

VOID

Summary

41-0002

Arkansas Department of Pollution Control and Ecology
Division of Air Pollution Control

Summary Report Relative to Permit Application

Submitted By: Nekoosa Papers Inc.
Ashdown (Little River County)

G.M. Williams, Contact
P.O. Box 496
Ashdown, AR 71822

CSN:410002 Permit No.:287-AR-5 Date Issued: 6/24/87

Submittals: January 19, 1987; February 20, 1987

Summary

Nekoosa Paper Incorporated, operates a pulp and paper mill located near Ashdown. This mill has a number of air emission points which are covered by permit 287-AR-4. Nekoosa has requested that this permit be modified by replacing the #1 recovery boiler and smelt dissolving tank vent (SDTV) with a new recovery boiler and SDTV. This new equipment will be known as the #3 recovery boiler and #3 SDTV.

The #3 recovery boiler will have a capacity of 4.5 million pounds of black liquor solids per day and will enable the mill to support a fourth paper machine should it be decided to install one. This project will increase Nekoosa's sulfur dioxide emissions by 426.9 pounds per hour and nitrogen dioxide emissions by 252 pounds per hour. The ambient impact resulting from these increases will be below the significant impact level for each pollutant and all time averaging periods. The mill's actual emissions of particulate matter, carbon monoxide, and total reduced sulfur will be reduced by 69.8, 2,170, and 12.5 pounds per hour respectively. (The mill's allowable particulate emission limit will be reduced by over 300 lb/hr).

As a PSD source, this facility will consume PSD increment. A brief summary of the increment consumed by all sources in the area is presented below.

Total Increment Consumption

	24-hour		Annual		3-hour	
	ug/m3	%	ug/m3	%	ug/m3	%
SO2	5.3	5.8	0.7	3.5	23.4	4.6
TSP	12.1	32.7	1.2	6.3	----	---

Installation: ASAP	Operation: April 1989
Control Equipment: \$5,500,000	Total Project: \$90,450,000
Reviewed By: Mike Porta	Approved By: Wilson Tolefree
Applicable Regulation: Air Code	SIP NSPS PSD

Specific Conditions

1. Except where otherwise specified, the permittee shall comply with the emission limitations listed in Table I.
2. Except as provided under specific condition 3, the #3 package boiler shall burn pipeline quality natural gas with a heat input no greater than 160 million BTU per hour; the #2 package boiler shall burn pipeline quality natural gas with a heat input no greater than 210 million BTU per hour.
3. During periods of natural gas curtailment, both package boilers will be allowed to burn #6 oil provided the heat input to each boiler does not exceed the limits specified in specific condition 2. The #1 power boiler shall also be allowed to burn #6 oil during periods of natural gas curtailment. The Department shall be notified during such periods.
4. Except when otherwise specified, the appropriate test methods, found in 40 CFR Part 60 Appendix A, are to be used for any (and all) testing required by this permit.
5. Nekoosa shall install and operate the following continuous emission monitors:
 - # 2 Recovery Boiler -- Total Reduced Sulfur, Oxygen, and Opacity
 - # 2 Power Boiler -- Sulfur Dioxide, Nitrogen Oxides, and Oxygen
 - # 2 Lime Kiln -- Total Reduced Sulfur
 - # 3 Package Boiler -- Nitrogen Oxides
 - # 3 Recovery Boiler -- Sulfur Dioxide, Nitrogen Oxides, Total Reduced Sulfur, Oxygen, and Opacity

The performance specifications which the monitors are required to meet (PS 1, 2, 3, and 5) are found in 40 CFR Part 60 Appendix B.

6. Installation of a continuous monitoring system for nitrogen oxides on the #3 Recovery Boiler may be delayed until after the initial performance test required under specific condition #13 has been conducted. If Nekoosa demonstrates during the performance test that emissions of nitrogen oxides are less than 70 percent of the emission limitations found in Table I, a continuous monitoring system for measuring nitrogen oxides emissions is not required. If the initial performance test results show that emissions of nitrogen oxides are greater than 70 percent of the emission limitations found in Table I, a

continuous monitoring system for measuring nitrogen oxides emissions shall be installed and in compliance with all applicable provisions of this permit within one year after the date of the initial performance test. If Nekoosa is required under this condition to install a continuous monitoring system for measuring nitrogen oxides emissions, and if, after this system has operated a substantial period of time, the data collected indicates that the NOx emissions are reasonable independent of boiler operator control, and if Nekoosa petitions the Director to do so, the Director may waive the requirement that Nekoosa must operate a continuous monitoring system for measuring nitrogen oxides emissions.

7. In accordance with Section 8(e) of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control, the opacity limit of the #2 and #3 recovery boilers is 20%. The Standards of Performance for New Stationary Sources requires Nekoosa to submit, on a quarterly basis, a list of all six minute average opacities that exceed 35%. This permit does not change either requirement.
8. During the operation of the #2 power boiler the pressure drop across the scrubber shall be maintained at or above 14 inches of water; the liquid flow to the scrubber shall be maintained at or above 1500 gallons per minute.
9. The #3 package boiler shall comply fully with all applicable requirements of 40 CFR, Part 60, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units).
10. The #3 recovery boiler and #3 smelt dissolving tank vent shall comply fully with all applicable requirements of 40 CFR, Part 60, Subpart BB (Standards of Performance for Kraft Pulp Mills.)
11. Within 180 days of the issuance of this permit, Nekoosa shall submit an approvable quality assurance plan for all of the continuous emission monitors (CEM's) located at their Ashdown Facility. The plan should consist of procedures and practices to ensure an adequate level of monitor data accuracy, precision, and availability. Except as provided by in specific condition #6, each time Nekoosa is required to install and/or operate an additional CEM, it shall be installed and operating on or before the date the required compliance test is conducted; furthermore, an approvable quality assurance plan shall be submitted for that CEM within 180 days of the date that the monitor is required to be installed.
12. For purposes of this permit, any three hour period during which the average emissions of nitrogen oxides or sulfur dioxide exceed the allowable emissions listed in Table I, any twelve hour period during which the average emissions

of total reduced sulfur exceed the allowable emissions listed in Table I, and any six-minute period during which the average opacity exceed the allowable limit listed in Table I, shall be considered a violation.

13. Within the time limits specified by general condition #5, and using the test methods specified by specific condition #4, Nekoosa shall test the #3 recovery boiler for TSP, SO₂, TRS, NO₂, CO, and opacity and the #3 smelt dissolving tank vent for TSP, SO₂, and TRS.
14. On the date the compliance testing required by specific condition #13 is conducted, the particulate emission from the #3 recovery boiler shall not exceed 0.022 grains per dry standard cubic foot. After a successful compliance test has been completed, the #3 recovery boiler shall be required to meet a particulate emission limit of 0.044 grains per dry standard cubic foot.
15. SO₂ emissions from the #3 Recovery Boiler will be controlled by optimization of furnace design and operating conditions to minimize SO₂ generation and release. The specific SO₂ limit and operating conditions will be set after completion of the compliance testing required by specific condition #11. In no event shall the SO₂ emission limit exceed 250 ppm or 622 lb/hr.
16. The liquid flow to the #3 smelt tank scrubber, the pressure drop across this scrubber, and the current to the scrubber motor fan shall be monitored during the compliance testing required by specific condition #11 and continuously thereafter. Operation of the scrubber at a liquid flow, pressure drop, or current lower than those values used during the compliance testing shall be a violation of this permit.
17. The #1 recovery boiler, #1 smelt tank, and other associated equipment shall be taken out of service once the #3 recovery boiler and #3 smelt tank become operational. The #3 recovery boiler will become operational only after a reasonable shakedown period not to exceed 180 days. If they so desire, Nekoosa may keep the #1 recovery boiler, #1 smelt tank, and other associated equipment in service for an additional 180 days provided that during 180 day period the total input to the #1, #2, and #3 recovery boilers does not exceed 8.9 million pounds of black liquor solids per day.
18. During the period of time between the issuance of this permit and the retirement of the #1 recovery boiler and smelt tank, these sources shall continue to comply with the emission limitations specified in permit 287-AR-4.

TABLE I

ALLOWABLE EMISSION RATES

SOURCE	POLLUTANT	EMISSION RATE		OPACITY
#3 Recovery Boiler	TSP	93.5 lb/hr	0.044 gr/dscf	20%
	TRS	6.6 lb/hr	5 ppm	
	NO2	270. lb/hr	5.3 lb/ADT	
	CO	856. lb/hr	16.8 lb/ADT	
#3 Smelt Tank	TSP	18.7 lb/hr	0.2 lb/Ton BLS*	20%
	SO2	5.1 lb/hr	0.1 lb/ADT	
	TRS	1.6 lb/hr	0.0168 lb/ton BLS*	
#2 Power Boiler	TSP	82. lb/hr	0.1 lb/mmBTU	20%
	SO2	983. lb/hr	1.2 lb/mmBTU	
	NOx	574. lb/hr	0.7 lb/mmBTU	
#2 Recover Boiler	TSP	84.4 lb/hr	0.044 gr/dscf	20%
	SO2	286. lb/hr	250 ppm	
	TRS	7.4 lb/hr	5 ppm	
#2 Smelt Dissolving Tanks (Both)	TSP	18. lb/hr	0.2 lb/Ton BLS*	20%
	SO2	10.6 lb/hr	----	
	TRS	2.1 lb/hr	0.0168 lb/ton BLS*	
#2 Lime Kiln	TSP	51. lb/hr	0.067 gr/dscf	20%
	SO2	16.7 lb/hr	----	
	TRS	8. lb/hr	8 ppm	
#3 Package Boiler	TSP	0.5 lb/hr	160 mmBTU/hr	5%
	SO2	0.1 lb/hr	Maximum Heat Input	
	NOx	16. lb/hr	0.1 lb/mmBTU	
#2 Package Boiler	TSP	0.6 lb/hr	210 mmBTU/hr	5%
	SO2	0.2 lb/hr	Maximum Heat Input	
	NOx	27.4 lb/hr		
#1 Power Boiler	TSP	300. lb/hr		40%

*BLS stands for Black Liquor Solids

TABLE II
 NSPS SOURCES
 AND APPLICABLE SUBPARTS

Source	Applicable NSPS Subpart
#2 Power Boiler	Subpart D
#2 Recovery Boiler	Subpart BB
#2 Smelt Dissolving Tanks	Subpart BB
#2 Lime Kiln	Subpart BB
#3 Package Boiler	Subpart Db
#3 Recovery Boiler	Subpart BB
#3 Smelt Dissolving Tanks	Subpart BB

TABLE III
 INCREMENT CONSUMING SOURCES

STACK	STACK HT (FT.)	STACK DIAM (FT.)	STACK TEMP (F)	EXIT VELO. (FT/SEC.)	EMISSION RATE (LB/HR)	
					SO2	TSP
NO. 3 RECOVERY BOILER	324.	10.50	365.	79.0	621.0	93.5
NO. 3 SMELT TANK	324.	6.00	175.	18.0	5.1	18.7
NO. 2 RECOVERY BOILER	295.	10.00	332.	98.1	286.0	84.4
NO. 2 SMELT TANK SOUTH	295.	4.30	190.	16.4	5.3	9.0
NO. 2 SMELT TANK NORTH	295.	4.30	183.	10.7	5.3	9.0
NO. 2 LIME KILN	100.	7.50	163.	19.8	16.7	51.0
NO. 2 POWER BOILER	235.	12.00	145.	34.7	128.0	11.0
NO. 3 PACKAGE BOILER	24.	5.00	409.	38.1	0.1	0.5
NO. 2 PACKAGE BOILER	28.	9.10	550.	15.0	0.2	0.6
NO. 1 RECOVERY BOILER	194.	7.80	345.	80.5	-196.0	-162.0
NO. 1 SMELT TANK	194.	4.60	183.	27.6	-2.0	-20.0

RESPONSE TO COMMENTS

Nekoosa Paper Company
June 22, 1987
Permit #287-AR-5
CSN 410002

On January 19, 1987, Nekoosa Paper Company submitted an application for an air permit to allow them to construct and operate a new recovery boiler at their paper mill near Ashdown. A draft permit was prepared and sent to public notice on or about April 23, 1987. During the comment period two comments were received, one from the applicant and one from a biology professor at the University of Central Arkansas. The comments submitted by Nekoosa Paper were primarily related to specific requirements of the permit. Our response to the comments follows. (The comments have only been briefly summarized.)

Comment: One commentor raised the issue of acid deposition and stated that the NOx and SO2 emissions should be controlled with the best available control technology (BACT). He also stated it was ironic that Nekoosa was reducing their particulate, carbon monoxide, and total reduced sulfur emissions because he knew of "no evidence of damage to natural biological system in Arkansas" caused by these pollutants.

Response: Nekoosa Paper is considered a major source under air pollution regulations. Because of this status, any significant increase in any air pollutant will require a prevention of significant deterioration (PSD) permit. In order to get a PSD permit, the applicant must demonstrate to the Director's satisfaction that each pollutant they will emit in significant amounts will be controlled using BACT and that emitting these pollutants at the amounts permitted will not cause significant deterioration of ambient air quality. (The meanings of the various terms used above can be found in 40 CFR 52.21.) Thus, the fact that we propose to issue this permit indicates that we feel BACT is being applied.

Also, the impact of this source on the relevant National Ambient Air Quality Standards was evaluated during the permit review process and found to be insignificant.

Comment: Nekoosa requested we delete the requirement that they install SO2 and NOx continuous emission monitors (CEM) on the #3 recovery boiler.

Response: The ADPC&E feels that the CEM requirements for the #3 recover boiler are reasonable; however, we recognize that the emission of these pollutants, especially NOx, is primarily a function of boiler design. Therefore, we have added language that would allow NOx-CEM requirement to be dropped if NOx emissions are less than 70% of the allowable limit.

We have also specified in the permit the averaging periods which will be used to determine compliance with the emission limits contained in the permit.

Comment: Nekoosa requested that the proposed TRS limit on the #3 smelt tank be the same as that allowed by the new source performance standards for kraft mills.

Response: The Department intends to leave the #3 smelt tank TRS limit at 0.0186 lb/ton of BLS for now. We recognize that the NSPS is often used by permit writers as a guide when setting limits; however, for reasons previously articulated, we do not feel it would be appropriate to do so in this case. We are currently reviewing Nekoosa's request to raise the TRS limit on the #2 smelt tank. We will make a final decision on #3 smelt tank limit when one is made on the #2 smelt tank limit.

Comment: Nekoosa pointed out that specific condition #10 (now #11) would require a quality assurance/quality control plan be submitted for the CEM's on the #3 recovery boiler two years before the boiler will be in operation. They questioned whether or not this time schedule represented our intent.

Response: We have re-worded this condition to reflect the Department's original intent. To wit: the monitors must be installed on or before the date any compliance testing is required and the QA/QC plan must be submitted within six months of monitor's installation.

Comment: Nekoosa informed us that they no longer intended to install the by-pass damper in the #3 smelt tank stack; thus, the permit condition relating to this damper's use no longer had any relevance.

Response: This condition has been deleted.

Comment: Condition #16 (now #18) required that the #1 recovery boiler be taken out of service six months after the startup of the #3 recovery boiler. They requested this period be extended to one year.

Response: We have granted this extension provided that the total firing rate of all three boilers during the extra six months does not exceed the rated capacity of the #2 and #3 recovery boilers combined.

Comment: Nekoosa objected to the wording of specific condition #12 which established the particulate limit for the #3 recovery boiler.

Response: The Department's intent when writing this condition was to insure that there was sufficient "overdesign" in the ESP to allow it to meet the NSPS particulate limit of 0.044 gr/dscf throughout its entire life. (The TSP emission reduction mentioned in the public notice and used in the modeling was based on 0.044 gr/dscf.) We have reworded this condition to more accurately reflect this intent.

Comment: Nekoosa pointed out what they felt were several typographical errors in the draft permit.

Response: We thank Nekoosa for calling our attention to these errors and have made changes where appropriate.