank. It was permitted for construction in 2009.

Specific Conditions

177. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 180. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.0	32.0

178. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 180. [Regulation 19, §19.901, Regulation 18, §18.801, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
TRS	0.1	0.5

179. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 180. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methanol	6.92	27.60
TRS*	0.84	0.03

\* This limit applies to SN-36-T10 only, and compliance shall be demonstrated through compliance with Specific Condition 181. Tanks #1 through #9 shall demonstrate compliance with the TRS limits in Specific Condition 178.

180. The temperature at this source shall not exceed 203 °F. The permittee shall install, calibrate, maintain and operate a continuous monitoring system to monitor and record the

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temperature at this source. These records shall be maintained on site and made available to Department personnel upon request. [Regulation 18, §18.1003, Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

181. The permittee shall not exceed a throughput of 775,000 gallons of weak black liquor per each consecutive 12-month period. [Regulation No. 19, §19.705, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 70.6]
182. The permittee shall maintain a 12-month rolling total of the gallons of weak black liquor throughput at SN-36-T10. These records shall be updated by the 15th day of the month following the month to which the records pertain, kept on site, made available to Department personnel upon request, and submitted every six months in accordance with the requirements of General Provision 7. [Regulation No. 19, §19.705 and 40 CFR Part 52, Subpart E]

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SN-37  
Pulp Dryer

Source Description

SN-37 consists of the Pulp Dryer Hood and Vacuum Exhausts. The main emissions from this source consist of residual methanol carried over from the bleaching process. The former exhaust fan, hood fans, and vacuum pump exhausts emit the pollutants. No control equipment is associated with the pulp drying process.

Specific Conditions

183. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 185. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	4.7	20.5

184. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 185. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetaldehyde	0.7	3.1
Methanol	2.6	11.4

185. The VOC concentration in the white water at this source shall not exceed 20 ppm. The permittee shall test the white water using EPA Reference Method 25D a minimum of once per year in order to verify compliance with the 20 ppm VOC limit. The permittee shall maintain records of the results of the white water testing. These records shall be kept on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Provision 7. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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SN-38  
No. 2 and No. 3 Wood Yards

Source Description

The No. 2 and No. 3 Wood Yards provide storage for logs brought on-site. The wood yard also processes the logs for use in making pulp and fuel for the boilers (mainly bark). No control equipment is associated with the wood yards.

Specific Conditions

186. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 187. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	123.0	540.0

187. The permittee shall not process more than 4,320,000 tons of wood chips per consecutive twelve month period. The permittee shall maintain records of the amount of wood chips processed at the wood yard on a monthly basis and these records shall be updated no later than the 15<sup>th</sup> day of the month following the month to which the records pertain. These records shall be kept on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Provision 7. [Regulation 19, §19.705, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN-40  
No. 1A and 1B Digester Chip Fill Exhaust

Source Description

SN-40 includes the No. 1A and No. 1B Digester Chip Fill Exhausts. The digesters cook the wood chips under pressure with white liquor and black liquor. Emissions result while blowing the chips from the digesters to the blow tanks. No control equipment is associated with this source.

Specific Conditions

188. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 191. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	10.0	44.0

189. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 191. [Regulation 18, §18.801, Regulation 19, §19.901, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methanol	5.75	25.1
TRS	2.02	8.8

190. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 191. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methanol	5.75	25.1

191. The spacing of the digester blows shall not fall below 25 minutes. Blowing the digesters in less than 25 minute intervals, shall be considered a violation of the emission rates for this source. [Regulation 18, §18.1004, Regulation 19, §19.705, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

192. The permittee shall maintain records of the spacing of the digester blows. These records shall be maintained on a monthly basis and updated not later than the 15<sup>th</sup> day of the month following the month to which the records pertain. These records shall be

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maintained on site and made available to department personnel upon request.  
[Regulation 18, §18.1004, Regulation 19, §19.705, 40 CFR Part 52, Subpart E and  
A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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SN-41  
Sludge Landfill

Source Description

SN-41 is the Sludge Landfill. The mill landfills sludge from the mill at the Sludge Landfill. The hourly emission rates are for a worst-case scenario.

Specific Conditions

193. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 195. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	11.6	51.0

194. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 195. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methanol	0.28	1.23

195. The permittee shall not place in excess of 344,000 cubic yards (163,000 tons) of sludge in the landfill during any consecutive twelve-month period. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR Part 70.6]
196. The permittee shall maintain records of the amount of sludge placed in the landfill. These records shall be maintained on a quarterly basis. The permittee may use the records required by the Solid Waste Division of the Department to fulfill this record keeping requirement. These records shall be maintained on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Provision 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

SN-42  
No. 2 Decker

Source Description

The No. 2 Decker thickens the brownstock before routing to one of the brownstock high-density storage tanks. No control equipment is associated with this source.

Specific Conditions

197. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 200. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	5.6	24.5

198. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 200. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetone	7.5	32.9
Methanol	3.3	10.1

199. The methanol concentration in the shower water at this source shall not exceed 300 ppm and the acetone concentration shall not exceed 200 ppm. Compliance shall be demonstrated through compliance with Specific Condition 200. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
200. The permittee shall test the shower water at this source at least once per year to obtain the methanol and acetone concentrations using EPA Reference Method 25D or NCASI Method DI/MEOH-94-02, *Methanol in Processed Liquids by GC/FID*, August 1998, Methods Manual, NCASI, Research Triangle Park, NC. These records shall be maintained on site and made available to Department personnel upon request. If the test results exceed the limits established in Specific Condition XX, the permittee must test for that pollutant on a weekly basis for a minimum ten consecutive weeks. Once ten consecutive tests give passing results, the permittee may resume annual testing. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN-43  
Tub Grinder

Source Description

The Tub Grinder (SN-43) grinds various wood waste products at this facility. Diesel fuel powers the tub grinder's engine. No control equipment is associated with this source.

Specific Conditions

201. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 204. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	0.9	2.9
SO <sub>2</sub>	1.1	4.8
VOC	0.5	1.6
CO	8.0	25.8
NO <sub>x</sub>	12.0	38.7

202. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 204. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.9	2.9

203. The permittee shall use only No. 2 fuel oil to fire the tub grinder's engine. [Regulation 19, §19.705, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
204. The permittee shall not use in excess of 258,000 gallons of no. 2 fuel oil at the tub grinder during any consecutive twelve month period. The permittee shall maintain records of the amount of No. 2 fuel oil used at the tub grinder. These records shall be maintained on a monthly basis and updated by the 15<sup>th</sup> day of the month following the month to which the records pertain. These records shall be maintained on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Provision 7. [Regulation 19, §19.705, 40 CFR Part 52, Subpart E, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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SN-44a through 44d  
 Paper Machines

Source Description

The mill has four Paper Machines of varying sizes. No control equipment is associated with the paper machines.

The permittee conducted tests in September of 1997 for emissions of several HAPs. The tests detected no HAP emissions. However, previous tests detected methanol emissions at sources SN-44b, SN-44c, and SN-44d. Therefore, the permit contains methanol emission limits for those sources based on the previous testing.

A mist eliminator has been added to SN-44d, consisting of a separator chamber to collect condensed water and fibers. The exhaust, provided by a 15,000 cfm fan, will consist of moist air. The mill installed some false ceilings above other exhaust fans to minimize condensation on the paper.

Specific Conditions

205. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 208. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

SN	Pollutant	Fan #	lb/hr per fan	lb/hr total	tpy
44a	VOC	1	0.7	2.0	8.8
		2	0.6		
		3, 4	0.4		
		5	0.3		
44b	VOC	1, 2, 3, 8	0.7	4.7	20.6
		4	0.6		
		5	0.5		
		6, 7	0.4		
44c	VOC	1, 2, 3, 4	0.7	5.6	24.6
		5, 6, 7	0.6		
		8, 9	0.5		
44d	VOC	1, 2	0.8	6.8	29.8
		3	0.7		
		4, 5	0.5		
		6, 7, 8, 9	0.4		
		10, 11, 12	0.3		
		13, 14, 15, 16, 17	0.2		

206. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with

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Specific Condition 210. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Pollutant	Fan #	lb/hr per fan	lb/hr total	tpy
44a	Methanol	1	0.7	2.0	8.8
		2	0.6		
		3, 4	0.4		
		5	0.3		
44b	Methanol	1, 2, 3, 8	0.7	4.7	20.6
		4	0.6		
		5	0.5		
		6, 7	0.4		
44c	Methanol	1, 2, 3, 4	0.7	5.6	24.6
		5, 6, 7	0.6		
		8, 9	0.5		
44d	Methanol	1, 2	0.8	6.8	29.8
		3	0.7		
		4, 5	0.5		
		6, 7, 8, 9	0.4		
		10, 11, 12	0.3		
		13, 14, 15,	0.2		
		16, 17			

207. The VOC concentration in the shower water at SN-44a shall not exceed 20 ppm. Compliance shall be demonstrated through compliance with Specific Condition 208. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
208. The permittee shall test the shower water at SN-44a at least once per year to obtain the VOC concentration using EPA Reference Method 25D. The permittee shall maintain records of these test results. These records shall be maintained on site and made available to Department personnel upon request. A copy of these records shall be submitted in accordance with General Provision 7. [Regulation 19, §19.703 and §19.705, 40 CFR Part 52, Subpart E and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
209. The methanol concentration in the shower water at SN-44b, 44c, and 44d shall not exceed 20 ppm. Compliance shall be demonstrated through compliance with Specific Condition 210. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
210. The permittee shall test the shower water at SN-44b, 44c, and 44d at least once per year to obtain the methanol concentration using EPA Reference Method 25A or NCASI Method DI/MEOH-94-02, *Methanol in Processed Liquids by GC/FID*, August 1998, Methods Manual, NCASI, Research Triangle Park, NC. The permittee shall keep records

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of these test results. These records shall be maintained on site and made available to Department personnel upon request. [Regulation 18, §18.1003 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN-45  
Oxygen Delignification System

Source Description

The Oxygen Delignification System (SN-45) reacts elemental oxygen with the brownstock before the bleaching process. The oxidation of the organic chemicals releases carbon monoxide and some volatile organic compounds, primarily methanol.

Specific Conditions

211. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 213. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	9.1	39.9
CO	16.5	72.3

212. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with the VOC emission rates listed above. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methanol	9.1	39.9

213. The permittee shall conduct testing to verify compliance with the VOC and CO emission rates for this source. This testing shall be performed using EPA Reference Method 25D and EPA Reference Method 10 respectively. This testing shall be performed in accordance with Plantwide Condition 3. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

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SN-46  
Haul Roads – Fugitive Emissions

Source Description

Materials are delivered to and moved throughout the facility on a series of both paved and unpaved roads.

Specific Conditions

214. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 216. [Regulation 19, §19.501 *et seq.* and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	73.0	319.7

215. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Condition 216. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	73.0	319.7

216. No later than 90 days after permit issuance, the permittee shall submit a detailed haul road maintenance plan to the Department. This plan shall include a map showing which road segments have been paved as well as those segments that must be paved. The plan shall also show which road segments will be treated with a chemical dust suppressant and a schedule of when these roads shall be treated. This plan shall be designed to minimize emissions from the roads. The permittee shall post a speed limit of 10 mph on all unpaved facility roads. The roads at this facility shall be paved or treated based on the assumptions used in the NAAQS modeling. A copy of the tables from the modeling analysis indicating which roads are to be paved, which roads are to be treated and which roads will remain unpaved can be found in Appendix I. A copy of this plan shall be kept on site and made available to Department personnel upon request. [Regulation 18, §18.1004, Regulation 19, §19.705, 40 CFR 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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

Domtar A.W. LLC 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. [Regulation 19, §19.704, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §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. [Regulation 19, §19.410(B) and 40 CFR Part 52, Subpart E]
3. The permittee must test any equipment scheduled for testing, unless otherwise 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. [Regulation 19, §19.702 and/or Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
4. The permittee must provide:
  - a. Sampling ports adequate for applicable test methods;
  - b. Safe sampling platforms;
  - c. Safe access to sampling platforms; and
  - d. Utilities for sampling and testing equipment.

[Regulation 19, §19.702 and/or Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
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. [Regulation 19, §19.303 and A.C.A. §8-4-203 as referenced by A.C.A. §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 A.C.A. §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. [Regulation 19, §19.304 and 40 CFR 63.6(e)(3)]

#### Title VI Provisions

8. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 CFR Part 82, Subpart E]
  - a. 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.
  - b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
  - c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
  - d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
  
9. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 CFR Part 82, Subpart F]
  - a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
  - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
  - c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
  - d. Persons disposing of small appliances, MVACs, and MVAC like appliances must comply with record keeping requirements pursuant to §82.166. (“MVAC like appliance” as defined at §82.152)
  - e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
  - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
  
10. 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.
  
11. 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

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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.

12. The permittee can switch from any ozone depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G.

#### Tire Derived Fuel

13. The permittee may use tire-derived fuels (TDF) in the three Power Boilers (SN-01, SN-03 and SN-05). However, the total amount of TDF burned in any 24-hour period shall not exceed 220 tons for all three boilers. The permittee shall maintain records of the amount of TDF used in the three Power Boilers. These records shall be maintained on a daily basis. These records shall be kept on site and made available to Department personnel upon request. The permittee shall submit a copy of the annual total and each day’s individual data in accordance with General Provision 7. [Regulation 19, §19.705, 40 CFR Part 52, Subpart E, 40 CFR Part 70.6 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

#### Testing Conditions

14. The permittee is not required to test those sources not in operation for a minimum of 25% of a calendar quarter for criteria pollutants. The permittee shall resume the testing schedule outlined for a particular source when its operation exceeds 25% of a calendar quarter. The Department reserves the right to require testing upon the equipment’s return to normal operations. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]
15. The permittee is not required to test those sources for non-criteria pollutants not in operation for a minimum of 25% of a calendar quarter. The permittee shall resume the testing schedule outlined for a particular source when its operation exceeds 25% of a calendar quarter. The Department reserves the right to require testing upon the equipment’s return to normal operations. [Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
16. The permittee shall maintain records of the operation of the sources referenced in Plant Wide Conditions 14 and 15 to demonstrate that testing is not required. The permittee shall keep these records on-site and provide the records to Department personnel upon request. The permittee shall submit the records to the Department in accordance with General Provision 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E or Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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17. For those sources using both a portable analyzer and an independent third party, the permittee shall use the higher of the two results to determine compliance with the applicable emission rate. If the difference of the results of the independent third party test and the test done with the portable analyzer is more than 10%, the permittee shall perform future tests using an independent third party and not the portable analyzer. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]
18. The permittee may submit one excess emissions report (EER) for those sources where an NSPS and/or the Department's CEMS standards requires the permittee to submit an EER. The EER must contain all information required by the applicable NSPS subpart and the Department's CEMS standards. [ Regulation 19, §19.304 and §19.705 and 40 CFR Part 60]  

Standards for the Pulping System at Kraft Processes - Low Volume High Concentration Sources
19. Domtar A.W. LLC. - Ashdown Mill is subject to the provisions of 40 CFR Part 63, Subpart A - General Provisions and 40 CFR Part 63, Subpart S - National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry. Appendix D contains a copy of Subpart S. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart S]
  - a. The permittee shall control the total HAP emissions from the Low Volume High Concentration (LVHC) systems. A LVHC system includes the digesters, turpentine recovery, evaporators steam strippers, and any other equipment serving the same the same function. [40 CFR §63.443(a)(1)(i)]
  - b. The LVHC Equipment system listed in 40 CFR §63.443(a)(1)(i) shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in §63.443(d). The enclosures and closed-vent system shall meet the requirements specified in paragraph §63.450. [40 CFR §63.443(c)]
  - c. The control device used to reduce total HAP emissions from each equipment system listed in 40 CFR §63.443(a)(1)(i) shall reduce the 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. [40 CFR §63.443(d)(4)]
  - d. 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: [40 CFR §§63.443(e)(1) through (e)(4)]
    - i. One percent for control devices used to reduce the total HAP emissions from the LVHC system; and
    - ii. Four percent for control devices used to reduce the total HAP emissions from the HVLC system; and
    - iii. Four percent for control devices used to reduce the total HAP emissions from both the LVHC and the HVLC systems.

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- e. The permittee shall treat the pulping process condensates from the following equipment systems to meet the requirements specified in 40 CFR §§63.446(c), (d), and (e): [40 CFR §63.446(b)]
  - i. Each digester system;
  - ii. Each turpentine recovery system;
  - iii. Each evaporator system condensate from:
  - iv. The vapors from each stage where weak liquor is introduced (feed stages); and
  - v. Each evaporator vacuum system for each stage where weak liquor is introduced (feed stages).
  - vi. Each HVLC collection system; and
  - vii. Each LVHC collection system.
- f. One of the following combinations of HAP-containing pulping process condensates generated, produced, or associated with the equipment systems listed in 40 CFR §63.446(b) shall be subject to the requirements 40 CFR §§63.446(d) and (e): [40 CFR §63.446(c)]
  - i. All pulping process condensates from the equipment systems specified 40 CFR §§63.446(b)(1) through (b)(5).
  - ii. The combined pulping process condensates from the equipment systems specified 40 CFR §§63.446(b)(4) and (b)(5), 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 40 CFR §§63.446(b)(1) through (b)(3).
  - iii. The pulping process condensates from equipment systems listed in 40 CFR §§63.446(b)(1) through (b)(5) that in total contain a total HAP mass of 5.5 kilograms or more of total HAP per megagram (11.1 pounds per ton) of ODP for mills that perform bleaching.
- g. The pulping process condensates from the equipment systems listed 40 CFR §63.446(b) shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified 40 CFR §§63.446(d)(1) and (d)(2). [40 CFR §63.446(d)]
- h. Each closed collection system shall meet the individual drain system requirements specified in §§63.960, 63.961, and 63.962 40 CFR §63, Subpart RR except for 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 §63.693 as specified in §63.962 (a)(3)(ii), (b)(3)(ii)(A), and (b)(5)(iii).
- i. 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:
    - a. 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
    - b. 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.
- ii. 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:
    - a. When a water seal is used, the water seal shall be designed such that either:
      - b. The outlet to the pipe discharging the regulated-material extends below the liquid surface in the water seal of the drain; or
    - i. 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.

- j. The Stripper Feed Tank at No. 3 Evaporator, Hotwell at No. 2 Evaporator and the Pulp Mill Foul Condensate Tank will meet the following conditions: [40 CFR §63.446(d)(2)]
  - 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.
- k. The permittee will treat the pulping system condensate listed in Plant Wide Condition 19e by discharging the condensate below the liquid surface of a biological treatment system and treating the condensate to reduce or destroy the total HAPs by at least 92 percent or more by weight. [40 CFR §63.446(e)]
- l. Each HAP removed from a pulping process condensate stream during treatment and handling under 40 CFR §§63.446(d) or (e), except for those treated according to paragraph 40 CFR §63.446(e)(2) of this section, shall be controlled as specified in §63.443(c) and (d).
- m. 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 40 CFR §63.446(e)(3) through (e)(5), periods of excess emissions reported under §63.455 shall not be a violation of 40 CFR §63.446(d), (e)(3) through (e)(5), and (f) 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 40 CFR §63.446 (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).
- n. The permittee shall evaluate all new or modified pulping process condensates or changes in the annual bleached or non-bleached ODP used to comply with paragraph 40 CFR §63.446(i) of this section, to determine if they meet the applicable requirements of this section.

- o. Each enclosure and closed-vent system specified in §63.443(c) for capturing and transporting vent streams that contain HAP shall meet the requirements specified in 40 CFR §§63.450(a) through (d). [40 CFR §63.450(a)]
- p. 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. [40 CFR §63.450(b)]
- q. Each component of the closed-vent system used to comply with §§63.443(c) 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). [40 CFR §63.450(c)]
- r. 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 shall comply with either of the requirements in Plant Wide Conditions s and t. [40 CFR §63.450(d)]
- s. 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 fifteen minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line. [40 CFR §63.450(d)(1)]
- t. 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. [40 CFR §63.450(d)(2)]
- u. 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 40 CFR §63.453(b) through (m). The CMS shall include a continuous recorder. (Note: Some of the specific monitoring requirements may be contained in other parts of this permit.) [40 CFR §63.453(a)]
- v. For each enclosure opening, a visual inspection of the closure mechanism specified in §63.450(b) shall be performed at least once every thirty days to ensure the opening is maintained in the closed position and sealed. [40 CFR §63.453(k)(1)]
- w. 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. [40 CFR §63.453(k)(2)]
- x. For positive pressure closed-vent systems or portions of closed-vent systems, the permittee shall demonstrate no detectable leaks as specified in §63.450(c) measured initially and annually by the procedures specified in §63.457(d). [40 CFR §63.453(k)(3)]
  - y. The permittee shall demonstrate initially and annually that each enclosure opening is maintained at negative pressure as specified in §63.457(e). [40 CFR §63.453(k)(4)]
  - z. 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. [40 CFR §63.453(k)(5)]
  - aa. If an inspection required by 40 CFR §63.453(k)(1) through (k)(5) 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 concentration is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable. [40 CFR §63.453(k)(6)]
    - 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 fifteen calendar days after the problem is identified.
  - bb. Each owner or operator using a control device, technique, or an alternative parameter other than those specified in 40 CFR §63.453(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. [40 CFR §63.453(m)]
  - cc. To establish or reestablish the value for each operating parameter required to be monitored under 40 CFR §63.453(b) through (j), (l), and (m) or to establish appropriate parameters for 40 CFR §63.453(f), (i), and (m), the permittee shall use the following procedures:
    - i. During the initial performance test required in §63.457(a) or any subsequent performance test, continuously record the operating parameter.
    - ii. 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.

- iii. The owner or operator shall provide for the Administrator's approval the rationale for selecting the monitoring parameters necessary to comply with (f), (i), and (m) of this section; and
- iv. Provide for the Administrator's approval, the rationale for the selected operating parameter value, 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. [40 CFR §63.453(n)(1) through (n)(4)]
- dd. 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 40 CFR §63.453(a) through (n) and established under Subpart S. Except as provided in 40 CFR §63.453(p), §63.443(e), or §63.446(g), operation of the control device below the 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 §63.453(o)]

#### Clean Condensate Alternative Requirements

- 20. The permittee shall install and operate a clean condensate alternative technology with a continuous monitoring system to reduce total HAP emissions by reducing uncontrolled HAP emissions from the effluent treatment system to the levels indicated in Specific Condition 153f. [Regulation 19, §19.304 and 40 CFR §63.447(b)]
- 21. The permittee shall install, calibrate, maintain and operate a CMS to monitor the total amount of methanol entering the effluent treatment system through the hardpiping header for pulping condensate listed under Plantwide Condition 20.i.2. [Regulation 19, §19.304 and 40 CFR §63.453(a)]
- 22. The permittee shall install, calibrate, operate and maintain a CMS to monitor the shower water quality to the HVLC sources within the facility covered under 40 CFR §63.443(a)(1)(ii) through §63.443(a)(1)(v) to ensure the methanol concentration in these streams does not increase beyond the ranges of normal operating variability. The CMS shall include lockout indicators or blanks that prevent foul condensates from entering the HVLC shower water systems. [Regulation 19, §19.304 and 40 CFR §63.453(a) and §63.453(m)]
- 23. The permittee shall incorporate the CMS monitoring equipment for the clean condensate alternative into the record keeping required under Plantwide Conditions 24 through 26 for LVHC systems to ensure compliance with the more stringent condensate collection and treatment requirements. Regulation 19, §19.304 and 40 CFR §63.453(a) and §63.453(m)]

#### Recordkeeping Requirements

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24. The permittee 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 40 CFR §63.454(b) and (d) for the monitoring parameters specified in §63.453. [Regulation 19, §19.304 and 40 CFR §63.454(a)]
25. For each applicable enclosure opening, closed-vent system, and closed collection system, the permittee 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:
  - 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;
  - j. The date of successful repair of the defect or leak;
  - k. The position and duration of opening bypass line valves and the condition of any valve seals; and
  - l. The duration of the use of the bypass valves on computer controlled valves. [§19.304 of Regulation 19 and 40 CFR §63.454(b)(1) through (b)(12)]
26. The permittee shall record the CMS parameters specified in §63.453 and meet the requirements specified in 40 CFR §63.454 (a) 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. [Regulation 19, §19.304 and 40 CFR §63.454(d)]

#### Test Methods and Procedures

27. 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). [Regulation 19, §19.304 and §19.702 and 40 CFR §63.457(a)]
28. For incinerators and fuel burning equipment, exclusively, emissions shall not exceed 20% opacity except that emissions greater than 20% opacity but not exceeding 60% opacity will be allowed for not more than six (6) minutes in the aggregate in any consecutive 60-

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minute period, provided that such emissions will not be permitted more than three (3) times during any 24-hour period. [Regulation 19, §19.503(B)(1)]

Permit Shield

29. 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 December 1, 2003.

Applicable Regulations

Source No.	Regulation	Description
Facility	19	SIP
Facility	26	Regulations of the Arkansas Operating Air Permit Program (Title V)
Facility	40 CFR Part 63, Subpart S	NESHAPS for Hazardous Air Pollutants from the Pulp and Paper Industry
Facility	40 CFR Part 60, Subpart A	General Provisions
01	40 CFR Part 60, Subpart Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
01	40 CFR 52, Subpart E	Prevention of Significant Deterioration
02	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills
02	40 CFR Part 63, Subpart MM	NESHAPS for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semicheical Pulp Mills
02	40 CFR 52, Subpart E	Prevention of Significant Deterioration
05	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills
05	40 CFR Part 60, Subpart D	Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced after August 17, 1971
06	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills

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Source No.	Regulation	Description
06	40 CFR 52, Subpart E	Prevention of Significant Deterioration
06	40 CFR Part 63, Subpart MM	NESHAPS for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semichemical Pulp Mills
08	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills
08	40 CFR §52.21	Prevention of Significant Deterioration
08	40 CFR Part 63, Subpart MM	NESHAPS for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semichemical Pulp Mills
09	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills
09	40 CFR Part 63, Subpart MM	NESHAPS for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semichemical Pulp Mills
12	40 CFR Part 60, Subpart Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
14	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills
14	40 CFR 52, Subpart E	Prevention of Significant Deterioration
14	40 CFR Part 63, Subpart MM	NESHAPS for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semichemical Pulp Mills
15	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills
15	40 CFR 52, Subpart E	Prevention of Significant Deterioration

The permit specifically identifies the following as inapplicable based upon information submitted by the permittee in an application dated December 1,2003.

#### Inapplicable Regulations

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
1	40 CFR Part 60, Subpart Da	Standards of Performance for Electric Utility Steam Generators for Which Construction Commenced after September 18, 1978	This boiler is not an electric utility steam-generating unit.
1	40 CFR §60.46b(h)(2)	Standards of Performance for Industrial-Commercial Steam Generating Units	This boiler does not have a federally enforceable provision that limits it to an annual capacity factor of 10% or less.
1	40 CFR Part 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Heat input exceeds 100 MMBTU/hr.
3	40 CFR Part 60, Subpart D	Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Commenced after August 17, 1971	Boiler was constructed before effective date.
3	40 CFR Part 60, Subpart Da	Standards of Performance for Electric Utility Steam Generators for Which Construction Commenced after September 18, 1978	This boiler is not an electric utility steam-generating unit and constructed prior to the effective date.
3	40 CFR Part 60, Subpart Db	Standards of Performance for Industrial-Commercial Steam Generating Units	Boiler constructed prior to the effective date.
3	40 CFR Part 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Boiler's heat input capacity exceeds 100 MMBTU/hr and constructed prior to the effective date.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
5	40 CFR Part 60, Subpart Da	Standards of Performance for Electric Utility Steam Generators for Which Construction Commenced after September 18, 1978	This boiler is not an electric utility steam-generating unit and constructed prior to the effective date.
5	40 CFR Part 60, Subpart Db	Standards of Performance for Industrial-Commercial Steam Generating Units	Boiler constructed prior to the effective date.
5	40 CFR Part 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Boiler's heat input capacity exceeds 100 MMBTU/hr and constructed prior to the effective date.
6	40 CFR Part 60, Subpart D	Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Commenced after August 17, 1971	This boiler is not fired with fossil fuel.
6	40 CFR Part 60, Subpart Da	Standards of Performance for Electric Utility Steam Generators for Which Construction Commenced after September 18, 1978	This boiler is not an electric utility steam generating unit.
6	40 CFR Part 60, Subpart Db	Standards of Performance for Industrial-Commercial Steam Generating Units	Boiler constructed prior to the effective date.
6	40 CFR Part 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Boiler's heat input capacity exceeds 100 MMBTU/hr and constructed prior to the effective date.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
11	40 CFR Part 60, Subpart D	Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Commenced after August 17, 1971	Boiler's heat input capacity is less than 250 MMBTU/hr.
11	40 CFR Part 60, Subpart Da	Standards of Performance for Electric Utility Steam Generators for Which Construction Commenced after September 18, 1978	Boiler is not an electric utility steam generating unit.
11	40 CFR Part 60, Subpart Db	Standards of Performance for Industrial-Commercial Steam Generating Units	Boiler constructed before the effective date.
11	40 CFR Part 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Boiler's heat input capacity exceeds 100 MMBTU/hr and constructed before the effective date.
12	40 CFR Part 60, Subpart D	Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Commenced after August 17, 1971	Boiler's heat input capacity is less than 250 MMBTU/hr.
12	40 CFR Part 60, Subpart Da	Standards of Performance for Electric Utility Steam Generators for Which Construction Commenced after September 18, 1978	Boiler is not an electric utility steam generating unit.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
12	40 CFR Part 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Boiler's heat input capacity exceeds 100 MMBTU/hr.
14	40 CFR Part 60, Subpart D	Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Commenced after August 17, 1971	Boiler is not fired with fossil fuel.
14	40 CFR Part 60, Subpart Da	Standards of Performance for Electric Utility Steam Generators for Which Construction Commenced after September 18, 1978	Boiler is not an electric utility steam generating unit.
14	40 CFR Part 60, Subpart Db	Standards of Performance for Industrial-Commercial Steam Generating Units	Boiler does not burn fossil fuels and is not in SIC 28.
14	40 CFR Part 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Boiler's heat input capacity exceeds 100 MMBTU/hr.
16	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Bleachplants are not included in the affected facilities for this subpart.
17	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Bleachplants are not included in the affected facilities for this subpart.
18	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Bleachplants are not included in the affected facilities for this subpart.
19	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Chlorine dioxide generators are not included in the affected facilities for this subpart.

Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
20	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Chlorine dioxide generators are not included in the affected facilities for this subpart.
21	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Wastewater treatment systems are not included in the affected facilities for this subpart.
22(1A)	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Constructed prior to the effective date of this subpart.
23	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Methanol is not a petroleum liquid and source was constructed after 1978.
23	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Methanol is not a petroleum liquid and source was constructed after 1984.
23	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Methanol tanks are not included in the affected facilities for this subpart.
28	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Formic acid is not a petroleum liquid and source was constructed after 1978.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
28	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Formic Acid is not a petroleum liquid and source was constructed after 1984.
28	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Tank's volume is less than 40 m <sup>3</sup> and the liquid vapor pressure is less than 3.5 KPa.
29	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Recausticizer vents are not included in the affected sources of this subpart.
30	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Carbonators are not included in the affected sources of this subpart.
31	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Carbonators are not included in the affected sources of this subpart.
32	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Carbonators are not included in the affected sources of this subpart.
33	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Carbonators are not included in the affected sources of this subpart.
PCC Plant	40 CFR Part 60, Subpart OOO	Standards of Performance for Nonmetallic Mineral Processing Plants	The PCC plant does not crush or grind nonmetallic minerals.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
Turpentine Storage Tank	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Turpentine is not a petroleum liquid and source was constructed after 1978.
Turpentine Storage Tank	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Turpentine is not a petroleum liquid and the tank's capacity is less than 40,000 gallons.
Turpentine Storage Tank	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Source was constructed prior to effective date.
Turpentine Storage Tank	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or a non-attainment area.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
Turpentine Decanter	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Turpentine is not a petroleum liquid and source was constructed after 1978.
Turpentine Decanter	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Turpentine is not a petroleum liquid and the tank's capacity is less than 40,000 gallons.
Turpentine Decanter	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Source was constructed prior to effective date.
Turpentine Decanter	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or a non-attainment area.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
#6 Fuel Oil Day Tank	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Source constructed after 1978.
#6 Fuel Oil Day Tank	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Tank constructed after 1984.
#6 Fuel Oil Day Tank	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Capacity of tank is less than 40 m <sup>3</sup> .
#6 Fuel Oil Day Tank	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or a non-attainment area.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
#6 Fuel Oil Storage Tanks	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	These tanks constructed after 1978.
#6 Fuel Oil Storage Tanks	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	These tanks constructed after 1984.
#6 Fuel Oil Storage Tanks	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Capacity of tank is less than 40 m <sup>3</sup> .
#6 Fuel Oil Storage Tanks	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or a non-attainment area.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
Pulp mill Pitch Dispersant Tank	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Source constructed after 1978.
Pulp mill Pitch Dispersant Tank	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Source was constructed after 1984.
Pulp mill Pitch Dispersant Tank	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Capacity of tank is less than 40 m <sup>3</sup> .
Pulp mill Pitch Dispersant Tank	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or a non-attainment area.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
Pulp mill Defoamer Tanks	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Tanks were constructed after 1978.
Pulp mill Defoamer Tanks	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Tanks were constructed after 1984.
Pulp mill Defoamer Tanks	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Capacity of tank is less than 40 m <sup>3</sup> .
Pulp mill Defoamer Tanks	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or a non-attainment area.
44	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Paper machines are not included in the subpart's affected sources.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
62 Paper machine Lubricating and Hydraulic Oil Tanks	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Tanks were constructed after 1984 and have capacities less than 40,000 gallons.
62 Paper machine Lubricating and Hydraulic Oil Tanks	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Capacity of tank is less than 40 m3.
62 Paper machine Lubricating and Hydraulic Oil Tanks	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
61 Paper machine Calendar Stack Reservoirs	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Tanks were constructed after 1978.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
61 Paper machine Calendar Stack Reservoirs	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Tanks were constructed after 1984.
61 Paper machine Calendar Stack Reservoirs	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Capacity of tank is less than 40 m <sup>3</sup> .
61 Paper machine Calendar Stack Reservoirs	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
62 Paper machine Lubricating and Hydraulic Oil Tanks	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Tanks have capacities less than 40,000 gallons.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
62 Paper machine Lubricating and Hydraulic Oil Tanks	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Tanks were constructed before 1978 and have capacities less than 40,000 gallons.
62 Paper machine Lubricating and Hydraulic Oil Tanks	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Sources were constructed prior to effective date.
62 Paper machine Lubricating and Hydraulic Oil Tanks	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
63 Paper machine Lubricating and Hydraulic Oil Tanks	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Tanks were constructed after 1978 and have capacities less than 40,000 gallons.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
63 Paper machine Lubricating and Hydraulic Oil Tanks	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Tanks have capacities less than 40,000 gallons.
63 Paper machine Lubricating and Hydraulic Oil Tanks	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Sources constructed prior to effective date.
63 Paper machine Lubricating and Hydraulic Oil Tanks	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
64 Paper machine Lubricating and Hydraulic Oil Tanks	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Tanks were constructed after 1978 and have capacities less than 40,000 gallons.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
64 Paper machine Lubricating and Hydraulic Oil Tanks	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Tanks were constructed after 1984 and have capacities less than 40,000 gallons.
64 Paper machine Lubricating and Hydraulic Oil Tanks	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Capacity of tank is less than 40 m3.
64 Paper machine Lubricating and Hydraulic Oil Tanks	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
Paper machine Retention Aid Tanks	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Retention aid is not a petroleum liquid and tanks were constructed after 1978.

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Paper machine Retention Aid Tanks	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Retention Aid is not a petroleum liquid.
Paper machine Retention Aid Tanks	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Capacity of tank is less than 40 m3.
Paper machine Retention Aid Tanks	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
Zinc Chloride Storage Tank	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Zinc Chloride is not a petroleum liquid or a volatile organic compound.

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Zinc Chloride Storage Tank	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Zinc Chloride is not a petroleum liquid or a volatile organic compound.
Zinc Chloride Storage Tank	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Zinc Chloride is not a petroleum liquid or a volatile organic compound.
Zinc Chloride Storage Tank	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
Pulp dryer Lubricating and Hydraulic Units	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Tanks were constructed after 1978 and have capacities less than 40,000 gallons.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
Pulp dryer Lubricating and Hydraulic Units	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Tanks capacities are less than 40,000 gallons.
Pulp dryer Lubricating and Hydraulic Units	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Tanks were constructed prior to the effective date of the subpart.
Woodyard Diesel Tank	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Source was constructed after 1978 and capacity is less than 40,000 gallons.
Woodyard Diesel Tank	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Source was constructed after 1984 and capacity is less than 40,000 gallons.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
Woodyard Diesel Tank	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Capacity of tank is less than 40 m3.
Woodyard Diesel Tank	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
Gasoline Room Storage Tank	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Source was constructed after 1978.
Gasoline Room Storage Tank	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Constructed after 1984 and capacity is less than 40,000 gallons.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
Gasoline Room Storage Tank	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Capacity of tank is less than 40 m3.
Gasoline Room Storage Tank	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
Wastewater Nutrient Storage Tanks	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Nutrient is not a petroleum liquid or a volatile organic compound.
Wastewater Nutrient Storage Tanks	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Nutrient is not a petroleum liquid or a volatile organic compound.

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Wastewater Nutrient Storage Tanks	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Nutrient is not a petroleum liquid or a volatile organic compound.
Wastewater Nutrient Storage Tanks	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
Sodium Hypochlorite Tanks	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	§19.10
Sodium Hypochlorite Tanks	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Sodium hypochlorite is not a petroleum liquid or a volatile organic compound.

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Sodium Hypochlorite Tanks	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Sodium hypochlorite is not a petroleum liquid or a volatile organic compound.
Sodium Hydrosulfide Storage Tank	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Sodium hydrosulfide is not a petroleum liquid or a volatile organic compound.
Sodium Hydrosulfide Storage Tank	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Sodium hydrosulfide is not a petroleum liquid or a volatile organic compound.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
Sodium Hydrosulfide Storage Tank	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Sodium hydrosulfide is not a petroleum liquid or a volatile organic compound.
Sodium Hydrosulfide Storage Tank	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
Powerhouse Defoamer Storage Tank	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Tank capacity is less than 40,000 gallons.
Powerhouse Defoamer Storage Tank	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Source was constructed prior to 1978.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
Powerhouse Defoamer Storage Tank	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Source was constructed prior to effective date.
Powerhouse Defoamer Storage Tank	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
62 Fluorescent Dye Storage Tank	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Source was constructed after 1978.
62 Fluorescent Dye Storage Tank	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Tank capacity is less than 40,000 gallons.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
62 Fluorescent Dye Storage Tank	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Source was constructed prior to effective date.
62 Fluorescent Dye Storage Tank	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
63 Fluorescent Dye Storage Tank	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Source was constructed after 1978.
63 Fluorescent Dye Storage Tank	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Tank capacity is less than 40,000 gallons.

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63 Fluorescent Dye Storage Tank	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Source was constructed prior to effective date.
63 Fluorescent Dye Storage Tank	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
Liquid Dye Storage Tanks	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Dye tanks do not contain petroleum liquids or volatile organic compounds.
Liquid Dye Storage Tanks	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Dye tanks do not contain petroleum liquids or volatile organic compounds.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
Liquid Dye Storage Tanks	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Dye tanks do not contain petroleum liquids or volatile organic compounds.
Alum Storage Tanks	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Alum is not a petroleum liquid or a volatile organic compound.
Alum Storage Tanks	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Alum is not a petroleum liquid or a volatile organic compound.

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Affected Source	Regulatory Citation	Description of Regulation	Basis for Determination
Alum Storage Tanks	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Alum is not a petroleum liquid or a volatile organic compound.
Sodium Hydroxide Storage Tanks	40 CFR Part 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978	Sodium hydroxide is not a volatile organic compound.
Sodium Hydroxide Storage Tanks	40 CFR Part 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984	Sodium hydroxide is not a volatile organic compound.

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Sodium Hydroxide Storage Tanks	40 CFR Part 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	Sodium hydroxide is not a volatile organic compound.
Sodium Hydroxide Storage Tanks	§19.10	Regulations for the Control of Volatile Organic Compounds in Pulaski County	This facility is not located in Pulaski County or in a non-attainment area.
Cooling Towers	40 CFR Part 63, Subpart Q	National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers	No chromium-based water treatment chemicals are used in cooling water treatment.
No. 1A Brownstock Decker	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Source was constructed prior to the effective date.
No. 2 Brownstock Decker	40 CFR §60.284	Standards of Performance for Kraft Pulp Mills	Monitoring not feasible for deckers and concentration of TRS below 5 ppm.
No. 2 Brownstock Decker	40 CFR §60.285	Standards of Performance for Kraft Pulp Mills	Particulate and TRS standards do not apply to deckers.
37	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Pulpdryers are not included in this subpart's affected sources.
Finishing Room	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Finishing rooms are not included in the subpart's affected sources.
Shipping Operations	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Shipping operations are not included in the subpart's affected sources.

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38	40 CFR Part 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	Woodyards are not included in the subpart's affected sources.

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### 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 §26.304 of Regulation 26 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated December 1, 2003.

Description	Category
Wood yard Hydraulic Oil Storage Tank Betz	A-3
Betz Defoamer Storage Tanks	A-3
Betz Rx52A Storage Tanks	A-3
Betz Rx68 Storage Tanks	A-3
Betz Rx96w Storage Tanks	A-3
Betz Custom Clean B Storage Tanks	A-3
Betz Custom Clean N Storage Tanks	A-3
Nalco 7577 Tote Bins	A-3
Nalco 7634 Tote Bins	A-3
Nalco 7648 Tote Bins	A-3
Nalco 7562 Tote Bins	A-3
Nalco 7570 Tote Bins	A-3
Nalco 7678 Tote Bins	A-3
Pulp Mill Defoamer Storage Tanks	A-3
Powerhouse Defoamer Storage Tank	A-3
Pulp Mill Dispersant Storage Tanks	A-3
Powerhouse Polymer System	A-3
SMA Systems	A-3
Tote bins or other small containers used for temporary trial purposes containing chemicals with vapor pressure less than or equal to 0.5 psia	A-3
Pulp Mill Caustic Storage Tanks	A-4
Powerhouse Caustic Storage Tanks	A-4
Water Treatment Caustic Storage Tanks	A-4
Paper machine Caustic Storage Tanks	A-4
Miscellaneous and/or Temporary Caustic Storage Tanks Used Throughout The Facility For Cleaning Purposes	A-4
Main Laboratory	A-5
Pulp Dryer Laboratory	A-5
Bleach Plant Laboratory	A-5
Paper Machine Laboratory	A-5
Quality Assurance Laboratories found in paper machine and finishing areas	A-5
ICP Vent in Main Laboratory	A-5

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Description	Category
Water washing of chemical drums less than or equal to 55 gallons with less than 3% by weight of the maximum container volume remaining	A-6
#3 Lime Kiln Backup Drive Motor	A-12
#2 Lime Kiln Backup Drive Motor	A-12
Cyclone and Air Separator Chambers - Converting	A-13
Emergency Diesel-powered Pump for Mill Effluent	A-1
High Density Storage Tanks	A-3
Converting Area Adhesives and Glues	A-13
Coal Piles	A-13

### 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. [40 CFR 70.6(a)(2) and §26.701(B) of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26)]
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. [Regulation 26, §26.406]
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. [40 CFR 70.6(a)(1)(ii) and Regulation 26, §26.701(A)(2)]
5. The permittee must maintain the following records of monitoring information as required by this permit.
  - a. The date, place as defined in this permit, and time of sampling or measurements;
  - b. The date(s) analyses performed;
  - c. The company or entity performing the analyses;
  - d. The analytical techniques or methods used;
  - e. The results of such analyses; and
  - f. The operating conditions existing at the time of sampling or measurement.

[40 CFR 70.6(a)(3)(ii)(A) and Regulation 26, §26.701(C)(2)]

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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. [40 CFR 70.6(a)(3)(ii)(B) and Regulation 26, §26.701(C)(2)(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 Regulation No. 26, §26.2 must certify all required reports. The permittee will send the reports to the address below:

Arkansas Department of Environmental Quality  
Air Division  
ATTN: Compliance Inspector Supervisor  
5301 Northshore Drive  
North Little Rock, AR 72118-5317

[40 C.F.R. 70.6(a)(3)(iii)(A) and Regulation 26, §26.701(C)(3)(a)]

8. The permittee shall report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.
  - a. For all upset conditions (as defined in Regulation 19, § 19.601), the permittee will 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:
    - i. The facility name and location;
    - ii. The process unit or emission source deviating from the permit limit;
    - iii. The permit limit, including the identification of pollutants, from which deviation occurs;
    - iv. The date and time the deviation started;
    - v. The duration of the deviation;
    - vi. The average emissions during the deviation;
    - vii. The probable cause of such deviations;
    - viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future; and
    - ix. The name of the person submitting the report.

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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.

- b. For all deviations, the permittee shall report such events in semi-annual reporting and annual certifications required in this permit. This includes all upset conditions reported in 8a above. The semi-annual report must include all the information as required by the initial and full reports required in 8a.

[Regulation 19, §19.601 and §19.602, Regulation 26, §26.701(C)(3)(b), 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. [40 CFR 70.6(a)(5), Regulation 26, §26.701(E), and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
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. [40 CFR 70.6(a)(6)(i) and Regulation 26, §26.701(F)(1)]
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. [40 CFR 70.6(a)(6)(ii) and Regulation 26, §26.701(F)(2)]
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. [40 CFR 70.6(a)(6)(iii) and Regulation 26, §26.701(F)(3)]
13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 70.6(a)(6)(iv) and Regulation 26, §26.701(F)(4)]

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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. [40 CFR 70.6(a)(6)(v) and Regulation 26, §26.701(F)(5)]
15. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [40 CFR 70.6(a)(7) and Regulation 26, §26.701(G)]
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. [40 CFR 70.6(a)(8) and Regulation 26, §26.701(H)]
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. [40 CFR 70.6(a)(9)(i) and Regulation 26, §26.701(I)(1)]
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. [40 CFR 70.6(b) and Regulation 26, §26.702(A) and (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. [40 CFR 70.6(c)(1) and Regulation 26, §26.703(A)]
20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 CFR 70.6(c)(2) and Regulation 26, §26.703(B)]
  - a. 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;
  - b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
  - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

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- d. 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: [40 CFR 70.6(c)(5) and Regulation 26, §26.703(E)(3)]
- a. The identification of each term or condition of the permit that is the basis of the certification;
  - b. The compliance status;
  - c. Whether compliance was continuous or intermittent;
  - d. 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
  - e. 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)]
- a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
  - b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
  - c. The applicable requirements of the acid rain program, consistent with §408(a) of the Act; or
  - d. 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 A.C.A. §8-4-304 and §8-4-311]
24. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion in the following circumstances:
- a. Such an extension does not violate a federal requirement;
  - b. The permittee demonstrates the need for the extension; and
  - c. The permittee documents that all reasonable measures have been taken to meet the current deadline and documents reasons it cannot be met.

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[Regulation 18, §18.314(A), Regulation 19, §19.416(A), Regulation 26, §26.1013(A), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

25. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Department approval. Any such emissions shall be included in the facility's total emissions and reported as such. The Department may grant such a request, at its discretion under the following conditions:
- a. Such a request does not violate a federal requirement;
  - b. Such a request is temporary in nature;
  - c. Such a request will not result in a condition of air pollution;
  - d. The request contains such information necessary for the Department to evaluate the request, including but not limited to, quantification of such emissions and the date/time such emission will occur;
  - e. Such a request will result in increased emissions less than five tons of any individual criteria pollutant, one ton of any single HAP and 2.5 tons of total HAPs; and
  - f. The permittee maintains records of the dates and results of such temporary emissions/testing.

[Regulation 18, §18.314(B), Regulation 19, §19.416(B), Regulation 26, §26.1013(B), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

26. The permittee may request in writing and at least 30 days in advance, an alternative to the specified monitoring in this permit. No such alternatives are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion under the following conditions:
- a. The request does not violate a federal requirement;
  - b. The request provides an equivalent or greater degree of actual monitoring to the current requirements; and
  - c. Any such request, if approved, is incorporated in the next permit modification application by the permittee.

[Regulation 18, §18.314(C), Regulation 19, §19.416(C), Regulation 26, §26.1013(C), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]



Appendix A  
40 CFR Part 60, Subpart Db – *Standards of Performance for Industrial-Commercial-Institutional  
Steam Generating Units*



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## Electronic Code of Federal Regulations

*e-CFR*  
TM

**e-CFR Data is current as of July 13, 2009**

### **Title 40: Protection of Environment**

#### **PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

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

**Source:** 72 FR 32742, June 13, 2007, unless otherwise noted.

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

(a) The affected facility to which this subpart applies is each steamgenerating 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 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).

(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 MMBtu/hr), inclusive, are subject to the particulate matter (PM) and nitrogen oxides (NO<sub>x</sub>) standards under this subpart.

(2) Coal-fired affected facilities having a heat input capacity greater than 73 MW (250 MMBtu/hr) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are subject to the PM and NO<sub>x</sub> standards under this subpart and to the sulfur dioxide (SO<sub>2</sub>) standards under subpart D (§60.43).

(3) Oil-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 MMBtu/hr), inclusive, are subject to the NO<sub>x</sub> standards under this subpart.

(4) Oil-fired affected facilities having a heat input capacity greater than 73 MW (250 MMBtu/hr) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are also subject to the NO<sub>x</sub> standards under this subpart and the PM and SO<sub>2</sub> standards under subpart D (§60.42 and §60.43).

(c) Affected facilities that also meet the applicability requirements under subpart J (Standards of performance for petroleum refineries; §60.104) are subject to the PM and NO<sub>x</sub> standards under this subpart and the SO<sub>2</sub> standards under subpart J (§60.104).

(d) Affected facilities that also meet the applicability requirements under subpart E (Standards of performance for incinerators; §60.50) are subject to the NO<sub>x</sub> and PM standards under this subpart.

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

(f) Any change to an existing steam generating unit for the sole purpose of combusting gases containing total reduced sulfur (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 Clean Air 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).

(h) Any affected facility that meets the applicability requirements and is subject to subpart Ea, subpart Eb, or subpart AAAA of this part is not covered by this subpart.

(i) Heat recovery steam generators that are associated with combined cycle gas turbines and that meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than 29 MW (100 MMBtu/hr) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

(j) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1986 is not subject to subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators, §60.40).

(k) Any affected facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart Cb or subpart BBBB of this part is not covered by this subpart.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009]

#### § 60.41b Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air 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, petroleum refineries, or pulp and paper mills (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 (CO<sub>2</sub>) levels greater than 50 percent or carbon monoxide levels greater than 10 percent are not byproduct/waste for the purpose of this subpart.

*Chemical manufacturing plants* mean industrial plants that 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 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, coke oven gas, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

*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.

*Cogeneration*, also known as combined heat and power, means a facility that simultaneously produces both electric (or mechanical) and useful thermal energy from the same primary energy source.

*Coke oven gas* means the volatile constituents generated in the gaseous exhaust during the carbonization of bituminous coal to form coke.

*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 steam generating unit.

*Conventional technology* means wet flue gas desulfurization (FGD) technology, dry FGD technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization 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 (incorporated by reference, see §60.17) or diesel fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §60.17).

*Dry flue gas desulfurization technology* means a SO<sub>2</sub> 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 reagent and water, whether introduced separately or as a premixed 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 steam generating unit.

*Emerging technology* means any SO<sub>2</sub> 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 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.

*Gaseous fuel* means any fuel that is a gas at ISO conditions. This includes, but is not limited to, natural gas and gasified coal (including coke oven gas).

*Gross output* means the gross useful work performed by the steam generated. For units generating only electricity, the gross useful work performed is the gross electrical output from the turbine/generator set. For cogeneration units, the gross useful work performed is the gross electrical or mechanical output plus 75 percent of the useful thermal output measured relative to ISO conditions that is not used to generate additional electrical or mechanical output or to enhance the performance of the unit (i.e., steam delivered to an industrial process).

*Heat input* means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived 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/hr) 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  $730,000 \text{ J/sec-m}^3$  ( $70,000 \text{ Btu/hr-ft}^3$ ).

*ISO Conditions* means a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals.

*Lignite* means a type of coal classified as lignite A or lignite B by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17).

*Low heat release rate* means a heat release rate of  $730,000 \text{ J/sec-m}^3$  ( $70,000 \text{ Btu/hr-ft}^3$ ) 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) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17); or
- (3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

*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  $\text{SO}_2$  emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems. For gasified coal or oil that is desulfurized prior to combustion, the *Potential sulfur dioxide emission rate* is the theoretical  $\text{SO}_2$  emissions (ng/J or lb/MMBtu heat input) that would result from combusting fuel in a cleaned state without using any post combustion 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.

*Pulp and paper mills* means industrial plants that are classified by the Department of Commerce under North American Industry Classification System (NAICS) Code 322 or Standard Industrial Classification (SIC) Code 26.

*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 (incorporated by reference, 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 and produces steam or heats water or heats any 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 for units constructed, reconstructed, or modified on or before February 28, 2005, oil that contains no more than 0.5 weight percent sulfur or that, when combusted without SO<sub>2</sub> emission control, has a SO<sub>2</sub> emission rate equal to or less than 215 ng/J (0.5 lb/MMBtu) heat input. For units constructed, reconstructed or modified after February 28, 2005 and not located in a noncontinental area, *very low sulfur oil* means oil that contains no more than 0.30 weight percent sulfur or that, when combusted without SO<sub>2</sub> emission control, has a SO<sub>2</sub> emission rate equal to or less than 140 ng/J (0.32 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005 and located in a noncontinental area, *very low sulfur oil* means oil that contains no more than 0.5 weight percent sulfur or that, when combusted without SO<sub>2</sub> emission control, has a SO<sub>2</sub> emission rate equal to or less than 215 ng/J (0.50 lb/MMBtu) heat input.

*Wet flue gas desulfurization technology* means a SO<sub>2</sub> 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 PM or SO<sub>2</sub>.

*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.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009]

#### **§ 60.42b Standard for sulfur dioxide (SO<sub>2</sub>).**

(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, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or oil shall cause to be discharged into the atmosphere any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) or 10 percent (0.10) of the potential SO<sub>2</sub> emission rate (90 percent reduction) and the emission limit determined according to the following formula:

$$E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$$

Where:

$E_s$  = SO<sub>2</sub> emission limit, in ng/J or lb/MMBtu heat input;

$K_a$  = 520 ng/J (or 1.2 lb/MMBtu);

$K_b$  = 340 ng/J (or 0.80 lb/MMBtu);

$H_a$  = Heat input from the combustion of coal, in J (MMBtu); and

$H_b$  = Heat input from the combustion of oil, in J (MMBtu).

For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. 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 derived from exhaust gases from other sources, 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, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, 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 SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) or 20 percent (0.20) of the potential SO<sub>2</sub> emission rate (80 percent reduction) and 520 ng/J (1.2 lb/MMBtu) 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. For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. 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 derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(c) On and after the date on which the performance test is completed or is required to be completed under §60.8, 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 SO<sub>2</sub> emissions, shall cause to be discharged into the atmosphere any gases that contain SO<sub>2</sub> in excess of 50 percent of the potential SO<sub>2</sub> emission rate (50 percent reduction) and that contain SO<sub>2</sub> in excess of the emission limit determined according to the following formula:

$$E_s = \frac{(K_c H_c + K_d H_d)}{(H_c + H_d)}$$

Where:

$E_s$  = SO<sub>2</sub> emission limit, in ng/J or lb/MM Btu heat input;

$K_c$  = 260 ng/J (or 0.60 lb/MMBtu);

$K_d$  = 170 ng/J (or 0.40 lb/MMBtu);

$H_c$  = Heat input from the combustion of coal, in J (MMBtu); and

$H_d$  = Heat input from the combustion of oil, in J (MMBtu).

For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. 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 derived from exhaust gases from other sources, 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, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005 and listed in paragraphs (d)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere any gases that contain SO<sub>2</sub> in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/MMBtu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under paragraphs (d)(1), (2), (3) or (4) of this section. For facilities complying with paragraphs (d)(1), (2), or (3) of this section, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. 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 derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(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 fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering 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 entering the steam generating unit is from the exhaust gases entering the duct burner; or

(4) The affected facility burns coke oven gas alone or in combination with natural gas or very low sulfur distillate oil.

(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 and §60.45b(a), the SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> emissions and

(2) Emissions from the pretreated fuel (without combustion or post-combustion SO<sub>2</sub> 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 SO<sub>2</sub> control system is not being operated because of malfunction or maintenance of the SO<sub>2</sub> 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 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 SO<sub>2</sub> emission rate or fuel oil sulfur content; or (2) maintaining fuel records as described in §60.49b(r).

(k)(1) Except as provided in paragraphs (k)(2), (k)(3), and (k)(4) 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, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, natural gas, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 8 percent (0.08) of the potential SO<sub>2</sub> emission rate (92 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input. For facilities complying with the percent reduction standard and paragraph (k)(3) of this section, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in paragraph (k) of 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 derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(2) Units firing only very low sulfur oil, gaseous fuel, a mixture of these fuels, or a mixture of these fuels with any other fuels with a potential SO<sub>2</sub> emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO<sub>2</sub> emissions limit in paragraph (k)(1) of this section.

(3) Units that are located in a noncontiguous area and that combust coal, oil, or natural gas shall not discharge any gases that contain SO<sub>2</sub> in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 215 ng/J (0.50 lb/MMBtu) heat input if the affected facility combusts oil or natural gas.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009]

#### **§ 60.43b Standard for particulate matter (PM).**

(a) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005 that 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 PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) 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/MMBtu) 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/MMBtu) 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 MMBtu/hr) 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.

(4) An affected facility burning coke oven gas alone or in combination with other fuels not subject to a PM standard under §60.43b and not using a postcombustion technology (except a wet scrubber) for reducing PM or SO<sub>2</sub> emissions is not subject to the PM limits under §60.43b(a).

(b) On and after the date on which the performance test is completed or required to be completed under

§60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, and that combusts oil (or mixtures of oil with other fuels) and uses a conventional or emerging technology to reduce SO<sub>2</sub> emissions shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) 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 whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, and that combusts wood, or wood with other fuels, except coal, shall cause to be discharged from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/MMBtu) 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/MMBtu) 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 MMBtu/hr) 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 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 PM in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/MMBtu) 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/MMBtu) 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 MMBtu/hr) 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 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 on or 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, 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 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 whichever date comes first, no owner or operator of an affected facility that can combust 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. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system

(CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph.

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

(h)(1) Except as provided in paragraphs (h)(2), (h)(3), (h)(4), (h)(5), and (h)(6) 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, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input,

(2) As an alternative to meeting the requirements of paragraph (h)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity of 73 MW (250 MMBtu/h) or less shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity greater than 73 MW (250 MMBtu/h) shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 37 ng/J (0.085 lb/MMBtu) heat input.

(5) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility not located in a noncontiguous area that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.30 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in §60.43b and not using a post-combustion technology (except a wet scrubber) to reduce SO<sub>2</sub> or PM emissions is not subject to the PM limits in (h)(1) of this section.

(6) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility located in a noncontiguous area that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.5 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in §60.43b and not using a post-combustion technology (except a wet scrubber) to reduce SO<sub>2</sub> or PM emissions is not subject to the PM limits in (h)(1) of this section.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009]

#### § 60.44b Standard for nitrogen oxides (NOX).

(a) Except as provided under paragraphs (k) and (l) 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, 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 NO<sub>x</sub> (expressed as NO<sub>2</sub>) in excess of the following emission limits:

Fuel/steam generating unit type	Nitrogen oxide emission limits (expressed as NO <sub>2</sub> ) heat input	
	ng/J	lb/MMBTu
(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 paragraphs (k) and (l) 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, 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 NO<sub>x</sub> in excess of a limit determined by the use of the following formula:

$$E_n = \frac{(EL_{go} H_{go}) + (EL_{no} H_n) + (EL_c H_c)}{(H_{go} + H_n + H_c)}$$

Where:

$E_n$  = NO<sub>x</sub> emission limit (expressed as NO<sub>2</sub>), ng/J (lb/MMBTu);

$EL_{go}$  = Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBTu);

$H_{go}$  = Heat input from combustion of natural gas or distillate oil, J (MMBTu);

$EL_{ro}$  = Appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/MMBtu);

$H_{ro}$  = Heat input from combustion of residual oil, J (MMBtu);

$EL_c$  = Appropriate emission limit from paragraph (a)(3) for combustion of coal, ng/J (lb/MMBtu); and

$H_c$  = Heat input from combustion of coal, J (MMBtu).

(c) Except as provided under paragraph (l) 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, 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  $NO_x$  in excess of the emission limit for the coal or oil, or mixtures 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 affected 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, 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  $NO_x$  in excess of 130 ng/J (0.30 lb/MMBtu) 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) Except as provided under paragraph (l) 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, 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 any gases that contain  $NO_x$  in excess of the 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 that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less:

$$E_n = \frac{(EL_g H_g) + (EL_o H_o) + (EL_c H_c)}{(H_g + H_o + H_c)}$$

Where:

$E_n$  =  $NO_x$  emission limit (expressed as  $NO_2$ ), ng/J (lb/MMBtu);

$EL_{go}$  = Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);

$H_{go}$  = Heat input from combustion of natural gas, distillate oil and gaseous byproduct/waste, J (MMBtu);

$EL_{ro}$  = Appropriate emission limit from paragraph (a)(2) for combustion of residual oil and/or byproduct/waste, ng/J (lb/MMBtu);

$H_{ro}$  = Heat input from combustion of residual oil, J (MMBtu);

$EL_c$  = Appropriate emission limit from paragraph (a)(3) for combustion of coal, ng/J (lb/MMBtu); and

$H_c$  = Heat input from combustion of coal, J (MMBtu).

(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  $NO_x$  emission limit that 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  $NO_x$  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  $NO_x$  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) or (l)(1) of this section, as appropriate, by conducting a 30-day performance test as provided in §60.46b(e). During the performance test only natural 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) or (l)(1) 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  $NO_x$  emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) 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  $NO_x$  emission limit will be established at the  $NO_x$  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  $NO_x$  emissions. In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific  $NO_x$  limit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(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  $NO_x$  emission limit that applies specifically to that affected facility. The petition must include sufficient and appropriate data, as determined by the Administrator, on  $NO_x$  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  $NO_x$  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  $NO_x$  emission limits of this section. The  $NO_x$  emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) 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).) In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific  $NO_x$  limit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(h) For purposes of paragraph (i) of this section, the  $NO_x$  standards under this section 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 with 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 MMBtu/hr) or less, are not subject to the NO<sub>x</sub> emission limits under this section.

(l) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction or reconstruction after July 9, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO<sub>x</sub> (expressed as NO<sub>2</sub>) in excess of the following limits:

(1) If the affected facility combusts coal, oil, natural gas, a mixture of these fuels, or a mixture of these fuels with any other fuels: A limit of 86 ng/J (0.20 lb/MMBtu) heat input 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 that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas; or

(2) If the affected facility has a low heat release rate and combusts natural gas or distillate oil in excess of 30 percent of the heat input on a 30-day rolling average from the combustion of all fuels, a limit determined by use of the following formula:

$$E_n = \frac{(0.10 \times H_g) + (0.20 \times H_r)}{(H_g + H_r)}$$

Where:

$E_n$  = NO<sub>x</sub> emission limit, (lb/MMBtu);

$H_g$  = 30-day heat input from combustion of natural gas or distillate oil; and

$H_r$  = 30-day heat input from combustion of any other fuel.

(3) After February 27, 2006, units where more than 10 percent of total annual output is electrical or mechanical may comply with an optional limit of 270 ng/J (2.1 lb/MMh) gross energy output, based on a 30-day rolling average. Units complying with this output-based limit must demonstrate compliance according to the procedures of §60.48Da(i) of subpart Da of this part, and must monitor emissions according to §60.49Da(c), (k), through (n) of subpart Da of this part.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009]

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

(a) The SO<sub>2</sub> emission standards in §60.42b apply at all times. Facilities burning coke oven gas alone or in combination with any other gaseous fuels or distillate oil are allowed to exceed the limit 30 operating days per calendar year for SO<sub>2</sub> control system maintenance.

(b) In conducting the performance tests required under §60.8, the owner or operator shall use the methods and procedures in appendix A (including fuel certification and sampling) 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 SO<sub>2</sub> emission rate (% P<sub>s</sub>) and the SO<sub>2</sub> emission rate (E<sub>s</sub>) pursuant to §60.42b following the procedures listed below, except as provided under paragraph (d) and (k) of this section.

(1) The initial performance test shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the SO<sub>2</sub> 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, only oil, or a mixture of coal and oil is combusted, the following procedures are used:

(i) The procedures in Method 19 of appendix A-7 of this part are used to determine the hourly SO<sub>2</sub> 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 CEMS of §60.47b(a) or (b).

(ii) The percent of potential SO<sub>2</sub> emission rate (%P<sub>s</sub>) emitted to the atmosphere is computed using the following formula:

$$\%P_s = 100 \left( 1 - \frac{\%R_g}{100} \right) \left( 1 - \frac{\%R_f}{100} \right)$$

Where:

%P<sub>s</sub> = Potential SO<sub>2</sub> emission rate, percent;

%R<sub>g</sub> = SO<sub>2</sub> removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

%R<sub>f</sub> = SO<sub>2</sub> removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, 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 SO<sub>2</sub> emission rate (E<sub>ho</sub><sup>o</sup>) is used in Equation 19-19 of Method 19 of appendix A of this part to compute an adjusted 30-day average emission rate (E<sub>ao</sub><sup>o</sup>). The E<sub>ho</sub><sup>o</sup> is computed using the following formula:

$$E_{ho}^o = \frac{E_b - E_w(1 - X_1)}{X_1}$$

Where:

$E_{ho}^{\circ}$  = Adjusted hourly  $SO_2$  emission rate, ng/J (lb/MMBtu);

$E_{ho}$  = Hourly  $SO_2$  emission rate, ng/J (lb/MMBtu);

$E_w$  =  $SO_2$  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 of appendix A of this part, ng/J (lb/MMBtu). The value  $E_w$  for each fuel lot is used for each hourly average during the time that the lot is being combusted; and

$X_k$  = Fraction of total heat input from fuel combustion derived from coal, oil, or coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(ii) To compute the percent of potential  $SO_2$  emission rate ( $\%P_s$ ), an adjusted  $\%R_g$  ( $\%R_g^{\circ}$ ) is computed from the adjusted  $E_{ao}^{\circ}$  from paragraph (b)(3)(i) of this section and an adjusted average  $SO_2$  inlet rate ( $E_{ai}^{\circ}$ ) using the following formula:

$$\%R_g^{\circ} = 100 \left( 1.0 - \frac{E_{ao}^{\circ}}{E_{ai}^{\circ}} \right)$$

To compute  $E_{ai}^{\circ}$ , an adjusted hourly  $SO_2$  inlet rate ( $E_{hi}^{\circ}$ ) is used. The  $E_{hi}^{\circ}$  is computed using the following formula:

$$E_{ai}^{\circ} = \frac{E_{hi} - E_w (1 - X_k)}{X_k}$$

Where:

$E_{hi}^{\circ}$  = Adjusted hourly  $SO_2$  inlet rate, ng/J (lb/MMBtu); and

$E_{hi}$  = Hourly  $SO_2$  inlet rate, ng/J (lb/MMBtu).

(4) The owner or operator of an affected facility subject to paragraph (c)(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  $SO_2$  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  $X_k$  in paragraph (c)(3) of this section if the owner or operator of the affected facility elects to measure  $SO_2$  emission rates of the coal or oil following the fuel sampling and analysis procedures in Method 19 of appendix A-7 of this part.

(d) Except as provided in paragraph (j) of this section, the owner or operator of an affected facility that combusts only very low sulfur oil, natural gas, or a mixture of these fuels, 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 CEMS is used, or based on a daily average if Method 6B of appendix A of this part or fuel sampling and analysis procedures under Method 19 of appendix A of this part 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 SO<sub>2</sub> emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for SO<sub>2</sub> 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 SO<sub>2</sub> emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> emissions data in calculating %P<sub>s</sub> and E<sub>ho</sub> 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 SO<sub>2</sub> emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating %P<sub>s</sub> and E<sub>ho</sub> pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the SO<sub>2</sub> control systems when oil is combusted as provided under §60.42b(i), emission data are not used to calculate %P<sub>s</sub> or E<sub>s</sub> 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 only combusts very low sulfur oil, natural gas, or a mixture of these fuels with any other fuels not subject to an SO<sub>2</sub> standard is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r).

(k) The owner or operator of an affected facility seeking to demonstrate compliance in §§60.42b(d)(4), 60.42b(j), 60.42b(k)(2), and 60.42b(k)(3) (when not burning coal) shall follow the applicable procedures in §60.49b(r).

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009]

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

(a) The PM emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction. The NO<sub>x</sub> emission standards under §60.44b apply at all times.

(b) Compliance with the PM emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) of

this section.

(c) Compliance with the NO<sub>x</sub> 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 PM 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, and shall conduct subsequent performance tests as requested by the Administrator, using the following procedures and reference methods:

(1) Method 3A or 3B of appendix A–2 of this part is used for gas analysis when applying Method 5 of appendix A–3 of this part or Method 17 of appendix A–6 of this part.

(2) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

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

(ii) Method 17 of appendix A–6 of this part 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 8.1 and 11.1 of Method 5B of appendix A–3 of this part may be used in Method 17 of appendix A–6 of this part only if it is used after a wet FGD system. Do not use Method 17 of appendix A–6 of this part after wet FGD systems if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part is to be used only after wet FGD systems.

(3) Method 1 of appendix A of this part 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 of appendix A of this part, the temperature of the sample gas in the probe and filter holder is monitored and is maintained at 160±14 °C (320±25 °F).

(5) For determination of PM emissions, the oxygen (O<sub>2</sub>) or CO<sub>2</sub> sample is obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(6) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rate expressed in ng/J heat input is determined using:

(i) The O<sub>2</sub> or CO<sub>2</sub> measurements and PM measurements obtained under this section;

(ii) The dry basis F factor; and

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

(7) Method 9 of appendix A of this part is used for determining the opacity of stack emissions.

(e) To determine compliance with the emission limits for NO<sub>x</sub> 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 NO<sub>x</sub> under §60.48(b).

(1) For the initial compliance test, NO<sub>x</sub> 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 NO<sub>x</sub> 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, whichever date comes first, the owner or operator of an affected facility which combusts coal (except as specified under §60.46b(e)(4)) or which combusts residual oil having a nitrogen content greater than 0.30 weight percent shall determine compliance with the NO<sub>x</sub> emission standards in §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 for each steam generating unit operating day as the average of all of the hourly NO<sub>x</sub> 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, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity greater than 73 MW (250 MMBtu/hr) and that combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the NO<sub>x</sub> 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 NO<sub>x</sub> 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, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity of 73 MW (250 MMBtu/hr) or less and that combusts natural gas, distillate oil, gasified coal, or residual oil having a nitrogen content of 0.30 weight percent or less shall upon request determine compliance with the NO<sub>x</sub> standards in §60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, NO<sub>x</sub> 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 NO<sub>x</sub> 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 NO<sub>x</sub> emission data for the preceding 30 steam generating unit operating days.

(5) If the owner or operator of an affected facility that combusts residual oil does not sample and analyze the residual oil for nitrogen content, as specified in §60.49b(e), the requirements of §60.48b(g)(1) apply and the provisions of §60.48b(g)(2) are inapplicable.

(f) To determine compliance with the emissions limits for NO<sub>x</sub> required by §60.44b(a)(4) or §60.44b(l) for duct burners used in combined cycle systems, either of the procedures described in paragraph (f)(1) or (2) of this section may be used:

(1) The owner or operator of an affected facility shall conduct the performance test required under §60.8 as follows:

(i) The emissions rate (E) of NO<sub>x</sub> shall be computed using Equation 1 in this section:

$$E = E_{t,t} + \left( \frac{H_g}{H_b} \right) (E_{t,t} - E_{t,t}) \quad (\text{Eq.1})$$

Where:

E = Emissions rate of NO<sub>x</sub> from the duct burner, ng/J (lb/MMBtu) heat input;

E<sub>sg</sub> = Combined effluent emissions rate, in ng/J (lb/MMBtu) heat input using appropriate F factor as described in Method 19 of appendix A of this part;

H<sub>g</sub> = Heat input rate to the combustion turbine, in J/hr (MMBtu/hr);

H<sub>b</sub> = Heat input rate to the duct burner, in J/hr (MMBtu/hr); and

E<sub>g</sub> = Emissions rate from the combustion turbine, in ng/J (lb/MMBtu) heat input calculated

using appropriate F factor as described in Method 19 of appendix A of this part.

(ii) Method 7E of appendix A of this part shall be used to determine the NO<sub>x</sub> concentrations. Method 3A or 3B of appendix A of this part shall be used to determine O<sub>2</sub> concentration.

(iii) The owner or operator shall identify and demonstrate to the Administrator's satisfaction suitable methods to determine the average hourly heat input rate to the combustion turbine and the average hourly heat input rate to the affected duct burner.

(iv) Compliance with the emissions limits under §60.44b(a)(4) or §60.44b(l) is determined by the three-run average (nominal 1-hour runs) for the initial and subsequent performance tests; or

(2) The owner or operator of an affected facility may elect to determine compliance on a 30-day rolling average basis by using the CEMS specified under §60.48b for measuring NO<sub>x</sub> and O<sub>2</sub> and meet the requirements of §60.48b. The sampling site shall be located at the outlet from the steam generating unit. The NO<sub>x</sub> emissions rate at the outlet from the steam generating unit shall constitute the NO<sub>x</sub> emissions rate from the duct burner of the combined cycle system.

(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 or the heat input method described in sections 5 and 7.3 of the ASME *Power Test Codes* 4.1 (incorporated by reference, see §60.17). 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 MMBtu/hr) 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 NO<sub>x</sub> emission standards under §60.44b using Method 7, 7A, 7E of appendix A of this part, 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 NO<sub>x</sub> 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 of appendix A of this part, or other approved reference methods.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the PM limit in paragraphs §60.43b(a)(4) or §60.43b(h)(5) shall follow the applicable procedures in §60.49b(r).

(j) In place of PM testing with Method 5 or 5B of appendix A-3 of this part, or Method 17 of appendix A-6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall comply with the requirements specified in paragraphs (j)(1) through (j)(14) of this section.

(1) Notify the Administrator one month before starting use of the system.

(2) Notify the Administrator one month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of the CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under §60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (j) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraphs (j)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (j)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (j)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O<sub>2</sub> (or CO<sub>2</sub>) data shall be collected concurrently (or within a 30-to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall be used; and

(ii) After July 1, 2010 or after Method 202 of appendix M of part 51 has been revised to minimize artifact measurement and notice of that change has been published in the Federal Register, whichever is later, for condensable PM emissions, Method 202 of appendix M of part 51 shall be used; and

(iii) For O<sub>2</sub> (or CO<sub>2</sub>), Method 3A or 3B of appendix A-2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours per 30-day rolling average.

(14) After July 1, 2011, within 90 days after completing a correlation testing run, the owner or operator of an affected facility shall either successfully enter the test data into EPA's WebFIRE data base located at <http://cfpub.epa.gov/carweb/index.cfm?action=fire.main> or mail a copy to: United States Environmental Protection Agency, Energy Strategies Group; 109 TW Alexander DR; Mail Code: D243-01; RTP, NC 27711.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009]

**§ 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 SO<sub>2</sub> standards in §60.42b shall install, calibrate, maintain, and operate CEMS for measuring SO<sub>2</sub> concentrations and either O<sub>2</sub> or CO<sub>2</sub> concentrations and shall record the output of the systems. For units complying with the percent reduction standard, the SO<sub>2</sub> and either O<sub>2</sub> or CO<sub>2</sub> concentrations shall both be monitored at the inlet and outlet of the SO<sub>2</sub> control device. If the owner or operator has installed and certified SO<sub>2</sub> and O<sub>2</sub> or CO<sub>2</sub> CEMS according to the requirements of §75.20 (c)(1) of this chapter and appendix A to part 75 of this chapter, and is continuing to meet the ongoing quality assurance requirements of §75.21 of this chapter and appendix B to part 75 of this chapter, those CEMS may be used to meet the requirements of this section, provided that:

(1) When relative accuracy testing is conducted, SO<sub>2</sub> concentration data and CO<sub>2</sub> (or O<sub>2</sub>) data are collected simultaneously, and

(2) In addition to meeting the applicable SO<sub>2</sub> and CO<sub>2</sub> (or O<sub>2</sub>) relative accuracy specifications in Figure 2 of appendix B to part 75 of this chapter, the relative accuracy (RA) standard in section 13.2 of Performance Specification 2 in appendix B to this part is met when the RA is calculated on a lb/MMBtu basis; and

(3) The reporting requirements of §60.49b are met. SO<sub>2</sub> and CO<sub>2</sub> (or O<sub>2</sub>) data used to meet the requirements of §60.49b shall not include substitute data values derived from the missing data procedures in subpart D of part 75 of this chapter, nor shall the SO<sub>2</sub> data have been bias adjusted according to the procedures of part 75 of this chapter.

(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 SO<sub>2</sub> 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 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO<sub>2</sub> input rate, or

(2) Measuring SO<sub>2</sub> according to Method 6B of appendix A of this part at the inlet or outlet to the SO<sub>2</sub> control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO<sub>2</sub> and CO<sub>2</sub> 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 of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 or 3B of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part 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 of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent.

(3) A daily SO<sub>2</sub> emission rate, E<sub>D</sub>, shall be determined using the procedure described in Method 6A of appendix A of this part, section 7.6.2 (Equation 6A-8) and stated in ng/J (lb/MMBtu) heat input.

(4) The mean 30-day emission rate is calculated using the daily measured values in ng/J (lb/MMBtu) for 30 successive steam generating unit operating days using equation 19-20 of Method 19 of appendix A of this part.

(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 SO<sub>2</sub> emission rates measured by the CEMS required by paragraph (a) of this

section and required under §60.13(h) is expressed in ng/J or lb/MMBtu heat input and is used to calculate the average emission rates under §60.42(b). Each 1-hour average SO<sub>2</sub> emission rate must be based on 30 or more minutes of steam generating unit operation. The hourly averages shall be calculated according to §60.13(h)(2). Hourly SO<sub>2</sub> emission rates are not calculated if the affected facility is operated less than 30 minutes in a given clock hour 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) Except as provided for in paragraph (e)(4) of this section, all CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Except as provided for in paragraph (e)(4) of this section, quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities combusting coal or oil, alone or in combination with other fuels, the span value of the SO<sub>2</sub> CEMS at the inlet to the SO<sub>2</sub> control device is 125 percent of the maximum estimated hourly potential SO<sub>2</sub> emissions of the fuel combusted, and the span value of the CEMS at the outlet to the SO<sub>2</sub> control device is 50 percent of the maximum estimated hourly potential SO<sub>2</sub> emissions of the fuel combusted. Alternatively, SO<sub>2</sub> span values determined according to section 2.1.1 in appendix A to part 75 of this chapter may be used.

(4) As an alternative to meeting the requirements of paragraphs (e)(1) and (e)(2) of this section, the owner or operator may elect to implement the following alternative data accuracy assessment procedures:

(i) For all required CO<sub>2</sub> and O<sub>2</sub> monitors and for SO<sub>2</sub> and NO<sub>x</sub> monitors with span values greater than or equal to 100 ppm, the daily calibration error test and calibration adjustment procedures described in sections 2.1.1 and 2.1.3 of appendix B to part 75 of this chapter may be followed instead of the CD assessment procedures in Procedure 1, section 4.1 of appendix F to this part.

(ii) For all required CO<sub>2</sub> and O<sub>2</sub> monitors and for SO<sub>2</sub> and NO<sub>x</sub> monitors with span values greater than 30 ppm, quarterly linearity checks may be performed in accordance with section 2.2.1 of appendix B to part 75 of this chapter, instead of performing the cylinder gas audits (CGAs) described in Procedure 1, section 5.1.2 of appendix F to this part. If this option is selected: The frequency of the linearity checks shall be as specified in section 2.2.1 of appendix B to part 75 of this chapter; the applicable linearity specifications in section 3.2 of appendix A to part 75 of this chapter shall be met; the data validation and out-of-control criteria in section 2.2.3 of appendix B to part 75 of this chapter shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, section 5.2 of appendix F to this part; and the grace period provisions in section 2.2.4 of appendix B to part 75 of this chapter shall apply. For the purposes of data validation under this subpart, the cylinder gas audits described in Procedure 1, section 5.1.2 of appendix F to this part shall be performed for SO<sub>2</sub> and NO<sub>x</sub> span values less than or equal to 30 ppm; and

(iii) For SO<sub>2</sub>, CO<sub>2</sub>, and O<sub>2</sub> monitoring systems and for NO<sub>x</sub> emission rate monitoring systems, RATAs may be performed in accordance with section 2.3 of appendix B to part 75 of this chapter instead of following the procedures described in Procedure 1, section 5.1.1 of appendix F to this part. If this option is selected: The frequency of each RATA shall be as specified in section 2.3.1 of appendix B to part 75 of this chapter; the applicable relative accuracy specifications shown in Figure 2 in appendix B to part 75 of this chapter shall be met; the data validation and out-of-control criteria in section 2.3.2 of appendix B to part 75 of this chapter shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, section 5.2 of appendix F to this part; and the grace period provisions in section 2.3.3 of appendix B to part 75 of this chapter shall apply. For the purposes of data validation under this subpart, the relative accuracy specification in section 13.2 of Performance Specification 2 in appendix B to this part shall be met on a lb/MMBtu basis for SO<sub>2</sub> (regardless of the SO<sub>2</sub> emission level during the RATA), and for NO<sub>x</sub> when the average NO<sub>x</sub> emission rate measured by the reference method during the RATA is less than 0.100 lb/MMBtu.

(f) The owner or operator of an affected facility that combusts very low sulfur oil or is demonstrating compliance under §60.45b(k) is not subject to the emission monitoring requirements under paragraph (a) of this section if the owner or operator maintains fuel records as described in §60.49b(r).

[72 FR 32742, June 13, 2007, as amended at 74 FR 5087, Jan. 28, 2009]

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

(a) Except as provided in paragraph (j) of this section, the owner or operator of an affected facility subject to the opacity standard under §60.43b shall install, calibrate, maintain, and operate a continuous opacity monitoring systems (COMS) for measuring the opacity of emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard under §60.43b and meeting the conditions under paragraphs (j)(1), (2), (3), (4), or (5) of this section who elects not to install a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.43b and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. If during the initial 60 minutes of observation all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent, the observation period may be reduced from 3 hours to 60 minutes.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 30 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.*, 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.*, 90 seconds per 30 minute period) the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.*, 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 30 calendar days according to the requirements in §60.46d(d)(7).

(ii) If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the

Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility subject to a NO<sub>x</sub> standard under §60.44b shall comply with either paragraphs (b)(1) or (b)(2) of this section.

(1) Install, calibrate, maintain, and operate CEMS for measuring NO<sub>x</sub> and O<sub>2</sub> (or CO<sub>2</sub>) emissions discharged to the atmosphere, and shall record the output of the system; or

(2) If the owner or operator has installed a NO<sub>x</sub> emission rate CEMS to meet the requirements of part 75 of this chapter and is continuing to meet the ongoing requirements of part 75 of this chapter, that CEMS may be used to meet the requirements of this section, except that the owner or operator shall also meet the requirements of §60.49b. Data reported to meet the requirements of §60.49b shall not include data substituted using the missing data procedures in subpart D of part 75 of this chapter, nor shall the data have been bias adjusted according to the procedures of part 75 of this chapter.

(c) The CEMS required under paragraph (b) of this section shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(d) The 1-hour average NO<sub>x</sub> emission rates measured by the continuous NO<sub>x</sub> monitor required by paragraph (b) of this section and required under §60.13(h) shall be expressed in ng/J or lb/MMBtu 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(h)(2).

(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 COMS shall be between 60 and 80 percent.

(2) For affected facilities combusting coal, oil, or natural gas, the span value for NO<sub>x</sub> is determined using one of the following procedures:

(i) Except as provided under paragraph (e)(2)(ii) of this section, NO<sub>x</sub> span values shall be determined as follows:

Fuel	Span values for NO <sub>x</sub> (ppm)
Natural gas	500.
Oil	500.
Coal	1,000.
Mixtures	500 (x + y) + 1,000z.

Where:

x = Fraction of total heat input derived from natural gas;

y = Fraction of total heat input derived from oil; and

$z$  = Fraction of total heat input derived from coal.

(ii) As an alternative to meeting the requirements of paragraph (e)(2)(i) of this section, the owner or operator of an affected facility may elect to use the  $\text{NO}_x$  span values determined according to section 2.1.2 in appendix A to part 75 of this chapter.

(3) All span values computed under paragraph (e)(2)(i) of this section for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm. Span values computed under paragraph (e)(2)(ii) of this section shall be rounded off according to section 2.1.2 in appendix A to part 75 of this chapter.

(f) When  $\text{NO}_x$  emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of appendix A of this part, Method 7A of appendix A of this part, 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 MMBtu/hr) or less, and that has an annual capacity factor for residual oil having a nitrogen content of 0.30 weight percent or less, natural gas, distillate oil, gasified coal, 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  $\text{NO}_x$  emission rates as specified in a plan submitted pursuant to §60.49b(c).

(h) The owner or operator of a duct burner, as described in §60.41b, that is subject to the  $\text{NO}_x$  standards in §60.44b(a)(4), §60.44b(e), or §60.44b(l) is not required to install or operate a continuous emissions monitoring system to measure  $\text{NO}_x$  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 CEMS for measuring  $\text{NO}_x$  emissions.

(j) The owner or operator of an affected facility that meets the conditions in either paragraph (j)(1), (2), (3), (4), (5), or (6) of this section is not required to install or operate a CEMS if:

(1) The affected facility uses a PM CEMS to monitor PM emissions; or

(2) The affected facility burns only liquid (excluding residual oil) or gaseous fuels with potential  $\text{SO}_2$  emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and does not use a post-combustion technology to reduce  $\text{SO}_2$  or PM emissions. The owner or operator must maintain fuel records of the sulfur content of the fuels burned, as described under §60.49b(r); or

(3) The affected facility burns coke oven gas alone or in combination with fuels meeting the criteria in paragraph (j)(2) of this section and does not use a post-combustion technology to reduce  $\text{SO}_2$  or PM emissions; or

(4) The affected facility does not use post-combustion technology (except a wet scrubber) for reducing PM,  $\text{SO}_2$ , or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a steam generating unit operating day average basis. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (j)(4)(i) through (iv) of this section; or

(i) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (j)(4)(i)(A) through (D) of this section.

(A) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(B) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(C) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

(D) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(ii) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(iii) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(iv) You must record the CO measurements and calculations performed according to paragraph (j)(4) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(5) The affected facility uses a bag leak detection system to monitor the performance of a fabric filter (baghouse) according to the most recent requirements in section §60.48Da of this part; or

(6) The affected facility burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.

(k) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in §60.46b(j). The CEMS specified in paragraph §60.46b(j) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5087, Jan. 28, 2009]

#### **§ 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 SO<sub>2</sub>. 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 SO<sub>2</sub>, PM, and/or NO<sub>x</sub> 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 of this part. 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 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 NO<sub>x</sub> standard in §60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions in the provisions of §60.48b(g)(2) shall submit to the Administrator for approval a plan that identifies the operating conditions to be monitored in §60.48b(g)(2) and the records to be maintained in §60.49b(g). This plan shall be submitted to the Administrator for approval within 360 days of the initial startup of the affected facility. An affected facility burning coke oven gas alone or in combination with other gaseous fuels or distillate oil shall submit this plan to the Administrator for approval within 360 days of the initial startup of the affected facility or by November 30, 2009, whichever date comes later. 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. The plan shall:

(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and NO<sub>x</sub> emission rates (*i.e.*, ng/J or lbs/MMBtu 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 O<sub>2</sub> level);

(2) Include the data and information that the owner or operator used to identify the relationship between NO<sub>x</sub> emission rates and these operating conditions; and

(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(g).

(d) Except as provided in paragraph (d)(2) of this section, the owner or operator of an affected facility shall record and maintain records as specified in paragraph (d)(1) of this section.

(1) 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 the reporting period. 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.

(2) As an alternative to meeting the requirements of paragraph (d)(1) of this section, the owner or operator of an affected facility that is subject to a federally enforceable permit restricting fuel use to a single fuel such that the facility is not required to continuously monitor any emissions (excluding opacity) or parameters indicative of emissions may elect to record and maintain records of the amount of each fuel combusted during 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 content of the residual oil combusted in the affected facility and calculate the average fuel nitrogen content for the reporting period. The nitrogen content shall be determined using ASTM Method D4629 (incorporated by reference, 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 an affected facility subject to the opacity standard in §60.43b, the owner or operator shall maintain records of opacity. In addition, an owner or operator that elects to monitor emissions according to the requirements in §60.48b(a) shall maintain records according to the requirements specified in

paragraphs (f)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (f)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (f)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the NO<sub>x</sub> 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 NO<sub>x</sub> emission rates (expressed as NO<sub>2</sub>) (ng/J or lb/MMBtu heat input) measured or predicted;

(3) The 30-day average NO<sub>x</sub> emission rates (ng/J or lb/MMBtu 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 NO<sub>x</sub> emission rates are in excess of the NO<sub>x</sub> 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 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; and

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

(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 excess emissions that occurred during the reporting period.

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

(2) Any affected facility that is subject to the NO<sub>x</sub> standard of §60.44b, and that:

(i) Combusts natural gas, distillate oil, gasified coal, 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 MMBtu/hr) or less and is required to monitor NO<sub>x</sub> 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 NO<sub>x</sub> emission rate, as determined under §60.46b(e), that exceeds the applicable emission limits in §60.44b.

(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for NO<sub>x</sub> under §60.48(b) shall submit reports containing the information recorded under paragraph (g) of this section.

(j) The owner or operator of any affected facility subject to the SO<sub>2</sub> standards under §60.42b shall submit reports.

(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 SO<sub>2</sub> emission rate (ng/J or lb/MMBtu heat input) measured during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken; For an exceedance due to maintenance of the SO<sub>2</sub> control system covered in paragraph 60.45b(a), the report shall identify the days on which the maintenance was performed and a description of the maintenance;

(3) Each 30-day average percent reduction in SO<sub>2</sub> emissions calculated during the reporting period, ending with the last 30-day period; 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 SO<sub>2</sub> or diluent (O<sub>2</sub> or CO<sub>2</sub>) 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 of this part; and
  - (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 SO<sub>2</sub> 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 SO<sub>2</sub> or diluent (O<sub>2</sub> or CO<sub>2</sub>) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient 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 that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and
  - (9) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Procedure 1 of appendix F 1 of this part. If the owner or operator elects to implement the alternative data assessment procedures described in §§60.47b(e)(4)(i) through (e)(4)(iii), each data assessment report shall include a summary of the results of all of the RATAs, linearity checks, CGAs, and calibration error or drift assessments required by §§60.47b(e)(4)(i) through (e)(4)(iii).
- (m) For each affected facility subject to the SO<sub>2</sub> standards in §60.42(b) for which the minimum amount of data required in §60.47b(c) were not obtained during the reporting period, 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 of appendix A of this part, 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 of appendix A of this part, section 7; and

(4) The ratio of the lower confidence limit for the mean outlet emission rate and the allowable emission rate, as determined in Method 19 of appendix A of this part, section 7.

(n) If a percent removal efficiency by fuel pretreatment (*i.e.*, % $R_p$ ) 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 report.

(1) Indicating what removal efficiency by fuel pretreatment (*i.e.*, % $R_p$ ) was credited during the reporting period;

(2) Listing the quantity, heat content, and date each pretreated fuel shipment was received during the reporting period, 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 reporting period;

(3) Documenting the transport of the fuel from the fuel pretreatment facility to the steam generating unit; and

(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 of appendix A of this part 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 a report containing

(1) The annual capacity factor over the previous 12 months;

(2) The average fuel nitrogen content during the reporting period, if residual oil was fired; and

(3) If the affected facility meets the criteria described in §60.44b(j), the results of any NO<sub>x</sub> emission tests required during the reporting period, the hours of operation during the reporting period, and the hours of operation since the last NO<sub>x</sub> emission test.

(r) The owner or operator of an affected facility who elects to use the fuel based compliance alternatives in §60.42b or §60.43b shall either:

(1) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil, natural gas, wood, a mixture of these fuels, or any of these fuels (or a mixture of these fuels) in combination with other fuels that are known to contain an insignificant amount of sulfur in §60.42b(j) or §60.42b(k) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier that certify that the oil meets the definition of distillate oil and gaseous fuel meets the definition of natural gas as defined in §60.41b and the applicable sulfur limit. For the purposes of this section, the distillate oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition, natural gas, wood, and/or other fuels that are known to contain insignificant amounts of sulfur were combusted in the affected facility during the reporting period; or

(2) The owner or operator of an affected facility who elects to demonstrate compliance based on fuel analysis in §60.42b or §60.43b shall develop and submit a site-specific fuel analysis plan to the Administrator for review and approval no later than 60 days before the date you intend to demonstrate compliance. Each fuel analysis plan shall include a minimum initial requirement of weekly testing and each analysis report shall contain, at a minimum, the following information:

- (i) The potential sulfur emissions rate of the representative fuel mixture in ng/J heat input;
  - (ii) The method used to determine the potential sulfur emissions rate of each constituent of the mixture. For distillate oil and natural gas a fuel receipt or tariff sheet is acceptable;
  - (iii) The ratio of different fuels in the mixture; and
  - (iv) The owner or operator can petition the Administrator to approve monthly or quarterly sampling in place of weekly sampling.
- (s) Facility specific NO<sub>x</sub> standard for Cytec Industries Fortier Plant's C.AOG incinerator located in Westwego, Louisiana:

(1) *Definitions.*

*Oxidation zone* is defined as the portion of the C.AOG incinerator that extends from the inlet of the oxidizing zone combustion air to the outlet gas stack.

*Reducing zone* is defined as the portion of the C.AOG incinerator that extends from the burner section to the inlet of the oxidizing zone combustion air.

*Total inlet air* is defined as the total amount of air introduced into the C.AOG incinerator for combustion of natural gas and chemical by-product waste and is equal to the sum of the air flow into the reducing zone and the air flow into the oxidation zone.

(2) *Standard for nitrogen oxides.* (i) When fossil fuel alone is combusted, the NO<sub>x</sub> emission limit for fossil fuel in §60.44b(a) applies.

(ii) When natural gas and chemical by-product waste are simultaneously combusted, the NO<sub>x</sub> emission limit is 289 ng/J (0.67 lb/MMBtu) and a maximum of 81 percent of the total inlet air provided for combustion shall be provided to the reducing zone of the C.AOG incinerator.

(3) *Emission monitoring.* (i) The percent of total inlet air provided to the reducing zone shall be determined at least every 15 minutes by measuring the air flow of all the air entering the reducing zone and the air flow of all the air entering the oxidation zone, and compliance with the percentage of total inlet air that is provided to the reducing zone shall be determined on a 3-hour average basis.

(ii) The NO<sub>x</sub> emission limit shall be determined by the compliance and performance test methods and procedures for NO<sub>x</sub> in §60.46b(i).

(iii) The monitoring of the NO<sub>x</sub> emission limit shall be performed in accordance with §60.48b.

(4) *Reporting and recordkeeping requirements.* (i) The owner or operator of the C.AOG incinerator shall submit a report on any excursions from the limits required by paragraph (a)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the C.AOG incinerator shall keep records of the monitoring required by paragraph (a)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the C.AOG incinerator shall perform all the applicable reporting and recordkeeping requirements of this section.

(t) Facility-specific NO<sub>x</sub> 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 NO<sub>x</sub> burner that is adjusted to control the split of total combustion air delivered to the reducing and oxidation portions of the combustion flame.

*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 NO<sub>x</sub> emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NO<sub>x</sub> emission limit is 473 ng/J (1.1 lb/MMBtu), 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 NO<sub>x</sub> emission limit shall be determined by the compliance and performance test methods and procedures for NO<sub>x</sub> in §60.46b.

(iii) The monitoring of the NO<sub>x</sub> 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.

(u) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia*. (1) This paragraph (u) applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site") and only to the natural gas-fired boilers installed as part of the powerhouse conversion required pursuant to 40 CFR 52.2454(g). The requirements of this paragraph shall apply, and the requirements of §§60.40b through 60.49b(t) shall not apply, to the natural gas-fired boilers installed pursuant to 40 CFR 52.2454(g).

(i) The site shall equip the natural gas-fired boilers with low NO<sub>x</sub> technology.

(ii) The site shall install, calibrate, maintain, and operate a continuous monitoring and recording system for measuring NO<sub>x</sub> emissions discharged to the atmosphere and opacity using a continuous emissions monitoring system or a predictive emissions monitoring system.

(iii) Within 180 days of the completion of the powerhouse conversion, as required by 40 CFR 52.2454, the site shall perform a performance test to quantify criteria pollutant emissions.

(2) [Reserved]

(v) The owner or operator of an affected facility may submit electronic quarterly reports for SO<sub>2</sub> and/or NO<sub>x</sub> and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the

owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

(w) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

(x) Facility-specific NO<sub>x</sub> standard for Weyerhaeuser Company's No. 2 Power Boiler located in New Bern, North Carolina:

(1) *Standard for nitrogen oxides*. (i) When fossil fuel alone is combusted, the NO<sub>x</sub> emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NO<sub>x</sub> emission limit is 215 ng/J (0.5 lb/MMBtu).

(2) *Emission monitoring for nitrogen oxides*. (i) The NO<sub>x</sub> emissions shall be determined by the compliance and performance test methods and procedures for NO<sub>x</sub> in §60.46b.

(ii) The monitoring of the NO<sub>x</sub> emissions shall be performed in accordance with §60.48b.

(3) *Reporting and recordkeeping requirements*. (i) The owner or operator of the No. 2 Power Boiler shall submit a report on any excursions from the limits required by paragraph (x)(2) of this section to the Administrator with the quarterly report required by §60.49b(i).

(ii) The owner or operator of the No. 2 Power Boiler shall keep records of the monitoring required by paragraph (x)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the No. 2 Power Boiler shall perform all the applicable reporting and recordkeeping requirements of §60.49b.

(y) Facility-specific NO<sub>x</sub> standard for INEOS USA's AOGI located in Lima, Ohio:

(1) *Standard for NO<sub>x</sub>*. (i) When fossil fuel alone is combusted, the NO<sub>x</sub> emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical byproduct/waste are simultaneously combusted, the NO<sub>x</sub> emission limit is 645 ng/J (1.5 lb/MMBtu).

(2) *Emission monitoring for NO<sub>x</sub>*. (i) The NO<sub>x</sub> emissions shall be determined by the compliance and performance test methods and procedures for NO<sub>x</sub> in §60.46b.

(ii) The monitoring of the NO<sub>x</sub> emissions shall be performed in accordance with §60.48b.

(3) *Reporting and recordkeeping requirements*. (i) The owner or operator of the AOGI shall submit a report on any excursions from the limits required by paragraph (y)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the AOGI shall keep records of the monitoring required by paragraph (y)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the AOGI shall perform all the applicable reporting and recordkeeping requirements of this section.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5089, Jan. 28, 2009]

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Appendix B  
ADEQ Continuous Emission Monitoring System Conditions



**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 PST's 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.
- G. 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.
- I. 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 except Carbon Monoxide	> 20% Relative Accuracy
Carbon Monoxide	> 10% Relative Accuracy
All Pollutants except Carbon 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 or 5 ppm difference
Diluent (O <sub>2</sub> & CO <sub>2</sub> )	> 15% of average audit value or 5 ppm difference

**RAA**

Pollutant	> 15% of the three run average or > 7.5 % of the applicable standard
Diluent (O <sub>2</sub> & CO <sub>2</sub> )	> 15% of the three run average or > 7.5 % of the 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 C  
40 CFR Part 60, Subpart BB – *Standards of Performance for Kraft Pulp Mills*



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### **Title 40: Protection of Environment**

#### **PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

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#### **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 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), blow 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 digester 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; 65 FR 61758, Oct. 17, 2000]

#### **§ 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)].

(3) From any lime kiln any gases which contain particulate matter in excess of:

(i) 0.15 g/dscm (0.066 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, as amended at 65 FR 61758, Oct. 17, 2000]

#### **§ 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 650 °C (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, uncorrected for oxygen content.

(vi) The uncontrolled exhaust gases from a new, modified, or reconstructed digester system contain TRS less than 0.005 g/kg air dried pulp (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; 65 FR 61758, Oct. 17, 2000]

#### **§ 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 25 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  $\pm 1$  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)(iii) or (iv) apply, perform the following:

(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) Using the following equation, correct all 12-hour average TRS concentrations to 10 volume percent oxygen, except that all 12-hour average TRS concentrations from a recovery furnace shall be corrected to 8 volume percent oxygen instead of 10 percent, and all 12-hour average TRS concentrations from a facility to which the provisions of §60.283(a)(1)(v) apply shall not be corrected for oxygen content:

$$C_{\text{corr}} = C_{\text{meas}} \times (21 - X / 21 - Y)$$

where:

$C_{\text{corr}}$  = the concentration corrected for oxygen.

$C_{\text{meas}}$  = the concentration uncorrected for oxygen.

$X$  = 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 650 °C (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.

(f) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems required under this section. All continuous monitoring systems shall be operated in accordance with the applicable procedures under Performance Specifications 1, 3, and 5 of appendix B of this part.

[43 FR 7572, Feb. 23, 1978, as amended at 51 FR 18545, May 20, 1986; 65 FR 61759, Oct. 17, 2000; 71 FR 55127, Sept. 21, 2006]

### § 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 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 particulate 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:

$$E = c_s Q_{sd} / \text{BLS}$$

where:

E=emission rate of particulate matter, g/kg (lb/ton) of BLS.

$c_s$  = Concentration of particulate matter, g/dscm (lb/dscf).

$Q_{sd}$  = 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 ( $c_s$ ) and the volumetric flow rate ( $Q_{sd}$ ) 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 concentration. 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 ( $\text{Na}_2\text{O}$ ) and substituted into the following equation to determine the green liquor sulfidity:

$$GLS = 100 C_{\text{Na}_2\text{S}} / \left( C_{\text{Na}_2\text{S}} C_{\text{NaOH}} C_{\text{Na}_2\text{CO}_3} \right)$$

Where:

GLS=green liquor sulfidity, percent.

$C_{\text{Na}_2\text{S}}$  = concentration of  $\text{Na}_2\text{S}$  as  $\text{Na}_2\text{O}$ , mg/liter (gr/gal).

$C_{\text{NaOH}}$  = concentration of  $\text{NaOH}$  as  $\text{Na}_2\text{O}$ , mg/liter (gr/gal).

$C_{\text{Na}_2\text{CO}_3}$  = concentration of  $\text{Na}_2\text{CO}_3$  as  $\text{Na}_2\text{O}$ , 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:

$$E = C_{\text{TRS}} F Q_{\text{sd}} / P$$

where:

E=emission rate of TRS, g/kg (lb/ton) of BLS or ADP.

$C_{\text{TRS}}$ =average combined concentration of TRS, ppm.

F = conversion factor, 0.001417 g H<sub>2</sub>S/m<sup>3</sup> -ppm (8.846 × 10<sup>-8</sup>lb H<sub>2</sub>S/ft<sup>3</sup> -ppm).

$Q_{\text{sd}}$ =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 ( $C_{\text{TRS}}$ ).

(3) Method 2 shall be used to determine the volumetric flow rate ( $Q_{\text{sd}}$ ) 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 204 °C (400 °F).

(2) In place of Method 16, Method 16A or 16B may be used.

[54 FR 6673, Feb. 14, 1989; 54 FR 21344, May 17, 1989, as amended at 55 FR 5212, Feb. 14, 1990; 65 FR 61759, Oct. 17, 2000]

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Appendix D  
40 CFR Part 63, Subpart S – *National Emission Standards for Hazardous Air Pollutants from the  
Pulp and Paper Industry*



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### **Title 40: Protection of Environment**

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

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#### **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.

*Knotted 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 knotted 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. Examples 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 wastewater 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 one of the following:

(i) A boiler, lime kiln, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone; or

(ii) A boiler or recovery furnace with a heat input capacity greater than or equal to 44 megawatts (150 million British thermal units per hour) by introducing the HAP emission stream with the combustion air.

(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; 66 FR 80762, Dec. 22, 2000]

#### **§ 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 blowing 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; and

(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 for 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 §63.693 as specified in §63.962 (a)(3)(ii), (b)(3)(ii)(A), and (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 and treat the pulping process condensates to meet the requirements specified in paragraph (e)(3), (4), or (5) of this section, and total HAP shall be measured as specified in §63.457(g); 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 paragraph (c)(2) or (3) or paragraph (e)(4) or (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 mills specified in paragraph (c)(2) or (3) or paragraph (e)(4) or (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; 65 FR 80762, Dec. 22, 2000]

#### § 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 the manufacturer's specifications a flow indicator that is capable of taking periodic readings as frequently as specified in §63.454(e). 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; 68 FR 37348, June 23, 2003]

### §§ 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 an open biological treatment system to comply with §63.446(e)(2) shall perform the daily monitoring procedures specified in either paragraph (j)(1) or (2) of this section and shall conduct a performance test each quarter using the procedures specified in paragraph (j)(3) of this section.

(1) Comply with the monitoring and sampling requirements specified in paragraphs (j)(1)(i) and (ii) of this section.

(i) On a daily basis, monitor the following parameters for each open biological treatment unit:

(A) Composite daily sample of outlet soluble BOD<sub>5</sub> concentration to monitor for maximum daily and maximum monthly average;

(B) Mixed liquor volatile suspended solids;

(C) Horsepower of aerator unit(s);

(D) Inlet liquid flow, and

(E) Liquid temperature.

(ii) If the Inlet and Outlet Concentration Measurement Procedure (Procedure 3) in appendix C of this part is used to determine the fraction of HAP compounds degraded in the biological treatment system as specified in §63.457(l), conduct the sampling and archival requirements specified in paragraphs (j)(1)(ii) (A) and (B) of this section.

(A) Obtain daily inlet and outlet liquid grab samples from each biological treatment unit to have HAP data available to perform quarterly performance tests specified in paragraph (j)(3) of this section and the compliance tests specified in paragraph (p) of this section.

(B) Store the samples as specified in §63.457(n) until after the results of the soluble BOD<sub>5</sub> test required in paragraph (j)(1)(i)(A) of this section are obtained. The storage requirement is needed since the soluble BOD<sub>5</sub> test requires 5 days or more 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 mass removal or percent reduction determinations.

(2) As an alternative to the monitoring requirements of paragraph (j)(1) of this section, conduct daily monitoring of the site-specific parameters established according to the procedures specified in paragraph (n) of this section.

(3) Conduct a performance test as specified in §63.457(l) within 45 days after the beginning of each quarter and meet the applicable emission limit in §63.446(e)(2).

(i) The performance test conducted in the first quarter (annually) shall be performed for total HAP as specified in §63.457(g) and meet the percent reduction or mass removal emission limit specified in §63.446(e)(2).

(ii) The remaining quarterly performance tests shall be performed as specified in paragraph (j)(3)(i) of this section except owners or operators may use the applicable methanol procedure in §63.457(l)(1) or (2) and the value of *r* determined during the first quarter test instead of measuring the additional HAP to determine a new value of *r*.

(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.

(l) Each pulping process condensate closed collection system used to comply with §63.446(d) shall comply with the requirements specified in paragraphs (l)(1) through (l)(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), (j)(2), 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) The procedures of this paragraph apply to each owner or operator of an open biological treatment system complying with paragraph (j) of this section whenever a monitoring parameter excursion occurs, and the owner or operator chooses to conduct a performance test to demonstrate compliance with the applicable emission limit. A monitoring parameter excursion occurs whenever the monitoring parameters specified in paragraphs (j)(1)(i)(A) through (C) of this section or any of the monitoring parameters specified in paragraph (j)(2) of this section are below minimum operating parameter values or above maximum operating parameter values established in paragraph (n) of this section.

(1) As soon as practical after the beginning of the monitoring parameter excursion, the following requirements shall be met:

(i) Before the steps in paragraph (p)(1)(ii) or (iii) of this section are performed, all sampling and measurements necessary to meet the requirements in paragraph (p)(2) of this section shall be conducted.

(ii) Steps shall be taken to repair or adjust the operation of the process to end the parameter excursion period.

(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 results of the performance test conducted using the procedures in this paragraph demonstrate compliance with the applicable emission limit in §63.446(e)(2).

(i) Conduct a performance test as specified in §63.457 using the monitoring data specified in paragraph (j)(1) or (2) of this section that coincides with the time of the parameter excursion. No maintenance or changes shall be made to the open biological treatment system after the beginning of a parameter excursion that would influence the results of the performance test.

(ii) If the results of the performance test specified in paragraph (p)(2)(i) of this section demonstrate compliance with the applicable emission limit in §63.446(e)(2), then the parameter excursion is not a violation of the applicable emission limit.

(iii) If the results of the performance test specified in paragraph (p)(2)(i) of this section do not demonstrate compliance with the applicable emission limit in §63.446(e)(2) because the total HAP mass entering the open biological treatment system is below the level needed to demonstrate compliance with the applicable emission limit in §63.446(e)(2), then the owner or operator shall perform the following comparisons:

(A) If the value of  $f_{bio}$  (MeOH) determined during the performance test specified in paragraph (p)(2)(i) of this section is within the range of values established during the initial and subsequent performance tests approved by the Administrator, then the parameter excursion is not a violation of the applicable standard.

(B) If the value of  $f_{\text{bio}}(\text{MeOH})$  determined during the performance test specified in paragraph (p)(2)(i) of this section is not within the range of values established during the initial and subsequent performance tests approved by the Administrator, then the parameter excursion is a violation of the applicable standard.

(iv) The results of the performance test specified in paragraph (p)(2)(i) of this section shall be recorded as specified in §63.454(f).

(3) If an owner or operator determines that performing the required procedures under paragraph (p)(2) of this section for a nonthoroughly mixed open biological system would expose a worker to dangerous, hazardous, or otherwise unsafe conditions, all of the following procedures shall be performed:

(i) Calculate the mass removal or percent reduction value using the procedures specified in §63.457(l) except the value for  $f_{\text{bio}}(\text{MeOH})$  shall be determined using the procedures in appendix E to this part.

(ii) Repeat the procedures in paragraph (p)(3)(i) of this section for every day until the unsafe conditions have passed.

(iii) A parameter excursion is a violation of the standard if the percent reduction or mass removal determined in paragraph (p)(3)(i) of this section is less than the percent reduction or mass removal standards specified in §63.446(e)(2), as appropriate, unless the value of  $f_{\text{bio}}(\text{MeOH})$  determined using the procedures in appendix E of this section, as specified in paragraph (p)(3)(i), is within the range of  $f_{\text{bio}}(\text{MeOH})$  values established during the initial and subsequent performance tests previously approved by the Administrator.

(iv) The determination that there is a condition that exposes a worker to dangerous, hazardous, or otherwise unsafe conditions shall be documented according to requirements in §63.454(e) and reporting in §63.455(f).

(v) The requirements of paragraphs (p)(1) and (2) of this section shall be performed and met as soon as practical but no later than 24 hours after the conditions have passed that exposed a worker to dangerous, hazardous, or otherwise unsafe conditions.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999; 65 FR 80762, Dec. 22, 2000]

#### **§ 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, as shown in table 1 of this subpart, and the requirements specified in paragraphs (b) through (f) 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 components 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.
- (e) The owner or operator shall set the flow indicator on each bypass line specified in §63.450(d)(1) to provide a record of the presence of gas stream flow in the bypass line at least once every 15 minutes.
- (f) The owner or operator of an open biological treatment system complying with §63.453(p) shall prepare a written record specifying the results of the performance test specified in §63.453(p)(2).

[63 FR 18617, Apr. 15, 1998, as amended at 65 FR 80763, Dec. 22, 2000; 68 FR 37348, June 23, 2003]

#### **§ 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.

(e) If the owner or operator uses the results of the performance test required in §63.453(p)(2) to revise the approved values or ranges of the monitoring parameters specified in §63.453(j)(1) or (2), the owner or operator shall submit an initial notification of the subsequent performance test to the Administrator as soon as practicable, but no later than 15 days, before the performance test required in §63.453(p)(2) is scheduled to be conducted. The owner or operator shall notify the Administrator as soon as practicable, but no later than 24 hours, before the performance test is scheduled to be conducted to confirm the exact date and time of the performance test.

(f) To comply with the open biological treatment system monitoring provisions of §63.453(p)(3), the owner or operator shall notify the Administrator as soon as practicable of the onset of the dangerous, hazardous, or otherwise unsafe conditions that did not allow a compliance determination to be conducted using the sampling and test procedures in §63.457(l). The notification shall occur no later than 24 hours after the onset of the dangerous, hazardous, or otherwise unsafe conditions and shall include the specific reason(s) that the sampling and test procedures in §63.457(l) could not be performed.

[63 FR 18617, Apr. 15, 1998, as amended at 65 FR 80763, Dec. 22, 2000]

#### **§ 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 midget 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 potassiumiodate dried at 103 ±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 concentrated sulfuric acid, 10.00 ml 0.1000 N anhydrous potassium bi-iodate, and 1 g potassiumiodide. 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:

$$\text{Normality of Sodium Thiosulfate} = \frac{1}{\text{ml Sodium Thiosulfate Consumed}}$$

( 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:

$$S_C = S_U \left( \frac{BP - PW}{760} \right) \left( \frac{293}{273 + t} \right)$$

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:

$$Cl_2 \text{ Moles} = 1/8000 (5 T_N - T_A) \times N_{Thio}$$

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:

$$Cl_2 \text{ ppmv} = \frac{3005 (5 T_N - T_A) \times N_{Thio}}{S_C \times t_s}$$

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

$N_{\text{Thio}}$  = Normality of sodium thiosulfate titrant.

(J) The following calculation shall be performed to determine the moles of chlorine dioxide in the sample:

$$\text{ClO}_2 \text{ Moles} = 1/4000(T_A - T_N) \times N_{\text{Thio}}$$

Where:

$T_A$  = Volume acid titer (total), ml;

$T_N$  = Volume neutral titer, ml; and

$N_{\text{Thio}}$  = Normality of sodium thiosulfate titrant.

(K) The following calculation shall be performed to determine the concentration of chlorine dioxide in the sample:

$$\text{ClO}_2 \text{ ppmv} = \frac{6010(T_A - T_N) \times N_{\text{Thio}}}{S_C \times t_S}$$

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

$N_{\text{Thio}}$  = 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 of the test method listed in paragraph (c) (3) of this section selected to determine liquid stream HAP concentrations;

(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:

$$\bar{C} = \sum_{i=1}^n C_i / fm_i$$

Where:

C=Pollutant concentration for the liquid stream, parts per million by weight.

$C_i$ =Measured concentration of pollutant i in the liquid stream sample determined using Method 305, parts per million by weight.

$fm_i$ =Pollutant-specific constant that adjusts concentration measured by Method 305 to actual liquid concentration; the  $fm$  for methanol is 0.85. Additional pollutant  $fm$  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 an open 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 of this chapter with the following modifications:

(i) Filter the sample through the filter paper, into an Erlenmeyer flask by applying a vacuum to the flask sidearm. 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.

(5) If the test method used to determine HAP concentration indicates that a specific HAP is not detectable, the value determined as the minimum measurement level (MML) of the selected test method for the specific HAP shall be used in the compliance demonstration calculations. To determine the MML for a specific HAP using one of the test methods specified in paragraph (c)(3) of this section, one of the procedures specified in paragraphs (c)(5)(i) and (ii) of this section shall be performed. The MML for a particular HAP must be determined only if the HAP is not detected in the normal working range of the method.

(i) To determine the MML for a specific HAP, the following procedures shall be performed each time the method is set up. Set up is defined as the first time the analytical apparatus is placed in operation, after

any shut down of 6 months or more, or any time a major component of the analytical apparatus is replaced.

(A) Select a concentration value for the specific HAP in question to represent the MML. The value of the MML selected shall not be below the calibration standard of the selected test method.

(B) Measure the concentration of the specific HAP in a minimum of three replicate samples using the selected test method. All replicate samples shall be run through the entire analytical procedure. The samples must contain the specific HAP at the selected MML concentration and should be representative of the liquid streams to be analyzed in the compliance demonstration. Spiking of the liquid samples with a known concentration of the target HAP may be necessary to ensure that the HAP concentration in the three replicate samples is at the selected MML. The concentration of the HAP in the spiked sample must be within 50 percent of the proposed MML for the demonstration to be valid. As an alternative to spiking, a field sample above the MML may be diluted to produce a HAP concentration at the MML. To be a valid demonstration, the diluted sample must have a HAP concentration within 20 percent of the proposed MML, and the field sample must not be diluted by more than a factor of five.

(C) Calculate the relative standard deviation (RSD) and the upper confidence limit at the 95 percent confidence level using the measured HAP concentrations determined in paragraph (c)(5)(i)(B) of this section. If the upper confidence limit of the RSD is less than 30 percent, then the selected MML is acceptable. If the upper confidence limit of the RSD is greater than or equal to 30 percent, then the selected MML is too low, and the procedures specified in paragraphs (c)(5)(i)(A) through (C) of this section must be repeated.

(ii) Provide for the Administrator's approval the selected value of the MML for a specific HAP and the rationale for selecting the MML including all data and calculations used to determine the MML. The approved MML must be used in all applicable compliance demonstration calculations.

(6) When using the MML determined using the procedures in paragraph (c)(5)(ii) of this section or when using the MML determined using the procedures in paragraph (c)(5)(i), except during set up, the analytical laboratory conducting the analysis must perform and meet the following quality assurance procedures each time a set of samples is analyzed to determine compliance.

(i) Using the selected test method, analyze in triplicate the concentration of the specific HAP in a representative sample. The sample must contain the specific HAP at a concentration that is within a factor of two of the MML. If there are no samples in the set being analyzed that contain the specific HAP at an appropriate concentration, then a sample below the MML may be spiked to produce the appropriate concentration or a sample at a higher level may be diluted. After spiking, the sample must contain the specific HAP within 50 percent of the MML. If dilution is used instead, the diluted sample must contain the specific HAP within 20 percent of the MML and must not be diluted by more than a factor of five.

(ii) Calculate the RSD using the measured HAP concentrations determined in paragraph (c)(6)(i) of this section. If the RSD is less than 20 percent, then the laboratory is performing acceptably.

(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. For biological treatment systems complying with §63.446(e)(2), the owner or operator shall measure total HAP as acetaldehyde, methanol, methyl ethyl ketone, and propionaldehyde and follow the procedures in §63.457(l)(1) or (2).

(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:

$$E = K_2 \left[ \sum_{j=1}^n C_j M_j \right] Q_s$$

Where:

E=Mass emission rate of total HAP from the sampled vent, kilograms per hour.

K<sub>2</sub>=Constant, 2.494×10<sup>-6</sup>(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<sub>j</sub>=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<sub>j</sub>=Molecular weight of pollutant j, gram/gram-mole.

Q<sub>s</sub>=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:

$$F = \frac{E}{P}$$

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:

$$R = \frac{E_i - E_o}{E_i} (100)$$

Where:

R=Efficiency of control device, percent.

E<sub>i</sub>=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<sub>o</sub>=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 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:

$$E_b = \frac{K}{n \times 10^6} \left( \sum_{i=1}^n V_{bi} C_{bi} \right)$$

$$E_a = \frac{K}{n \times 10^6} \left( \sum_{i=1}^n V_{ai} C_{ai} \right)$$

Where:

E<sub>b</sub>=Mass flow rate of total HAP or methanol in the liquid stream entering the treatment process, kilograms per hour.

E<sub>a</sub>=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<sub>bi</sub>=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<sub>ai</sub>=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.

$C_{bi}$ =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.

$C_{ai}$ =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:

$$F = \frac{E_a}{P}$$

Where:

$F$ =Mass loading of total HAP or methanol in the sample, in kilograms per megagram of ODP.

$E_a$ =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:

$$R = \frac{E_b - E_a}{E_b} \times 100$$

Where:

$R$ =Control efficiency of the treatment process, percent.

$E_b$ =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.

$E_a$ =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:

$$C_c = C_m \left( \frac{10.9}{20.9 - \%O_{2d}} \right)$$

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 and mass removal calculations.* To demonstrate compliance with the condensate treatment standards specified in §63.446(e)(2) and the monitoring requirements specified in §63.453(j)(3) using a biological treatment system, the owner or operator shall use one of the procedures specified in paragraphs (1)(1) and (2) of this section. Owners or operators using a nonthoroughly mixed open biological treatment system shall also comply with paragraph (1)(3) of this section.

(1) *Percent reduction methanol procedure.* For the purposes of complying with the condensate treatment requirements specified in §63.446(e)(2) and (3), the methanol percent reduction shall be calculated using the following equations:

$$R = \frac{f_{bio}(\text{MeOH})}{(1 + 1.087(r))} * 100$$

$$r = \frac{F_{(\text{nonmethanol})}}{F_{(\text{methanol})}}$$

Where:

R = Percent destruction.

$f_{bio}(\text{MeOH})$  = The fraction of methanol removed in the biological treatment system. The site-specific biorate constants shall be determined using the appropriate procedures specified in appendix C of this part.

r = Ratio of the sum of acetaldehyde, methyl ethyl ketone, and propionaldehyde mass to methanol mass.

F(nonmethanol) = The sum of acetaldehyde, methyl ethyl ketone, and propionaldehyde mass flow rates (kg/Mg ODP) entering the biological treatment system determined using the procedures in paragraph (j)(2) of this section.

F(methanol) = The mass flow rate (kg/Mg ODP) of methanol entering the system determined using the procedures in paragraph (j)(2) of this section.

(2) *Mass removal methanol procedure* For the purposes of complying with the condensate treatment requirements specified in §63.446(e)(2) and (4), or §63.446(e)(2) and (5), the methanol mass removal

shall be calculated using the following equation:

$$F = F_b * \left( f_{bio} (MeOH) / (1 + 1.087 (r)) \right)$$

Where:

F = Methanol mass removal (kg/Mg ODP).

$F_b$  = Inlet mass flow rate of methanol (kg/Mg ODP) determined using the procedures in paragraph (j)(2) of this section.

$f_{bio}(\text{MeOH})$  = The fraction of methanol removed in the biological treatment system. The site-specific biorate constants shall be determined using the appropriate procedures specified in appendix C of this part.

r = Ratio of the sum of acetaldehyde, methyl ethyl ketone, and propionaldehyde mass to methanol mass determined using the procedures in paragraph (1) of this section.

(3) The owner or operator of a nonthoroughly mixed open biological treatment system using the monitoring requirements specified in §63.453(p)(3) shall follow the procedures specified in section III.B.1 of appendix E of this part to determine the biorate constant,  $K_s$ , and characterize the open biological treatment system during the initial and any subsequent performance tests.

(m) *Condensate segregation procedures.* The following procedures shall be used to demonstrate compliance with the condensate segregation requirements specified in §63.446(c).

(1) To demonstrate compliance with the percent mass requirements specified in §63.446(c)(2), the procedures specified in paragraphs (m)(1)(i) through (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)(2) is demonstrated if the condensate stream or streams from each equipment system listed in §63.446(b)(1) through (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)(3), the procedures specified in paragraphs (m)(2)(i) through (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 condensate 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)(3) 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)(3).

(n) *Open biological treatment system monitoring sampling storage.* The inlet and outlet grab samples required to be collected in §63.453(j)(1)(ii) 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; 65 FR 80763, Dec. 22, 2000; 66 FR 24269, May 14, 2001]

**§ 63.458 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 §§63.440, 63.443 through 63.447 and 63.450. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

(2) Approval of alternatives to using §§63.457(b)(5)(iii), 63.457(c)(3)(ii) through (iii), and 63.257(c)(5)(ii), and any 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 alternatives using §64.453(m) and any 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 37348, June 23, 2003]

**§ 63.459 Alternative standards.**

(a) *Flint River Mill*. The owner or operator of the pulping system using the kraft process at the manufacturing facility, commonly called Weyerhaeuser Company Flint River Operations, at Old Stagecoach Road, Ogdhorpe, Georgia, (hereafter the Site) shall comply with all provisions of this subpart, except as specified in paragraphs (a)(1) through (a)(5) of this section.

(1) The owner or operator of the pulping system is not required to control total HAP emissions from equipment systems specified in paragraphs (a)(1)(i) and (a)(1)(ii) if the owner or operator complies with paragraphs (a)(2) through (a)(5) of this section.

(i) The brownstock diffusion washer vent and first stage brownstock diffusion washer filtrate tank vent in the pulp washing system specified in §63.443(a)(1)(iii).

(ii) The oxygen delignification system specified in §63.443(a)(1)(v).

(2) The owner or operator of the pulping system shall control total HAP emissions from equipment systems listed in paragraphs (a)(2)(i) through (a)(2)(ix) of this section as specified in §63.443(c) and (d) of this subpart no later than April 16, 2002.

(i) The weak liquor storage tank;

(ii) The boilout tank;

(iii) The utility tank;

(iv) The fifty percent solids black liquor storage tank;

(v) The south sixty-seven percent solids black liquor storage tank;

- (vi) The north sixty-seven percent solids black liquor storage tank;
- (vii) The precipitator make down tanks numbers one, two and three;
- (viii) The salt cake mix tank; and
- (ix) The NaSH storage tank.

(3) The owner and operator of the pulping system shall operate the Isothermal Cooking system at the site while pulp is being produced in the continuous digester at anytime after April 16, 2002.

(i) The owner or operator shall monitor the following parameters to demonstrate that isothermal cooking is in operation:

(A) Continuous digester dilution factor; and

(B) The difference between the continuous digester vapor zone temperature and the continuous digester extraction header temperature.

(ii) The isothermal cooking system shall be in operation when the continuous digester dilution factor and the temperature difference between the continuous digester vapor zone temperature and the continuous digester extraction header temperature are maintained as set forth in Table 2:

**Table 2 to Subpart S—Isothermal Cooking System Operational Values**

Parameter	Instrument number	Limit	Units
Digester Dilution Factor	K1DILFAC	>0.0	None
Difference in Digester Vapor Zone Temperature and Digester	03TI0311	<10	Degrees F.
Extraction Header Temperature	03TI0329		

(iii) The owner or operator shall certify annually the operational status of the isothermal cooking system.

(4) [Reserved]

(5) *Definitions.* All descriptions and references to equipment and emission unit ID numbers refer to equipment at the Site. All terms used in this paragraph shall have the meaning given them in this part and this paragraph. For the purposes of this paragraph only the following additional definitions apply:

*Boilout tank* means the tank that provides tank storage capacity for recovery of black liquor spills and evaporator water washes for return to the evaporators (emission unit ID No. U606);

*Brownstock diffusion washer* means the equipment used to wash pulp from the surge chests to further reduce lignin carryover in the pulp;

*Continuous digester* means the digester system used to chemically and thermally remove the lignin binding the wood chips to produce individual pulp fibers (emission unit ID No. P300);

*Fifty percent solids black liquor storage tank* means the tank used to store intermediate black liquor prior to final evaporation in the 1A, 1B, and 1C Concentrators (emission unit ID No. U605);

*First stage brownstock diffusion washer* means the equipment that receives and stores filtrate from the first stage of washing for return to the pressure diffusion washer;

*Isothermal cooking system* means the 1995–1996 modernization of brownstock pulping process including conversion of the Kamyr continuous vapor phase digester to an extended delignification unit and changes in the krotting, screening, and oxygen stage systems:

*NaSH storage tank* means the tank used to store sodiumhydrosulfite solution prior to use as make-up to the liquor system

*North sixty-seven percent solids blackliquor storage tank* means one of two tanks used to store black liquor prior to burning in theRecovery Boiler for chemical recovery (emission unit ID No. U501);

*Precipitator make down tank numbers one, two and three* mean tanks used to mix collected particulate from electrostatic precipitator chamber number one with 67% black liquor for recycle to chemical recovery in the Recovery Boiler (emission unit ID Nos. U504, U505 and U506);

*Salt cake mix tank* means the tank used to mix collected particulate from economizer hoppers with black liquor for recycle to chemical recovery in the Recovery Boiler (emission unit ID No. U503);

*South sixty-seven percent solids black liquor storage tank* means one of two tanks used to store black liquor prior to burning in theRecovery Boiler for chemical recovery (emission unit ID No. U502);

*Utility tank* means the tank used to store fifty percent liquor and, during black liquor tank inspections and repairs, to serve as a backup liquor storage tank (emission unit ID No. U611);

*Weak gas system* means high volume, low concentration or HVLC system as defined in §63.441; and

*Weak liquor storage tank* means the tank that provide surge capacity for weak black liquor from digesting prior to feed to multiple effect evaporators (emission unit ID No. U610).

(b) *Tomahawk Wisconsin Mill* —(1) *Applicability.* (i) The provisions of this paragraph (b) apply to the owner or operator of the stand-alone semi-chemical pulp and paper mill located at N9090 County Road E in Tomahawk, Wisconsin, referred to as the Tomahawk Mill.

(ii) The owner or operator is not required to comply with the provisions of this paragraph (b) if the owner and operator chooses to comply with the otherwise applicable sections of this subpart and provides the EPA with notice.

(iii) If the owner or operator chooses to comply with the provisions of this paragraph (b) the owner or operator shall comply with all applicable provisions of this part, including this subpart, except the following:

(A) Section 63.443(b);

(B) Section 63.443(c); and

(C) Section 63.443(d).

(2) *Collection and routing of HAP emissions.* (i) The owner or operator shall collect the total HAP emissions from each LVHC system.

(ii) Each LVHC system shall be enclosed and the HAP emissions shall be vented into a closed-vent system. The enclosures and closed-vent system shall meet requirements specified in paragraph (b)(6) of this section.

(iii) The HAP emissions shall be routed as follows:

(A) The HAP emissions collected in the closed-vent system from the digester system shall be routed through the primary indirect contact condenser, secondary indirect contact condenser, and evaporator indirect contact condenser; and

(B) The HAP emissions collected in the closed-vent system from the evaporator system and foul condensate standpipe shall be routed through the evaporator indirect contact condenser.

(3) *Collection and routing of pulping process condensates.* (i) The owner or operator shall collect the pulping process condensates from the following equipment systems:

(A) Primary indirect contact condenser;

(B) Secondary indirect contact condenser; and

(C) Evaporator indirect contact condenser.

(ii) The collected pulping process condensates shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in paragraph (b)(7) of this section.

(iii) The collected pulping process condensates shall be routed in the closed collection system to the wastewater treatment plant anaerobic basins for biodegradation.

(iv) The pulping process condensates shall be discharged into the wastewater treatment plant anaerobic basins below the liquid surface of the wastewater treatment plant anaerobic basins.

(4) *HAP destruction efficiency requirements of the wastewater treatment plant.* (i) The owner or operator shall achieve a destruction efficiency of at least one pound of HAPs per ton of ODP by biodegradation in the wastewater treatment plant.

(ii) The following calculation shall be performed to determine the HAP destruction efficiency by biodegradation in the wastewater treatment plant:

$$HAP_d = \frac{[(RME_{fr} \times RME_c) + (PPC_{fr} \times PPC_c) - (ABD_{fr} \times ABD_c)] \times 8.34}{ODP_r}$$

Where:

$HAP_d$  = HAP destruction efficiency of wastewater treatment plant (pounds of HAPs per ton of ODP);

$RME_{fr}$  = flow rate of raw mill effluent (millions of gallons per day);

$RME_c$  = HAP concentration of raw mill effluent (milligrams per liter);

$PPC_{fr}$  = flow rate of pulping process condensates (millions of gallons per day);

$PPC_c$  = HAP concentration of pulping process condensates (milligrams per liter);

$ABD_{fr}$  = flow rate of anaerobic basin discharge (millions of gallons per day);

$ABD_c$  = HAP concentration of anaerobic basin discharge (milligrams per liter); and

$ODP_r$  = rate of production of oven dried pulp (tons per day).

(5) *Monitoring requirements and parameter ranges.* (i) The owner or operator shall install, calibrate, operate, and maintain according to the manufacturer's specifications a continuous monitoring system (CMS, as defined in §63.2), using a continuous recorder, to monitor the following parameters:

(A) Evaporator indirect contact condenser vent temperature;

(B) Pulping process condensates flow rate;

(C) Wastewater treatment plant effluent flow rate; and

(D) Production rate of ODP.

(ii) The owner or operator shall additionally monitor, on a daily basis, in each of the four anaerobic basins, the ratio of volatile acid to alkalinity (V/A ratio). The owner or operator shall use the test methods identified for determining acidity and alkalinity as specified in 40 CFR 136.3, Table 1B.

(iii) The temperature of the evaporator indirect contact condenser vent shall be maintained at or below 140 °F on a continuous basis.

(iv) The V/A ratio in each of the four anaerobic basins shall be maintained at or below 0.5 on a continuous basis.

(A) The owner or operator shall measure the methanol concentration of the outfall of any basin (using NCASI Method DI/MEOH 94.03) when the V/A ratio of that basin exceeds the following:

( 1 ) 0.38, or

( 2 ) The highest V/A ratio at which the outfall of any basin has previously measured non-detect for methanol (using NCASI Method DI/MEOH 94.03).

(B) If the outfall of that basin measures detect for methanol, the owner or operator shall verify compliance with the emission standard specified in paragraph (b)(4) of this section by conducting a performance test pursuant to the requirements specified in paragraph (b)(8) of this section.

(v) The owner or operator may seek to establish or reestablish the parameter ranges, and/or the parameters required to be monitored as provided in paragraphs (b)(5)(i) through (v) of this section, by following the provisions of §63.453(n)(1) through (4).

(6) *Standards and monitoring requirements for each enclosure and closed vent system.* (i) The owner or operator shall comply with the design and operational requirements specified in paragraphs (b)(6)(ii) through (iv) of this section, and the monitoring requirements of paragraphs (b)(6)(v) through (x) of this section for each enclosure and closed-vent system used for collecting and routing of HAP emissions as specified in paragraph (b)(2) of this section.

(ii) Each enclosure shall be maintained at 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 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.

(iii) Each component of the closed-vent system that is operated at positive pressure 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).

(iv) Each bypass line in the closed-vent system that could divert vent streams containing HAPs to the atmosphere without meeting the routing requirements specified in paragraph (b)(2) of this section shall comply with either of the following requirements:

(A) On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to the 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

(B) 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 seal placed on the valve or closure mechanism in such a way that the valve or closure mechanism cannot be opened without breaking the seal.

(v) For each enclosure opening the owner or operator shall perform, at least once every 30 days, a visual inspection of the closure mechanism specified in paragraph (b)(6)(ii) of this section to ensure the opening is maintained in the closed position and sealed.

(vi) For each closed-vent system required by paragraph (b)(2) of this section, the owner or operator shall perform a visual inspection 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.

(vii) For positive pressure closed-vent systems, or portions of closed-vent systems, the owner or operator shall demonstrate no detectable leaks as specified in paragraph (b)(6)(iii) of this section, measured initially and annually by the procedures in §63.457(d).

(viii) For each enclosure that is maintained at negative pressure, the owner or operator shall demonstrate initially and annually that it is maintained at negative pressure as specified in §63.457(e).

(ix) For each valve or closure mechanism as specified in paragraph (b)(6)(iv)(B) of this section, the owner or operator shall perform an inspection at least once every 30 days to ensure that the valve is maintained in the closed position and the emissions point gas stream is not diverted through the bypass line.

(x) If an inspection required by paragraph (b)(6) of this section identifies visible defects in ductwork, piping, enclosures, or connections to covers required by paragraph (b)(6) of this section, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if the enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as follows:

(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.

(7) *Standards and monitoring requirements for the pulping process condensates closed collection system.* (i) The owner or operator shall comply with the design and operational requirements specified in paragraphs (b)(7)(ii) through (iii) of this section, and monitoring requirements of paragraph (b)(7)(iv) for the equipment systems in paragraph (b)(3) of this section used to route the pulping process condensates in a closed collection system.

(ii) Each closed collection system shall meet the individual drain system requirements specified in §§63.960, 63.961, and 63.962, except that the closed vent systems shall be designed and operated in accordance with paragraph (b)(6) of this section, instead of in accordance with §63.693 as specified in §63.692(a)(3)(ii), (b)(3)(ii)(A), and (b)(3)(ii)(B)(5)(iii); and

(iii) If a condensate tank is used in the closed collection system, the tank shall meet the following requirements:

(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 by an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements of paragraph (b)(6) of this section and routed in accordance with paragraph (b)(2) of this section; and

(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 HAPs 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.

(iv) For each pulping process condensate closed collection system used to comply with paragraph (b)(3) of this section, the owner or operator shall perform a visual inspection every 30 days and shall comply with the inspection and monitoring requirements specified in §63.964 except for the closed-vent system and control device inspection and monitoring requirements specified in §63.964(a)(2).

(8) *Quarterly performance testing.* (i) The owner or operator shall, within 45 days after the beginning of each quarter, conduct a performance test.

(ii) The owner or operator shall use NCASI Method DI/HAPS-99.01 to collect a grab sample and determine the HAP concentration of the Raw Mill Effluent, Pulping Process Condensates, and Anaerobic Basin Discharge for the quarterly performance test conducted during the first quarter each year.

(iii) For each of the remaining three quarters, the owner or operator may use NCASI Method DI/MEOH 94.03 as a surrogate to collect and determine the HAP concentration of the Raw Mill Effluent, Pulping Process Condensates, and Anaerobic Basin Discharge.

(iv) The sample used to determine the HAP or Methanol concentration in the Raw Mill Effluent, Pulping Process Condensates, or Anaerobic Basin Discharge shall be a composite of four grab samples taken evenly spaced over an eight hour time period.

(v) The Raw Mill Effluent grab samples shall be taken from the raw mill effluent composite sampler.

(vi) The Pulping Process Condensates grab samples shall be taken from a line tap on the closed condensate collection system prior to discharge into the wastewater treatment plant.

(vii) The Anaerobic Basin Discharge grab samples shall be taken subsequent to the confluence of the four anaerobic basin discharges.

(viii) The flow rate of the Raw Mill Effluent, Pulping Process Condensates, and Anaerobic Basin Discharge, and the production rate of ODP shall be averaged over eight hours.

(ix) The data collected as specified in paragraphs (b)(5) and (b)(8) of this section shall be used to determine the HAP destruction efficiency of the wastewater treatment plant as specified in paragraph (b)(4)(ii) of this section.

(x) The HAP destruction efficiency shall be at least as great as that specified by paragraph (b)(4)(i) of this section.

(9) *Recordkeeping requirements.* (i) The owner or operator shall comply with the recordkeeping requirements as specified in Table 1 of subpart S of part 63 as it pertains to §63.10

(ii) The owner or operator shall comply with the recordkeeping requirements as specified in §63.454(b).

(iii) The owner or operator shall comply with the recordkeeping requirements as specified in §63.453(d).

(10) *Reporting requirements.* (i) Each owner or operator shall comply with the reporting requirements as specified in Table 1 of §63.10.

(ii) Each owner or operator shall comply with the reporting requirements as specified in §63.455(d).

(11) *Violations.* (i) Failure to comply with any applicable provision of this part shall constitute a violation.

(ii) Periods of excess emissions shall not constitute a violation provided 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. All periods of excess emission (including periods of startup, shutdown, and malfunction) shall be reported, and shall include:

(A) Failure to monitor a parameter, or maintain a parameter within minimum or maximum (as appropriate) ranges as specified in paragraph (b)(5), (b)(6), or (b)(7) of this section; and

(B) Failure to meet the HAP destruction efficiency standard specified in paragraph (b)(4) of this section.

(iii) Notwithstanding paragraph (b)(11)(ii) of this section, any excess emissions that present an imminent threat to public health or the environment, or may cause serious harm to public health or the environment, shall constitute a violation.

[66 FR 34124, June 27, 2001, as amended at 66 FR 52538, Oct. 16, 2001; 69 FR 19740, Apr. 13, 2004]

**Table 1 to Subpart S of Part 63—General Provisions Applicability to Subpart S<sup>a</sup>**

Reference	Applies to Subpart S	Comment
63.1(a)(1)–(3)	Yes	
63.1(a)(4)	Yes	Subpart S (this table) specifies applicability of

		each paragraph in subpart A to subpart S.
63.1(a)(5)	No	Section reserved.
63.1(a)(6)–(8)	Yes	
63.1(a)(9)	No	Section reserved.
63.1(a)(10)	No	Subpart S and other cross-referenced subparts specify calendar or operating day.
63.1(a)(11)–(14)	Yes	
63.1(b)(1)	No	Subpart S specifies its own applicability.
63.1(b)(2)–(3)	Yes	
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	
63.3	Yes	
63.4(a)(1)	Yes	
63.4(a)(3)		
63.4(a)(4)	No	Section reserved.
63.4(a)(5)	Yes	
63.4(b)	Yes	
63.4(c)	Yes	
63.5(a)	Yes	
63.5(b)(1)	Yes	
63.5(b)(2)	No	Section reserved.
63.5(b)(3)	Yes	
63.5(b)(4)–(6)	Yes	
63.5(c)	No	Section reserved.
63.5(d)	Yes	
63.5(e)	Yes	
63.5(f)	Yes	
63.6(a)	Yes	
63.6(b)	No	Subpart S specifies compliance dates for sources subject to subpart S.
63.6(c)	No	Subpart S specifies compliance dates for sources subject to subpart S.
63.6(d)	No	Section reserved.
63.6(e)	Yes	

63.6(f)	Yes	
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	
63.7	Yes	
63.8(a)(1)	Yes	
63.8(a)(2)	Yes	
63.8(a)(3)	No	Section reserved.
63.8(a)(4)	Yes	
63.8(b)(1)	Yes	
63.8(b)(2)	No	Subpart S specifies locations to conduct monitoring.
63.8(b)(3)	Yes	
63.8(c)(1)	Yes	
63.8(c)(2)	Yes	
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	Pertains to continuous opacity monitors that are not part of this standard.
63.8(c)(6)	Yes	
63.8(c)(7)	Yes	
63.8(c)(8)	Yes	
63.8(d)	Yes	
63.8(e)	Yes	
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	
63.9(b)	Yes	Initial notifications must be submitted within one year after the source becomes subject to the relevant standard.
63.9(c)	Yes	
63.9(d)	No	Special compliance requirements are only applicable to kraft mills.
63.9(e)	Yes	
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	

<sup>a</sup>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]

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Appendix E  
40 CFR Part 63, Subpart MM – *National Emission Standard for Hazardous Air Pollutants for  
Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semicheical  
Pulp Mills*



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### **Title 40: Protection of Environment**

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

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#### **Subpart MM—National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfit e, 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: newsources.* (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 if the monitoring exceedances in paragraphs (k)(1)(i) through (v) 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 (vi) 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 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; 71 FR 20458, Apr. 20, 2006]

### § 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:

$$EL_{PM} = \frac{[(C_{ref,RF})(Q_{RF,Std}) + (C_{ref,LK})(Q_{LK,Std})](F1)}{(BLS_{Std})} + ER1_{ref,SDT} \quad (\text{Eq. 1})$$

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.

$ER1_{ref,SDT}$  = 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·/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:

$$ER_{PU_{tot}} = ER_{PU1} (PR_{PU1} / PR_{tot}) + \dots + (ER_{PUi}) (PR_{PUi} / PR_{tot}) \quad (Eq. 5)$$

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:

$Q_{\text{corr}}$  = the measured volumetric gas flow rate corrected for oxygen, dscm/min (dscf/min).

$Q_{\text{meas}}$  = 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:

$$ER_{SCCU} = \frac{(\text{THC}_{\text{meas}})}{\text{BLS}} \quad (\text{Eq. 11})$$

Where:

$ER_{SCCU}$  = THC emission rate reported as carbon from each semichemical combustion unit, kg/Mg (lb/ton) of black liquor solids fired;

$\text{THC}_{\text{meas}}$  = 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:

$$(\% R_{\text{THC}}) = \left( \frac{E_i - E_o}{E_i} \right) \times 100 \quad (\text{Eq. 12})$$

Where:

$\%R_{\text{THC}}$  = 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 a written plan as described in §63.6(e)(3) that contains specific procedures 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; 71 FR 20458, Apr. 20, 2006]

### § 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**

<b>General provisions reference</b>	<b>Summary of requirements</b>	<b>Applies to subpart MM</b>	<b>Explanation</b>
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 to the applicability definition of subpart MM.
63.1(c)(1)	Applicability of subpart A of this part after a relevant standard has been set	Yes	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 notification	Yes	
63.5(b)(5)	Construction/reconstruction compliance	Yes	
63.5(b)(6)	Equipment addition or process change	Yes	
63.5(c)	[Reserved]	NA	
63.5(d)	Application for approval of construction/reconstruction	Yes	
63.5(e)	Construction/reconstruction approval	Yes	

63.5(f)	Construction/reconstruction approval based on prior State preconstruction review	Yes	
63.6(a)(1)	Compliance with standards and maintenance requirements—applicability	Yes	
63.6(a)(2)	Requirements for area source that increases emissions to become major	Yes	
63.6(b)	Compliance dates for new and reconstructed sources	Yes	
63.6(c)	Compliance dates for existing sources	Yes, except for sources granted extensions under 63.863(c)	Subpart MM specifically stipulates the compliance schedule for existing sources.
63.6(d)	[Reserved]	NA	
63.6(e)	Operation and maintenance requirements	Yes	
63.6(f)	Compliance with nonopacity emissions standards	Yes	
63.6(g)	Compliance with alternative nonopacity emissions standards	Yes	
63.6(h)	Compliance with opacity and visible emissions (VE) standards	Yes	Subpart MM does not contain any opacity or VE standards; however, §63.864 specifies 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 evaluation test plan	Yes	
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	Yes	

	compliance		
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—applicability and general information	Yes	See §63.866.
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]

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Appendix F

40 CFR Part 60, Subpart D – *Standards of Performance for Fossil-Fuel-Fired Steam Generators  
for Which Construction Is Commenced After August 17, 1971*



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### **Title 40: Protection of Environment**

#### **PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

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#### **Subpart D—Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971**

**Source:** 72 FR 32717, June 13, 2007, unless otherwise noted.

#### **§ 60.40 Applicability and designation of affected facility.**

(a) The affected facilities to which the provisions of this subpart apply are:

(1) Each fossil-fuel-fired steam generating unit of more than 73 megawatts (MW) heat input rate (250 million British thermal units per hour (MMBtu/hr)).

(2) Each fossil-fuel and wood-residue-fired steam generating unit capable of firing fossil fuel at a heat input rate of more than 73 MW (250 MMBtu/hr).

(b) Any change to an existing fossil-fuel-fired steam generating unit to accommodate the use of combustible materials, other than fossil fuels as defined in this subpart, shall not bring that unit under the applicability of this subpart.

(c) Except as provided in paragraph (d) of this section, any facility under paragraph (a) of this section that commenced construction or modification after August 17, 1971, is subject to the requirements of this subpart.

(d) The requirements of §§60.44 (a)(4), (a)(5), (b) and (d), and 60.45(f)(4)(vi) are applicable to lignite-fired steam generating units that commenced construction or modification after December 22, 1976.

(e) Any facility covered under subpart Da is not covered under this subpart.

#### **§ 60.41 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.

*Boiler operating day* means a 24-hour period between 12 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 the entire 24-hour period.

*Coal* means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388 (incorporated by reference, see §60.17).

*Coal refuse* means waste-products of coal mining, cleaning, and coal preparation operations (e.g. culm, gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material.

*Fossil fuel* means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials for the purpose of creating useful heat.

*Fossil fuel and wood residue-fired steam generating unit* means a furnace or boiler used in the process of burning fossil fuel and wood residue for the purpose of producing steam by heat transfer.

*Fossil-fuel-fired steam generating unit* means a furnace or boiler used in the process of burning fossil fuel for the purpose of producing steam by heat transfer.

*Wood residue* means bark, sawdust, slabs, chips, shavings, mill trim, and other wood products derived from wood processing and forest management operations.

#### § 60.42 Standard for particulate matter (PM).

(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 from any affected facility any gases that:

(1) Contain PM in excess of 43 nanograms per joule (ng/J) heat input (0.10 lb/MMBtu) derived from fossil fuel or fossil fuel and wood residue.

(2) Exhibit greater than 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.

(b)(1) On or after December 28, 1979, no owner or operator shall cause to be discharged into the atmosphere from the Southwestern Public Service Company's Harrington Station #1, in Amarillo, TX, any gases which exhibit greater than 35 percent opacity, except that a maximum of 42 percent opacity shall be permitted for not more than 6 minutes in any hour.

(2) Interstate Power Company shall not cause to be discharged into the atmosphere from its Lansing Station Unit No. 4 in Lansing, IA, any gases which exhibit greater than 32 percent opacity, except that a maximum of 39 percent opacity shall be permitted for not more than six minutes in any hour.

(c) As an alternate to meeting the requirements of paragraph (a) of this section, an owner or operator that elects to install, calibrate, maintain, and operate a continuous emissions monitoring systems (CEMS) for measuring PM emissions can petition the Administrator (in writing) to comply with §60.42Da (a) of subpart Da of this part. If the Administrator grants the petition, the source will from then on (unless the unit is modified or reconstructed in the future) have to comply with the requirements in §60.43Da(a) of subpart Da of this part.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5077, Jan. 28, 2009]

#### § 60.43 Standard for sulfur dioxide (SO<sub>2</sub>).

(a) Except as provided under paragraph (d) of this section, 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 from any affected facility any gases that contain SO<sub>2</sub> in excess of:

(1) 340 ng/J heat input (0.80 lb/MMBtu) derived from liquid fossil fuel or liquid fossil fuel and wood residue.

(2) 520 ng/J heat input (1.2 lb/MMBtu) derived from solid fossil fuel or solid fossil fuel and wood residue, except as provided in paragraph (e) of this section.

(b) Except as provided under paragraph (d) of this section, when different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) shall be determined by proration using the following formula:

$$PS_{SO_2} = \frac{y(340) + z(520)}{(y + z)}$$

Where:

$PS_{SO_2}$  = Prorated standard for  $S_{O_2}$  when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels or from all fossil fuels and wood residue fired;

y = Percentage of total heat input derived from liquid fossil fuel; and

z = Percentage of total heat input derived from solid fossil fuel.

(c) Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels.

(d) As an alternate to meeting the requirements of paragraphs (a) and (b) of this section, an owner or operator can petition the Administrator (in writing) to comply with §60.43Da(i)(3) of subpart Da of this part or comply with §60.42b(k)(4) of subpart Db of this part, as applicable to the affected source. If the Administrator grants the petition, the source will from then on (unless the unit is modified or reconstructed in the future) have to comply with the requirements in §60.43Da(i)(3) of subpart Da of this part or §60.42b(k)(4) of subpart Db of this part, as applicable to the affected source.

(e) Units 1 and 2 (as defined in appendix G of this part) at the Newton Power Station owned or operated by the Central Illinois Public Service Company will be in compliance with paragraph (a)(2) of this section if Unit 1 and Unit 2 individually comply with paragraph (a)(2) of this section or if the combined emission rate from Units 1 and 2 does not exceed 470 ng/J (1.1 lb/MMBtu) combined heat input to Units 1 and 2.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5077, Jan. 28, 2009]

#### § 60.44 Standard for nitrogen oxides (NOX).

(a) Except as provided under paragraph (e) of this section, 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 from any affected facility any gases that contain  $NO_x$ , expressed as  $NO_2$  in excess of:

(1) 86 ng/J heat input (0.20 lb/MMBtu) derived from gaseous fossil fuel.

(2) 129 ng/J heat input (0.30 lb/MMBtu) derived from liquid fossil fuel, liquid fossil fuel and wood residue, or gaseous fossil fuel and wood residue.

(3) 300 ng/J heat input (0.70 lb/MMBtu) derived from solid fossil fuel or solid fossil fuel and wood residue (except lignite or a solid fossil fuel containing 25 percent, byweight, or more of coal refuse).

(4) 260 ng/J heat input (0.60 lb/MMBtu) derived from lignite or lignite and wood residue (except as provided under paragraph (a)(5) of this section).

(5) 340 ng/J heat input (0.80 lb/MMBtu) derived from lignite which is mined in North Dakota, South Dakota, or Montana and which is burned in a cyclone-fired unit.

(b) Except as provided under paragraphs (c), (d), and (e) of this section, when different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) is determined by proration using the following formula:

$$PS_{NO_x} = \frac{w(260) + x(86) + y(130) + z(300)}{(w + x + y + z)}$$

Where:

$PS_{NO_x}$  = Prorated standard for  $NO_x$  when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;

w = Percentage of total heat input derived from lignite;

x = Percentage of total heat input derived from gaseous fossil fuel;

y = Percentage of total heat input derived from liquid fossil fuel; and

z = Percentage of total heat input derived from solid fossil fuel (except lignite).

(c) When a fossil fuel containing at least 25 percent, by weight, of coal refuse is burned in combination with gaseous, liquid, or other solid fossil fuel or wood residue, the standard for NO<sub>x</sub> does not apply.

(d) Except as provided under paragraph (e) of this section, cyclone-fired units which burn fuels containing at least 25 percent of lignite that is mined in North Dakota, South Dakota, or Montana remain subject to paragraph (a)(5) of this section regardless of the types of fuel combusted in combination with that lignite.

(e) As an alternate to meeting the requirements of paragraphs (a), (b), and (d) of this section, an owner or operator can petition the Administrator (in writing) to comply with §60.44Da(e)(3) of subpart Da of this part. If the Administrator grants the petition, the source will from then on (unless the unit is modified or reconstructed in the future) have to comply with the requirements in §60.44Da(e)(3) of subpart Da of this part.

#### § 60.45 Emissions and fuel monitoring.

(a) Each owner or operator shall install, calibrate, maintain, and operate continuous opacity monitoring system (COMS) for measuring opacity and a CEMS for measuring SO<sub>2</sub> emissions, NO<sub>x</sub> emissions, and either oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) except as provided in paragraph (b) of this section.

(b) Certain of the CEMS requirements under paragraph (a) of this section do not apply to owners or operators under the following conditions:

(1) For a fossil-fuel-fired steam generator that burns only gaseous or liquid fossil fuel (excluding residual oil) with potential SO<sub>2</sub> emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and that does not use post-combustion technology to reduce emissions of SO<sub>2</sub> or PM, CEMS for measuring the opacity of emissions and SO<sub>2</sub> emissions are not required if the owner or operator monitors SO<sub>2</sub> emissions by fuel sampling and analysis or fuel receipts.

(2) For a fossil-fuel-fired steam generator that does not use a flue gas desulfurization device, a CEMS for measuring SO<sub>2</sub> emissions is not required if the owner or operator monitors SO<sub>2</sub> emissions by fuel sampling and analysis.

(3) Notwithstanding §60.13(b), installation of a CEMS for NO<sub>x</sub> may be delayed until after the initial performance tests under §60.8 have been conducted. If the owner or operator demonstrates during the performance test that emissions of NO<sub>x</sub> are less than 70 percent of the applicable standards in §60.44, a CEMS for measuring NO<sub>x</sub> emissions is not required. If the initial performance test results show that NO<sub>x</sub> emissions are greater than 70 percent of the applicable standard, the owner or operator shall install a CEMS for NO<sub>x</sub> within one year after the date of the initial performance tests under §60.8 and comply with all other applicable monitoring requirements under this part.

(4) If an owner or operator does not install any CEMS for sulfur oxides and NO<sub>x</sub>, as provided under paragraphs (b)(1) and (b)(3) or paragraphs (b)(2) and (b)(3) of this section a CEMS for measuring either O<sub>2</sub> or CO<sub>2</sub> is not required.

(5) An owner or operator may petition the Administrator (in writing) to install a PM CEMS as an alternative to the CEMS for monitoring opacity emissions.

(6) A CEMS for measuring the opacity of emissions is not required for a fossil fuel-fired steam generator that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO<sub>2</sub>, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected

source are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis. Owners and operators of affected sources electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (b)(6)(i) through (iv) of this section.

(i) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (b)(6)(i)(A) through (D) of this section.

(A) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(B) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(C) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

(D) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(ii) You must calculate the 1-hour average CO emissions levels for each boiler operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each boiler operating day.

(iii) You must evaluate the preceding 24-hour average CO emission level each boiler operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(iv) You must record the CO measurements and calculations performed according to paragraph (b)(6) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(7) The owner or operator of an affected facility subject to an opacity standard under §60.42 and that elects to not install a CEMS because the affected facility burns only fuels as specified under paragraph (b)(1) of this section, monitors PM emissions as specified under paragraph (b)(5) of this section, or monitors CO emissions as specified under paragraph (b)(6) of this section shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.42 and shall comply with either paragraphs (b)(7)(i), (b)(7)(ii), or (b)(7)(iii) of this section. If during the initial 60 minutes of observation all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent, the observation period may be reduced from 3 hours to 60 minutes.

(i) Except as provided in paragraph (b)(7)(ii) or (b)(7)(iii) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in paragraph (b)(7) of this section according to the applicable schedule in paragraphs (b)(7)(i)(A) through (b)(7)(i)(D) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results.

(A) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;

(B) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;

(C) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10

percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or

(D) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 30 calendar days from the date that the most recent performance test was conducted.

(ii) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance test, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (b)(7)(ii)(A) and (B) of this section.

(A) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period) the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (b)(7) of this section within 30 calendar days according to the requirements in §60.46(b)(3).

(B) If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(iii) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (b)(7)(ii) of this section. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(c) For performance evaluations under §60.13(c) and calibration checks under §60.13(d), the following procedures shall be used

(1) Methods 6, 7, and 3B of appendix A of this part, as applicable, shall be used for the performance evaluations of SO<sub>2</sub> and NO<sub>x</sub> continuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B of appendix A of this part are given in §60.46(d).

(2) Sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of appendix B to this part.

(3) For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100 percent. For a continuous monitoring system measuring sulfur oxides or NO<sub>x</sub> the span value shall be determined using one of the following procedures:

(i) Except as provided under paragraph (c)(3)(ii) of this section, SO<sub>2</sub> and NO<sub>x</sub> span values shall be determined as follows:

	<b>In parts per million</b>
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Fossil fuel	Span value for SO <sub>2</sub>	Span value for NO <sub>x</sub>
Gas	( <sup>1</sup> )	500.
Liquid	1,000	500.
Solid	1,500	1,000.
Combinations	1,000y + 1,500z	500 (x + y) + 1,000z.

<sup>1</sup>Not applicable.

Where:

x = Fraction of total heat input derived from gaseous fossil fuel;

y = Fraction of total heat input derived from liquid fossil fuel; and

z = Fraction of total heat input derived from solid fossil fuel.

(ii) As an alternative to meeting the requirements of paragraph (c)(3)(i) of this section, the owner or operator of an affected facility may elect to use the SO<sub>2</sub> and NO<sub>x</sub> span values determined according to sections 2.1.1 and 2.12 in appendix A to part 75 of this chapter.

(4) All span values computed under paragraph (c)(3)(i) of this section for burning combinations of fossil fuels shall be rounded to the nearest 500 ppm. Span values that are computed under paragraph (c)(3)(ii) of this section shall be rounded off according to the applicable procedures in section 2 of appendix A to part 75 of this chapter.

(5) For a fossil-fuel-fired steam generator that simultaneously burns fossil fuel and nonfossil fuel, the span value of all CEMS shall be subject to the Administrator's approval.

(d) [Reserved]

(e) For any CEMS installed under paragraph (a) of this section, the following conversion procedures shall be used to convert the continuous monitoring data into units of the applicable standards (ng/J, lb/MMBtu):

(1) When a CEMS for measuring O<sub>2</sub> is selected, the measurement of the pollutant concentration and O<sub>2</sub> concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the Administrator shall be used when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used:

$$E = CF \left( \frac{20.9}{(20.9 - \%O_2)} \right)$$

Where E, C, F, and %O<sub>2</sub> are determined under paragraph (f) of this section.

(2) When a CEMS for measuring CO<sub>2</sub> is selected, the measurement of the pollutant concentration and CO<sub>2</sub> concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure shall be used:

$$E = CF_c \left( \frac{100}{\%CO_2} \right)$$

Where E, C, F, and %CO<sub>2</sub> are determined under paragraph (f) of this section.

(f) The values used in the equations under paragraphs (e)(1) and (2) of this section are derived as follows:

(1)  $E$  = pollutant emissions, ng/J (lb/MMBtu).

(2)  $C$  = pollutant concentration, ng/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by  $4.15 \times 10^4 M$  ng/dscm per ppm ( $2.59 \times 10^{-9} M$  lb/dscf per ppm) where  $M$  = pollutant molecular weight, g/g-mole (lb/lb-mole).  $M = 64.07$  for  $\text{SO}_2$  and  $46.01$  for  $\text{NO}_x$ .

(3)  $\% \text{O}_2$ ,  $\% \text{CO}_2 = \text{O}_2$  or  $\text{CO}_2$  volume (expressed as percent), determined with equipment specified under paragraph (a) of this section.

(4)  $F$ ,  $F_c$  = a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted ( $F$ ), and a factor representing a ratio of the volume of  $\text{CO}_2$  generated to the calorific value of the fuel combusted ( $F_c$ ), respectively. Values of  $F$  and  $F_c$  are given as follows:

(i) For anthracite coal as classified according to ASTM D388 (incorporated by reference, see §60.17),  $F = 2,723 \times 10^{-17}$  dscm/J (10,140 dscf/MMBtu) and  $F_c = 0.532 \times 10^{-17}$  scm  $\text{CO}_2$ /J (1,980 scf  $\text{CO}_2$ /MMBtu).

(ii) For subbituminous and bituminous coal as classified according to ASTM D388 (incorporated by reference, see §60.17),  $F = 2.637 \times 10^{-7}$  dscm/J (9,820 dscf/MMBtu) and  $F_c = 0.486 \times 10^{-7}$  scm  $\text{CO}_2$ /J (1,810 scf  $\text{CO}_2$ /MMBtu).

(iii) For liquid fossil fuels including crude, residual, and distillate oils,  $F = 2.476 \times 10^{-7}$  dscm/J (9,220 dscf/MMBtu) and  $F_c = 0.384 \times 10^{-7}$  scm  $\text{CO}_2$ /J (1,430 scf  $\text{CO}_2$ /MMBtu).

(iv) For gaseous fossil fuels,  $F = 2.347 \times 10^{-7}$  dscm/J (8,740 dscf/MMBtu). For natural gas, propane, and butane fuels,  $F_c = 0.279 \times 10^{-7}$  scm  $\text{CO}_2$ /J (1,040 scf  $\text{CO}_2$ /MMBtu) for natural gas,  $0.322 \times 10^{-7}$  scm  $\text{CO}_2$ /J (1,200 scf  $\text{CO}_2$ /MMBtu) for propane, and  $0.338 \times 10^{-7}$  scm  $\text{CO}_2$ /J (1,260 scf  $\text{CO}_2$ /MMBtu) for butane.

(v) For bark  $F = 2.589 \times 10^{-7}$  dscm/J (9,640 dscf/MMBtu) and  $F_c = 0.500 \times 10^{-7}$  scm  $\text{CO}_2$ /J (1,840 scf  $\text{CO}_2$ /MMBtu). For wood residue other than bark  $F = 2.492 \times 10^{-7}$  dscm/J (9,280 dscf/MMBtu) and  $F_c = 0.494 \times 10^{-7}$  scm  $\text{CO}_2$ /J (1,860 scf  $\text{CO}_2$ /MMBtu).

(vi) For lignite coal as classified according to ASTM D388 (incorporated by reference, see §60.17),  $F = 2.659 \times 10^{-7}$  dscm/J (9,900 dscf/MMBtu) and  $F_c = 0.516 \times 10^{-7}$  scm  $\text{CO}_2$ /J (1,920 scf  $\text{CO}_2$ /MMBtu).

(5) The owner or operator may use the following equation to determine an  $F$  factor (dscm/J or dscf/MMBtu) on a dry basis (if it is desired to calculate  $F$  on a wet basis, consult the Administrator) or  $F_c$  factor (scm  $\text{CO}_2$ /J, or scf  $\text{CO}_2$ /MMBtu) on either basis in lieu of the  $F$  or  $F_c$  factors specified in paragraph (f)(4) of this section:

$$F = 10^{-4} \frac{[227.2 (\%H) + 95.5 (\%C) + 35.6 (\%S) + 8.7 (\%N) - 28.7 (\%O)]}{GCV}$$

$$F_c = \frac{2.0 \times 10^{-3} (\%C)}{GCV \text{ (SI units)}}$$

$$F = 10^{-4} \frac{[3.64 (\%H) + 1.53 (\%C) + 0.57 (\%S) + 0.14 (\%N) - 0.46 (\%O)]}{GCV \text{ (English units)}}$$

$$F_c = \frac{20.0 (\%C)}{GCV \text{ (SI units)}}$$

$$F_c = \frac{321 \times 10^3 (\%C)}{GCV \text{ (English units)}}$$

(i) %H, %C, %S, %N, and %O are content by weight of hydrogen, carbon, sulfur, nitrogen, and O<sub>2</sub> (expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM D3178 or D3176 (solid fuels), or computed from results using ASTM D1137, D1945, or D1946 (gaseous fuels) as applicable. (These five methods are incorporated by reference, see §60.17.)

(ii) GCV is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test methods D2015 or D5865 for solid fuels and D1826 for gaseous fuels as applicable. (These three methods are incorporated by reference, see §60.17.)

(iii) For affected facilities which fire both fossil fuels and nonfossil fuels, the F or F<sub>c</sub> value shall be subject to the Administrator's approval.

(6) For affected facilities firing combinations of fossil fuels or fossil fuels and wood residue, the F or F<sub>c</sub> factors determined by paragraphs (f)(4) or (f)(5) of this section shall be prorated in accordance with the applicable formula as follows:

$$F = \sum_{i=1}^n X_i F_i \quad \text{or} \quad F_c = \sum_{i=1}^n X_i (F_c)_i$$

Where:

X<sub>i</sub> = Fraction of total heat input derived from each type of fuel (e.g. natural gas, bituminous coal, wood residue, etc.);

F<sub>i</sub> or (F<sub>c</sub>)<sub>i</sub> = Applicable F or F<sub>c</sub> factor for each fuel type determined in accordance with paragraphs (f)(4) and (f)(5) of this section; and

n = Number of fuels being burned in combination.

(g) Excess emission and monitoring system performance reports shall be submitted to the Administrator semiannually for each six-month period in the calendar year. All semiannual reports shall be postmarked by the 30th day following the end of each six-month period. Each excess emission and MSP report shall include the information required in §60.7(c). Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

(1) *Opacity*. Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

(i) For sources subject to the opacity standard of §60.42(b)(1), excess emissions are defined as any six-

minute period during which the average opacity of emissions exceeds 35 percent opacity, except that one six-minute average per hour of up to 42 percent opacity need not be reported.

(ii) For sources subject to the opacity standard of §60.42(b)(2), excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 32 percent opacity, except that one six-minute average per hour of up to 39 percent opacity need not be reported.

(2) *Sulfur dioxide*. Excess emissions for affected facilities are defined as:

(i) For affected facilities electing not to comply with §60.43(d), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of SO<sub>2</sub> as measured by a CEMS exceed the applicable standard in §60.43; or

(ii) For affected facilities electing to comply with §60.43(d), any 30 operating day period during which the average emissions (arithmetic average of all one-hour periods during the 30 operating days) of SO<sub>2</sub> as measured by a CEMS exceed the applicable standard in §60.43. Facilities complying with the 30-day SO<sub>2</sub> standard shall use the most current associated SO<sub>2</sub> compliance and monitoring requirements in §§60.48Da and 60.49Da of subpart Da of this part or §§60.45b and 60.47b of subpart Db of this part, as applicable.

(3) *Nitrogen oxides*. Excess emissions for affected facilities using a CEMS for measuring NO<sub>x</sub> are defined as:

(i) For affected facilities electing not to comply with §60.44(e), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards in §60.44; or

(ii) For affected facilities electing to comply with §60.44(e), any 30 operating day period during which the average emissions (arithmetic average of all one-hour periods during the 30 operating days) of NO<sub>x</sub> as measured by a CEMS exceed the applicable standard in §60.44. Facilities complying with the 30-day NO<sub>x</sub> standard shall use the most current associated NO<sub>x</sub> compliance and monitoring requirements in §§60.48Da and 60.49Da of subpart Da of this part.

(4) *Particulate matter*. Excess emissions for affected facilities using a CEMS for measuring PM are defined as any boiler operating day period during which the average emissions (arithmetic average of all operating one-hour periods) exceed the applicable standards in §60.4. Affected facilities using PM CEMS must follow the most current applicable compliance and monitoring provisions in §§60.48Da and 60.49Da of subpart Da of this part.

(h) The owner or operator of an affected facility subject to the opacity limits in §60.42 that elects to monitor emissions according to the requirements in §60.45(b)(7) shall maintain records according to the requirements specified in paragraphs (h)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (h)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (h)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

- (ii) Name and affiliation for each visible emission observer participating in the performance test;
  - (iii) Copies of all visible emission observer opacity field data sheets; and
  - (iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.
- (3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5077, Jan. 28, 2009]

#### § 60.46 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, and subsequent performance tests as requested by the EPA Administrator, 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 as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (d) of this section.

(b) The owner or operator shall determine compliance with the PM, SO<sub>2</sub>, and NO<sub>x</sub> standards in §§60.42, 60.43, and 60.44 as follows:

(1) The emission rate (E) of PM, SO<sub>2</sub>, or NO<sub>x</sub> shall be computed for each run using the following equation:

$$E = CF_d \left( \frac{20.9}{(20.9 - \%O_2)} \right)$$

Where:

E = Emission rate of pollutant, ng/J (1b/million Btu);

C = Concentration of pollutant, ng/dscm (1b/dscf);

%O<sub>2</sub> = O<sub>2</sub> concentration, percent dry basis; and

F<sub>d</sub> = Factor as determined from Method 19 of appendix A of this part.

(2) Method 5 of appendix A of this part shall be used to determine the PM concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems and Method 5B of appendix A of this part shall be used to determine the PM concentration (C) after FGD systems.

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train shall be set to provide an average gas temperature of 160±14 °C (320±25 °F).

(ii) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O<sub>2</sub> concentration (%O<sub>2</sub>). The O<sub>2</sub> sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O<sub>2</sub> concentration for the run shall be the arithmetic mean of the sample O<sub>2</sub> concentrations at all traverse points.

(iii) If the particulate run has more than 12 traverse points, the O<sub>2</sub> traverse points may be reduced to 12 provided that Method 1 of appendix A of this part is used to locate the 12 O<sub>2</sub> traverse points.

(3) Method 9 of appendix A of this part and the procedures in §60.11 shall be used to determine opacity.

(4) Method 6 of appendix A of this part shall be used to determine the SO<sub>2</sub> concentration.

(i) The sampling site shall be the same as that selected for the particulate sample. The sampling location in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). The sampling time and sample volume for each sample run shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Two samples shall be taken during a 1-hour period, with each sample taken within a 30-minute interval.

(ii) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O<sub>2</sub> concentration (%O<sub>2</sub>). The O<sub>2</sub> sample shall be taken simultaneously with, and at the same point as, the SO<sub>2</sub> sample. The SO<sub>2</sub> emission rate shall be computed for each pair of SO<sub>2</sub> and O<sub>2</sub> samples. The SO<sub>2</sub> emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples.

(5) Method 7 of appendix A of this part shall be used to determine the NO<sub>x</sub> concentration.

(i) The sampling site and location shall be the same as for the SO<sub>2</sub> sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.

(ii) For each NO<sub>x</sub> sample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O<sub>2</sub> concentration (%O<sub>2</sub>). The sample shall be taken simultaneously with, and at the same point as, the NO<sub>x</sub> sample.

(iii) The NO<sub>x</sub> emission rate shall be computed for each pair of NO<sub>x</sub> and O<sub>2</sub> samples. The NO<sub>x</sub> emission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples.

(c) When combinations of fossil fuels or fossil fuel and wood residue are fired, the owner or operator (in order to compute the prorated standard as shown in §§60.43(b) and 60.44(b)) shall determine the percentage (w, x, y, or z) of the total heat input derived from each type of fuel as follows:

(1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.

(2) ASTM Methods D2015, or D5865 (solid fuels), D240 (liquid fuels), or D1826 (gaseous fuels) (all of these methods are incorporated by reference, see §60.17) shall be used to determine the gross calorific values of the fuels. The method used to determine the calorific value of wood residue must be approved by the Administrator.

(3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.

(d) The owner or operator may use the following as alternatives to the reference methods and procedures in this section or in other sections as specified:

(1) The emission rate (E) of PM, SO<sub>2</sub> and NO<sub>x</sub> may be determined by using the Fc factor, provided that the following procedure is used:

(i) The emission rate (E) shall be computed using the following equation:

$$E = CF_c \left( \frac{100}{\%CO_2} \right)$$

Where:

E = Emission rate of pollutant, ng/J (lb/MMBtu);

C = Concentration of pollutant, ng/dscm (lb/dscf);

%CO<sub>2</sub> = CO<sub>2</sub> concentration, percent dry basis; and

F<sub>c</sub> = Factor as determined in appropriate sections of Method 19 of appendix A of this part.

(ii) If and only if the average F<sub>c</sub> factor in Method 19 of appendix A of this part is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B of appendix A of this part shall be used to determine the O<sub>2</sub> and CO<sub>2</sub> concentration according to the procedures in paragraph (b)(2)(ii), (4)(ii), or (5)(ii) of this section. Then if F<sub>o</sub> (average of three runs), as calculated from the equation in Method 3B of appendix A of this part, is more than ±3 percent than the average F<sub>o</sub> value, as determined from the average values of F<sub>d</sub> and F<sub>c</sub> in Method 19 of appendix A of this part, *i.e.*,  $F_{oa} = 0.209 (F_{da}/F_{ca})$ , then the following procedure shall be followed:

(A) When F<sub>o</sub> is less than 0.97 F<sub>oa</sub>, then E shall be increased by that proportion under 0.97 F<sub>oa</sub>, *e.g.*, if F<sub>o</sub> is 0.95 F<sub>oa</sub>, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the emission standard.

(B) When F<sub>o</sub> is less than 0.97 F<sub>oa</sub> and when the average difference (d) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under 0.97 F<sub>oa</sub>, *e.g.*, if F<sub>o</sub> is 0.95 F<sub>oa</sub>, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(C) When F<sub>o</sub> is greater than 1.03 F<sub>oa</sub> and when the average difference d is positive, then E shall be decreased by that proportion over 1.03 F<sub>oa</sub>, *e.g.*, if F<sub>o</sub> is 1.05 F<sub>oa</sub>, E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(2) For Method 5 or 5B of appendix A–3 of this part, Method 17 of appendix A–6 of this part may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A–3 of this part may be used with Method 17 of appendix A–6 of this part only if it is used after wet FGD systems. Method 17 of appendix A–6 of this part shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.

(3) Particulate matter and SO<sub>2</sub> may be determined simultaneously with the Method 5 of appendix A of this part train provided that the following changes are made:

(i) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 of appendix A of this part is used in place of the condenser (section 2.1.7) of Method 5 of appendix A of this part.

(ii) All applicable procedures in Method 8 of appendix A of this part for the determination of SO<sub>2</sub> (including moisture) are used:

(4) For Method 6 of appendix A of this part, Method 6C of appendix A of this part may be used. Method 6A of appendix A of this part may also be used whenever Methods 6 and 3B of appendix A of this part data are specified to determine the SO<sub>2</sub> emission rate, under the conditions in paragraph (d)(1) of this section.

(5) For Method 7 of appendix A of this part, Method 7A, 7C, 7D, or 7E of appendix A of this part may be used. If Method 7C, 7D, or 7E of appendix A of this part is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the O<sub>2</sub> concentration (% O<sub>2</sub>) for the emission rate correction factor.

(6) For Method 3 of appendix A of this part, Method 3A or 3B of appendix A of this part may be used.

(7) For Method 3B of appendix A of this part, Method 3A of appendix A of this part may be used.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5078, Jan. 28, 2009]

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Appendix G

40 CFR Part 60, Subpart Kb – *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984*



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### **Title 40: Protection of Environment**

#### **PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

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#### **Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984**

**Source:** 52 FR 11429, Apr. 8, 1987, unless otherwise noted.

#### **§ 60.110b Applicability and designation of affected facility.**

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters ( $m^3$ ) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151  $m^3$  storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75  $m^3$  but less than 151  $m^3$  storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(c) [Reserved]

(d) This subpart does not apply to the following:

(1) Vessels at coke oven by-product plants.

(2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.

(3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.

(4) Vessels with a design capacity less than or equal to 1,589.874  $m^3$  used for petroleum or condensate stored, processed, or treated prior to custody transfer.

(5) Vessels located at bulk gasoline plants.

(6) Storage vessels located at gasoline service stations.

(7) Vessels used to store beverage alcohol.

(8) Vessels subject to subpart GGGG of 40 CFR part 63.

(e) *Alternative means of compliance*—(1) *Option to comply with part 65.* Owners or operators may

choose to comply with 40 CFR part 65, subpart C, to satisfy the requirements of §§60.112b through 60.117b for storage vessels that are subject to this subpart that meet the specifications in paragraphs (e)(1)(i) and (ii) of this section. When choosing to comply with 40 CFR part 65, subpart C, the monitoring requirements of §60.116b(c), (e), (f)(1), and (g) still apply. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) A storage vessel with a design capacity greater than or equal to 151 m<sup>3</sup> containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa; or

(ii) A storage vessel with a design capacity greater than 75 m<sup>3</sup> but less than 151 m<sup>3</sup> containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C, must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those storage vessels. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of storage vessels complying with 40 CFR part 65, subpart C, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C, must comply with 40 CFR part 65, subpart A.

(3) *Internal floating roof report.* If an owner or operator installs an internal floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.43. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

(4) *External floating roof report.* If an owner or operator installs an external floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.44. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 78275, Dec. 14, 2000; 68 FR 59332, Oct. 15, 2003]

### § 60.111b Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this subpart as follows:

*Bulk gasoline plant* means any gasoline distribution facility that has a gasoline throughput less than or equal to 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal requirement or Federal, State or local law, and discoverable by the Administrator and any other person.

*Condensate* means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

*Custody transfer* means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.

*Fill* means the introduction of VOL into a storage vessel but not necessarily to complete capacity.

*Gasoline service station* means any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage tanks.

*Maximum true vapor pressure* means the equilibrium partial pressure exerted by the volatile organic compounds (as defined in 40 CFR 51.100) in the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOL's stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOL's stored at the ambient temperature, as determined:

(1) In accordance with methods described in American Petroleum Institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks, (incorporated by reference—see §60.17); or

- (2) As obtained from standard reference texts; or
- (3) As determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17);
- (4) Any other method approved by the Administrator.

*Petroleum* means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

*Petroleum liquids* means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

*Process tank* means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.

*Reid vapor pressure* means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323–82 or 94 (incorporated by reference—see §60.17).

*Storage vessel* means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:

- (1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;
- (2) Subsurface caverns or porous rock reservoirs; or
- (3) Process tanks.

*Volatile organic liquid (VOL)* means any organic liquid which can emit volatile organic compounds (as defined in 40 CFR 51.100) into the atmosphere.

*Waste* means any liquid resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or recycled.

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 61756, Oct. 17, 2000; 68 FR 59333, Oct. 15, 2003]

#### **§ 60.112b Standard for volatile organic compounds (VOC).**

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

- (1) A fixed roof in combination with an internal floating roof meeting the following specifications:
  - (i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.
  - (ii) Each internal floating roof shall be equipped with one of the following closure devices between the

wall of the storage vessel and the edge of the internal floating roof.

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in §60.113b(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.

(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in §60.113b(4).

(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(3) A closed vent system and control device meeting the following specifications:

(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, §60.485 (b).

(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (§60.18) of the General Provisions.

(4) A system equivalent to those described in paragraphs (a)(1), (a)(2), or (a)(3) of this section as provided in §60.114b of this subpart.

(b) The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m<sup>3</sup> which contains a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa shall equip each storage vessel with one of the following:

(1) A closed vent system and control device as specified in §60.112b(a)(3).

(2) A system equivalent to that described in paragraph (b)(1) as provided in §60.114b of this subpart.

(c) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.* This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site").

(1) For any storage vessel that otherwise would be subject to the control technology requirements of paragraphs (a) or (b) of this section, the site shall have the option of either complying directly with the requirements of this subpart, or reducing the site-wide total criteria pollutant emissions cap (total emissions cap) in accordance with the procedures set forth in a permit issued pursuant to 40 CFR 52.2454. If the site chooses the option of reducing the total emissions cap in accordance with the procedures set forth in such permit, the requirements of such permit shall apply in lieu of the otherwise applicable requirements of this subpart for such storage vessel.

(2) For any storage vessel at the site not subject to the requirements of 40 CFR 60.112b (a) or (b), the requirements of 40 CFR 60.116b (b) and (c) and the General Provisions (subpart A of this part) shall not apply.

[52 FR 11429, Apr. 8, 1987, as amended at 62 FR 52641, Oct. 8, 1997]

### § 60.113b Testing and procedures.

The owner or operator of each storage vessel as specified in §60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of §60.112b.

(a) After installing the control equipment required to meet §60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

(2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on

the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) For vessels equipped with a double-seal system as specified in §60.112b(a)(1)(ii)(B):

(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or

(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.

(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.

(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(b) After installing the control equipment required to meet §60.112b(a)(2) (external floating roof), the owner or operator shall:

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.

(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.

(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:

(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 Cm<sup>2</sup> per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm<sup>2</sup> per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of §60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(c) The owner or operator of each source that is equipped with a closed vent system and control device as required in §60.112b (a)(3) or (b)(2) (other than a flare) is exempt from §60.8 of the General Provisions and shall meet the following requirements.

(1) Submit for approval by the Administrator as an attachment to the notification required by §60.7(a)(1)

or, if the facility is exempt from §60.7(a)(1), as an attachment to the notification required by §60.7(a)(2), an operating plan containing the information listed below.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.

(ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.

(d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in §60.112b (a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, §60.18 (e) and (f).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

#### **§ 60.114b Alternative means of emission limitation.**

(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in §60.112b, the Administrator will publish in the Federal Register a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.

(c) Any person seeking permission under this section shall submit to the Administrator a written application including:

(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure.

(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as specified in §60.112b.

#### **§ 60.115b Reporting and recordkeeping requirements.**

The owner or operator of each storage vessel as specified in §60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of §60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3).

(2) Keep a record of each inspection performed as required by §60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in §60.113b(a)(2) are detected during the annual visual inspection required by §60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by §60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in §60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of §60.112b(a)(1) or §60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with §60.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(2) and §60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by §60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by §60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in §60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by §60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in §60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by §60.113b (b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with §60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

(1) A copy of the operating plan.

(2) A record of the measured values of the parameters monitored in accordance with §60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with §60.112b, the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by §60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by §60.8 of the General Provisions. This report shall be

submitted within 6 months of the initial start-up date.

(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.

(3) Semiannual reports of all periods recorded under §60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator.

#### **§ 60.116b Monitoring of operations.**

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.





Appendix H  
40 CFR Part 63, Subpart RR – *National Emission Standards for Individual Drain Systems*



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## Electronic Code of Federal Regulations

*e-CFR*  
TM

**e-CFR Data is current as of July 13, 2009**

### **Title 40: Protection of Environment**

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

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#### **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]

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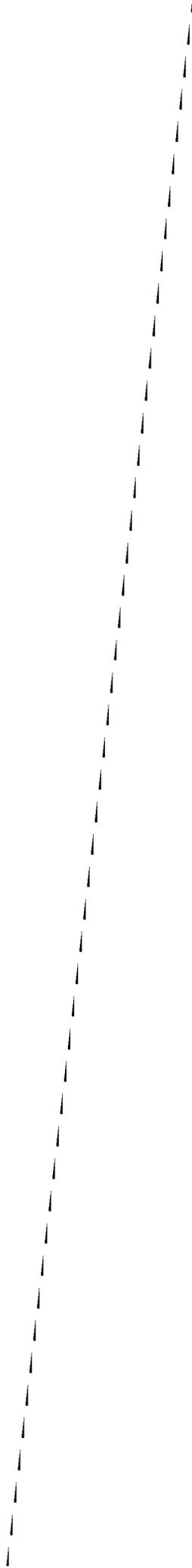
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Appendix I  
Haul Road Tables from Modeling Report







**CERTIFICATE OF SERVICE**

I, Cynthia Hook, hereby certify that a copy of this permit has been mailed by first class mail to Domtar A.W. LLC, 285 Highway 71 South, Ashdown, AR, 71822, on this 17<sup>th</sup> day of September, 2009.



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Cynthia Hook, AAIL, Air Division

