

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
1800 Washington Boulevard • Suite 605 • Baltimore, Maryland 21230-1719  
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Land Management Administration • Solid Waste Program

**Coal Combustion Byproducts (CCB)  
Annual Generator Tonnage Report  
Instructions for Calendar Year 2011**

The following is general information relating to the requirement for reporting quantities of coal combustion byproducts that were managed in the State of Maryland during calendar year 2011. Please answer the questions on the form provided, attaching additional information and any requested supplemental information to the back of the form. Note that there were some changes to the form for this year, requiring 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](mailto:edexter@mde.state.md.us).

**I. Background.** This requirement that generators of coal combustion byproducts (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.

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**II. General Information and Applicability.**

**A. Definitions.** Coal combustion byproducts 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."*

Facility Name: Constellation – H.A. Wagner **CCB Tonnage Report – 2011**

**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 SEPERATELY 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, 2012:

A. Contact information:

Facility Name: H.A. Wagner Electric Generation Station

Name of Permit Holder: Constellation Power Source Generation

Facility Address: 3000 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.: 410.787.5017 Facility Fax No.: 410.787.6960

Contact Name: John E. Murosko, P.G.

Contact Title: Program Manager, Environmental Services

Contact Address: 1005 Brandon Shores Road  
Street

Contact Address: Baltimore Maryland 21226  
City State Zip

Contact Email: john.murosko@constellation.com

Contact Telephone No.: 410.787.5471 Contact Fax No.: 410.787.6637

*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 coal combustion byproducts, including the type of coal or other raw material that generates the coal combustion byproducts. If the space provided is insufficient, please attach additional pages:

H.A. Wagner consists of 2 coal-fired units (Units 2 and 3), one #6 oil-fired unit (Unit 4) and one unit (Unit 1) that can burn either natural gas or #6 oil. The plant has a combined nominal generating capacity of 1,020 MW. Unit 2 began operations in 1959 using a Babcock and Wilcox (B&W) natural circulation boiler, and Unit 3 began operations in 1966 using a B&W once-through supercritical boiler. Coal is supplied by barge and stored in a coal pile adjacent to the plant. Coal is fed from the coal pile to the plant storage bunkers via conveyor belts, after which the coal is pulverized and blown into the furnaces.

In December, 2011, two products were added to the coal to further control emissions - a dry agent called S-Sorb, which is responsible for the reduction of nitrogen oxide emissions, and a liquid agent, called MerSorb, which is responsible for the reduction of the mercury released during the burning of the coal.

Units 2 and 3 are currently equipped with electrostatic precipitators (ESPs) for control of PM emissions. Unit 3 has been retrofitted with a selective catalytic reduction (SCR) system for control of NOx emissions, and Unit 2 utilizes a selective non-catalytic reduction (SNCR) system for the same purpose. Ash is collected from the ESP hoppers and conveyed pneumatically to storage silos from where it is loaded into trucks for final disposition.

Coals burned in 2011 at the H.A. Wagner Plant included bituminous coals from Central Appalachian and South American sources.

C. The volume and weight of coal combustion byproducts generated during calendar year 2011, including an identification of the different types of coal combustion byproducts 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 2011:** 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.

<b>Volume and Weight of CCBs Generated for Calendar Year 2011</b>			
Fly Ash	Bottom Ash	---	---
Type of CCB	Type of CCB	Type of CCB	Type of CCB
119,707	2,694	---	---
Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards
88,883 dry tons	2,000 dry tons	---	---
Weight of CCB, in Tons	Weight of CCB, in Tons	Weight of CCB, in Tons	Weight of CCB, in Tons

Additional notes:

CCBs reported in dry tons

Used conversion factor of 1 ton = 1.3468 cubic yards to calculate CY

D. Descriptions of any modeling or risk assessments, or both, conducted relating to the coal combustion byproducts 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 have been performed during the past year.

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

Attached

F. A description of how you disposed of or used your coal combustion byproducts in calendar year 2011, identifying:

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

**Disposal (in dry tons)**

27,597 tons/37,167 CY Fly Ash delivered to Tri-Cities Landfill in Petersburg, VA were used as structural fill to build walls and barriers in that MSW landfill.

932 tons/1,256 CY Bottom Ash delivered to Tri-Cities Landfill in Petersburg, VA were used as structural fill to build walls and barriers in that MSW landfill.

8,277 tons/11,147 CY Fly Ash delivered to the company-owned Lot 15 CCB Landfill in Baltimore, MD for disposal.

**Storage (in dry tons)**

During the year, CCBs were temporarily stored at the H.A. Wagner/Brandon Shores site prior to offsite transport for beneficial use or disposal. At the end of 2011, there were 8,272 tons/11,140 CY Fly Ash generated at the H.A. Wagner Station that remained on site in storage to be sent off site for beneficial use and/or disposal in 2012.

**Beneficial Use (in dry tons)**

8,974 tons/12,086 CY Fly Ash delivered to STI in Pasadena MD were processed for concrete production.

33,160 tons/44,661 CY Fly Ash delivered to Lehigh Cement in Union Bridge, MD were used in concrete production.

123 tons/166 CY Fly Ash delivered to MERG in Martinsburg, WV were used for concrete production and product testing (thermal grout).

2,480 tons/3,340 CY Fly Ash delivered to AshWorks in New Castle, DE were used for flowable fill projects in that state.

76 tons/102 CY Bottom Ash delivered to Lehigh Cement in Union Bridge, MD were used in concrete production.

992 tons/1,335 CY Bottom Ash delivered to AshWorks in New Castle, DE were used for flowable fill projects in that state.

and (b) The different uses by type and volume of coal combustion byproducts:

**Beneficial Use (in dry tons)**

42,257 tons/56,913 CY Fly Ash were processed for concrete and cement production.

2,480 tons/3,340 CY Fly Ash were used for flowable fill projects.

76 tons/102 CY Bottom Ash were used in concrete production.

992 tons/1,335 CY Bottom Ash were used for flowable fill projects.

If the space provided is insufficient, please attach additional pages in a similar format.

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

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

Fly Ash: CPSG projects that as much as 106,000 tons/142,800 CY Fly Ash will be generated each year for the next five years. Approximately 72,000 tons/97,000 CY Fly Ash will be beneficially used in cement and/or concrete products. Approximately 34,000 tons/45,800 CY Fly Ash per year will disposed of in Constellation's Lot 15 Landfill in Baltimore City, MD.

Bottom Ash: CPSG projects that approximately 3,000 tons/4,000 CY Bottom Ash will be generated each year for the next five years, of which 2,000 tons/2,700 CY Bottom Ash will be beneficially used in cement and/or concrete products. Approximately 1,000 tons/1,300 CY Bottom Ash will be disposed of in Constellation's Lot 15 Landfill in Baltimore City, MD.

and (b) The different intended uses by type and volume of coal combustion byproducts.

Fly Ash: Approximately 72,000 tons/97,000 CY Fly Ash each year will be beneficially used in cement and/or concrete products.

Bottom Ash: Approximately 2,000 tons/2,700 CY Bottom Ash each year will be beneficially used in cement and/or concrete products.

If the space provided is insufficient, please attach additional pages in a similar format.



H.A. Wagner (in dry tons)	In Maryland			Outside Maryland	
	Beneficially Used	Disposed	Temp. Storage	Beneficially Used	Disposed
Fly Ash	42,134	8,277	8,272	2,603	27,597
Bottom Ash	76	----	----	992	932





# MARYLAND DEPARTMENT OF THE ENVIRONMENT

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## MDE

Martin O'Malley  
Governor

Robert M. Summers, Ph.D.  
Secretary

Anthony G. Brown  
Lieutenant Governor

### **2011 CCB Annual Generator Report Notes:**

Additional lab test results were submitted to the Department along with this generator report. Inquiries regarding these additional materials should be addressed to:

Ms. Martha Hynson  
Chief, Solid Waste Operations Division  
Land Management Administration  
(410) 537-3315  
[mhynson@mde.state.md.us](mailto:mhynson@mde.state.md.us)