

MINUTE ORDER NO. 85-29

COMPLIANCE SCHEDULES
PAGE 1 OF 1

FINDINGS:

Pursuant to the Arkansas Plan for the Control of Designated Pollutants [111(d) Plan], Georgia-Pacific Corporation of Crossett, Arkansas; International Paper Company of Camden, Arkansas; International Paper Company of Pine Bluff, Arkansas; Nekoosa Papers Inc. of Ashdown, Arkansas; Potlatch Corporation of McGehee, Arkansas, and Weyerhaeuser Company of Pine Bluff, Arkansas, have submitted for approval the attached schedules of compliance for the control of total reduced sulfur (TRS) emissions from their respective Kraft pulp mills.

All applicable public participation requirements with respect to these compliance schedules have been complied with.

ORDER:

The compliance schedules, as submitted by Georgia-Pacific, International Paper at Camden, International Paper at Pine Bluff, Nekoosa, Potlatch and Weyerhaeuser are hereby approved.

Attachments

COMMISSIONERS

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CHAIRMAN

SUBMITTED BY: WILSON TOLEFREE DATE PASSED: 9/27/85

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

CONTROL OF TOTAL REDUCED SULFUR EMISSIONS
FROM KRAFT PULP MILLS

COMPLIANCE SCHEDULE

CSN 020013 GEORGIA-PACIFIC CORPORATION, CROSSETT

Pursuant to the Arkansas Plan for the Control of Designated Pollutants (111(d) Plan) for Kraft Pulp Mills, adopted January 28, 1983, and Section 8.1(c)(iii) of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control, adopted as part of said 111(d) Plan, the following compliance schedule is hereby submitted, pursuant to the provisions of Section 8.1(c)(iii)(B) of said Regulations, for the control of total reduced sulfur (TRS) emissions from the kraft pulp mill operated by Georgia-Pacific Corporation of Crossett, Arkansas:

1. REGULATORY REQUIREMENTS OF 111(d) PLAN

- o Emission Limits (12-hour averages, TRS as hydrogen sulfide, dry basis)
 - Evaporators and digesters: efficient incineration
 - Recovery furnace: 40 parts per million (ppm), corrected to 8% oxygen
 - Lime kiln: 40 ppm, corrected to 10% oxygen
 - Smelt dissolving tank: 0.0084 grams per kilogram of black liquor solids
- o Final compliance deadline: as expeditiously as practicable, but no later than 6 years after the date of approval of the 111(d) Plan by the U.S. Environmental Protection Agency; i.e., October 12, 1990.

2. COMPLIANCE SCHEDULE

The following TRS sources at Georgia-Pacific shall meet the following increments of progress and final compliance dates:

- o Digesters
 - 11/01/85 Progress report
 - 04/01/86 Select collection system alternative
 - 04/01/86 Begin engineering design
 - 05/01/86 Progress report

- 07/01/86 Order equipment
- 11/01/86 Progress report
- 01/01/87 Commence on-site construction/installation
- 05/01/87 Progress report
- 09/01/87 Complete on-site construction/installation
- 10/01/87 Commence operation with emission controls
- 11/01/87 Progress report
- 12/31/87 Initial performance test
- 12/31/87 Certify compliance

3. EMISSIONS TESTING

Emissions testing requirements for the above source shall be as follows:

- o Test method: existing continuous emission monitor on lime kiln (NSPS)
- o Test frequency after initial performance test: quarterly excess emission reports

4. DISCUSSION

- o All other operating TRS sources at Georgia-Pacific (No. 4 Evaporators, 8R Recovery Furnace, 8R Smelt Tank, and No. 4 Lime Kiln) are subject to the New Source Performance Standards, not the 111(d) Plan.
- o The digester noncondensable gases will be collected and combined with the evaporator noncondensibles and incinerated in the lime kiln. The following 3 alternatives are being considered:
 - Cold-blow process
 - Blow heat recovery with pre-evaporators
 - Blow heat recovery with evaporative cooler-condenser
- o Selection of the appropriate process will be based on capital and operating cost considerations, including energy use, which must be evaluated in light of other changes that are being made at the mill.
- o By 12/31/87, all designated sources at Georgia-Pacific will be in compliance with the emission limits of the 111(d) Plan.

SCHEDULE SUBMITTED BY:

GEORGIA-PACIFIC CORPORATION

BY:

TITLE:

DATE:

J. O. Harper
General Manager - Crownett Paper
9-10-85

APPROVED:

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

BY:

DATE:

Phyllis Barnett
DIRECTOR
9/17/85

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

CONTROL OF TOTAL REDUCED SULFUR EMISSIONS
FROM KRAFT PULP MILLS

COMPLIANCE SCHEDULE

CSN 520013 INTERNATIONAL PAPER COMPANY, CAMDEN

Pursuant to the Arkansas Plan for the Control of Designated Pollutants (111(d) Plan) for Kraft Pulp Mills, adopted January 28, 1983, and Section 8.1(c)(iii) of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control, adopted as part of said 111(d) Plan, the following compliance schedule is hereby submitted, pursuant to the provisions of Section 8.1(c)(iii)(B) of said Regulations, for the control of total reduced sulfur (TRS) emissions from the kraft pulp mill operated by International Paper Company of Camden, Arkansas:

1. REGULATORY REQUIREMENTS OF 111(d) PLAN

- o Emission Limits (12-hour averages, TRS as hydrogen sulfide, dry basis)
 - Evaporators and digesters: efficient incineration
 - Recovery furnace: 40 parts per million (ppm), corrected to 8% oxygen
 - Lime kiln: 40 ppm, corrected to 10% oxygen
 - Smelt dissolving tank: 0.0084 grams per kilogram of black liquor solids
- o Final Compliance Deadline: as expeditiously as practicable, but no later than 6 years after the date of approval of the 111(d) Plan by the U.S. Environmental Protection Agency; i.e., October 12, 1990.

2. COMPLIANCE SCHEDULE

The following TRS sources at International Paper shall meet the following final compliance dates, and shall continue to meet all of the following increments of progress unless and until International Paper makes a decision to close the Camden mill.

- o No. 1, 2, and 3 Recovery Boilers
 - 01/30/86 Emission test
 - 09/30/86 Budget submission

- 06/15/87 Order equipment
- 01/15/88 Commence on-site construction/installation
- 07/30/88 Complete on-site construction/installation
- 08/30/88 Commence operation with emission controls
- 09/01/88 Commence initial performance test
- 09/30/88 Certify final compliance
- o No. 1, 2, and 3 Smelt Dissolving Tank Vents
 - 01/30/86 Emission test
 - 09/30/86 Budget submission
 - 06/15/87 Order equipment
 - 01/15/88 Commence on-site construction/installation
 - 03/30/88 Complete on-site construction/installation
 - 04/30/88 Commence operation with emission controls
 - 07/01/88 Commence initial performance test
 - 07/30/88 Certify final compliance
- o Digesters and Evaporators
 - 09/30/86 Budget submission
 - 06/15/87 Order equipment
 - 01/15/88 Commence on-site construction/installation
 - 03/30/88 Complete on-site construction/installation
 - 04/30/88 Commence operation with emission controls
 - 07/01/88 Commence initial performance test (lime kiln)
 - 07/30/88 Certify final compliance
- o Lime Kilns
 - 01/30/86 Emission test
 - 09/30/86 Budget submission
 - 06/15/87 Order equipment

- 01/15/88 Commence on-site construction/installation
- 12/30/87 Complete on-site construction/installation
- 01/30/88 Commence operation with emission controls
- 04/15/88 Emission test (not burning noncondensibles)
- 05/15/88 Commence optimization study (burning noncondensibles)
- 07/01/88 Commence initial performance test (burning noncondensibles)
- 07/30/88 Certify final compliance

3. EMISSIONS TESTING

Emissions testing requirements for all designated sources shall be as follows:

- o Lime Kilns and Recovery Boilers
 - Test method: Barton titrator, EPA Method 16, or EPA Method 16A, plus continuous monitoring of process parameters
 - Test frequency after initial performance test: semi-annual
- o Smelt Dissolving Tanks
 - Test method: Barton titrator, EPA Method 16, or EPA Method 16A, (initial performance test only), plus continuous monitoring of process parameters
 - Test frequency after initial performance test: continuous monitoring of process parameters only

4. DISCUSSION

- o This schedule is contingent upon a decision by International Paper whether to continue to operate the Camden mill. A study on the economic viability of the mill is scheduled to be completed by 09/86. In the event that a decision is not made by 09/30/86, International Paper has committed to meet all increments of progress until a decision is made.
- o The recovery boilers will be controlled by efficient oxidation of black liquor prior to contact evaporators, and optimization of pertinent operating parameters to minimize furnace-generated TRS. Instrumentation as well as operating changes may be required. Continuing compliance will be demonstrated by the control of process parameters.

- o No. 1 Smelt Dissolving Tank Vent will be controlled by use of the existing low energy scrubber with weak wash. No. 2 and 3 Dissolving Tank Vents will be controlled by the installation of new low energy scrubbers with weak wash. Continuing compliance will be demonstrated by maintaining weak wash flow on the scrubbers.
- o Noncondensable gases from the evaporators and continuous digester, as well as the turpentine condenser, will be collected, scrubbed with white liquor, and incinerated in the lime kiln.
- o By 09/30/88, all designated sources at International Paper at Camden will be in compliance with the emission limits of the 111(d) Plan.

SCHEDULE SUBMITTED BY:

INTERNATIONAL PAPER COMPANY

BY: _____

TITLE: _____

DATE: _____

APPROVED:

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

BY: _____

DIRECTOR

DATE: _____

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

CONTROL OF TOTAL REDUCED SULFUR EMISSIONS
FROM KRAFT PULP MILLS

COMPLIANCE SCHEDULE

CSN 350016 INTERNATIONAL PAPER COMPANY, PINE BLUFF

Pursuant to the Arkansas Plan for the Control of Designated Pollutants (111(d) Plan) for Kraft Pulp Mills, adopted January 28, 1983, and Section 8.1(c)(iii) of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control, adopted as part of said 111(d) Plan, the following compliance schedule is hereby submitted, pursuant to the provisions of Section 8.1(c)(iii)(B) of said Regulations, for the control of total reduced sulfur (TRS) emissions from the kraft pulp mill operated by International Paper Company of Pine Bluff, Arkansas:

1. REGULATORY REQUIREMENTS OF 111(d) PLAN

- o Emission Limits (12-hour averages, TRS as hydrogen sulfide, dry basis)
 - Evaporators and digesters: efficient incineration
 - Recovery furnace: 40 parts per million (ppm), corrected to 8% oxygen
 - Lime kiln: 40 ppm, corrected to 10% oxygen
 - Smelt dissolving tank: 0.0084 grams per kilogram of black liquor solids
- o Final Compliance Deadline: as expeditiously as practicable, but no later than 6 years after the date of approval of the 111(d) Plan by the U.S. Environmental Protection Agency; i.e., October 12, 1990.

2. COMPLIANCE SCHEDULE

The following TRS sources at International Paper shall meet the following increments of progress and final compliance dates:

- o No. 2, 3, and 4 Recovery Boilers
 - 07/01/86 Complete optimization study on black liquor oxidation and determine needed operational/instrumentation changes; progress report
 - 01/01/87 Complete optimization study on furnace-generated TRS and determine needed operational/instrumentation changes; progress report

- 07/01/87 Initial performance test
- 07/31/87 Certify final compliance
- o No. 2, 3, and 4 Recovery Boilers: Secondary Black Liquor Oxidation (If Required)
 - 01/01/87 Budget submission
 - 04/01/87 Permit application
 - 08/01/87 Order equipment
 - 12/01/87 Commence on-site construction/installation
 - 08/31/88 Complete on-site construction/installation
 - 09/31/88 Initial performance test
 - 10/31/88 Certify final compliance
- o No. 2, 3, and 4 Smelt Dissolving Tank Vents
 - 12/31/85 Initial performance test
 - 01/31/86 Certify final compliance
- o No. 2 and 3 Smelt Dissolving Tank Vents: Scrubber Installation (If Required)
 - 12/01/86 Budget submission
 - 02/01/87 Permit application
 - 03/01/87 Order equipment
 - 07/01/87 Commence on-site construction/installation
 - 10/31/87 Complete on-site construction/installation
 - 11/30/87 Initial performance test
 - 12/31/87 Certify final compliance
- o Digesters and Evaporators: Collection and Scrubbing of Noncondensibles
 - 05/15/85 Budget submission
 - 03/15/86 Permit application
 - 04/15/86 Order equipment
 - 08/15/86 Commence on-site construction/installation

- 12/31/86 Complete on-site construction/installation
- 12/31/86 Commence operation with emission controls (scrubber)
- o Digesters and Evaporators: Incineration of Noncondensibles
 - 05/15/86 Budget submission
 - 03/15/87 Permit application
 - 05/15/87 Order equipment
 - 08/15/87 Commence on-site construction/installation
 - 06/30/88 Complete on-site construction/installation
 - 06/30/88 Commence operation with emission controls (incineration in lime kiln)
 - 09/30/88 Initial performance test (lime kiln)
 - 10/31/88 Certify final compliance
- o No. 1 and 2 Lime Kilns
 - 06/30/86 Complete optimization study (not burning noncondensibles)
 - 06/30/86 Initial performance test (not burning noncondensibles)
 - 06/30/88 Commence optimization study (burning noncondensibles)
 - 09/30/88 Initial performance test (burning noncondensibles)
 - 10/31/88 Certify final compliance

3. EMISSIONS TESTING

Emissions testing requirements for all designated sources shall be as follows:

- o Lime Kilns and Recovery Boilers
 - Test method: Barton titrator, or EPA Method 16A plus continuous monitoring of process parameters
 - Test frequency after initial performance test: semi-annual

- o Smelt Dissolving Tanks

- Test method: Barton titrator, or EPA Method 16A (initial performance test only), plus continuous monitoring of process parameters
- Test frequency after initial performance test: continuous monitoring of process parameters

4. DISCUSSION

- o The recovery boilers will be controlled by efficient oxidation of black liquor prior to contact evaporators, and optimization of pertinent operating parameters to minimize furnace-generated TRS. Instrumentation as well as operating changes may be required. Continuing compliance will be demonstrated by the control of process parameters identified during the optimization study.
- o No. 4 Smelt Dissolving Tank Vent will be controlled by use of the existing low energy scrubber with weak wash. No. 2 and 3 Dissolving Tank Vents will be controlled by the use of weak wash on the existing demister pads, or by the addition of a scrubber if needed. Continuing compliance will be demonstrated by maintaining weak wash flow and scrubber pressure drop on No. 4 Dissolving Tank Vent and by maintaining weak wash flow on the demisters.
- o Noncondensable gases from the digesters and evaporators, as well as the turpentine condensers, will be collected, scrubbed with white liquor, and incinerated in the lime kilns. Control equipment will be installed in 2 stages.
- o By 10/31/88, all designated sources at International Paper will be in compliance with the emission limits of the 111(d) Plan.

SCHEDULE SUBMITTED BY:

INTERNATIONAL PAPER COMPANY

BY:

Jane B. Thompson

TITLE:

Mill No. - Pine Bluff

DATE:

9/9/85

APPROVED:

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

BY:

Phillip Samitt
DIRECTOR

DATE:

9/17/85

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

CONTROL OF TOTAL REDUCED SULFUR EMISSIONS
FROM KRAFT PULP MILLS

COMPLIANCE SCHEDULE

CSN 410002 NEKOOSA PAPERS INC., ASHDOWN

Pursuant to the Arkansas Plan for the Control of Designated Pollutants (111(d) Plan) for Kraft Pulp Mills, adopted January 28, 1983, and Section 8.1(c)(iii) of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control, adopted as part of said 111(d) Plan, the following compliance schedule is hereby submitted, pursuant to the provisions of Section 8.1(c)(iii)(B) of said Regulations, for the control of total reduced sulfur (TRS) emissions from the kraft pulp mill operated by Nekoosa Papers Inc. of Ashdown, Arkansas:

1. REGULATORY REQUIREMENTS OF 111(d) PLAN

- o Emission Limits (12-hour averages, TRS as hydrogen sulfide, dry basis)
 - Evaporators and digesters: efficient incineration
 - Recovery furnace: 40 parts per million (ppm), corrected to 8% oxygen
 - Lime kiln: 40 ppm, corrected to 10% oxygen
 - Smelt dissolving tank: 0.0084 grams per kilogram of black liquor solids
- o Final Compliance Deadline: as expeditiously as practicable, but no later than 6 years after the date of approval of the 111(d) Plan by the U.S. Environmental Protection Agency; i.e., October 12, 1990.

2. COMPLIANCE SCHEDULE

The following TRS sources at Nekoosa shall meet the following increments of progress and final compliance dates:

- o No. 1 Recovery Boiler
 - 08/15/85 Begin engineering design
 - 01/30/86 Complete evaluation of control options
 - 07/15/87 Order equipment
 - 12/15/87 Commence on-site construction/installation

- 07/30/89 Complete on-site construction/installation
 - 01/30/90 Commence operation with emission controls
 - 07/30/90 Initial performance test
 - 07/31/90 Certify final compliance
- o Digester and Evaporators
 - 1 /01/86 Begin engineering design
 - 04/01/86 Order equipment
 - 07/01/86 Commence on-site construction/installation
 - 12/31/86 Complete on-site construction/installation
 - 03/31/87 Commence operation with emission controls
 - 06/30/87 Performance test on lime kiln
 - 07/31/87 Certify final compliance

3. EMISSIONS TESTING

Emissions testing requirements for all designated sources shall be as follows:

- o No. 1 Recovery Boiler and Smelt Tank Vent
 - Test method: EPA Method 16 (gas chromatograph) or 16A
 - Test frequency after initial performance test: semi-annual
- o No. 1 Evaporator and Digester: Incineration in Lime Kiln
 - Test method: existing continuous emission monitor on lime kiln (NSPS)
 - Test frequency: quarterly excess emission reports
- o No. 1 Evaporator and Digester: Incineration in Power Boiler
 - Test method and frequency: as determined by the Department

4. DISCUSSION

- o Nekoosa is evaluating the following 3 alternatives for control of the No. 1 Recovery boiler:

- Black liquor oxidation system with oxygen plant: If equipment is ordered by July 1987, construction would be complete by June 30, 1988. With 3 months for startup and checkout, and 3 months for certification, final compliance would be achieved by December 30, 1988.
- Teller scrubber system: would replace existing electrostatic precipitator for particulate control. If equipment is ordered by July 1987, construction would be complete by July 1988. With 6 months for startup and checkout, and 6 months for certification (because of the complexity of the system), final compliance would be achieved by July 1989.
- Conversion to low odor boiler by adding extended economizer, new induced draft fan, pre-evaporators, and concentrator: Several vendors would be involved, so purchase of equipment would take from July 1987 to October 1988. Construction could start in December 1987, but because of equipment delivery and the necessity to coordinate with production downtime, completion would be in July 1989. With 6 months for startup and checkout, and 6 months for certification (because of the complexity of the system), final compliance would be achieved by July 1990.
- o No. 1 Smelt Dissolving Tank Vent currently has a venturi scrubber for particulate control. The smelt dissolving tank vent is currently in compliance with the emission limits of the 111(d) Plan, based on a test performed on March 20, 1985. Semiannual testing shall be performed to demonstrate continuous compliance.
- o Noncondensable gases from the No. 1 Evaporator and batch digester will be incinerated in the lime kiln, or, if an engineering study indicates insufficient lime kiln capacity, in the power boiler.
- o The lime kiln and No. 2 Recovery Boiler are subject to the New Source Performance Standards, not the 111(d) Plan.
- o By 07/30/90, all designated sources at Nekoosa will be in compliance with the emission limits of the 111(d) Plan.

SCHEDULE SUBMITTED BY:

NEKOOSA PAPERS INC.

BY: *J. Williams*

TITLE: *Mill Manager*

DATE: *9/6/85*

APPROVED:

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

BY: *Phyllis Bennett*
DIRECTOR

DATE: *9/10/85*

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

CONTROL OF TOTAL REDUCED SULFUR EMISSIONS
FROM KRAFT PULP MILLS

COMPLIANCE SCHEDULE

CSN 210036 POTLATCH CORPORATION, MCGEHEE

Pursuant to the Arkansas Plan for the Control of Designated Pollutants (111(d) Plan) for Kraft Pulp Mills, adopted January 28, 1983, and Section 8.1(c)(iii) of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control, adopted as part of said 111(d) Plan, the following compliance schedule is hereby submitted, pursuant to the provisions of Section 8.1(c)(iii)(B) of said Regulations, for the control of total reduced sulfur (TRS) emissions from the kraft pulp mill operated by Potlatch Corporation of McGehee, Arkansas:

1. REGULATORY REQUIREMENTS OF 111(d) PLAN

- o Emission Limits (12-hour averages, TRS as hydrogen sulfide, dry basis)
 - Evaporators and digesters: efficient incineration
 - Recovery furnace: 5 parts per million (ppm), corrected to 8% oxygen
 - Lime kiln: 20 ppm, corrected to 10% oxygen
 - Smelt dissolving tank: 0.0084 grams per kilogram of black liquor solids
- o Final compliance deadline: as expeditiously as practicable, but no later than 6 years after the date of approval of the 111(d) Plan by the U.S. Environmental Protection Agency; i.e., October 12, 1990.

2. COMPLIANCE SCHEDULE

The following TRS source at Potlatch shall meet the following increments of progress and final compliance dates:

- o Smelt Dissolving Tank
 - 10/30/85 Emission test
 - 03/15/89 Begin engineering design
 - 06/01/89 Order equipment
 - 10/01/89 Commence on-site construction/installation

- 01/01/90 Complete on-site construction/installation
- 02/01/90 Commence operation with emission controls
- 04/30/90 Initial performance test
- 06/30/90 Certify compliance

3. EMISSIONS TESTING

Emissions testing requirements for all designated sources shall be as follows:

- o Test method: EPA Method 16A
- o Test frequency for all designated sources, and for the above source after the initial performance test: semi-annual for the first year; thereafter, annual, upon approval of the Director

4. DISCUSSION

- o The evaporators, digesters, recovery furnace, and lime kiln are already in compliance with the emission limits of the 111(d) Plan. Annual testing shall be performed to demonstrate continuous compliance.
- o Emission controls for the smelt dissolving tank will include a venturi scrubber for particulate control, followed by an absorber tower (wet scrubber) with a demister section. Weak wash will be used as the scrubbing medium, with pH control and caustic addition as necessary.
- o Potlatch is exploring process alternatives to control smelt tank TRS emissions without a scrubber. These include process changes to reduce the sulfur compound level in the weak wash at the smelt tank showers, and using a weak sodium hydroxide solution on the demister pads.
- o By 06/30/90, all designated sources at Potlatch will be in compliance with the emission limits of the 111(d) Plan.

SCHEDULE SUBMITTED BY:

POTLATCH CORPORATION

BY: RE. Jipe

TITLE: Vice President

DATE: September 5, 1985

APPROVED:

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

BY: Phyllis Sawett
DIRECTOR

DATE: 9/10/85

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

CONTROL OF TOTAL REDUCED SULFUR EMISSIONS
FROM KRAFT PULP MILLS

COMPLIANCE SCHEDULE

CSN 350017 WEYERHAEUSER COMPANY, PINE BLUFF

Pursuant to the Arkansas Plan for the Control of Designated Pollutants (111(d) Plan) for Kraft Pulp Mills, adopted January 28, 1983, and Section 8.1(c)(iii) of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control, adopted as part of said 111(d) Plan, the following compliance schedule is hereby submitted, pursuant to the provisions of Section 8.1(c)(iii)(B) of said Regulations, for the control of total reduced sulfur (TRS) emissions from the kraft pulp mill operated by Weyerhaeuser Company of Pine Bluff, Arkansas:

1. REGULATORY REQUIREMENTS OF 111(d) PLAN

- o Emission Limits (12-hour averages, TRS as hydrogen sulfide, dry basis)
 - Evaporators and digesters: efficient incineration
 - Recovery furnace: 200 parts per million (ppm), corrected to 8% oxygen; report on efforts to achieve additional emission reduction
 - Lime kiln: 40 ppm, corrected to 10% oxygen
 - Smelt dissolving tank: 0.0084 grams per kilogram of black liquor solids
- o Final Compliance Deadline: as expeditiously as practicable, but no later than 6 years after the date of approval of the 111(d) Plan by the U.S. Environmental Protection Agency; i.e., October 12, 1990.

2. COMPLIANCE SCHEDULE

The following TRS sources at Weyerhaeuser shall meet the following increments of progress and final compliance dates:

- o Recovery Boiler
 - 06/15/85 Emission test to determine effects of changes made to date
 - 12/31/85 Progress report
 - 05/30/86 Complete operational improvements

- 06/30/86 Initial performance test
 - 06/30/86 Certify final compliance (200 ppm)
 - 12/31/86 Compliance test and progress report on additional emission reductions
 - 06/30/87 Compliance test and progress report on additional emission reductions
 - 12/31/87 Compliance test and progress report on additional emission reductions
 - 06/30/88 Compliance test and progress report on additional emission reductions
 - 12/31/88 Compliance test and progress report on additional emission reductions
 - 06/30/89 Compliance test and progress report on additional emission reductions
 - 12/31/89 Compliance test and progress report on additional emission reductions
 - 06/30/90 Compliance test and progress report on additional emission reductions
 - 12/31/90 Compliance test and progress report on additional emission reductions
- o Smelt Dissolving Tank Vents
 - 06/15/85 Emission test
 - 12/31/85 Progress report
 - 05/30/86 Complete operational improvements
 - 06/30/86 Initial performance test
- o Smelt Dissolving Tank Vents: Scrubber Installation (If Required)
 - 09/30/86 Begin engineering design
 - 03/30/87 Order equipment
 - 04/30/87 Commence on-site construction/installation
 - 07/30/88 Complete on-site construction/installation
 - 07/30/88 Commence operation with emission controls

- 08/30/88 Initial performance test
- 09/30/88 Certify final compliance
- o Digester and Evaporators
 - 06/15/85 Emission test
 - 12/31/85 Progress report
 - 03/30/86 Complete study of control alternatives
 - 04/15/86 Begin engineering design
 - 04/15/87 Order equipment
 - 07/15/87 Commence on-site construction/installation
 - 07/30/88 Complete on-site construction/installation
 - 12/30/88 Commence operation with emission controls
 - 01/30/89 Performance test on lime kiln
 - 02/28/89 Certify final compliance
- o Lime Kilns
 - 06/15/85 Emission test
 - 12/31/85 Progress report
 - 05/30/86 Complete operational improvements
 - 06/30/86 Initial performance test (not burning noncondensibles)
 - 01/30/89 Initial performance test (burning noncondensibles)
 - 02/28/89 Certify final compliance

3. EMISSIONS TESTING

Emissions testing requirements for all designated sources shall be as follows:

- o Test method: modified EPA Method 16A or other method approved by the Director
- o Test frequency after initial performance test: semi-annual

4. DISCUSSION

- o Recovery boiler emissions are generated in the furnace and in the direct contact evaporator. The following actions have been taken since 1979 to reduce emissions:
 - Elimination of salt cake makeup
 - Installation of steam air heater
 - Elimination of black liquor oxidation system
 - Lowering of liquor sulfidity
 - Installation of additional evaporator effect
 - Caustic scrubbing of stack
 - Boiler rebuild to stop air infiltration
 - Smelt bed camera to control bed
 - Additional heavy black liquor storage to eliminate swings in black liquor flow
- o Possible future recovery boiler control options to be explored include:
 - High primary air modification
 - Increase in air flow
 - Installation of indirect liquor heaters
- o The smelt dissolving tank emissions are affected by the choice of water used in the tank and the turbulence of the dissolving water. Emissions may be controlled by the use of fresh water in the smelt tank. A wet scrubber will be installed if necessary to meet the emission limit.
- o Noncondensable gases from the digesters and evaporators will be collected and incinerated in the lime kiln. Modifications to the blow heat recovery system will be required, on the following schedule:
 - 03/30/87 Order equipment
 - 07/15/87 Commence on-site construction/installation
 - 10/30/87 Complete on-site construction/installation
 - 01/30/88 Commence operation

- o Weyerhaeuser is also considering the cold blow process.
- o By 02/28/89, all designated sources at Weyerhaeuser will be in compliance with the emission limits of the 111(d) Plan.

SCHEDULE SUBMITTED BY:

WEYERHAEUSER COMPANY

BY:

Robert J. Cohen

TITLE:

Mill Manager

DATE:

9-23-85

APPROVED:

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

BY:

Phyllis Bennett
DIRECTOR

DATE:

9/25/85