
Gorham Paper and Tissue, LLC
(Previously issued to Crown Vantage)
72 Cascade Flats
Gorham, NH 03581

]
] **FINAL NO_x RACT ORDER**
] **September 24, 1997**
] **Revised October 19, 2012**
] **ARD-97-003**
]

A. Introduction

This revised NO_x RACT Order is issued by the New Hampshire Department of Environmental Services, Air Resources Division, to Gorham Paper and Tissue, LLC, pursuant to RSA 125-C.

B. Parties

1. The New Hampshire Department of Environmental Services, Air Resources Division ("DES"), is a duly constituted administrative agency of the State of New Hampshire having its principal offices at 29 Hazen Drive, Concord, NH 03302, telephone number (603) 271-1370.
2. Gorham Paper and Tissue, LLC ("GPT") owns and operates a facility in Gorham, New Hampshire. The mailing address is 72 Cascade Flats, Gorham, NH 03581, telephone number (603) 342-2000.

C. Statements of Fact and Law

1. GPT owns and operates a paper mill located in Gorham, NH.
2. The GPT paper mill consists of all equipment and operations required to convert bleached market pulp, unbleached pulp and recycled fiber to paper products. This includes four existing fine-grade paper machines and one towel-grade paper machine, broke handling system, finishing area, wastewater treatment plant, and a steam plant that supplies process steam for the paper mill. The steam plant consists of Boilers #1, #2, #3, and #4, and a Temporary Package Boiler that is used during annual boiler maintenance outages at the Facility. GPT is also permitted to operate one emergency generator at the paper mill lift station, one #2 fuel oil-fired furnace and a new tissue machine and associated tissue machine dryer which is predicted to be operational in 2012.
3. Effective May 20, 1994, DES adopted Part Env-A 1211, *Nitrogen Oxides (NO_x)* of the New Hampshire Code of Administrative Rules, which established procedures for meeting the requirements of Reasonably Available Control Technology (RACT) for NO_x, including schedules for compliance. Part Env-A 1211.14, *Emission Standards and Control Options for Miscellaneous Stationary Sources* and Part Env-A 1211.15, *Alternative RACT Emission Limits* allowed for an owner or operator of a stationary source subject to Env-A 1211 to apply for and obtain a RACT order in accordance with Part Env-A 1211.18, *Procedure for Issuance of a RACT Order*.
4. Crown Vantage was the owner and operator of the Berlin Pulp Mill and Gorham Paper Mill in 1994 when the NO_x RACT rules were first promulgated.

5. On September 16, 1994, Crown Vantage submitted a NOx RACT Assessment Report pursuant to Part Env-A 1211.18 for the following devices:
 - a. Boiler #1 at the Gorham Paper Mill,
 - b. Boiler #2 at the Gorham Paper Mill,
 - c. Boiler #3 at the Gorham Paper Mill,
 - d. Boiler #4 at the Gorham Paper Mill,
 - e. Boiler #9 at the Berlin Pulp Mill,
 - f. Boiler #12 at the Berlin Pulp Mill,
 - g. Boiler #14 at the Berlin Pulp Mill,
 - h. Lift Station Emergency Diesel Generator at the Gorham Paper Mill,
 - i. Chemical Recovery Unit #11 at the Berlin Pulp Mill,
 - j. #2 Lime Kiln at the Berlin Pulp Mill,
 - k. Yankee Hood Dryer for #10 Paper Machine at the Gorham Paper Mill, and
 - l. Four Space Heaters (#2 fuel oil-fired furnaces).
6. On September 24, 1997, DES issued RACT Order # ARD-97-003 to Crown Vantage. The RACT Order required Crown Vantage to implement the following plan for each device:
 - a. For Boiler #1, the Facility shall continue to comply with Env-A 1211.05.
 - b. For Boiler #2, the Facility shall continue to comply with Env-A 1211.05.
 - c. For Boiler #3, the Facility shall comply with the NOx emission limitation of 0.45 lb/MMBTU on an annual average and 0.60 lb/MMBTU on a 24-hr average.
 - d. For Boiler #4, the Facility shall comply with Env-A 1211.05(b).
 - e. For Boiler #9, the Facility shall continue to comply with Env-A 1211.05.
 - f. For Boiler #12, the Facility shall comply with the NOx emission limitation of 0.45 lb/MMBTU on a 24-hr average.
 - g. For Boiler #14, the Facility shall comply with Env-A 1211.05.
 - h. For the emergency diesel generator at the lift station, the Facility shall comply with Env-A 1211.02(j).
 - i. For the Chemical Recovery Unit #11, the Facility shall comply with the NOx emission limit of 120 ppmwv (wet) corrected to 8% oxygen for any 24-hr calendar day average as calculated on the CEM.
 - j. For the #2 lime kiln, the Facility shall comply with the NOx emission limitation of 120 ppmwv (wet) corrected to 10% oxygen for any 24-hr calendar day average.
 - k. For the four space heaters (#2 fuel oil-fired furnaces), the existing technology is RACT.
 - l. The Yankee hood dryer at the Gorham mill is no longer in operation; therefore RACT is no controls.
 - m. For the emergency diesel fire pump located at the Berlin Pulp Mill, the Facility shall comply with Env-A 1211.02(j).
 - n. For the thermal oxidizer, RACT is current mode of operation.
7. On September 24, 1997, DES submitted to the United States Environmental Protection Agency (USEPA) NOx RACT Order # ARD-97-003 as a revision to the New Hampshire State Implementation plan (SIP).
8. On May 13, 1998, USEPA approved the SIP revision for the NOx RACT Order for Crown Vantage and published the approval in the Federal Register.
9. Since 1999, the Gorham Paper Mill has undergone a series of ownership changes.

10. On December 6, 2002, DES issued Temporary Permit TP-B-0489 for the installation of #15 Package Boiler. The permit required, among other things, the installation, operation and maintenance of a Selective Catalytic Reduction (SCR) System and low NOx burner (LNB) for nitrogen oxide removal and formation reduction and a continuous monitoring system (CEM) to monitor NOx.
11. On February 27, 2004, DES issued Title V Operating Permit TV-OP-048. The Title V Operating Permit included all of the requirements established for NOx RACT for the pulp and paper mills in NOx RACT Order ARD-97-003 and listed in Condition C.6. above with the following changes:
 - a. The frequency of the boiler tune-up requirement for Boiler #4 pursuant to Env-A 1211.05(b) was changed from an annual requirement to an annual requirement only if the boiler is operated one or more days in the previous calendar year. Boiler #4 has not operated since 1996.
 - b. Compliance with the NOx emission limitation of 0.45 lb/MMBTU on a 24-hr average for Boiler #12 was required to be calculated on the CEM system.
 - c. Compliance with Env-A 1211.05 for Boiler #14 which is a NOx emission limitation of 0.25 lb/MMBTU on a 24-hr average basis when firing wood fuel or a combination of wood fuel and oil or 0.30 lb/MMBTU on a 24-hr average basis when firing exclusively oil was required to be calculated on the CEM system. In addition, since this device was limited to 0.30 lb/MMBTU on a 3-hr average basis, as set in accordance with the EPA PSD Permit 010-107 NH 02, it was noted that this emission limitation was more restrictive than the 24-hr NOx emission limitation requirement when firing exclusively oil and therefore superseded it.
 - d. The Temporary Package Boiler which was not included in the NOx RACT Order ARD-97-003 was required to be equipped with low NOx burners if the maximum heat input rate exceeds 50 MMBTU/hr.
 - e. The CEM requirements pursuant to Env-A 1211.21(a) for Boilers #1, #2, #3, #9 and #15 were more clearly defined in the Title V Operating Permit.
12. The Berlin Pulp Mill ceased operation on April 28, 2006.
13. Between the fall of 2006 and August, 2007, Boiler #9, Boiler #12, Boiler #14, Boiler #15, #2 Lime Kiln, Thermal Oxidizer, emergency diesel fire pump and two of the space heaters (#2 fuel oil-fired furnace) were physically removed from the Berlin Pulp Mill. The Chemical Recovery Unit #11 was repurposed for the proposed Burgess BioPower biomass boiler project that was handled separate of this facility.
14. On October 25, 2007, DES issued Temporary Permit TP-B-0534 which allowed the removal of the NOx CEM systems from Boilers #1, #2, and #3. In place of operating CEM systems on these boilers, the Owner or Operator was required to conduct annual stack testing on each of the boilers. Stack test results from Boiler #1 and #2 are used to determine whether boiler tune-ups are required. Stack testing on Boiler #3 are used to determine compliance with the NOx emission limits specified in Title V Operating Permit TV-OP-048 and NOx RACT Order ARD-97-003.
15. Effective October 31, 2010, DES adopted Env-A 1300 *Nitrogen Oxides (NOx) Reasonably Available Control Technology (RACT)* which replaced Env-A 1211. Therefore, all references to Part Env-A 1211 are updated to reflect the new regulatory numbering.

16. On April 25, 2011, DES issued Temporary Permit TP-0080 for the modification of the burners in Boilers #1 and #2 to combust natural gas from the Portland Natural Gas Transmission System (PNGTS) and/or treated landfill gas (LFG) from Mt. Carberry Landfill, while reserving the capacity to combust #6 fuel oil and on-specification used oil in the boilers.
17. TP-0080 established a NOx RACT limit pursuant to Env-A 1305.13(b) for Boilers #1 and #2. The NOx emission limit shall not exceed 0.25 lb/MMBtu based on a 24-hour calendar day average for each boiler when firing natural gas or any combination of natural gas and landfill gas. The boilers are not capable of burning a combination of oil and gas simultaneously. TP-0080 also included corresponding stack testing and recordkeeping and reporting requirements associated with the NOx RACT limit contained in the permit. While operating on oil, Boilers #1 and #2 are still required to operate with low NOx burners pursuant to Title V Operating Permit TV-OP-048 and NOx RACT Order ARD-97-003.
18. On May 13, 2011, GPT took ownership of the Gorham Paper Mill, and DES administratively amended TP-0080 and issued the permit to GPT.
19. On August 23, 2011, GPT submitted a request to cease the requirement for 2011 NOx stack testing on Boilers #1 and #2 when operating on oil. In addition, GPT requested a significant permit amendment for TP-0080 to change the stack testing requirements for Boilers #1 and #2 to NOx stack testing for oil within 60 days of switching to oil and annually thereafter for any year in which oil is burned.
20. On August 25, 2011, GPT stack tested Boiler #3. Results showed compliance with the NOx emission limitation of 0.45 lb/MMBTU. Since this stack test, Boiler #3 has operated for a total of 849 hours. The last date on which Boiler #3 operated was November 8, 2011. Boiler #3 has not operated in calendar year 2012.
21. In September, 2011, Boilers #1 and #2 underwent modifications to the burners to utilize natural gas. Landfill gas will be connected to the boilers at a future date.
22. On October 27, 2011, Boiler #1 was switched to 100% natural gas.
23. On November 29, 2011, Boiler #2 was switched to 100% natural gas.
24. On December 13, 2011, DES issued a significant permit amendment to TP-0080 to include the regulatory requirements associated with the installation of a new tissue machine and associated tissue machine dryer that will operate on natural gas.
25. One of the space heaters (#2 fuel oil-fired furnaces) was removed in December, 2011 during demolition of items contained within the area of the building where the new tissue machine will be located.
26. TP-0080 required the initiation, implementation and submittal of a NOx RACT Control Options Study consisting of a detailed examination of technological and economic feasibility of available NOx control techniques for the tissue machine dryer.
27. On January 20, 2012, GPT submitted a NOx RACT Analysis and RACT Order Application pursuant to TP-0080.
28. On April 3, 2012, GPT conducted stack testing to measure NOx and CO emissions while Boilers #1 and #2 were firing natural gas at greater than 90% of their respective full load.

D. Order


Based on the above findings and determinations, DES hereby orders GPT as follows:

1. For the tissue machine dryer, the Facility shall install, operate and maintain ultra low NOx burners. The NOx emissions from the tissue machine dryer shall not exceed 0.035 lb/MMBtu on a 24-hour calendar day average. GPT shall conduct compliance stack testing of the tissue machine dryer within 60 days of achieving the maximum production rate but no later than 180 days from startup on natural gas and every three years after the initial compliance stack test.
2. For Boiler #1, the Facility shall operate and maintain low NOx burners pursuant to Env-A 1305.13(a)(2) when firing oil exclusively.
3. For Boiler #1, the Facility shall meet the NOx emission limit of 0.25 lb/MMBtu based on a 24-hour calendar day average when firing gas. For Boiler #1 gas means either natural gas, landfill gas, or a combination thereof. GPT shall conduct compliance stack testing of Boiler #1 within 60 days of achieving the maximum production rate but no later than 180 days from startup on natural gas, within 60 days of achieving the maximum production rate but no later than 180 days from startup on landfill gas, and every three years after the initial compliance stack test.
4. For Boiler #2, the Facility shall operate and maintain low NOx burners pursuant to Env-A 1305.13(a)(2) when firing oil exclusively.
5. For Boiler #2, the Facility shall meet the NOx emission limit of 0.25 lb/MMBtu based on a 24-hour calendar day average when firing gas. For Boiler #2 gas means either natural gas, landfill gas, or a combination thereof. GPT shall conduct compliance stack testing of Boiler #2 within 60 days of achieving the maximum production rate but no later than 180 days from startup on natural gas, within 60 days of achieving the maximum production rate but no later than 180 days from startup on landfill gas, and every three years after the initial compliance stack test.
6. For Boiler #3, low NOx burners were determined not to be feasible back in 1997 due to the configuration of the boiler design. Since nothing has changed on Boiler #3 regarding boiler design in the past 15 years, the Facility shall continue to comply with the NOx emission limitation of 0.45 lb/MMBTU on an annual average and 0.60 lb/MMBTU on a 24-hr average. GPT shall conduct compliance stack testing of Boiler #3 in order to demonstrate compliance with these emission limitations within 90 calendar days of Boiler #3 reaching a total of 240 hours of burning liquid fuel oil per rolling 365 day period.
7. For Boiler #4, the Facility shall comply with Env-A 1305.02 *Timing of Efficiency Tests; Adjustments* and Env-A 1305.03 *Recordkeeping of Efficiency Tests* annually before April 1st when Boiler #4 was operated one or more days in the previous calendar year.
8. Since Boiler #9, Boiler #12, Boiler #14, Boiler #15, Chemical Recovery Unit #11, #2 Lime Kiln, Thermal Oxidizer, emergency diesel fire pump and two of the space heaters (#2 fuel oil-fired furnaces) were physically removed from the Berlin Pulp Mill and one of the space heaters (#2 fuel oil-fired furnaces) and the Yankee hood dryer was physically removed from the Gorham Paper Mill, NOx RACT no longer applies to these devices.

9. For the emergency diesel generator at the lift station at the Gorham Paper Mill, the Facility shall continue to comply with Env-A 1302(j) which limits all emergency generators to less than 500 hours of operation during any consecutive 12-month period and combined theoretical potential emissions of NOx from all such generators to less than 25 tons for any consecutive 12-month period by permit conditions.
10. For the one remaining space heater (#2 fuel oil-fired furnace), the existing technology is RACT.
11. GPT shall comply with the recordkeeping and reporting requirements of the New Hampshire Code of Administrative Rules Chapter Env-A 900.

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