Constellation HA Wagner

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Suite 605 • Baltimore, Maryland 21230-1719
410-537-3375 • 800-633-6101 x3375 • www.mde.state.md.us
Waste Management Administration • Solid Waste Program

Coal Combustion Byproducts (CCB) Annual Generator Tonnage Report

Instructions for Calendar Year 2010

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 2010. Please answer the questions on the form provided, attaching additional information and any requested supplemental information to the back of the form. Questions can be directed to the Solid Waste Program at (410) 537-3318 or via email at 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.

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, 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."*

B. Applicability. **If you or your company meet 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, 2009:

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 call Edward Dexter, Solid Waste Program at 410-537-3318.

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. 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 2010 at the H.A. Wagner Plant included bituminous coals from Central Appalachian and South American sources.

C. The volume of coal combustion byproducts generated during calendar year 2010, 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:

Table I: Volume of CCBs Generated for Calendar 2010:

Reporting Year	Volume of CCB Type: Fly Ash (dry tons)	Volume of CCB Type: Bottom Ash (dry tons)	Volume of CCB Type: _____
2010	128,017	4,083	

Additional notes:

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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.

- Neither modeling nor 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.

- Various Samples, Baltimore Plants, Phase Separation Science, Inc., March 16, 2010

F. A description of how you disposed of or used your coal combustion byproducts in calendar 2010, identifying:

(a) The types and volume of coal combustion byproducts disposed of or used (if different than described in Paragraph C above), 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:

Year	CCB Destination	Fly Ash (dry tons)	Bottom Ash (dry tons)	CCBs Use
2010	Lehigh, MD	31,042	99	concrete
	MERG, MD	239	0	concrete, grout tstg.
	BMI, WV	0	40	cement kiln feed
	Ash Works, DE	16	0	flowable fill
	Waste Mgmt, VA	34,249	1,396	landfill, daily cover
	Mountainview LF, MD	5,064	0	landfill, daily cover
	The East End LF, VA	19,882	811	landfill, daily cover
	Tri-Cities LF, VA	37,525	1,737	landfill, structural fill

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

- CCBs delivered to Waste Management were used for daily cover in municipal solid waste (MSW) landfills located in Charles City and King George, VA.
- CCBs delivered to Mountainview Landfill in Allegany County, MD were used for daily cover in that MSW landfill, as authorized by MDE.
- CCBs delivered to The East End Landfill in Henrico, VA were used for daily cover in municipal solid waste (MSW) landfills.
- CCBs delivered to Tri-Cities Landfill in Petersburg, VA will be used as structural fill to build walls and barriers in that MSW landfill.
- CCBs delivered to Lehigh Cement in Union Bridge, MD were used in concrete production.
- CCBs were delivered to MERG in Hagerstown, MD for concrete production and product testing (thermal grout).
- CCBs were delivered to Bulk Materials, Inc. Martinsburg, WV for use as as cement kiln feed.
- CCBs were delivered to Ash Works in Wilmington DE, for flowable fill projects in that state.

If the space provided is insufficient, please attach additional pages in a similar format. . (Please note that in subsequent years you need only provide the information in Section F for the last calendar year).

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 155,000 tons will be generated each year for the next five years. Approximately 37,000 tons will be beneficially used in cement and/or concrete. Approximately 118,000 tons per year will disposed of in landfills in Virginia and Maryland authorized to accept CCBs, used primarily for daily cover. Beginning in October 2011, CPSG plans to place fly ash not beneficially used in a permitted industrial waste landfill in Baltimore City.

- Bottom Ash: CPSG projects that approximately 5,000 tons will be generated each year for the next five years, of which 1,000 tons will be beneficially used in cement and/or concrete. Approximately 4,000 tons will be disposed of in Virginia and Maryland authorized to accept CCBs, used primarily for daily cover. Beginning in October 2011, CPSG plans to place bottom ash not beneficially used in a permitted industrial waste landfill in Baltimore City.

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

- Fly Ash: Approximately 37,000 tons each year will be beneficially used in cement and/or concrete.

- Bottom Ash: Approximately 1,000 tons each year will be beneficially used in cement and/or concrete.

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

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	Daniel L. Haught, VP Baltimore Operations 410.787.6415 Name, Title, & Telephone No. Daniel.haught@constellation.com Your Email Address	2-24-2011 Date

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Analytical Report for

Constellation Energy Group

Certificate of Analysis No.: 10031105

Project Manager: John Basciano
Project Name : Various Samples
Project Location: Baltimore Plants

March 16, 2010

Phase Separation Science, Inc.
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

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PHASE SEPARATION SCIENCE, INC.

March 16, 2010

John Basciano
Constellation Energy Group
1005 Brandon Shores Rd.
Baltimore, MD 21226

Reference: PSS Work Order No: **10031105**
Project Name : Various Samples
Project Location: Baltimore Plants

Dear John Basciano :

The attached Analytical and QC Summary lists the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order numbered **10031105**.

All work reported herein has been performed in accordance with referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on April 15, 2010. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 10 years, after which time it will be disposed without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Dan Prucnal

Dan Prucnal
Laboratory Manager

Case Narrative Summary

Client Name: Constellation Energy Group

Project Name: Various Samples

Project ID: N/A **Work Order Number: 10031105**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 03/11/2010 at 10:45 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
~~10031105-001~~	~~ST Rejects Silo #4~~	~~SOLID~~	~~03/09/2010 15:00~~
~~10031105-002~~	~~BS #1 Fly Ash~~	~~SOLID~~	~~03/09/2010 15:00~~
~~10031105-003~~	~~BS #2 Fly Ash~~	~~SOLID~~	~~03/09/2010 15:00~~
~~10031105-004~~	~~BS Bottom Ash~~	~~SOLID~~	~~03/09/2010 15:00~~
~~10031105-005~~	~~CP Crane #2~~	~~SOLID~~	~~03/09/2010 15:00~~
10031105-006	Wagner #2-#3 Pac #3	SOLID	03/09/2010 15:00
10031105-007	Wagner BA #2-#3	SOLID	03/09/2010 15:00
~~10031105-008~~	~~BS Gypsum #1 #1~~	~~SOLID~~	~~03/09/2010 15:00~~
~~10031105-009~~	~~BS FGD WW Sludge~~	~~SOLID~~	~~03/09/2010 15:00~~

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in the Sample Receipt Checklist.

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Notes:

1. The presence of common laboratory contaminants such as acetone, methylene chloride and phthalates, may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. The following analytical results are never reported on a dry weight basis: pH, flashpoint, moisture and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- J The target analyte was positively identified below the reporting limit but greater than one-half of the reporting limit.
- LOD Limit of Detection. An estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 10031105

Constellation Energy Group, Baltimore, MD

March 16, 2010

Project Name: Various Samples
Project Location: Baltimore Plants

Sample ID: CP Crane #2 **Date/Time Sampled: 03/09/2010 15:00** **PSS Sample ID: 10031105-005**
Matrix: SOLID **Date/Time Received: 03/11/2010 10:45**

TCLP Metals — Analytical Method: SW846 6020A — Preparation Method: SW846 3010A

	Result	Units	RL	Flag	Dil	TCLP Limit	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:41	1033
Barium	ND	mg/L	1.0		1	100	03/12/10	03/12/10 22:41	1033
Cadmium	ND	mg/L	0.050		1	1	03/12/10	03/12/10 22:41	1033
Chromium	**0.056**	mg/L	0.050		1	5	03/12/10	03/12/10 22:41	1033
Lead	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:41	1033
Mercury	ND	mg/L	0.002		1	0.2	03/12/10	03/12/10 22:41	1033
Selenium	**0.247**	mg/L	0.050		1	1	03/12/10	03/12/10 22:41	1033
Silver	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:41	1033

Sample ID: Wagner #2-#3 Pac #3 **Date/Time Sampled: 03/09/2010 15:00** **PSS Sample ID: 10031105-006**
Matrix: SOLID **Date/Time Received: 03/11/2010 10:45**

TCLP Metals — Analytical Method: SW846 6020A — Preparation Method: SW846 3010A

	Result	Units	RL	Flag	Dil	TCLP Limit	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:49	1033
Barium	ND	mg/L	1.0		1	100	03/12/10	03/12/10 22:49	1033
Cadmium	ND	mg/L	0.050		1	1	03/12/10	03/12/10 22:49	1033
Chromium	**0.068**	mg/L	0.050		1	5	03/12/10	03/12/10 22:49	1033
Lead	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:49	1033
Mercury	ND	mg/L	0.002		1	0.2	03/12/10	03/12/10 22:49	1033
Selenium	**0.248**	mg/L	0.050		1	1	03/12/10	03/12/10 22:49	1033
Silver	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:49	1033

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 10031105

Constellation Energy Group, Baltimore, MD

March 16, 2010

Project Name: Various Samples
Project Location: Baltimore Plants

Sample ID: Wagner BA #2-#3 **Date/Time Sampled: 03/09/2010 15:00** **PSS Sample ID: 10031105-007**

Matrix: SOLID **Date/Time Received: 03/11/2010 10:45**

TCLP Metals | Analytical Method: SW846 6020A | Preparation Method: SW846 3010A

	Result	Units	RL	Flag	Dil	TCLP Limit	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:56	1033
Barium	ND	mg/L	1.0		1	100	03/12/10	03/12/10 22:56	1033
Cadmium	ND	mg/L	0.050		1	1	03/12/10	03/12/10 22:56	1033
Chromium	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:56	1033
Lead	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:56	1033
Mercury	ND	mg/L	0.002		1	0.2	03/12/10	03/12/10 22:56	1033
Selenium	ND	mg/L	0.050		1	1	03/12/10	03/12/10 22:56	1033
Silver	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:56	1033

Sample ID: BS Gypsum #1-#1 **Date/Time Sampled: 03/09/2010 15:00** **PSS Sample ID: 10031105-008**

Matrix: SOLID **Date/Time Received: 03/11/2010 10:45**

TCLP Metals | Analytical Method: SW846 6020A | Preparation Method: SW846 3010A

	Result	Units	RL	Flag	Dil	TCLP Limit	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	0.050		1	5	03/12/10	03/12/10 23:25	1033
Barium	ND	mg/L	1.0		1	100	03/12/10	03/12/10 23:25	1033
Cadmium	ND	mg/L	0.050		1	1	03/12/10	03/12/10 23:25	1033
Chromium	ND	mg/L	0.050		1	5	03/12/10	03/12/10 23:25	1033
Lead	ND	mg/L	0.050		1	5	03/12/10	03/12/10 23:25	1033
Mercury	ND	mg/L	0.002		1	0.2	03/12/10	03/12/10 23:25	1033
Selenium	**0.127**	mg/L	0.050		1	1	03/12/10	03/12/10 23:25	1033
Silver	ND	mg/L	0.050		1	5	03/12/10	03/12/10 23:25	1033