V-0135-96

ENCLOSURE 1

# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY


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Thomas L. Hopkins
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Piedmont Regional Director


**CONSENT AGREEMENT**

**WITH**

Bear Island Paper Company L. P.
P.O. Box 2119
Ashland, Virginia 23005

Registration Number 50840

**SECTION A: Purpose**

This Agreement establishes a Reasonably Available Control Technology (RACT) standard for Bear Island Paper Company L. P. RACT is mandated in order to control volatile organic compound (VOC) emissions in the Richmond ozone nonattainment area, which is a requirement of Section 120-04-0407 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. This RACT standard shall be the basis for VOC emission control for this facility, with the exception of areas covered by permits which require greater VOC control efficiencies than RACT.

**SECTION B: References**

Unless the context indicates otherwise, the following words and terms have the meanings assigned to them below:

"ADT" refers to "Air Dried Tons" .

"Agreement" means this Consent Agreement.

"B & W Boiler" refers to the Babcock & Wilcox wood and coal combination boiler.

"Bear Island" or "affected facility" refers to the Bear Island Paper Company L. P., located at 10026 Old Ridge Rd in Hanover County, Virginia.

"Board" or "SAPCB" refers to the State Air Pollution Control Board, a collegiate body of the Commonwealth of Virginia descri in § 10.1-1301 of the Code. Particular powers and duties of the Board are referred to in Section C of this document.

"Code" refers to the Code of Virginia.

"DEQ" refers to the Department of Environmental Quality, an agency of the Commonwealth described in § 10.1-1183 of the Code.

"Director" means the Director of the Department of Environmental Quality. Particular powers and duties of the Director are described in Section C of this document.

"EPA" refers to the U. S. Environmental Protection Agency.

"Major Stationary Source" refers to any stationary source with a theoretical potential to emit 100 tons or more per year of any criteria pollutant.

"NCASI" refers to the National Council of The Paper Industry for Air and Stream Improvement, Inc.

"New Source Review Program" means a program for the preconstruction review and permitting of new stationary sources or expansions to existing ones in accordance with regulations promulgated to implement the requirements of §§ 110 (a) (2) (C) 165 (relating to permits in prevention of significant deterioration areas) and 173 (relating to permits in nonattain areas) of the federal Clean Air Act.

"Non-CTG" refers to a source type for which the EPA has not issue a Control Technique Guideline (CTG), and thus has not established RACT for that source type.

"Piedmont Regional Office" refers to the staff of the office of the Department of Environmental Quality, 4949 A Cox Road, Glen Allen, Virginia.

"Reasonably Available Control Technology" or "RACT" refers to th lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available, as well as technologically and economical feasible.

"Regional Director" means the Director of the Piedmont Regional Office.

"SAPCB Regulations" refers to the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollutio

"SIP" refers to the State Implementation Plan.

"Theoretical potential to emit" refers to the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. It is based on emissions at design capacity or maximum production and maximum operating hours (8,760 hours/year) before add-on controls, unless the source is subject to state and federally enforceable permit conditions which limit production rates or hours of operation.

"TMP" refers to "Thermomechanical Pulp" which produces wood pulp used for paper manufacturing.

"VOC" refers to volatile organic compounds as defined by Section 120-01-02 of the SAPCB Regulations.

**SECTION C: Authority**

1. Chapter 13 of Title 10.1 of the Code creates the Board and vests in it the authority to supervise and control various aspects of air pollution in the Commonwealth. Among the Board's powers is the authority to promulgate regulations "abating, controlling and prohibiting" air pollution, found in § 10.1-1308 of the Code.

2. Pursuant to its authority, the Board has promulgated the SAPCB Regulations, which first took effect March 17, 1972, and have been periodically amended.

3. Pursuant to §§ 10.1-1307 D of the Code, the Board has the authority to issue orders to diminish or abate the causes of air pollution and to enforce its rules and regulations. Orders of the Board are enforceable pursuant to §§ 10.1-1316 and 10.1-1320 of the Code.

4. The Director is the executive officer of the Board. Under § 10.1-1307.2 A of the Code, the Director is to perform those duties required of him by the Board. Additionally under § 10.1-1307.3 of the Code, the Director has such powers to supervise, administer and enforce the provisions of Chapter 13 of Title 10.1 of the Code, as well as the regulations and orders of the Board, as are conferred upon him by the Board. The powers and duties conferred and imposed upon the Director under §§ 10.1-1307.2 and 10.1-1307.3 of the Code are continued under § 10.1-1185 of the Code.

5. Under § 10.1-1307.2 B of the Code, the Director may be vested with the authority of the Board when it is not in session, subject to such regulations or delegation as may be prescribed by the Board. Appendix F of the SAPCB Regulations contains the Delegation of Authority from the Board to the Director. In Section II A of Appendix F the Director is given the authority, with some exceptions, to act for the Board when it is not in session and to issue consent orders and emergency special orders.

## SECTION D: Findings

1. Bear Island operates a TMP Mill for the production of pulp. The pulp is used for the manufacturing of newsprint at 10026 Old Ri Road in Hanover County, Virginia.

2. Section 120-04-0407 of the SAPCB Regulations, which became effective on July 1, 1991, requires RACT for all non-CTG major stationary sources of VOC emissions in the Richmond Ozone Nonattainment Area, which includes the Cities of Richmond, Hopewell, and Colonial Heights; and the Counties of Henrico, Hanover, and Chesterfield.

3. Bear Island was determined to be a non-CTG major stationary source of VOC emissions in the Richmond Ozone Nonattainment Area.

4. Bear Island has performed a RACT analysis, which was submitted to the DEQ on May 5, 1994. Additional information was provided on November 10, 1994, April 7, 1995, July 6, 1995, September 28, 1995, November 17, 1995, December 19, 1995, and December 20, 1995.

5. The DEQ submitted comments to Bear Island on the RACT analysis on September 23, 1994, March 17, 1995, May 4, 1995, August 23, 1995, October 16, 1995, and December 15, 1995.

6. Bear Island submitted a final RACT analysis to the DEQ on January 25, 1996.

7. Based on the DEQ's emissions inventory and updated emission factors, Bear Island emitted 720 tons of Volatile Organic Compounds in 1990. The emissions were emitted from the following sources: Nebraska Package Boiler, B&W Boiler, Sludge Dryer Burner, Waste Water Treatment Plant, and four (4) TMP process lines.

8. The Nebraska Package Boiler was removed from service on May 4, 1994.

9. A new Package Boiler began operation on January 9, 1996

10. Based on potential emissions the implementation of RACT will result in the following reductions:

| Emissions Source | PRE RACT POTENTIAL EMISSIONS Tons/yr | POST RACT EMISSIONS Tons/yr | REDUCTIONS Tons/yr |
|---|---|---|---|
| B & W Boiler | 15.4 | 15.4 | 0.0 |
| Package Boiler | 3.7 | 3.7 | 0.0 |

| Emissions Source | PRE RACT POTENTIAL EMISSIONS Tons/yr | POST RACT EMISSIONS Tons/yr | REDUCTIONS Tons/yr |
|---|---|---|---|
| TMP Maximum | 1103.7 | 592.6 | 511.1 |
| Sludge Dryer Burner | 6.4 | 6.4 | 0.0 |
| Waste Water Plant | 5.6 | 5.6 | 0.0 |
| Summary | 1134.8 | 623.7 | 511.1 |

11. Emission estimates for the B & W Boiler are based on AP-42 emission factors. RACT for the B & W Boiler has been determined to be good combustion practices. No other controls proved to be economically or technically feasible to control VOC emissions from the B & W Boiler, therefore; RACT for the B & W Boiler is determined to be good combustion practices.

12. Emission estimates for the Package Boiler are based on permitted maximum annual VOC emissions. RACT for The Package Boiler has been determined to be good combustion practices. No other controls proved to be economically or technically feasible to control VOC emissions from the Package Boiler, therefore; RACT for the Package Boiler is determined to be good combustion practices.

13. The PRE RACT VOC emissions from the Thermomechanical Pulp Mill are based on operating at a throughput of 942 ADT per day of pulp, an emission factor of 6.42 pounds of VOC per ADT, and processing thermomechanical pulp 365 days per year. The emission factor of 6.42 pounds of VOC per ADT is based on a NCASI study and is supported by emissions testing on Bear Island's TMP lines.

14. The post RACT emissions for the Thermomechanical Pulp Mill are based on operating at an average throughput of 850 ADT per day of pulp (daily maximum production of pulp is 942 ADT), an emission factor of 6.42 pounds of VOC per ADT, processing thermomechanical pulp 365 days per year, and a control efficiency of 40.5%. The control efficiency will be achieved by the installation of two (2) heat exchangers/condensers. Bear Island's RACT analysis results showed that the only economically feasible VOC controls for the TMP lines are heat exchangers/condensers. The emission factor of 6.42 pounds of VOC per ADT is based on a NCASI study and is supported by emission testing on Bear Island's TMP lines.

15. Emission estimates for the Sludge Dryer Burner are based on manufacturer's supplied emission factors. RACT for The Sludge Burner Dryer has been determined to be good combustion practices. No other controls proved to be economically or technically feasible to control VOC emissions from the Sludge Burner Dryer,

therefore; RACT for the Sludge Burner Dryer is determined to be good combustion practices.

16. Emission estimates for the Waste Water Treatment Plant are based on modeling results. The modeling was conducted by Bear Island using EPA model Water 8. RACT for the Waste Water Treatment Plant has been determined to be good operating practices. No other controls proved to be economically or technically feasible to control VOC emissions from the Waste Water Treatment Plant, therefore; RACT for the Waste Water Treatment Plant is determined to be good operating practices.

17. Condensate from the two (2) heat exchangers/condensers is discharged to the Waste Water Treatment Plant. Before discharge to the Waste Water Treatment Plant, condensate from the refiner exhaust system is used in a chip wash system to heat wood chips.

18. Based on the DEQ's 1990 baseline emissions inventory, RACT for Bear Island will result in a reduction of 96.3 tons of VOC per year.

**SECTION E: Agreement**

Accordingly, the Board and Bear Island agree that:

1. This agreement does not supersede any applicable new source review requirements or existing source requirements listed in the Commonwealth of Virginia's Regulations and Control and Abatement of Air Pollution.

2. VOC emissions from the affected facility shall be controlled and reduced as outlined in this Agreement and shall be fully implemented within 12 months of the signature of this Agreement.

3. VOC emissions from the B & W Boiler, Package Boiler, and Sludge Dryer Burner shall be controlled by the use of good combustion practices.

4. VOC emissions from the steam tubes, primary refiners, and secondary refiners for the four (4) TMP lines shall be controlle by a double pass, plate, and frame water heat exchanger/condense equipped with a quench water spray. The two (2) stage heat exchanger/condenser shall use water as the heat transfer medium.

5. VOC emissions from the latency transfer chest and the rejects latency chest for the four (4) TMP lines shall be controlled by double pass, plate, and frame heat exchanger/condenser. The fi stage of the heat exchanger/condenser shall use water as a heat transfer medium. The second stage of the condenser shall use glycol as the heat transfer medium.

6. Bear Island shall maintain a minimum overall VOC emission rem efficiency of 40.5% on a mass basis from the TMP emissions so

which follow: steam tubes, primary refiners, secondary refiners, latency transfer chest, and rejects latency chest from all four (4) TMP lines. Should the results of the performance test required in condition 13, of this section (section E: Agreement), show an overall VOC removal efficiency below the required 40.5%, on a mass basis, Bear Island shall apply to the Department of Environmental Quality and the EPA for a SIP revision. During the processing of the SIP revision, failure to meet the 40.5% control efficiency, shall not be considered a violation of this Agreement or the SIP, provided the heat exchanger/condenser is operated properly.

7. The three (3) heat transfer systems contained in the two (2) heat exchangers/condensers shall be equipped with inlet temperature and outlet temperature gauges. The inlet and outlet heat transfer system temperatures shall be measured continuously. The inlet and outlet temperatures shall be recorded once per eight (8) hour shift. The inlet and outlet temperatures shall be used to calculate a temperature differential for each heat transfer systems. The temperature differentials shall be averaged on a daily basis. All continuous monitoring devices shall be maintained and calibrated in accordance with the manufacturer's specifications. At a minimum the continuous monitoring devices shall be calibrated annually and the results of the calibrations recorded.

8. The two (2) water heat transfer systems shall be equipped with liquid flow meters. The meters shall measure the amount of liquid flowing through the water heat transfer system continuously. The information from the meters shall be recorded once per eight (8) hour shift to calculate an average daily liquid flow rate.

9. The glycol heat transfer system shall operate at a minimum flow rate of 300 gallons per minute.

10. The two (2) water heat transfer systems shall operate at a minimum flow rate of 200 gallons per minute.

11. The three (3) heat transfer systems shall be equipped with alarms indicating the absence of liquid flowing to the two (2) heat exchangers/condensers. The alarms shall be maintained in accordance with the manufacturers specifications.

12. The heat exchangers/condensers shall operate at all times when the TMP mill is in operation.

13. During the month of July or August, following the signature of this agreement Bear Island shall conduct performance tests using appropriate EPA Reference Methods or equivalent methods approved by the Regional Director to determine an overall VOC removal efficiency of the heat exchangers/condensers on a mass basis. Compliance shall be determined as stated in condition 6 of this section (Agreement, Section E). During testing, Bear Island shall

be required to operate the TMP Mill at a minimum throughput of 70% of the capacity listed in Condition 14, Section D (Findings) of this Agreement. The tests shall be conducted and reported and data reduced as set forth in Section 120-05-03. The details of the tests are to be arranged with the Regional Director. Three copies of the test results shall be submitted to the Regional Director within 45 days after test completion.

14. One year from the date of the performance test, Bear Island shall establish a minimum operating temperature differential, averaged on a daily (24 hour) basis, for each of the three (3) heat transfer systems needed to determine that the systems are operating properly. The temperature differential shall be based on the data required in condition 7 of this section (Agreement: Section E). The data shall be submitted to the Department for approval within 30 days after the one (1) year period.

15. The three (3) heat transfer systems shall operate with a minimum temperature differential as established in condition 14 of this section (Agreement Section E) averaged on a daily (24 hour) basis. Bear Island shall keep records and an explanation when the average minimum temperature differential is less than that specified in condition 14 of this section (Agreement: Section E).

16. All monitoring systems shall be operational prior to the performance testing of the heat exchangers/condensers.

17. During performance testing Bear Island shall measure and record inlet and outlet gas moisture and gas temperature readings. The results of the temperature and moisture readings shall be included in the results submittal.

18. The condensate from the two (2) heat exchangers/condensers shall be discharged to the Waste Water Treatment Plant.

19. Emissions from the operation of the Waste Water Treatment Plant shall be controlled by good operating practices.

20. Bear Island shall furnish written notification to the Regional Director of the anticipated date of performance tests for the two (2) heat exchangers/condensers and a testing protocol postmarked at least 30 days prior to such date.

21. Bear Island shall comply with all applicable SAPCB Regulations including the requirements for monitoring, notification, recordkeeping, reporting, maintenance, and malfunction.

22. Bear Island shall maintain records of all operating parameters necessary to demonstrate compliance. These records shall be maintained for the two (2) heat exchangers/condensers and associated continuous temperature and flow monitoring equipment and shall include the following:

a. a maintenance schedule for the heat exchangers/condensers and associated monitoring equipment.

b. scheduled and unscheduled maintenance records.

c. inventory of spare parts that are needed to minimize durations of equipment breakdowns.

d. written operating procedures.

e. heat transfer medium inlet and outlet temperatures and temperature differentials (recorded once per eight (8) hour shift).

f. liquid flow for the two (2) water heat transfer systems (recorded once per eight (8) hour shift).

g. operating hours and capacity for the four TMP lines recorded daily used to calculate a 90 day rolling average.

h. results of annual calibrations of the water temperature and flow monitors.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

23. In order to minimize the duration and frequency of excess emissions due to malfunctions of process or air pollution control equipment, Bear Island shall:

a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance, including dates and duration of any outages. These records shall be maintained on site for a period of five (5) years and shall be made available to the DEQ upon request.

b. Maintain an inventory of spare parts that are needed to minimize durations of air pollution control equipment breakdowns.

24. At any time in the future, should Bear Island plan any modifications (as defined in 120-08-01 of State Regulations) (within the context of the new source review program) of the affected facility covered by this Agreement, Bear Island shall have the right to apply to the Board for a new source review permit and the Board may consent to such modifications provided such modifications will meet all of the new source review permit program regulatory requirements in existence at that time.

25. The Board may modify, rewrite, or amend this Agreement with the consent of Bear Island, for good cause shown by Bear Island, or on its own motion after notice and an opportunity for a hearing provided approval of the changes is accomplished in accordance

with SAPCB regulations, the Administrative Process Act (§ 9-6.14:1 et. seq.) and 40 CFR Part 51 (Requirements for Preparation, Adoption, and Submittal of Implementation Plans).

26. So long as this Agreement remains in effect, Bear Island waives the right to any hearing pursuant to §§9-6.14:11 and 9-6.14:12 of the Code and to judicial review of any issue of fact or law contained herein. Nothing herein, however, shall be construed as a waiver of the right to a hearing or to judicial review of any action taken by the Board to enforce this Agreement.

27. Failure by Bear Island to comply with any of the terms of this Agreement shall constitute a violation of an Order of the Board. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.

28. Bear Island declares it has received fair and due process under the Administrative Process Act (§9-6.14:1 et. seq.).

29. This Agreement shall become effective upon signature by both parties and shall continue in effect indefinitely or until otherwise terminated by the Board.

The foregoing Consent Agreement has been executed on behalf of the STATE AIR POLLUTION CONTROL BOARD of the COMMONWEALTH OF VIRGINIA and on behalf of BEAR ISLAND PAPER COMPANY L.P., each by its duly authorized representatives, or self, on the dates indicated below.

DEPARTMENT OF ENVIRONMENTAL QUALITY
OF THE COMMONWEALTH OF VIRGINIA

7/12/96
(date)

BY: Robin M. Daniels for
Mr. Thomas L. Hopkins
Director

Bear Island Paper Co. L.P.

6/3/96
(date)

BY: Robert Snyder
Mr. Robert Snyder
General Manager

STATE OF VIRGINIA
COUNTY OF HANOVER

The foregoing instrument was acknowledged before me this 3rd day of June, 1996, by Robert Snyder of Bear Island Paper Co. L.P., a Virginia Corporation, on behalf of the Corporation.

My commission expires MY COMMISSION EXPIRES APRIL 30, 1999.

Linda H. Johnson
Notary Public
Hanover County, VA.