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Commissioner's Office

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Memorandum

To: Laura Pelosi, Commissioner, Department of Environmental Conservation
Through: Christine Thompson, Director, Wastewater Management Division; Ernie Kelley, Chief, Residuals Management Section
From: John McMurry, Environmental Analyst, Residuals Management Section
Subject: Minor corrections to Wood Ash Procedure
Date: February 5, 2009

Attached for your signature is the revised Comprehensive Wood Ash Management Procedure. The procedure this intends to replace, dated May 1, 2008, has several minor typographical errors with regard to specific references within the document. Additionally, the procedure is not clear in its quarterly reporting requirements for instances when wood ash does not meet the standards established in the procedure.

Outlined below are the edits, in entirety, performed on this document:

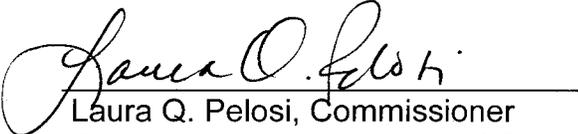
| <u>Location</u> | <u>Edits made</u> |
|------------------|---|
| Title Page | Date edited |
| Header | Date edited |
| §3 (1) | Added revised procedure to supersede previous version |
| §3 (3) | Removed “ninety days following” to ensure immediate compliance with updates |
| §3 (5) | Corrected §3(3) to §3(4) and §3(6)(a) to §3(7)(a) to reference correct section |
| §3 (8) | Corrected (8) to (9) to reference correct section of procedure |
| §4 (5) | Clarified requirements by adding “the generator shall notify the Secretary in writing of the exceedence within five (5) working days and” |
| §5 (3) (b)(i)(B) | Added section to include statement from generator when wood ash did not meet standards |

In summary, these revisions remedy the minor typographical errors in the previous version of the procedure as well as alleviate the confusion when reporting an exceedence of standards.

**RESIDUALS MANAGEMENT SECTION
WASTEWATER MANAGEMENT DIVISION
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AGENCY OF NATURAL RESOURCES
STATE OF VERMONT**

**COMPREHENSIVE
WOOD ASH MANAGEMENT
PROCEDURE**

February 5, 2009



Laura Q. Pelosi, Commissioner
Department of Environmental Conservation



Date

COMPREHENSIVE WOOD ASH MANAGEMENT PROCEDURE

§ 1. BACKGROUND

In 1998 the Vermont Department of Environmental Conservation (VT DEC) adopted a written practice for the conditional use of wood ash without obtaining a Solid Waste Management Facility Certification. Specifically, the practice allowed the use of wood ash to manufacture lime/ash mixtures for use as a soil amendment for crop production on agricultural land, road aggregate mix products, or to be land applied as a fertilizer, provided the wood ash is generated from the burning of clean, untreated wood chips. No testing of the wood ash was required by this practice.

Over the last several years, there have been increased financial pressures on wood burning energy plants for clean, untreated wood chips. It is also becoming more difficult to dispose of construction and demolition waste in some New England states. In at least one case, it is known that construction and demolition waste was burned instead of clean, untreated wood. Many New England states have adopted rules, and/or procedures to require representative testing of the wood ash and to prevent the use of contaminated wood ash as a soil amendment.

It has come to the attention of the VT DEC that there have been recent incidences in which a wood burning plant unknowingly burned chips which were not clean and untreated. With no requirement to test the wood ash prior to use, contaminated wood ash could easily be distributed into the state of Vermont.

The purpose of this Procedure is to establish management practices and to require testing and reporting by large generators of wood ash that is distributed in the State of Vermont for any used allowed under this Procedure. This Procedure also provides clarification of the regulation and management of smaller quantities of wood ash generated from the combustion of natural wood.

§ 2. DEFINITIONS

As used in this Procedure:

- (1) "Bottom ash" means remaining constituents of natural wood remaining in or under a combustion region or at the bottom of a gasifier.
- (2) "Large generator" means a facility combusting natural wood that generates 500 or more tons of wood ash in any calendar year.

- (3) "Natural wood" shall consist of any of the following:
 - (a) wood produced by splitting or chipping a whole tree, including wood, bark, tree tops, limbs and logging residue.
 - (b) any timber, board, or sawn dimensional lumber which has not been treated, coated or preserved. The term "natural wood" does not include any manufactured building material, such as (but not limited to) pressure treated wood, plywood, particle board, or waferboard.
 - (c) sawdust produced solely by the primary processing of the acceptable materials described in this subsection.
 - (d) fuel pellets produced from the acceptable materials described in this subsection.
- (4) "Secretary" means the Secretary of the Vermont Agency of Natural Resources or such person as the *Secretary* may designate.
- (5) "Sub-standard wood ash" means any wood ash that does not meet the criteria established in §5 (3)(a)(iii) of this Procedure.
- (6) "Wood ash" means any ash that is derived from the combustion or gasification of natural wood as defined in this Procedure.

§ 3. APPLICABILITY

- (1) This Procedure replaces the written practice titled, "*Practice Concerning Regulation of Wood Ash Generated by the Combustion of Clean, Untreated Wood Chips at the McNeill Electric Generation Plant and Utilized by Shelburne Limestone and by Other Individuals*" dated May 1998 as well as section III(b)(6) of the Procedure titled "*Procedure Addressing Acceptable Uses of Solid Waste*" dated July 2000. This Procedure also supersedes the "*Wood Ash Management Procedure*" that was signed by the Commissioner of the Vermont Department of Environmental Conservation on August 21, 2007 (the implementation of which was subsequently deferred until February 21, 2008) and the "*Comprehensive Wood Ash Management Procedure*" that was signed by the Commissioner of the Vermont Department of Environmental Conservation on May 1, 2008.
- (2) The Residuals Management Section of the Vermont Department of Environmental Conservation shall have regulatory oversight of the implementation and administration of this Procedure.

- (3) Wood ash shall be managed in compliance with this Procedure commencing on the date on which this Procedure is signed by the Secretary.

- (4) Persons managing wood ash in the State of Vermont, where the wood ash is:
 - (a) produced in their household heating system(s) by the combustion of natural wood; or
 - (b) produced by the open combustion of natural wood derived from landscaping, forestry, silviculture, or other similar activities,are exempt from the requirements of this Procedure.

- (5) Persons managing wood ash in the State of Vermont, where the wood ash is produced by any means other than those allowed by §3 (4) of this Procedure and who generate less than 500 tons of wood ash in any calendar year, shall manage the wood ash in accordance with §3 (7)(a), (b), and (c) and § 5 (1), (2), and (3)(b)(iii) and (iv) of this Procedure or by disposal at a certified solid waste management facility.

- (6) Persons managing wood ash in the State of Vermont, where the wood ash is produced by any means other than those allowed by subsection (4) of this section and who generate 500 tons or more of wood ash in any calendar year, shall manage the wood ash in accordance with the full requirements of this section or by disposal at a certified solid waste management facility.

- (7) No person shall discard or permit another to discard of wood ash except at a certified solid waste facility. Any wood ash discarded at a certified solid waste management facility shall have cooled to less than 150° F prior to disposal at the facility. Wood ash shall not be considered a discarded solid waste, pursuant to §6-201 of the Vermont Solid Waste Management Rules, provided that all the following are met:
 - (a) The wood combusted is natural wood;
 - (b) The wood ash has cooled to a temperature of less than 150° F;
 - (c) The wood ash is used in one or more of the following manners:

- (i) as a feedstock to manufacture a product such as a lime and wood ash mix for use as a soil amendment;
 - (ii) bottom ash used as a feedstock to manufacture road aggregate products;
 - (iii) as a fertilizer or as a soil or compost amendment;
 - (iv) as an odor controlling agent; or
 - (v) for other acceptable uses as determined by the Secretary; and
- (d) The generator of the wood ash complies with §4 and §5 of this Procedure.
- (e) Upon the issuance of a Certificate of Approval to a large generator, the wood ash generated by the facility listed in the Certificate of Approval shall be considered a commodity, pursuant to the exemption afforded by the definition of "discarded" in §6-201 (2) of the Vermont Solid Waste Management Rules, except as specifically established in this Procedure.
- (8) When used in accordance with the terms of the Procedure, wood ash and the lands upon which it is treated, stored, or used are exempt from the permitting requirements of the Vermont Solid Waste Management Rules, but only insofar as the management of wood ash is concerned and within the Secretary's right reserved in (9) of this section.
- (9) The Secretary reserves the right, on a case by case basis, to require certification of a large generator and/or wood ash use sites and usages where a public health or environmental risk is demonstrated by the Agency.

§ 4. CERTIFICATE OF APPROVAL

- (1) Prior to the management of wood ash produced by a large generator for any use approved under this Procedure, the generator shall obtain a Certificate of Approval from the Secretary, except that disposal of wood ash in a certified solid waste management facility is exempt from this provision.
- (2) An application to the Secretary for a Certificate of Approval shall consist of the following information. If the application is for multiple generating

facilities under the generator's ownership, the required information shall be submitted for each generating facility:

- (a) an application form approved by the Secretary, which shall include the following information;
 - (i) the name, mailing address, and telephone number of the generating facility's parent company;
 - (ii) the name, mailing address, telephone number, and physical location of the facility generating the wood ash;
 - (iii) the name, mailing address, and telephone number of a primary and secondary contact person for the generating facility;
 - (iv) the estimated annual amount of wood ash, in tons per year, that will be managed by a use approved under this Procedure;
 - (v) a statement by the applicant that the facility generating the wood ash only combusts natural wood, as defined in this Procedure; and
 - (vi) the signature of an authorized agent or an officer of the generating facility.
 - (b) the results of all chemical analyses of the wood ash performed in the 365 day period preceding the date of application. For a new facility or a facility which does not have previously existing analytical data, the applicant may submit the results of an analysis conducted on a composite sample of its existing wood ash production. At a minimum, the analytical results shall report for the parameters established in §5 (3)(a)(iii).
- (3) Within sixty (60) days of the date that an application for a Certificate of Approval is received by the Secretary, the Secretary shall either deny or issue the Certificate of Approval.
 - (4) A Certificate of Approval shall be valid for a period of not more than five years from the date of issuance.
 - (5) Upon receipt by the generator of any analytical result documenting an exceedence of any ceiling concentration established in §5 (3)(a)(iii), the generator shall notify the Secretary in writing of the exceedence within five

- (5) working days and the Certificate of Approval for the generating facility involved shall immediately be suspended for a minimum period of thirty (30) days. In such instances, the wood ash from the affected generating facility shall be managed only in accordance with the Vermont Solid Waste Management Rules, except as provided in §4 (7) of this Procedure. If the Certificate of Approval covers more than one generating facility under the control of a parent company, only the Certificate of Approval for the generating facility so involved shall be considered suspended.
- (6) The Certificate of Approval for the involved facility may be reinstated by the Secretary upon submittal of the following:
- (a) the results of a chemical analysis of four (4) consecutive weekly composite samples derived from daily grab samples of wood ash generated at the involved facility documenting that the wood ash quality is again in compliance with §5 (3)(a)(iii);
 - (b) at the Secretary's discretion, testing of the soils for the parameters established in §5 (3)(a)(iii), on the Vermont site(s) to which sub-standard wood ash was applied; and
 - (c) a written explanation of how the exceedence occurred; the amount of wood ash not meeting the requirements of §5 (3)(a)(iii) that was distributed in Vermont for a use approved under this Procedure; the names, mailing addresses, and telephone numbers of the person(s) to whom the wood ash was distributed; and a written explanation of steps that have been taken to prevent a recurrence of the exceedence.
- (7) In cases where the Certificate of Approval for a large wood ash generator has been suspended pursuant to §4 (5), wood ash produced during the period of suspension may continue to be managed in accordance with this Procedure provided the following conditions are met:
- (a) all wood ash generated during the period of suspension shall be managed in discrete batches;
 - (b) each batch of wood ash generated during the period of suspension shall be subjected to a chemical analysis for the parameters required under §5 (3)(a)(iii). The wood ash samples subjected to analysis shall be comprised of either:
 - (i) composite samples derived from a minimum of two daily grab samples taken each day of the batch's production; or,

- (ii) a composite of at least three grab samples if the batch was produced on a single day.
- (c) all wood ash released by the generator for any use in the State of Vermont other than disposal in a landfill shall be stored in accordance with §5 (1) and shall not be managed via the uses allowed under this Procedure until:
 - (i) the results of the chemical analyses have been received by the generator and submitted to the Secretary;
 - (ii) the Secretary has reviewed the results of the chemical analyses and determined that the batch(es) of wood ash meet the requirements of §5 (3)(a)(iii); and,
 - (iii) the Secretary has issued a written authorization permitting the specific batch(es) of wood ash to be managed by a use allowed under this Procedure.

§ 5. MANAGEMENT PRACTICES, TESTING, AND REPORTING

- (1) Storage:
 - (a) Wood ash that is stored on a farm in the State of Vermont for any use allowed under this Procedure shall be stored in a manner and location that reasonably secures the wood ash from public access and which is, at a minimum, in compliance with the Nutrient and Pesticide Storage requirements, §4.02, of the Vermont Accepted Agricultural Practices as adopted by the Vermont Agency of Agriculture, Food and Markets. Specifically, wood ash shall not be stored:
 - (i) within one hundred (100) feet of any public or private drinking water supply source unless the wood ash is stored in a structure that minimizes leaching and runoff potential;
 - (ii) on unimproved sites within one hundred (100) feet of any waters of the State; and,
 - (iii) on lands subject to annual overflow from adjacent waters.
 - (b) Wood ash, which is stored at the generating facility or which has been released by the generator and distributed in the State of Vermont for any use allowed under this Procedure and which is

stored at any non-farm location where there is no reasonable means for controlling public access, shall be stored in accordance with §7-203 (m) of the Vermont Hazardous Waste Management Regulations, effective October 15, 2006, as well as in accordance with (a)(i through iii) of this subsection.

(2) Land application:

The use of wood ash as a soil amendment or fertilizer on any lands in the State of Vermont shall, where applicable, comply with the Vermont Accepted Agricultural Practices as adopted by the Vermont Agency of Agriculture, Food and Markets and with any other nutrient management plan in effect for the property on which the wood ash will be used.

(3) Requirements for large generators:

Wood ash that is sold, offered for sale, or otherwise distributed in the State of Vermont for a use allowed under this Procedure by a large generator shall meet the sampling, testing, and reporting requirements of this section. A large generator shall not sell, offer for sale, or otherwise distribute wood ash for a use allowed under this Procedure that does not meet the standards established in §5 (3)(a)(iii) of this Procedure.

(a) Sampling and testing:

- (i) Wood ash shall be tested on a quarterly basis using a composite sample for all parameters listed in §5 (3)(a)(ii) of this Procedure. The quarterly composite sample shall be derived from grab samples of every batch of wood ash released during the quarter. The Secretary reserves the right to require more frequent testing if any wood ash distributed in the State of Vermont is determined to exceed the constituent concentration limits established in §5 (3)(a)(iii) of this Procedure.
- (ii) Analyses of composite samples of wood ash collected pursuant to §5 (3)(a)(i) of this Procedure shall be tested for the total concentration (and reported in units of mg/kg dry weight) of each of the following metals: arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc.
- (iii) Wood ash that is used pursuant to this Procedure shall not contain metals in concentrations greater than the ceiling concentrations established in the following table:

| Metal | Ceiling Concentration (mg/kg., dry wt.) |
|--------------|--|
| Arsenic | 15 |
| Cadmium | 21 |
| Chromium | 1200 |
| Copper | 1500 |
| Lead | 300 |
| Mercury | 10 |
| Molybdenum | 75 |
| Nickel | 420 |
| Selenium | 100 |
| Zinc | 2800 |

(b) Reporting:

- (i) Large generators of wood ash shall submit quarterly reports to the Residuals Management Section of the VT DEC, using a form provided by the Secretary. The reports shall be submitted by January 15th, April 15th, July 15th, and October 15th of each year. Such reports shall, at a minimum, include the following information:
 - (A) the quantity and testing results of any wood ash distributed in the State of Vermont for use under this Procedure; and
 - (B) a statement, signed by the generator, stating that the wood ash used in the State of Vermont either:
 - (1) came from burning only natural wood and that the wood ash meets the standards established in §5 (3)(a)(iii) of this Procedure; or

- (2) that exceedences of the standards established in §5 (3)(a)(iii) were reported to the Secretary in accordance with §4 (5) of this Procedure.
- (ii) Large generators of wood ash shall submit a report to the Secretary within five (5) working days of the receipt of any information indicating non-compliance with any term or condition of this Procedure.
 - (iii) Any generator of wood ash that is used in the State of Vermont pursuant to this Procedure shall submit the sources of natural wood managed by the generator upon specific request from the Secretary.
 - (iv) Any generator of wood ash that is used in the State of Vermont pursuant to this Procedure shall submit the final destination of wood ash so used by reporting the name of the landowner and the town, upon specific request from the Secretary.

§ 6. ENFORCEMENT

- (i) The Secretary reserves the right to pursue an enforcement action against the generator and/or the manager of any wood ash used pursuant to this Procedure which, after any use allowed by this Procedure, is determined by the chemical analysis required under §5 (3)(a)(i) to not meet the quality criteria established in §5 (3)(a)(iii) of this Procedure.
- (ii) In cases where the Secretary lacks clear enforcement powers under the statutes and/or administrative rules of the State of Vermont as reserved under subsection (i) of this section, the Secretary also reserves the right to refer such cases to the U.S.E.P.A. or other regulatory jurisdiction for enforcement action.