

GREAT NORTHERN PAPER INCORPORATED
MILLINOCKET, PENOBSCOT CO., MAINE
WOODASH UTILIZATION
#S-21092-SE-A-N (APPROVAL WITH CONDITIONS)

2) SOLID WASTE ORDER
) PROGRAM APPROVAL
)
) NEW LICENSE

2. ASH CHARACTERIZATION

The woodash proposed for utilization is generated by the bark and wood fueled boiler at the East Millinocket mill. The bark fuel comprises approximately 75% of the total fuel mix and whole tree chips supply the balance. The bark fuel is generated at Great Northern Paper, Inc.'s mills in Millinocket and East Millinocket, Pinkham Lumber Company in Nashville Plantation and purchased from other area mills as needed. There are no chemicals added to the process. The material contains no human pathogens and generates no strong odors. The woodash proposed for utilization conforms to the parameters specified in Department Regulations, Chapter 567, Section B-1.b. and Section D-3.a., with the exception of cadmium.

Analyses have shown the applicant's woodash to exceed the current state limit of 10 mg/kg for cadmium concentration. The applicant requests a variance to allow the utilization of the material exceeding the allowable level by no more than 25% for one year in accordance with the variance provisions set forth in Chapter 567 Section E-3. The applicant has identified poplar species -derived fuel as a possible source of the metal and has proposed to use the term of the variance to adjust fuel supply and attempt to stabilize the ash quality and reduce cadmium concentrations to allowable levels. Woodash spread under variance is restricted to an annual cadmium loading rate not to exceed 0.5 kg/ha per year on land used for food chain crops and subject to maximum loading limits for metals as set forth in Chapter 567 Section B-1.b.

The applicant has reported the current average cadmium concentration to be 10.3 in the woodash. The Department has calculated that woodash of this quality utilized at a maximum loading rate of 3 tons per acre per year (dry weight) would produce an annual cadmium loading rate of .0693 kg/ha/year. At this annual loading rate the applicant could utilize the woodash for 72 years on typical agricultural soils (cation exchange capacity of 5 to 15 MEQ/100g) before reaching maximum loading limits allowed in Chapter 567 Section B-1.b.

After the term of the variance, all ash which does not meet Department standards will be landfilled or blended with an approved material to dilute cadmium concentrations to allowable levels before land application.

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3. PROGRAM MANAGEMENT

The applicant proposes to conduct an ash utilization program in accordance with Chapter 567 by performing the following functions:

- A. The applicant will submit applications to the Department on Department supplied forms for specific landspreading sites.
- B. Each application will contain the following information:
- results of standard soil tests;
 - site maps, including locations of roads, site boundaries, water bodies, soil sample areas, and drainage features;
 - topographic maps;
 - soils maps, where applicable;
 - sand and gravel aquifer map, where applicable;
 - proof of title, right, or interest;
 - a copy of public notice; and a copy of the utilization agreement between the generator and the landowner which verifies responsibility and liability.
- C. The applicant will maintain a log showing dates and quantities of all ash shipments to each site and will send a copy annually to the Bureau of Hazardous Materials and Solid Waste Control no later than January 31st of each following year.

4. APPLICATION RATES

Application rates for landspreading will be determined by the liming (calcium carbonate) needs specified by soil tests and the calcium carbonate equivalence (expressed as CaCO_3) of the woodash as determined by ash analyses. Maximum application rates for forest and agricultural sites will be limited to rates recommended by an agronomist or soils laboratory. Agricultural utilization of

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woodash from Great Northern Paper Inc. will strictly adhere to provisions set forth within Chapter 567, Sections E(2), E(3), E(4), and E(5).

5. COMPOST APPLICATIONS

Great Northern Paper Inc. will assure, by analyses, the quality of any ash delivered to approved compost facilities for addition to the compost mixture. Responsibility for securing Department approval for receiving woodash will be incumbent upon the compost facilities.

6. ASH SAMPLING AND ANALYSIS PROTOCOL

Complete metals analyses performed by the applicant over the previous year have shown the applicant's wood ash to exceed the concentration limit of 10 mg/kg for cadmium. Forty seven analyses of composite woodash samples performed over one year have shown values ranging from 3.4 mg/kg to 25.2 mg/kg with an average value of 10.3 mg/kg. The applicant proposes to analyze for cadmium on a weekly basis. Woodash will be sampled at the rate of once per shift three times per week, to form a weekly composite sample. Complete woodash analyses will be performed in accordance with Chapter 567, Section E-3 and Appendix D.

BASED on the Finding of facts, and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

1. The woodash has been adequately characterized through chemical analyses;
2. The inputs to the residual are documented and are consistent or of known variability;
3. Provisions are made for selecting, operating, and managing land application sites, as well as maintaining and reporting site records in accordance with Section B-(5);
4. Provisions are made for continual analysis of ash as required by Department Order;
5. The woodash application rates and setback distances have been developed and are suitable;
6. The applicant has a history of no violations within the past year on previous site approvals; and
7. A variance to allow the use of the woodash with concentrations no greater than 25% over the current limit for a period of one year in accordance with Chapter 567 Sections B-1.b and E-3 will not constitute a hazard to health or welfare.

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THEREFORE, the Department APPROVES the above noted application of GREAT NORTHERN PAPER INC. for Program Approval and its related variance SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached as Appendix A.
2. The applicant shall comply with all applicable regulations in 06-096 CMR Chapter 567, "Rules for Land Application of Sludge and Residuals".
3. The applicant shall continue to perform weekly cadmium analyses for the term of the variance or until which time the applicant's woodash is shown to meet Department standards. The applicant shall also perform a complete analysis of its woodash quarterly or for every 4000 dry tons produced, which ever is greater frequency. The analytical parameters shall include the following: aluminum, arsenic, barium, boron, cadmium, calcium, chloride, chromium, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, phosphorous, potassium, selenium, vanadium, zinc, pH units, percent volatile solids, percent solids, and percent CaCO₃ equivalency. All sampling shall be performed in accordance with Chapter 567, Appendix D.
4. After the term of the variance, all ash which does not meet Department standards shall be landfilled or blended with an approved material to dilute cadmium concentrations to allowable levels before land application.
5. An annual tabulation of the volume of ash deliveries to utilization sites, the actual application rates, the dates of delivery, as well as results of ash analyses for each calendar year shall be submitted to the Department by January 31st of each following year.
6. The applicant shall conduct a monitoring program on 10% of their licensed sites, or submit evidence and results of equivalent research activities. The monitoring program or research shall determine the effects of ash application, through soil plant tissue, or ground water analysis, in accordance with Chapter 567. The monitoring program or research shall require Department approval prior to commencement.

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- 7. The term of the variance shall be one year, during which time the applicant shall attempt, through process and fuel input control, to reduce the concentration of cadmium in the woodash.
- 8. The term of this Program Approval is five years from the date of filing.

DONE AND DATED AT AUGUSTA, MAINE, THIS 16th DAY OF
June, 1993.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

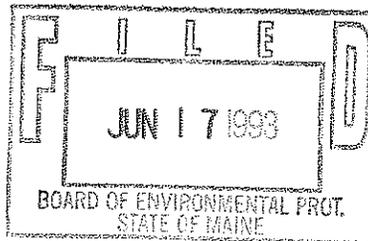
BY: Dean M. Marriot
Dean C. Marriot, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE APPEAL PROCEDURES...

Date of initial receipt of application 4/14/93

Date of application acceptance 4/14/93

Date filed with the Board of Environmental Protection



Appendix A

SOLID WASTE LICENSE STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL. VIOLATIONS OF THE CONDITIONS UNDER WHICH A LICENSE IS ISSUED SHALL CONSTITUTE A VIOLATION OF THAT LICENSE, AGAINST WHICH ENFORCEMENT ACTION MAY BE TAKEN, INCLUDING REVOCATION.

1. This order is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposals and supporting documents is subject to the review and approval of the Board or the Commissioner prior to implementation.
2. The applicant shall secure and comply with all applicable Federal, State and local licenses, permits, authorizations, conditions, agreements, and orders, prior to or during construction and operation as appropriate.
3. The applicant shall submit all reports and information requested by the Board or Department demonstrating that the applicant has complied or will comply with all conditions of this approval. All preconstruction terms and conditions must be met before construction begins.
4. Advertising relating to matters included in this application shall refer to this approval only if it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.
5. No person shall transfer a license for a solid waste disposal facility without first obtaining Board approval for the transfer of the ownership of the solid waste disposal facility. For a solid waste disposal facility, the Board, at its discretion, may require that the proposed new owner of the facility apply for a new license or may approve the transfer of the existing license upon a satisfactory showing that the new owner can abide by its terms and conditions and comply with the provisions of 38 M.R.S.A. Section 1310-Q. Public notice shall be provided in accordance with Chapter 400.4.D of the Solid Waste Management Rules.
6. If the construction or operation of the activity is not begun within two years, this approval shall lapse and the applicant shall reapply to the Board for a new approval. The applicant may not begin construction or operation of the development until a new approval is granted. Reapplications for approval shall state the reasons why the development was not begun within two years from the granting of the initial approval and the reasons why the applicant will be able to begin the activity within two years from the granting of a new approval, if granted. Reapplications for approval may include information submitted in the initial application by reference.

7. If the approved development is not completed within five years from the date of the granting of approval, the Board may reexamine its approval and impose additional terms or conditions or prescribe other necessary corrective action to respond to significant changes in circumstances which may have occurred during the five-year period.
8. A copy of this approval must be included in or attached to all contract bid specifications for the development.
9. Work done by a contractor pursuant to this approval shall not begin before the contractor has been shown by the developer a copy of this approval.
10. All solid waste disposal facilities are required to accept only solid waste which is subject to recycling and source reduction programs at least as effective as those imposed by State law.
11. No solid waste facility licensee shall knowingly hire as an officer, director or key employee, or knowingly allow to acquire as equity interest or debt liability interest, any person having been found guilty of a felony or of a violation of environmental law or rules without first obtaining the approval of the Board.
12. Whenever any lot of land for solid waste disposal facilities is transferred by deed, the following shall be expressly stated in the deed:
 - a. The type of facility located on the lot and the dates of its establishment and closure.
 - b. A description of the location and the composition, extent, and depth of the waste deposited.

If asbestos-containing waste or asbestos-contaminated waste has been disposed on a site, the location coordinates must be identified (refer to Chapter 405).