



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
WESTERN REGIONAL OFFICE

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October 28, 2009

Dr. Victor Gatto, Project Manager  
Palmer Renewable Energy, LLC  
40 Shawmut Road, Suite 200  
Canton, MA 02021

Re. Springfield - SWM - Power Plant  
BWP SW 40; Transmittal No. X226904; TF-22  
Beneficial Use Determination  
**Provisional Permit Approval**  
C&D-Derived Wood Fuel  
09-281-050

**BUD Permit - Provisional Permit Approval**

**Provisional Permit Approval Issued for Public Comment**  
**Effective Date of Final Permit Deferred until December 18, 2009.**

Dear Dr. Gatto:

The Massachusetts Department of Environmental Protection, Western Regional Office ("MassDEP") has received and reviewed a BWP SW 40 permit application for a Beneficial Use Determination ("BUD") to use construction and demolition ("C&D")-derived wood chips as fuel in a biomass energy plant. The application was submitted by Palmer Renewable Energy, LLC ("PRE"), which proposes to build a 38 megawatt electric generation plant at 1000 Page Boulevard in Springfield, MA. The BUD permit application was prepared by Epsilon Associates, Inc. on behalf of PRE.

The facility will consist of a fuel receiving and handling system, a 509 million British thermal units per hour ("MMBtu/hr") water-cooled grate stoker boiler, associated air pollution control devices, a single steam turbine, an air-cooled condenser, bottom ash and fly ash handling and storage systems, a 30-ton lime storage silo, a 10-ton powdered activated carbon storage silo, and an aboveground 14,000-gallon double walled aqueous ammonia storage tank.

PRE proposes that the energy plant will burn an average of 700 tons per day (maximum of 900 tons per day) of C&D-derived wood fuel. PRE is separately seeking an air pollution control plan approval to burn other fuels such as green (virgin) wood fuel and natural gas along with, or in lieu of, C&D-derived wood fuel. Fuels other than C&D derived wood fuel will be regulated by the air pollution control plan approval. The plant will be equipped with extensive air pollution control equipment, which will include sorbent

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 1-866-539-7622 or 1-617-574-6868.

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injection, a scrubber, a fabric filter, regenerative selective catalytic reduction, and an oxidation catalyst. MassDEP is also reviewing an air pollution control plan approval application for the proposed facility. Any issuance of a draft air permit approval or denial will be separate and distinct from this review.

The C&D-derived wood fuel will be purchased from offsite processing facilities. The PRE plant will accept only preprocessed wood fuel, not other C&D materials.

MassDEP approves the proposed beneficial use of the C&D-derived wood fuel, subject to the conditions below.

Pursuant to 310 CMR 19.060(3), MassDEP must accept comments for a period not less than 21 days from the Board of Health of a community where the beneficial use would occur, unless the proposed use would not be limited to any specific location. Accordingly, PRE submitted a copy of the application to the Springfield Department of Health and Human Services on May 12, 2009. MassDEP received no comments from that agency.

## I. APPLICATION INFORMATION

BUD Application: BWP SW 40 - Beneficial Use Determination - Regulated System  
Applicant Name: Palmer Renewable Energy, LLC  
Transmittal No.: X226904

## II. BENEFICIAL USE PROPOSAL

PRE proposes to burn an average of 700 tons per day (maximum of 900 tons per day) of C&D-derived wood fuel, which will be procured from offsite C&D processing facilities. (The use of green wood fuel is not subject to MassDEP review under its solid waste regulations.) The C&D-derived wood fuel may include clean wood, pallets, painted wood, treated wood (such as chromated copper arsenate, also known as CCA, but not including treated telephone poles or creosote-treated wood), and manufactured wood products (such as plywood). However, the proposal includes specific procedures and testing to minimize the amount of CCA treated wood accepted. The equipment used at many C&D processors (e.g. crushers and screeners) also tends to reduce the quantity of lead paint in the finished C&D-derived wood fuel product as compared to the wood entering the processing facility.

The proposed facility will be located at 1000 Page Boulevard in Springfield, sharing a site owned by Palmer Paving Corporation. The site is partly occupied by a hot mix asphalt plant, which is expected to remain in operation.

### A. Available Fuel Supply

The material received at PRE will include only C&D-derived wood fuel, except that PRE proposes a limit of 1% non-wood materials by weight. No processing of wood fuel will occur at PRE prior to burning, except for size reduction (screening and grinding) of oversize chips.

PRE has identified 16 facilities located in Massachusetts that are currently permitted to accept and process C&D waste. Between those facilities, PRE believes that there is an in-state capacity to produce nearly 3,000 tons of C&D-derived wood fuel per day at the level of quality needed for their proposal (including certain plants that could make minor design or operational changes to produce fuel meeting

that specification). In addition, there are facilities in Maine and possibly other nearby states that might be able to supply the PRE facility.

**B. Proposed Fuel Specification and Testing Program**

PRE proposes to burn only C&D-derived wood fuel that can meet a detailed fuel specification. The specification contains limits on the quantities of treated wood and non-wood materials that may be present as well as limits on the concentrations of several chemical contaminants. The fuel specification is summarized in Table 1 below.

Table 1: PRE proposed fuel specification

Parameter	Test Method **	Proposed Specification (maximum) ***	Approved Specification (maximum) ***
CCA-treated wood*	Physical separation	3.0% by weight ****	3.0% by weight ****
Plastics and other non-wood materials (paper, ABC, metals)	Physical separation	1.0% by weight	1.0% by weight
Chlorine *****	ASTM E776-87 or ASTM D4208	0.100% by weight	0.100% by weight
		none proposed	0.05% by weight (calendar month average)
		0.027% by weight (annual average)	0.027% by weight (annual average)
Fluorine	ASTM E776-87 or ASTM D3761	0.006% by weight	0.006% by weight
Sulfur	ASTM D3714	0.086% by weight	0.086% by weight
Arsenic	EPA SW-846-6010B	75 mg/kg	75 mg/kg
Chromium	EPA SW-846-6010B	180 mg/kg	180 mg/kg
Lead *****	EPA SW-846-6010B	500 mg/kg	375 mg/kg
		none proposed	200 mg/kg (calendar month average)
		100 mg/kg (annual average)	100 mg/kg (annual average)
Copper	EPA SW-846-6010B	1000 mg/kg	1000 mg/kg
Nickel	EPA SW-846-6010B	53 mg/kg	53 mg/kg
Cadmium	EPA SW-846-6010B	1.8 mg/kg	1.8 mg/kg
Mercury *****	EPA SW-846-7471A	0.24 mg/kg	0.24 mg/kg
		none proposed	0.18 mg/kg (calendar month average)
		0.09 mg/kg (annual average)	0.09 mg/kg (annual average)

\* The term "CCA-treated wood" means all wood treated with copper compounds that typically result in a green color. It should be noted that wood treated by the ACQ and CBA processes falls under this definition even though it contains no arsenic or chromium, simply because such wood is typically green in color and can't be differentiated from CCA wood based on visual observations or commonly available chemical staining tests.

\*\* Test methods to be updated as-needed to reflect updates in standard methods.

\*\*\* Unless otherwise specified, averaging period is 3-day average for wood supply or 24-hr average composite into boiler.

\*\*\*\* Subject to an optimization program having a goal of 1.5% maximum. (Note that PRE proposed that the goal would be 2.0% maximum)

\*\*\*\*\* Limits for chlorine, lead, and mercury are subject to review and potential revision under the optimization program, but no specific goals are set in this Permit.

Prior to submitting the application, PRE did a literature review and a sampling and analysis program to investigate the physical and chemical characteristics of C&D-derived wood fuel. In particular, PRE conducted an extensive sampling and analysis program at New England Recycling (“NER”) in Taunton, Massachusetts, which is a C&D waste processing facility permitted to accept up to 550 tons per day. NER operates a multistage processing operation that includes both mechanical and manual processes to separate recyclable materials. The process begins on the tipping floor, where larger pieces of non-recyclable materials are immediately pulled out by grapples or by hand. (This preliminary sorting on the tipping floor is known as “kick sorting.”) Then materials pass through mechanical shredders and screens. The process culminates at a series of “picking stations” where laborers manually pick recyclable materials off of a conveyor and drop those materials into various bins dedicated to a specific materials. This approach is known as a “positive pick,” because each piece that is identified by a worker as being recyclable is manually removed from the conveyor. Individual pieces of non-recyclable or questionable materials are simply left on the conveyor and are ultimately disposed of, rather than recycled.

The results of the NER study indicate that the processes employed at the facility are capable of generating wood fuel in compliance with the specification. The study did find that the 3-day averages for percent chromated copper arsenate (“CCA”) treated wood and arsenic were exceeded in some cases. However, the study was intentionally designed to illustrate a worst case scenario for the NER facility because all wood (including CCA-treated wood, painted wood, and manufactured wood products such as plywood) was selected. It should be noted that the main source of arsenic in the wood product is CCA-treated wood. During actual operation, NER will instruct its workers to reduce the quantity of CCA-treated wood in the wood fuel product to the lowest practicable level by kick sorting and by not picking identifiable treated wood (however, some weathered treated wood may not be readily identifiable because the green color typically fades to a gray color similar to untreated weathered wood). Such efforts should ensure compliance with the CCA and arsenic limits. (Note that NER does not normally pick all wood from the conveyor as it did during the test conducted for PRE. As a result, its existing work practices are compatible with the goal of reducing CCA wood, arsenic, and chromium.)

PRE also proposes to develop a Toxics Reduction Plan (“TRP”) in conjunction with its C&D-derived wood fuel suppliers with the goal of making further reductions in CCA wood, arsenic, and chromium. This effort will evaluate the relative success rate of individual suppliers to identify processes that could be introduced at other suppliers. The TRP will also evaluate whether there are feasible means to improve identification of CCA wood on the processing line, such as chemical stain testing and handheld detectors (e.g. x-ray technology).

PRE states that the goal of the TRP optimization program will be to further limit contaminants in wood as received from suppliers, as listed in Table 2. Notably, one goal is to reduce CCA-treated wood to less than 1.5% by weight as required by this permit. PRE proposes to implement the optimization program during the first 12 months of plant operation, after which it will submit a report to MassDEP regarding the program results. If the goal of 1.5% CCA wood can be routinely achieved, that will become the limit in the final fuel specification. If 1.5% cannot be routinely achieved, PRE will propose a limit higher than 1.5% but less than 3.0%.

Table 2: TRP optimization program goals - C&D-derived wood fuel as supplied

Parameter	Specification (maximum)
CCA-treated wood	1.5% by weight (calendar month average)
Arsenic	50 mg/kg (calendar month average)
Chromium	100 mg/kg (calendar month average)

In addition to the calendar month average goals stated above, the optimization program will have a set of 12-month rolling average goals for contaminants in wood as fired in the boiler. These goals are listed in Table 3.

Table 3: TRP optimization program goals - conveyor belt feed to boiler

Parameter	Specification (maximum)
CCA-treated wood	1.5% by weight (12-month rolling average)
Arsenic	40 mg/kg (12-month rolling average)
Chromium	80 mg/kg (12-month rolling average)

PRE will also review the limits for chlorine, lead, and mercury as part of the optimization program, but no specific goals are being set for these contaminants. MassDEP may revise the limits once additional data is available.

#### D. Other Potential C&D-derived Wood Suppliers

In addition to facilities like NER that accept a broad range of C&D waste, PRE has also identified certain facilities that accept and process only presorted C&D wood. Examples of such facilities include the Commercial Paving and Recycling Company facilities in Portland, Auburn, and Scarborough, Maine. These facilities reportedly do not accept treated wood or non-wood materials such as plastic, metal, dirt, wallboard, sawdust, roofing materials, and asbestos. PRE believes that these and similar facilities are able to produce C&D-derived wood fuel at an equivalent quality level to NER's wood fuel.

PRE has indicated that it will pursue contracts with a number of potential C&D-derived wood fuel suppliers. This permit requires PRE to collect process descriptions and analytical data from each potential supplier and to submit such information to MassDEP if PRE wishes to use that supplier. This information must be submitted in the form of a BUD Modification Permit Application. PRE must obtain the written approval of the BUD Modification from MassDEP, in accordance with this permit, prior to accepting C&D-derived wood fuel from a particular supplier.

#### E. Onsite Wood Chip Handling

PRE proposes to accept deliveries of wood fuel five to six days per week during daytime hours. Wood fuel will typically arrive in covered 20-ton truckloads. After weighing, each truck will move onto one of two truck dumping devices, which clamp the truck in place and elevate the entire truck to an inclined position in order to unload the wood fuel into a transfer bin. The rear ends of the truck dumping devices and transfer bin will be under a roof to prevent stormwater from contacting the fuel.

After unloading, the fuel chips will travel by conveyor to the screening and sizing house. Once there, the chips will fall onto a 2-inch × 2-inch screen. Chips too large to pass onto the screen will continue to a grinder for size reduction. After sizing, the chips will be conveyed to a storage pile. The storage pile will be housed within a 30,000 ft<sup>2</sup> building (250 feet long and 120 feet wide) with a roof and three walls (the fourth side will be open to accommodate operation of a front end loader). The storage shed will hold up to 5,000 tons of fuel, which is sufficient for about 6 days of plant operation.

The storage shed will be filled with wood fuel by a moving conveyor, which will incrementally fill the shed from one end to the other over a period of about 6 days. While one end of the shed is being filled, a front end loader will be removing wood from the other end for placement into a "reclaim" hopper. Therefore, the entire pile will be turned over every few days.

The storage shed will be equipped with a water misting system that will be used as necessary to control dust emissions.

Wood fuel placed in the reclaim hopper will be conveyed inside the boiler building into two metering bins, which will provide a total of 8 hours of operating capacity. Therefore, the metering bins will allow the plant to operate overnight without needing a front end loader to feed the reclaim hopper.

PRE acknowledges that, while the proposed system for receiving and managing wood fuel tends to blend green wood fuel and C&D-derived wood fuel, it cannot ensure that precisely 700 tons of C&D-derived wood fuel will be received or burned on any given day. This quantity is intended to be a longer-term average, which will be ensured by limiting purchases of C&D-derived wood fuel. However, blending of wood fuel from different sources occurs during fuel receipt, screening/sizing, pile formation, and fuel reclaim. This permit requires that the facility will comply with the 700 ton limit on a monthly average basis.

#### F. Sampling and Analysis Requirements

The application proposes an extensive sampling and analysis program to ensure compliance with the fuel specification. The locations, frequency, and analytical parameters required are summarized in Appendix B of this permit (note that MassDEP is requiring some changes to PRE's proposed sampling program).

Section 5.3 of the BUD application contains detailed procedures for collecting, mixing, splitting, and processing samples for physical and/or chemical testing.

#### G. Solid Combustion Byproducts

The power plant is expected to generate solid waste byproducts, including wood bottom ash and an air pollution control system byproduct consisting of wood fly ash, powdered activated carbon granules, unreacted lime, and lime reaction products.

The wood bottom ash will fall into a water bath for quenching. It will then be removed from the bath by a drag chain and conveyed into a dumpster, then loaded into a truck.

The fly ash/air pollution control byproduct will be generated at a rate of about 2,000 pounds per hour. It will be pneumatically conveyed to a 54 ton silo. Periodically, the material will be conveyed through a pug mill to condition it with water. The material will then be discharged to a truck.

Although it may be possible for these materials to be used for a beneficial purpose, at present there is not enough data to physically or chemically characterize them. As a result, PRE will be required to test the solid byproducts to determine appropriate disposal or reuse options. PRE has expressed interest in using the solid byproducts as aggregate in the Palmer Paving asphalt manufacturing process. However, PRE acknowledges that it must submit a separate BUD application, supported by appropriate analytical data, in order for MassDEP to evaluate any proposed use.

### III. BENEFICIAL USE DETERMINATION

MassDEP has reviewed the proposed BUD application to use C&D-derived wood fuel as fuel at the PRE energy facility in accordance with Massachusetts General Laws Chapter 111, Section 150A, the Massachusetts Solid Waste Regulations at 310 CMR 16.00 and 19.000, MassDEP's *Draft Interim*

*Guidance Document for Beneficial Use Determination Regulation*, dated March 18, 2004, and other statutes and regulations as specified.

MassDEP is issuing this conditional BUD permit as a provisional permit in order to accept public comments prior to issuing a final BUD. As provided for at 310 CMR 19.037(4)(a), MassDEP is deferring the effective date of this permit for a period of 30 days. **This permit shall become effective on December 18, 2009 unless supplemented, modified, or rescinded in writing by MassDEP prior to the effective date. Written comments may be submitted to the Western Regional Office of MassDEP, at the letterhead address, for a period up to 21 days following the issuance date of this provisional permit.**

MassDEP hereby issues this Provisional BUD permit, subject to the following conditions and requirements which are enforceable pursuant to 310 CMR 19.043:

#### IV. GENERAL PERMIT CONDITIONS

- A. This determination of beneficial use means that the material is NOT classified as a solid waste ONLY when it is produced and used in accordance with the requirements set forth in this determination. The material shall not be handled or utilized in a manner that will result in the material becoming a solid waste. Any processed C&D-derived wood fuel sent to PRE that does not meet the fuel specification requirements established in this permit shall be considered a solid waste pursuant to MGL Chapter 111 Section 150A and 310 CMR 19.000.
- B. PRE shall act in accordance with Department regulations and requirements, or as modified by this permit. This includes, but is not limited to, 310 CMR 19.043(5) *Standard Conditions*; 310 CMR 19.060 *Beneficial Use Determination*; other applicable sections of 310 CMR 19.000; and any air pollution control plan approval issued for the facility, or as may be subsequently modified. There shall be no deviation from the terms of this BUD without prior written approval from MassDEP.
- C. The beneficial use of this material shall be in compliance with other applicable state and federal laws and regulations.
- D. MassDEP reserves the right to rescind, suspend or modify this permit by the imposition of additional conditions based upon a determination of actual, or threat of, adverse impacts (inclusive of nuisance conditions and threats to public health, safety, and welfare) from the beneficial use of this material.
- E. PRE shall provide MassDEP, within seven days or an alternative period prescribed by MassDEP, any information which MassDEP may request and which is deemed by MassDEP to be relevant in determining whether a cause exists to modify, revoke, or suspend a permit, or to determine whether PRE is complying with the terms and conditions of the permit.
- F. Personnel Training. PRE shall instruct or give on-the-job training to all personnel involved in any activity authorized by the permit. Such instruction or on-the-job training shall teach personnel how to comply with the conditions of the permit and to carry out the authorized activity in a manner that is not hazardous to public health, safety, welfare, or the environment.
- G. Failure to comply with the terms of this determination shall be grounds for enforcement action including without limitation, permit suspension and revocation and/or administrative penalty.
- H. PRE must notify MassDEP in writing of any changes in production processes at any facility supplying C&D-derived wood fuel, or at the PRE facility itself, that could modify the physical or chemical nature of the material. A change in processing or use of the material from that specified in the beneficial use determination application will require additional review and approval by MassDEP.
- I. This permit applies only to compliant C&D-derived wood fuel produced for, and used by, PRE as fuel at its energy facility at 1000 Page Boulevard, Springfield, MA. The facilities currently approved as C&D-derived wood fuel suppliers for PRE are listed in Appendix A of this permit. Other suppliers may be approved by MassDEP's Western Regional Office in writing.

- J. Transfer of Permits. Pursuant to 310 CMR 19.044, for a transferred permit to remain effective, written proof that the transfer has been completed must be provided to MassDEP within 30 days of the effective date of the transfer.

V. MATERIAL CONDITIONS AND CHARACTERIZATION

- A. PRE shall not combust more than 700 tons of C&D-derived derived wood fuel per day on a monthly average basis, nor more than 900 tons of C&D-derived wood fuel on any calendar day. PRE shall not receive at the 1000 Page Boulevard site any more than 1,400 tons of C&D-derived wood fuel in a calendar day.
- B. This permit does not regulate the use of green wood chips as fuel. The C&D-derived wood fuel, as received at the PRE facility, shall meet the fuel specification listed in Table 1 (right-hand column titled "Approved Specification (maximum)"). PRE shall not perform further processing of the wood fuel prior to combustion except for screening, size reduction, water misting for dust suppression, and normal handling activities (unloading, stockpiling, conveying, etc.).
- C. PRE shall conduct an optimization project, as proposed in Section 5.5 of the BUD application, which shall have a goal of reducing CCA-treated wood, arsenic, and chromium in the C&D-derived wood fuel. PRE shall attempt to achieve the concentration limits specified in Tables 2 and 3 of this permit. PRE shall complete the optimization project, including submission of a report to MassDEP, within 18 months after startup of the facility. The report shall also summarize the concentration data for chlorine, lead, and mercury. After reviewing the outcome of this project, MassDEP will determine, in its sole discretion, the final limits for CCA-treated wood, arsenic, chromium, chlorine, lead, and mercury in the fuel specification.
- D. PRE shall not accept C&D-derived wood fuel from a supplier unless MassDEP has approved that supplier in writing. Approved suppliers are listed in Appendix A of this permit. To qualify a new supplier, PRE shall cause sampling and analysis to be conducted in accordance with Appendix B of this permit or as otherwise required by MassDEP. PRE shall inform MassDEP at least 7 days prior to the first sampling event so that MassDEP may observe the sampling. PRE shall forward the analytical results, a narrative process description, and detailed process schematic diagram to MassDEP in the form of a formal BUD Modification Permit Application. PRE shall also provide any additional information as requested by MassDEP.
- E. PRE shall perform sampling and analysis of the C&D-derived wood fuel in accordance with the following requirements:
1. All analyses shall be performed on representative samples of the material.
  2. A qualified environmental professional acceptable to MassDEP shall perform all sampling. The samples shall be taken and processed in accordance with the procedures stated in Section 5.3 of the BUD application, except as modified by this permit or otherwise approved by MassDEP in writing.
  3. Samples shall be sent to a Massachusetts-certified laboratory for analysis using standard chain of custody procedures.
  4. All chemical analyses shall be performed pursuant to Massachusetts and/or EPA approved test methods. Physical analyses shall be performed in accordance with the methods proposed in the BUD application.
- F. The sampling and analysis shall be conducted according to the schedule and methods specified in Appendix B and Table 1.
- G. If PRE personnel are used to conduct sampling at the PRE facility, such personnel shall be qualified and fully trained to perform the sampling in accordance with the methods proposed in the application. An audit of PRE's sampling procedures shall be conducted by a qualified third-party consultant at startup of operations and after approximately one year of operation. Thereafter, an audit shall occur each year during the same calendar month.

- H. The C&D-derived wood fuel shall not contain asbestos above the detection limit. Samples shall be taken and analyzed for the presence of asbestos fibers as required in Appendix B. Asbestos sampling and analysis shall comply with the following:
1. Samples must be sent via chain of custody to a certified lab.
  2. Samples shall be analyzed utilizing Polarized Light Microscopy (PLM) testing methods.
  3. Samples shall be composited by taking one subsample per day for seven days.
- I. PRE shall develop and maintain an audit program under which MassDEP representatives can collect wood fuel samples, or direct a third-party sampling contractor to collect such samples, at the PRE power plant or at wood fuel supply facilities under contract with PRE. Either MassDEP or the third-party sampling contractor shall be able to submit said samples for laboratory analysis at PRE's expense.
1. PRE's contracts with wood fuel suppliers shall provide that MassDEP and/or the third-party sampling contractor shall be given access to those facilities, including sampling points or locations, during normal business hours.
  2. MassDEP and/or the third-party sampling contractor shall be given access to the power plant facility, including sampling points or locations, on a 24-hour basis.
  3. Upon request, PRE shall inform MassDEP of upcoming sample events at the power plant and/or wood fuel suppliers so that MassDEP may observe sampling conducted by PRE or third parties.
  4. No later than 120 days prior to the date of start-up testing of the plant, PRE shall submit and maintain an effective contract with a Massachusetts certified laboratory that will allow MassDEP to submit samples to the laboratory for analysis at PRE's expense.
  5. No later than 120 days prior to the date of start-up testing of the plant, PRE shall submit and maintain an effective contract with a qualified third-party sampling contractor, such that the contractor will conduct, at PRE's expense, sampling and sample processing at such times and locations as may be specified by MassDEP.
  6. PRE shall review sample collection and preparation protocols with MassDEP and the third-party sampling contractor on an as-required basis to ensure consistent procedures are followed.
- J. PRE shall perform sampling and analysis of solid byproducts (wood bottom ash and wood fly ash combined with air pollution control solids) as soon as practicable following startup of the power plant. The quantity of samples and the analytical parameters shall be adequate to determine whether the byproducts will need to be managed as hazardous wastes pursuant to 310 CMR 30.0000. If the byproducts are not hazardous wastes, they shall be managed as solid wastes unless and until MassDEP issues a Beneficial Use Determination for the materials.
- K. MassDEP may, at its discretion, extend or reinstate the optimization program for CCA-treated wood to foster further reductions in the amount of CCA-treated wood in the fuel as material or market conditions change or as improved detection or separation technologies become available.
- L. MassDEP reserves the right to require additional sampling and analysis beyond what is required in Appendix B.

## VI. HANDLING AND PROCESSING CONDITIONS

- A. PRE shall ensure that the handling, transportation, and processing, of the C&D-derived wood fuel will not create nuisance conditions such as odors, dust, and noise.
- B. PRE shall regularly conduct street sweeping on onsite roads and shall also promptly sweep nearby areas of Page Boulevard if wood fuel or byproduct materials (i.e, wood ash or air pollution control solids) are spilled offsite or are tracked offsite by vehicles.
- C. PRE shall operate the facility and maintain stormwater controls such that stormwater is not impacted by wood fuel or byproduct materials (i.e, wood ash or air pollution control solids). Any onsite catch basins or other stormwater controls shall be cleaned regularly to maintain their functionality.

- D. The wood fuel storage shed shall be equipped with a water misting system capable of preventing emissions of dust from the shed. The misting system shall be used whenever necessary to control dust.
- E. PRE shall not handle or store solid byproducts (i.e. ash and air pollution control byproducts) on-site except in the proposed dumpster (for bottom ash) or storage silo (for fly ash and air pollution control solids). There shall be no speculative accumulation of solid byproducts.
- F. Solid byproducts shall be sufficiently conditioned with water prior to loading into trucks to prevent fugitive dust emissions. An enclosed discharge chute shall be used during truck loading to minimize the drop height.

## VII. C&D-DERIVED WOOD FUEL SUPPLIER CONDITIONS

- A. PRE shall formally provide a copy of this permit to, and review its content, with each wood fuel supplier. Prior to receiving wood fuel from any supplier PRE must first receive a certified statement from that supplier that it has reviewed this permit and understands all of its terms and conditions.
- B. Suppliers of C&D-derived wood fuel shall comply with all relevant terms and conditions of this BUD permit. Any supplier that sends wood fuel to PRE that does not meet the fuel specification standards of, or otherwise does not comply with, this permit shall be deemed by MassDEP to be contracting for the disposal of solid waste as referenced at 310 CMR 19.014. Any shipment of noncompliant C&D-derived wood fuel may be considered by MassDEP to be illegal disposal of solid waste and subject to enforcement action.
- C. The supplier shall notify MassDEP in writing of any changes in production processes at the supplier's facility, that could modify the physical or chemical nature of the C&D-derived wood fuel. A change in processing or use of the material from that specified in the beneficial use determination application will require additional review and approval.
- D. No C&D processing facility shall supply C&D-derived wood fuel for PRE unless specifically approved as part of PRE's BUD permit. Processors approved to produce C&D-derived wood for use as fuel at PRE shall only do so consistent with the protocols and procedures approved and on file with MassDEP.

## VIII. RECORD KEEPING AND REPORTING

- A. PRE shall retain, at the power plant, all records and copies of applications, reports, analytical results, and other documents required by this permit, which shall be readily available for inspection by MassDEP, for a period of five years beyond the final use of C&D-derived wood fuel as approved herein.
- B. PRE shall maintain, at a minimum, the following records relevant to the BUD proposal and/or this permit:
  - 1. Inspection reports;
  - 2. Training records;
  - 3. Sampling and laboratory analytical records, including records of sampling and analysis of C&D-derived wood fuel collected at supply facilities; and
  - 4. Daily records, including:
    - a. Weight, source, and type (green wood fuel or C&D-derived wood fuel) of each shipment of wood fuel received;
    - b. The identity and source of any load of wood fuel rejected, the reasons for rejection, and documentation of any follow-up actions taken by PRE;
    - c. daily screening/analytical results for asbestos and physical analysis.
- C. PRE shall provide a copy of this BUD permit to each wood fuel supplier and obtain a statement from the supplier acknowledging that they have received the permit and agree to abide by its terms. The

statement shall be signed by a person having the signatory qualifications stated in 310 CMR 19.030(9).

- D. The C&D-derived wood fuel shall be transported with a material shipping record detailing, at a minimum, the generating facility, receiving facility, tonnage received, date of shipment, date received, and truck ownership. The shipping and receiving facilities shall each retain copies of the shipping record.
- E. Within 30 days after the end of each calendar quarter, PRE shall submit a report summarizing the results of all sampling and analysis that took place during the quarter. PRE shall also report the quantities of green wood fuel and C&D-derived wood fuel accepted, broken down by calendar months. If the annual third-party audit of PRE sampling took place during the calendar quarter, the report shall include a description of the findings of the audit and any follow-up actions taken, including but not limited to, training of sampling personnel, alterations of sampling procedures, or other actions.
- F. Each submission made pursuant to this BUD permit shall be signed and shall bear the certification statement provided at 310 CMR 19.011(2).

#### IX. RIGHT OF APPEAL

Pursuant to 310 CMR 19.037(5), any person aggrieved by the issuance or denial of this permit decision, except as provided for under 310 CMR 19.037(4)(b), may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. c. 111, s. 150A and c. 30A not later than 30 days following the receipt of the final permit. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed by the provisions of M.G.L. c. 30 A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the permit by a court of competent jurisdiction, the permit decision shall remain effective or become effective at the conclusion of the 30 day period.

Any aggrieved person intending to appeal the decision to the superior court shall provide notice to the Department of said intention to commence such action. Said Notice of Intention shall include the Department File Number (09-281-050) and shall identify with particularity the issues and reason(s) why it is believed the approval decision was not proper. Such notice shall be provided, at least five days prior to filing an appeal, to the Office of General Counsel of the Department and the Regional Director for the regional office that made the decision. The appropriate addresses to which to send such notices are:

General Counsel  
Department of Environmental Protection  
One Winter Street-Third floor  
Boston, MA 02108

and

Regional Director  
Department of Environmental Protection  
436 Dwight Street  
Springfield, MA 01103

No allegation shall be made in any judicial appeal of this decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in those regulations, provided that matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the public health or environmental impact of the permitted activity.

If you have any questions or comments regarding any of the matters stated above in this permit, please call me at (413) 755-2212 or Jim Scheffler at (413) 755-2127.

Sincerely,

This final document copy is being provided to you electronically by the  
Department of Environmental Protection. A signed copy of this document  
is on file at the DEP office listed on the letterhead.

Daniel Hall  
Solid Waste Section Chief  
Bureau of Waste Prevention  
Western Region

cc: Springfield Department of Health and Human Services  
Dale Raczynski - Epsilon Associates  
Peter Czapienski - DEP WERO (electronic)  
Paul Emond - DEP Boston

cc - Interested Parties:

Jan Ameen - FCSWMD, 50 Miles Street, Greenfield, MA 01301  
Michaelann Bewsee - Arise for Social Justice, 94 Rifle Street, Springfield, MA 01105-1632  
Mary S. Booth, PhD - 54 Arnold Road, Pelham, MA 01002  
Kathleen Brown, President - East Springfield Neighborhood Council, 136 Edendale Street, Springfield, MA 01104  
Jana Chicoine - PO Box 481, Russell, MA 01071  
Alexandra Dawson - 2 West Street, Hadley, MA 01035  
Mary Hall, 15 Silverwood Terrace, South Hadley, MA 01075  
Ellen Moyer, PhD, P.E. - 258 Main Road, Montgomery, MA 01085  
Susan M. Reid, Conservation Law Foundation, 62 Summer Street, Boston, MA 02110-1016  
Natalie Walker - 62 K Street, Turners Falls, MA 01376  
Lee Ann Warner - 55 Montague Road, Leverett, MA 01054  
Benjamin R. Rajotte, Western New England College, 1215 Wilbraham Road, Springfield, MA 01119

APPENDIX A

Approved C&D-derived Wood Chip Suppliers

<b>Facility Name/Address</b>	<b>Approval Date</b>
New England Recycling, 55 Winthrop Street, Taunton, MA	<b>December 18, 2009</b>

APPENDIX B

Sampling and Analysis Requirements

Stage/Location	Sampling*	Response to Off-Specification Result
<p>Supplier initial contracting - Prequalification (MassDEP reserves the right to require additional or alternate prequalification testing as it deems appropriate)</p>	<p>Four daily composite ground wood conveyor (each composite consisting of a minimum one sample per hour for six hours) or composite of a minimum of eight stockpile samples**** for physical analysis** and full chemical analysis***. Samples shall be timed approximately once per week for one month. One composite sample per week for asbestos.</p> <p>The samples shall be collected by a qualified independent third party.</p> <p>Documentation of the sampling program including the name, location, and detailed description of the processing system, the estimated annual quantity (in tons) of wood fuel the source generates, and the estimated tons to be supplied to PRE.</p>	<p>Review sorting procedures and modify if needed; then retest. MassDEP will not approve as a fuel supplier until testing documents that supplier can consistently meet specification.</p>
<p>Operational testing at each supplier (more than 500 tons per month).</p>	<p>Minimum of two composite samples per month for physical analysis and full chemical analysis. Each sample shall consist of one six-hour composite conveyor sample per day for three consecutive days or a composite stockpile sample representative of three days of production****. Samples shall be timed approximately once per two weeks.</p> <p>Samples shall be taken by a qualified independent third party. Sampling shall be unannounced.</p> <p>One daily composite sample for physical analysis and asbestos by PLM. The results shall be delivered to PRE on the date of material delivery. The daily physical analysis and asbestos sample may be taken and analyzed by the processor.</p>	<p>Retest within 7 days of receiving results, evaluate the supplier's processing operation, and review for errors in sampling or analysis.</p> <p>Notify MassDEP of any test exceedances within 7 days of receiving results.</p> <p>Cease supply for a minimum of six months if more than 2 violations in one year.</p>
<p>Operational testing at each supplier (less than 500 tons per month).</p>	<p>Minimum of one composite sample per month for physical analysis, full chemical analysis, and asbestos. Each sample shall consist of one</p>	<p>Retest within 7 days of results, evaluate the supplier's processing operation, and review for errors in sampling or analysis.</p>

Stage/Location	Sampling*	Response to Off-Specification Result
	<p>six-hour composite conveyor sample per day for three consecutive days or a composite stockpile sample representative of three days of production****.</p> <p>Samples shall be taken by a qualified independent third party. Sampling shall be unannounced.</p> <p>One daily composite sample for physical analysis and Asbestos by PLM. The results shall be delivered to PRE on the date of material delivery. The daily physical analysis and asbestos sample may be taken and analyzed by the processor.</p>	<p>Notify MassDEP of any test exceedances within 7 days of receiving results..</p> <p>Cease supply for a minimum of six months if more than 2 violations in one year.</p>
<p>All recycled C&amp;D-derived wood delivery trucks.</p>	<p>Visual inspection and documentation of any obvious non-wood materials that would exceed the specification. Random sampling of trucks (monthly average of 5% of 20 ton trucks) for physical analysis only. This will average roughly two trucks per day.</p> <p>Sampling will be conducted by PRE personnel with annual 3<sup>rd</sup> party audits.</p>	<p>Refuse loads that fail visual inspection; such loads shall be rejected without being unloaded and sent back to the supplier. If random sampling indicates an off specification truck, send warning letter to supplier. Contract shall allow for follow-up unannounced inspections of the supplier for repeated violations.</p>
<p>Reclaim conveyor</p>	<p>Collect a 24-hour composite sample each day from the boiler's reclaim conveyor. The 24-hour composite sample shall consist of 6 samples taken once every 4 hours. Each composite sample shall be tested for physical analysis ** and full chemical analysis ***.</p> <p>One composite sample per week for asbestos (one subsample per day for seven days).</p> <p>Sampling will be conducted by PRE personnel with annual 3<sup>rd</sup> party audits.</p>	<p>MassDEP notification and repeat sample for full chemical analysis.</p> <p>PRE shall take corrective actions as specified by MassDEP.</p>
<p>Audit Program</p>	<p>Representatives of MassDEP may conduct composite/grab samples from conveyors or wood fuel stockpiles at PRE and/or fuel suppliers.</p> <p>A third-party sampling contractor may conduct composite samples</p>	<p>Grab samples shall be compared to the fuel specification and any exceedance may be used as an indicator of possible noncompliance that requires additional sampling and/or other assessment as determined by MassDEP.</p>

Stage/Location	Sampling*	Response to Off-Specification Result
	<p>from conveyors or wood fuel stockpiles and/or fuel suppliers, at the direction of MassDEP, but at PRE's expense.</p> <p>Samples collected by MassDEP or a third-party sampling contractor shall be submitted to a laboratory at PRE's expense for physical and/or chemical analysis, as specified by MassDEP.</p> <p>Upon request, PRE shall inform MassDEP of upcoming sampling events so that MassDEP may observe sampling by PRE or third parties.</p>	<p>Composite samples collected by MassDEP or by the third-party sampling contractor in accordance with the approved sampling protocol shall be compared to the fuel specification and shall indicate compliance status.</p> <p>PRE shall resample and/or take corrective actions as specified by MassDEP.</p>

- \* All sampling and analysis shall follow the sampling and analysis methodology and QA/QC procedures in Section 5.3 of the BUD application, except as modified by this permit or otherwise approved by MassDEP. Sampling shall be conducted only by individuals trained in the proper procedures.
- \*\* Physical analysis shall include the weight percentages of treated wood, plastic, and any other non-wood materials present. Treated wood shall be identified visually and using Chrome Azural S chemical testing spray, or other methods approved by MassDEP.
- \*\*\* Full chemical analysis shall include chlorine, fluorine, sulfur, arsenic, chromium, lead, copper, nickel, cadmium, and mercury. Analysis of chromium in fuel shall be for total chromium, not hexavalent chromium.
- \*\*\*\* A conveyor shall be the preferred sampling location. Stockpile samples shall be taken only if no conveyor is available or if conveyor sampling is infeasible.