



William G. Ross Jr., Secretary

June 6, 2008

Mr. Wade Tippet  
Craven Wood Energy  
201 Executive Parkway  
Newbern, NC 28562

Re: Recovery and Reuse for Wood Bottom Ash, Craven Wood Energy,  
Craven County, NC.

Dear Mr. Tippet:

Attached is a Recovery and Reuse Guidance document and Best Management Practice document addressing the beneficial use of wood bottom ash material for non agricultural, roadbed use. The wood bottom ash is generated at Craven Wood Energy is to be applied to farm and forestry roads by Pungo River Lime Company (Mr. Darren Armstrong, owner). TCLP Analysis was performed for the material on January 3, 2008 and on March 13, 2008. The material is non-hazardous and results for the constituents tested were at or below NC 2L groundwater standards. Note: Any wood bottom ash proposed to be applied to forestry roads must also be pre-approved by applicable forestry agencies.

Based on your submittals referenced above, the material is suitable for classification as a recovered material consistent with the enclosed Recovery and Reuse Guidance document. This determination excludes the reuse of the material as beneficial fill from regulation by the Division of Waste Management. As long as the material, activity, application or final use does not cause harm to the environment or threaten public health or safety, the determination will remain in effect. Circumstances adverse to those conditions would be cause for the Division to rescind this authorization. Any change in the formulation or processing of the material will create the need for retesting to determine the eligibility of the new material for recovery and reuse. Please note that NC General Statute 130A-309.05(c)(2) states the “material shall not be discharged, deposited, injected, dumped, spilled, leaked, or placed into or upon any land or water so that the products or by-products or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters including groundwaters, or otherwise enter the environment or pose a threat to public health and safety”.

The attached Best Management Practice Guidelines, Mr. Darren Armstrong submitted were gleaned in-part from previous Best Management Practice Guidelines that were approved by the SWS for application of wood fly ash residuals to farmland, generated at Craven Wood Energy, LP.

Thank you for your cooperation in this matter. Should you have any questions regarding this authorization or wish to discuss the matter further, please contact me at (919) 508-8495.

Sincerely,

Edward F. Mussler, III, P.E.  
Permitting Branch Supervisor  
Solid Waste Section

cc: Darren Armstrong, Pungo River Lime Co. Michael Scott, DWM  
Paul Crissman, DWM Jackie Drummond, DWM  
Brian Wootton, DWM Dennis Shackleford, DWM

**DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES  
DIVISION OF WASTE MANAGEMENT  
SOLID WASTE SECTION**

**RECOVERY AND REUSE GUIDANCE**

**RECOVERED MATERIAL  
WOOD BOTTOM ASH**

**June 5, 2008**

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## **RECOVERY AND REUSE GUIDANCE**

In the NC General Statutes, a stated purpose of the State's solid waste management program is to recover resources that have the potential for further usefulness. The statutes also define the term "recovered material" and provide the conditions under which the recovered material is not subject to regulation as a solid waste. Using the statutes as a basis, this document provides guidance on how to obtain Division authorization for the beneficial reuse of nonhazardous, inert waste materials.

Using this guidance, any person who owns or has control over a material may propose or demonstrate to the Division that the material meets the definition of a recovered material and that its proposed reuse complies with the statutes.

The statutes define a recovered material as a material that has a known recycling potential, can be feasibly recycled, and has been diverted or removed from the solid waste stream for sale, use, or reuse.

For a material that would otherwise be regulated as solid waste to qualify as a recovered material, the person who owns or has control over the material must demonstrate that the material meets the following requirements:

- 1) A majority of the recovered material at a facility shall be sold, used, or reused within one year;
- 2) The recovered material or the products or by-products of operations that process recovered material shall not be discharged,

deposited, injected, dumped, spilled, leaked, or placed into or upon any land or water such that any constituent thereof may enter other lands or be emitted into the air or discharged into any waters including groundwater, or otherwise enter the environment or pose a threat to the public health and safety; and

- 3) The recovered material shall not be a hazardous waste or have been recovered from a hazardous waste.

The Division will make a determination on the proposed qualification as a recovered material based upon a demonstration submitted by the owner. The Division may prescribe requirements of the demonstration including waste-specific sampling and analytical protocols. The determination by the Division may include specific conditions for reuse including siting, design, construction, operation and closure requirements. For some reuses, the Division may require notification of each project requiring Division acknowledgement and, for others, a requirement of recordation of the project on the property deed may be imposed. Conversely, some recovered materials may require few to no specified conditions of reuse.

The authorization of a material for use as a recovered material may be rescinded if the reuse results in the material entering the land, being emitted into the air, being discharged into any waters including ground waters or otherwise entering the environment, or it poses a threat to the public health and safety. Also, the Division makes no determination as to the performance of the material as beneficially used.

## Recovery and Reuse Material Fact Sheet

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Recovered Material: Wood Bottom Ash  
Approved Reuse: Beneficial Fill  
Date of Approval: May 28, 2008  
Summary: This determination is for the reuse of wood bottom ash to be applied as road maintenance, generated during and after the sampling period specified for each generator listed in the application.

Material Description: Wood Bottom Ash

Generator/User: Craven Wood Energy, LP  
201 Executive Parkway  
Industrial Park  
New Bern, NC 28659

Demonstration: TCLP analysis results submitted to the Division in correspondence January 3, 2008 and March 17, 2008, demonstrate that the material is eligible for use as beneficial fill.

Annual Reporting: By August 1 of each year, the generator shall submit an annual summary to the Division consisting of the following information:

- The amount (in tons) of material recovered and reused for the most recent period between July 1 and June 30.
- The location of the final disposition of the material.

For the purpose of estimating the amount of material reused, cubic yard volumes may be converted into tons using an appropriate weight factor.

Liability: This authorization does not waive or remove any liability the generator has for any violation of the recovered material statutes, any contamination to the environment that may occur by the reuse of the material, nor any harm or threat to human health or safety or the environment caused by the material or the reuse activity.

The issuance of this authorization is based solely on submittals provided by the owner of the material showing compliance with the NC General Statute 130A-308.05(b). The Division makes no claim as to the adequacy, suitability or engineering performance of the material for the intended reuse activity.

## **Procedures for using wood bottom ash for road material**

**Each site proposed for the receiving of bottom ash for road improvement will be evaluated to determine slope, erosion potential and the location of surface water, ditches, drainage ways, and culture features. Samples will be taken to insure consistency and analysis of the bottom ash and submitted to the Division of Waste Management on an annual basis by Craven Wood Energy.**

### **Best Management Practices**

**The bottom ash shall be sampled within 4 months of approval of notification, then annually for total levels of regulated metals, unless variability indicates a need for amore frequent sampling.**

#### **Applicable setbacks:**

- 1. 25 feet from surface waters and the setback is adequately vegetated.**
- 2. 5 feet from ditches or drainage ways and the setback is adequately vegetated.**
- 3. 15 feet from where slopes are grater than 10%, the setback is adequately vegetated and appropriate erosion and runoff control measures have been taken.**
- 4. 50 feet form a water supply spring and the setback is adequately vegetated.**
- 5. Setbacks for sites with no vegetation will be determined on a case by case basis.**

#### **Other considerations for road application:**

- 1. Bottom ash will not be applied if a loaded truck will leave a depression of greater than 3 inches in depth.**
- 2. Bottom ash will not be used if the water table is within 12 inches of the soil surface at time of application.**
- 3. Bottom ash will not be applied at times of high rainfall.**
- 4. Bottom ash may be stored at an approved site 50 feet from surface waters for up to 3 months.**
- 5. The amount of material applied will not exceed normal road maintenance amounts which normally are no more than an average of 6 inches.**

### **Record Keeping**

**Records shall be available for inspection by a representative of the Division of Waste Management during regular business hours. The following information shall be maintained.**

- a. Map(s) of the road(s) and county name(s)**
- b. Amount in tons applied on road(s)**
- c. The date(s) applied to road(s).**