

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

CONTROL OF TOTAL REDUCED SULFUR EMISSIONS
FROM KRAFT PULP MILLS

COMPLIANCE SCHEDULE

CSN 150001 ARKANSAS KRAFT CORPORATION, MORRILTON

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 Arkansas Kraft Corporation of Morrilton, 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 Arkansas Kraft shall meet the following increments of progress and final compliance dates:

- o #2 Recovery Boiler and Smelt Dissolving Tank Vent
 - 10/31/85 Initial performance test
 - 10/31/85 Certify final compliance
- o Digesters
 - 10/15/85 Begin evaluation of alternative pulping processes/control technology

- 10/15/86 Progress report
- 04/15/87 Progress report
- 10/15/87 Complete evaluation
- 10/15/87 Begin engineering design
- 02/15/88 Order equipment
- 06/15/88 Commence on-site construction/installation
- 11/15/89 Complete on-site construction/installation
- 11/15/89 Commence operation with emission controls
- 12/31/89 Initial performance test
- 12/31/89 Certify final compliance

o Lime Kiln

- 10/15/85 Measure emissions and identify control needs
- 10/15/86 Submit plan of control if needed (need may be eliminated by pulping changes)
- 12/31/89 Initial performance test
- 12/31/89 Certify final compliance

3. EMISSIONS TESTING

- o Test method: Barton titrator, or EPA Method 16 (gas chromatograph)
- o Test frequency after initial performance test: semi-annual for the first two (2) years; thereafter, annual, upon approval by the Director

4. DISCUSSION

- o The evaporators are already in compliance, with noncondensable gases being burned in the lime kiln.
- o As a result of process control improvements made over the past several years, the recovery boiler, which previously was able to achieve 40 ppm at times but not consistently, will be in compliance by 10/31/85.
- o The smelt dissolving tank is also expected to be in compliance by 10/31/85, by the use of weak wash on the demister pad. If needed, caustic will be added to the weak wash.

- o The digesters and lime kiln have been allowed more time to achieve compliance, for reasons discussed below. Demonstrated control technology for control of emissions from digesters is incineration in a lime kiln or separate incinerator. Arkansas Kraft is considering several alternative pulping processes which would either eliminate the need for such incineration or reduce its cost, as well as improving operation and providing economic benefits to the company. All of the candidate processes would provide control of digester gases equivalent to incineration; some processes would also reduce or eliminate TRS emissions from the recovery boiler, smelt dissolving tank, and lime kiln. Process selection will be based on economic and operating considerations. The candidate processes are:
 - Non-sulfur pulping (would eliminate TRS emissions from all sources; no incineration required)
 - Low sulfur pulping (would reduce TRS emissions from all sources)
 - Alkaline sulfite-anthraquinone (would eliminate lime kiln)
 - Rader cold blow digester (virtually no vent gases; no incineration required)
 - Pre-evaporation of digester blow gases (with incineration)
 - Continuous digester (with incineration, but lower gas flow rate)
- o Selection of control technology for the lime kiln depends on the choice of pulping process. Most of the candidate processes would reduce lime kiln emissions sufficiently to comply with the 111(d) Plan emission limit of 40 ppm without additional controls.
- o Further details are contained in the information submitted to the Department by Arkansas Kraft.
- o By 12/31/89, all sources at Arkansas Kraft will be in compliance with the emission limits of the 111(d) Plan.

SCHEDULE SUBMITTED BY:

ARKANSAS KRAFT CORPORATION

BY: _____

TITLE: _____

DATE: _____

APPROVED:

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

BY: _____
DIRECTOR

DATE: _____