



Raven Power

June 26, 2013

Martha Hynson
Maryland Department of the Environment
Land Management Administration
Solid Waste Program
1800 Washington Boulevard, Suite 605
Baltimore, Maryland 21230-1719

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JUN 28 2013

SOLID WASTE
OPERATIONS DIVISION

Re: Amended Annual Generator Tonnage Reports for Calendar Year 2012
Brandon Shores and H. A. Wagner Electric Generating Stations

Dear Ms. Hynson:

Enclosed as requested please find signed amended copies of the 2012 Annual Generator Tonnage Reports for the Brandon Shores and H. A. Wagner generating facilities. These reports cover the period from January 1, 2012 to December 31, 2012 for all of the coal-fired units at these facilities and have been amended based on updated generation, disposal and reuse data, and to reflect the disposal of fly ash stored on site at the end of 2012.

Please direct any questions concerning these amended reports to me at 410-787-5188, or by email at amontier@raven-power.com. You may also contact Thomas Weissinger, Director, Environmental, at 410-787-5532, or by email at tweissinger@raven-power.com

Regards,

Anthony Montier
Sr. Environmental Specialist

Enclosures (2)

**Coal Combustion Byproducts (CCBs)
Annual Generator Tonnage Report
Instructions for Calendar Year 2012**

The following is general information relating to the requirement for reporting quantities of coal combustion byproducts (CCBs) that were managed in the State of Maryland during calendar year 2012. Please answer the questions on the form provided, attaching additional information and any requested supplemental information to the back of the form. *Note that the form for this year requires both volume and weight of the CCBs produced. If you know one of these parameters but not the others, for example, you have the tonnage produced but not the volume, you may calculate the other parameter; however, please provide the calculations and assumptions that you used in your estimate.* Questions can be directed to the Solid Waste Program at (410) 537-3315 or via email at edexter@mde.state.md.us.

I. Background. This requirement that generators of CCBs submit an annual report was instituted in the Code of Maryland Regulations COMAR 26.04.10.08, that was promulgated effective December 1, 2008. The regulation requires that any non-residential generator of CCBs submit a report to the Department by March 1 of each year describing the manner in which CCBs generated within the State were managed during the preceding calendar year. Additional information and specific instructions follow. For more detailed information, please refer to COMAR 26.04.10.08.

II. General Information and Applicability.

A. Definitions. CCBs are defined in COMAR 26.04.10.02B as:

*“(3) Coal Combustion Byproducts. (a) "Coal combustion byproducts" means the residue generated by or resulting from the burning of coal.
(b) "Coal combustion byproducts" includes fly ash, bottom ash, boiler slag, pozzolan, and other solid residuals removed by air pollution control devices from the flue gas and combustion chambers of coal burning furnaces and boilers, including flue gas desulfurization sludge and other solid residuals recovered from flue gas by wet or dry methods.”*

A generator of CCBs is defined in COMAR 26.04.10.02B as:

*“(9) Generator.
(a) "Generator" means a person whose operations, activities, processes, or actions create coal combustion byproducts.
(b) "Generator" does not include a person who only generates coal combustion byproducts by burning coal at a private residence.”*

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B. Applicability. If you or your company meets the definition of a generator of CCBs as defined above, you must provide the information as required below. For the purposes of this report, "you" shall hereinafter refer to the generator defined above. Please note that COMAR 26.04.10.08 requires generators of CCBs to submit an annual report to the Department concerning the disposition of the CCBs that they generated the previous year. **THIS INCLUDES CCBs THAT WERE NOT SEPARATELY COLLECTED BUT WERE PRODUCED BY THE BURNING OF COAL AND WERE DIRECTLY CONTRIBUTED TO A PRODUCT, such as cement.** Where the amount cannot be directly measured, estimates based on the amount of coal burned can be used. The method of determining the volume of CCBs produced must be described.

III. Required Information. The following information must be provided to the Department by March 1, 2013:

A. Contact information:

Facility Name: Brandon Shores

Name of Permit Holder: Raven Power Fort Smallwood LLC

Facility Address: 2030 Brandon Shores Road
Street

Facility Address: Baltimore Maryland 21226
City State Zip

County: Anne Arundel

Contact Information (Person filing report or Environmental Manager)

Facility Telephone No.: 410-787-5188 Facility Fax No.: 410-787-5160

Contact Name: Anthony Montier

Contact Title: Sr. Environmental Specialist

Contact Address: 1005 Brandon Shores Road
Street

Contact Address: Baltimore Maryland 21226
City State Zip

Contact Email: amontier@raven-power.com

Contact Telephone No.: 410-787-5188 Contact Fax No.: 410-787-5160

For questions on how to complete this form, please contact the Solid Waste Program at 410-537-3315

B. A description of the process that generates the CCBs, including the type of coal or other raw material that generates the CCBs. If the space provided is insufficient, please attach additional pages:

The Brandon Shores electrical generating station consists of two coal fired units which produce electricity for commercial sale. Both units are equipped with Babcock & Wilcox natural circulation radiant boilers. For both units, bituminous Central Appalachian coal is delivered by barge and stored in a pile adjacent to the plant. A proprietary additive, Chem-Mod®, is added to the coal for NO_x and mercury reduction as it is conveyed by belt from the coal pile to storage bunkers in the plant. The coal is then pulverized and fed by air to the boilers where it is burned using low NO_x burners.

On both units, the heavier ash (bottom ash) drops to the bottom of the boilers where it is conveyed by water to settling bins and eventually loaded onto trucks for disposal or beneficial reuse. Lighter ash (fly ash) is conveyed by furnace air flow to electrostatic precipitators where the ash is collected and falls to storage hoppers below. The ash is then conveyed pneumatically from the hoppers to storage silos where it is either beneficially reused on site or loaded into trucks for beneficial reuse or disposal. Additionally, pulse jet fabric filters downstream of the precipitators remove any remaining ash after it has mixed with powdered activated carbon and hydrated lime injected into the flue gas stream for emissions control. This ash is conveyed to storage silos for eventual reuse or disposal.

In 2010, Brandon Shores added wet flue gas desulfurization (“FGD”) scrubbers. The byproducts of this process include gypsum, FGD sludge, and waste water fines.

C. The volume and weight of CCBs generated during calendar year 2012, including an identification of the different types of CCBs generated and the volume of each type generated. If the space provided is insufficient, please attach additional pages in a similar format. If converting from volume to weight or weight to volume, please provide your calculations and assumptions.

Table I: Volume and Weight of CCBs Generated for Calendar Year 2012: Please note the change to this table from previous years, to include both the volume and weight of the types of CCBs your facility produces.

| Volume and Weight of CCBs Generated for Calendar Year 2012 | | | | |
|---|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Fly Ash Type of CCB | Bottom Ash Type of CCB | Gypsum Type of CCB | FGD Sludge Type of CCB | Waste Water Fines Type of CCB |
| 359,996 | 25,130 | 165,469 | 2,987 | 892 |
| Volume of CCB, in Cubic Yards | Volume of CCB, in Cubic Yards | Volume of CCB, in Cubic Yards | Volume of CCB, in Cubic Yards | Volume of CCB, in Cubic Yards |
| 267,298 | 18,659 | 122,860 | 2,218 | 662 |
| Weight of CCB, in Tons | Weight of CCB, in Tons | Weight of CCB, in Tons | Weight of CCB, in Tons | Weight of CCB, in Tons |

Additional notes:

Coal combustion byproducts ("CCB") are reported in dry tons. Cubic yards are calculated using a conversion factor of 1 ton = 1.3468 cubic yards.

FGD sludge is generated from the operation of the FGD water treatment system.

Waste water fines are from the waste water settling basin and consist largely of fly ash and bottom ash.

D. Descriptions of any modeling or risk assessments, or both, conducted relating to the CCBs or their use that were performed by you or your company during the reporting year. Please attach this information to the report.

No modeling or risk assessments were performed in 2012.

E. Copies of all laboratory reports of all chemical characterizations of the CCBs. Please attach this information to the report.

See attached.

F. A description of how you disposed of or used your CCBs in calendar year 2012, identifying:

(a) The types and volume of CCBs disposed of or used (if different than described in Paragraph C above) including any CCBs stored during the previous calendar year, the location of disposal, mine reclamation and use sites, and the type and volume of CCBs disposed of or used at each site:

Fly Ash

243,207 tons (327,551 CY) delivered to Separation Technologies, Inc.) in Baltimore, MD for use in concrete.

9,988 tons (13,451 CY) delivered to Lehigh in Baltimore, MD for use in cement manufacturing.

14,103 tons (18,994 CY) delivered to Fort Armistead Road – Lot 15 LLC landfill in Baltimore, MD for landfilling.

381 tons (513 CY) of fly ash previously stored on site and reported on the 2011 CCB Report was delivered to Fort Armistead Road - Lot 15 LLC landfill in Baltimore, MD for landfilling.

Bottom Ash

12,333 tons (16,610 CY) delivered to Lehigh in Baltimore, MD for use in cement manufacturing.

705 tons (949 CY) delivered to MERG – Essroc in Baltimore, MD for use in cement manufacturing.

5,621 tons (7,571 CY) delivered to Fort Armistead Road – Lot 15 LLC landfill in Baltimore, MD for landfilling.

Gypsum

97,588 tons (131,432 CY) delivered to US Gypsum in Baltimore, MD for use in wallboard.

9,121 tons (12,284 CY) delivered to the USDA in Crisfield, MD for use in runoff control experiments.

15,512 tons (20,891 CY) delivered to National Gypsum in Baltimore, MD for use in wallboard.

600 tons (810 CY) delivered to MERG – Essroc in Baltimore, MD for use in cement manufacturing.

39 tons (52 CY) delivered to Lafarge in Baltimore, MD for use in cement manufacturing.

FGD Sludge

2,218 tons (2,987 CY) of FGD Sludge delivered to Fort Armistead Road – Lot 15 LLC landfill in Baltimore, MD for landfilling.

Waste Water Fines

662 tons (892 CY) of waste water fines delivered to Fort Armistead Road – Lot 15 LLC landfill in Baltimore, MD for landfilling.

and (b) The different uses by type and volume of CCBs:

Fly Ash

253,195 tons (341,002 CY) of fly ash was used in concrete and cement manufacturing.

Bottom Ash

13,038 tons (17,559 CY) of bottom ash was used in concrete and cement manufacturing.

Gypsum

113,100 tons (152,323 CY) of gypsum was used in wallboard manufacturing.

9,121 tons (12,284 CY) was used for use in runoff control experiments.

640 tons (862 CY) was used in concrete and cement manufacturing.

G. A description of how you intend to dispose of or use CCBs in the next 5 years, identifying:

(a) The types and volume of CCBs intended to be disposed of or used, the location of intended disposal, mine reclamation and use sites, and the type and volume of CCBs intended to be disposed of or used at each site:

Fly Ash and Bottom Ash

Raven projects that as much as 296,000 tons (396,640 CY) of fly ash will be generated each year for the next five years. Approximately 285,000 tons (382,000 CY) Fly Ash will be beneficially used in cement and/or concrete products, and the remaining 11,000 tons (14,740 CY) will be disposed of in the Fort Armistead Road - Lot 15 LLC Landfill in Baltimore, MD.

Raven projects that approximately 18,000 tons (23,600 CY) of bottom ash will be generated each year for the next five years, of which 15,000 tons (19,700 CY) of will be beneficially used in cement and/or concrete products and 3,000 tons (3,900 CY) will be disposed of in the Fort Armistead Road - Lot 15 LLC landfill in Baltimore, MD.

Gypsum

Raven projects that as much as 150,000 tons (202,000 CY) of gypsum will be generated each year for the next five years, all of which will be beneficially used in drywall, cement, or concrete products, and for agricultural uses.

FGD Sludge

Raven projects that as much as 4,000 tons (5,400 CY) of FGD Sludge will be generated each year for the next five years, all of which will be disposed of in the Fort Armistead Road - Lot 15 LLC landfill in Baltimore, MD.

Waste Water Fines

Raven projects that as much as 750 tons (1,000 CY) of waste water fines will be generated each year for the next five years, all of which will be disposed of in the Fort Armistead Road - Lot 15 LLC landfill in Baltimore, MD.

and (b) The different intended uses by type and volume of CCBs.

Fly Ash and Bottom Ash

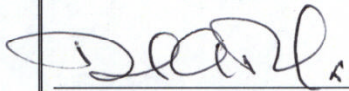
Approximately 285,000 tons (396,640 CY) of fly ash each year will be beneficially used in the manufacturing of cement or concrete.

Approximately 15,000 tons (19,700 CY) of bottom ash each year will be beneficially used in the manufacturing of cement or concrete.

Gypsum

Approximately 150,000 tons (202,000 CY) of gypsum each year will be beneficially used in drywall, cement and concrete products, or agricultural uses.

IV. Signature and Certification. An authorized official of the generator must sign the annual report, and certify as to the accuracy and completeness of the information contained in the annual report:

| | | |
|---|--|------------------------|
| This is to certify that, to the best of my knowledge, the information contained in this report and any attached documents are true, accurate, and complete. | | |
|  Signature | David A. Boward Plant General Manager, Brandon Shores 410-787-6928 <hr/> Name, Title, & Telephone No. (Print or Type) <u>dboward@raven-power.com</u> Your Email Address | <u>6/26/13</u> Date |

V: Attachments (please list):

02 Lagoon TCLP Certificate of Analysis.

OFFICES:
 6630 BALTIMORE NATIONAL PIKE
 ROUTE 40 WEST
 BALTIMORE, MD 21228
 410-747-8770
 800-932-9047
 FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 12071823

Exelon Corporation, Baltimore, MD

July 25, 2012

Project Name: 801 Weekly

Project Location: Brandon Shores

Sample ID: 02 Lagoon **Date/Time Sampled: 07/18/2012 08:15** **PSS Sample ID: 12071823-001**
Matrix: SOIL **Date/Time Received: 07/18/2012 13:45**

TCLP Metals

Analytical Method: 6020A

Preparation Method: 3010A

| | Result | Units | RL | Flag | Dil | TCLP Limit | Prepared | Analyzed | Analyst |
|----------|-------------|-------|-------|------|-----|------------|----------|----------------|---------|
| Arsenic | ND | mg/L | 0.05 | | 1 | 5 | 07/20/12 | 07/21/12 01:15 | 1034 |
| Barium | ND | mg/L | 1 | | 1 | 100 | 07/20/12 | 07/21/12 01:15 | 1034 |
| Cadmium | ND | mg/L | 0.05 | | 1 | 1 | 07/20/12 | 07/21/12 01:15 | 1034 |
| Chromium | ND | mg/L | 0.05 | | 1 | 5 | 07/20/12 | 07/21/12 01:15 | 1034 |
| Lead | ND | mg/L | 0.05 | | 1 | 5 | 07/20/12 | 07/21/12 01:15 | 1034 |
| Mercury | ND | mg/L | 0.002 | | 1 | 0.2 | 07/20/12 | 07/21/12 01:15 | 1034 |
| Selenium | 0.18 | mg/L | 0.05 | | 1 | 1 | 07/20/12 | 07/23/12 12:54 | 1034 |
| Silver | ND | mg/L | 0.05 | | 1 | 5 | 07/20/12 | 07/21/12 01:15 | 1034 |