



AES Warrior Run, Inc.
11600 Mexico Farms Road, SE
Cumberland, MD 21502
301-777-0055

February 14, 2011

Re: CCB Report

Mr. Edward M. Dexter, Administrator
Solid Waste Program
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230-1719

RECEIVED

FEB 22 2011

SOLID WASTE
OPERATIONS DIVISION

Mr. Dexter,

Please find the enclosed CCB report for AES Warrior Run, LLC. We have completed the report as required and included applicable attachments.

If there are any questions about this report please do not hesitate to contact us.

Regards,

A handwritten signature in black ink, appearing to read "J. Leaf", written in a cursive style.

Jeff Leaf
Environmental Manager
AES Warrior Run

**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, 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.”*

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

Facility Name: AES Warrior Run

CCB Tonnage Report – 2010

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, 2011:

A. Contact information:

Facility Name: AES Warrior Run

Name of Permit Holder: AES Warrior Run LLC

Facility Address: 11600 Mexico Farms RD SE

Street

Facility Address: Cumberland Maryland 21502
City State Zip

County: Allegany

Contact Information (Person filing report or Environmental Manager)

Facility Telephone No.: 301-777-0055 Facility Fax No.: 301-777-8772

Contact Name: Jeff Leaf

Contact Title: Environmental Manager

Contact Address: 11600 Mexico Farms RD SE
Street

Contact Address: Cumberland Maryland 21502
City State Zip

Contact Email: jeff.leaf@aes.com

Contact Telephone No.: 301-777-0055 ext.167 Contact Fax No.: 301-777-8772

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:

_____ AES Warrior Run (AES) is an electric co-generation facility located at 11600 Mexico Farms Road, S.E in Cumberland in Allegany County in Maryland. The Facility operates a 180-megawatt coal-fired steam electric cogeneration plant and a 150-ton per day food grade carbon dioxide production plant. The facility consists of an ABB CE coal-fired atmospheric fluidized bed combustion boiler (AFBC) burning bituminous coal and Number 2 fuel oil as a start up fuel.

Selective non-catalytic reduction (SNCR) system provides supplemental control of nitrogen oxides (NOx) to the AFBC boiler design. Sulfur dioxide (SO₂) emissions are controlled by the introduction of limestone into the fluidized bed of the boiler. A bag house controls particulate emissions in the boiler flue gas.

Bed ash is removed at the bottom of the boiler and is loaded into a silo for eventual removal. Fly ash is removed at the bottom of the baghouse, air heater, and boiler backpass sections and is kept segregated from the bed ash in a separate silo. Both flyash and bed ash are mixed with small amounts of service water (to control dusting) and loaded into trucks for disposal off-site.

AES commenced commercial operation on February 10, 2000, and produces electricity for distribution by the Potomac Electric Power Company. The applicable SIC Code for the facility is 4911 - Electric Services

C. The volume of coal combustion byproducts generated during calendar 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:	Volume of CCB Type:	Volume of CCB Type:
	Fly Ash	Bed Ash	Slag Ash
2010	250,647.24	96,897.62	4,259.04

Additional notes:

Slag ash consists of fly ash and bed ash as a mixture. We use the term slag ash to differentiate from the discreet fly ash and bed ash in our system.

Facility Name: AES Warrior Run

CCB Tonnage Report – 2010

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.

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 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:

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

<u>2010</u>	<u>Fly Ash</u>	<u>Bed Ash</u>	<u>Slag Ash</u>	<u>Use</u>
Carlos Coal	110,331.86	42,318.19	62.23	Mine Reclamation
Jackson Mountain Coal	140,315.38	54,579.43	4,196.81	Mine Reclamation

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).

Facility Name: AES Warrior Run

CCB Tonnage Report – 2010

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:

SAME AS PREVIOUS YEARS _____

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

SAME AS PREVIOUS YEARS _____

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	<u>Larry Cantrell, Plant Manager</u> <u>301-777-0055</u>	<u>2-14-11</u>
	Name, Title, & Telephone No. (Print or Type)	Date
	<u>Larry.Cantrell@aes.com</u> Your Email Address	



GEOCHEMICAL TESTING

Environmental and Energy Analysis

2005 N Center Ave
Somerset PA 15501

814/443-1671
814/445-6666
FAX: 814/445-6729

Friday, January 07, 2011

Bob Kinney
AES - WARRIOR RUN INC
11600 MEXICO FARMS SE
CUMBERLAND, MD 21502

Order No.: G1012672

Dear Bob Kinney:

Geochemical Testing received 2 sample(s) on 12/22/2010 for the analyses presented in the following report.

There were no problems with the analyses and all QC data met NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Timothy W. Bergstresser
Director of Technical Services

Geochemical Testing

Date: 07-Jan-11

CLIENT: AES - WARRIOR RUN INC

Project:

Lab Order: G1012672

CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

Legend:

ND - Not Detected at the Quantitation Limit

J - Indicates an estimated value.

U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.

B - Analyte detected in the associated Method Blank

Q - Qualifier QL - Quantitation Limit DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

** - Value exceeds Action Limit

H - Method Hold Time Exceeded

MCL - Contaminant Limit



Laboratory Results

Geochemical Testing

Date: 07-Jan-11

CLIENT: AES - WARRIOR RUN INC
Lab Order: G1012672
Project:
Lab ID: G1012672-001
Matrix: FLY ASH

Client Sample ID: Flyash

Sampled By: Client
Collection Date: 12/22/2010
Received Date: 12/22/2010 12:38:00 PM

Analyses	Result	QL	Q	Units	DF	Date Analyzed
TOTAL METALS		EPA 7473				Analyst: GAL
Mercury	1.3	0.010		mg/Kg-dry	1	12/22/2010
TOTAL METALS		EPA 6010				Analyst: MS
Aluminum	39200	5.0		mg/Kg-dry	1	1/4/2011 6:37:00 PM
Antimony	< 1.0	1.0		mg/Kg-dry	1	1/3/2011 3:45:00 PM
Arsenic	42.8	1.0		mg/Kg-dry	1	1/4/2011 6:37:00 PM
Barium	506	0.5		mg/Kg-dry	1	1/3/2011 3:45:00 PM
Boron	48.7	2.5		mg/Kg-dry	1	1/4/2011 6:37:00 PM
Cadmium	0.5	0.1		mg/Kg-dry	1	1/3/2011 3:45:00 PM
Chromium	38.0	0.5		mg/Kg-dry	1	1/3/2011 3:45:00 PM
Cobalt	11.7	0.2		mg/Kg-dry	1	1/3/2011 3:45:00 PM
Copper	43.9	0.5		mg/Kg-dry	1	1/3/2011 3:45:00 PM
Lead	21.8	1.0		mg/Kg-dry	1	1/4/2011 6:37:00 PM
Lithium	77.7	1.0		mg/Kg-dry	1	1/4/2011 6:37:00 PM
Manganese	81.4	0.5		mg/Kg-dry	1	1/3/2011 3:45:00 PM
Molybdenum	5.3	1.0		mg/Kg-dry	1	1/3/2011 3:45:00 PM
Nickel	28.1	0.5		mg/Kg-dry	1	1/3/2011 3:45:00 PM
Selenium	6.9	1.0		mg/Kg-dry	1	1/3/2011 3:45:00 PM
Silver	< 0.2	0.2		mg/Kg-dry	1	1/3/2011 3:45:00 PM
Vanadium	89.5	0.2		mg/Kg-dry	1	1/3/2011 3:45:00 PM
Zinc	52.8	0.5		mg/Kg-dry	1	1/4/2011 6:37:00 PM
TCLP METALS		EPA 7470				Analyst: JEK
Mercury	< 0.0002	0.0002		mg/L	1	12/30/2010 10:22:26 AM
TCLP METALS		EPA 6010				Analyst: MS
Aluminum	< 0.100	0.100		mg/L	1	12/29/2010 4:01:00 PM
Antimony	< 0.020	0.020		mg/L	1	12/30/2010 12:18:00 PM
Arsenic	0.040	0.020		mg/L	1	12/29/2010 4:01:00 PM
Barium	0.746	0.300		mg/L	1	12/30/2010 12:18:00 PM
Cadmium	< 0.002	0.002		mg/L	1	12/29/2010 4:01:00 PM
Chromium	0.034	0.010		mg/L	1	12/29/2010 4:01:00 PM
Cobalt	< 0.005	0.005		mg/L	1	12/29/2010 4:01:00 PM
Copper	< 0.010	0.010		mg/L	1	12/29/2010 4:01:00 PM
Lead	< 0.020	0.020		mg/L	1	12/29/2010 4:01:00 PM
Manganese	< 0.010	0.010		mg/L	1	12/29/2010 4:01:00 PM
Nickel	< 0.010	0.010		mg/L	1	12/28/2010 4:01:00 PM
Selenium	0.084	0.020		mg/L	1	12/29/2010 4:01:00 PM
Silver	< 0.005	0.005		mg/L	1	12/29/2010 4:01:00 PM
Vanadium	0.385	0.005		mg/L	1	12/29/2010 4:01:00 PM
Zinc	< 0.010	0.010		mg/L	1	12/29/2010 4:01:00 PM



Laboratory Results

Geochemical Testing

Date: 07-Jan-11

CLIENT: AES - WARRIOR RUN INC
Lab Order: G1012672
Project:
Lab ID: G1012672-001
Matrix: FLY ASH

Client Sample ID: Flyash
Sampled By: Client
Collection Date: 12/22/2010
Received Date: 12/22/2010 12:38:00 PM

Analyses	Result	QL	Q	Units	DF	Date Analyzed
TCLP EXTRACTION				EPA 1311		Analyst: RLL
Extraction Fluid Used	2.0	0			1	12/27/2010
Final pH	6.2	1.0			1	12/27/2010
Initial pH	12	1.0			1	12/27/2010
pH with water	NA	1.0			1	12/27/2010
TCLP, non-volatile	NA	0			1	12/27/2010

Laboratory Results

Geochemical Testing

Date: 07-Jan-11

CLIENT: AES - WARRIOR RUN INC
Lab Order: G1012672
Project:
Lab ID: G1012672-002
Matrix: SOLID

Client Sample ID: Bed Ash

Sampled By: Client
Collection Date: 12/22/2010
Received Date: 12/22/2010 12:38:00 PM

Analyses	Result	QL	Q	Units	DF	Date Analyzed
TOTAL METALS		EPA 7473				Analyst: GAL
Mercury	< 0.010	0.010		mg/Kg-dry	1	12/22/2010
TOTAL METALS		EPA 6010				Analyst: MS
Aluminum	30400	5.0		mg/Kg-dry	1	1/4/2011 7:10:00 PM
Antimony	1.2	1.0		mg/Kg-dry	1	1/3/2011 4:01:00 PM
Arsenic	31.6	1.0		mg/Kg-dry	1	1/4/2011 7:10:00 PM
Barium	261	0.5		mg/Kg-dry	1	1/3/2011 4:01:00 PM
Boron	39.6	2.5		mg/Kg-dry	1	1/4/2011 7:10:00 PM
Cadmium	0.2	0.1		mg/Kg-dry	1	1/3/2011 4:01:00 PM
Chromium	50.7	0.5		mg/Kg-dry	1	1/3/2011 4:01:00 PM
Cobalt	7.4	0.2		mg/Kg-dry	1	1/3/2011 4:01:00 PM
Copper	22.3	0.5		mg/Kg-dry	1	1/3/2011 4:01:00 PM
Lead	5.6	1.0		mg/Kg-dry	1	1/4/2011 7:10:00 PM
Lithium	52.7	1.0		mg/Kg-dry	1	1/4/2011 7:10:00 PM
Manganese	81.4	0.5		mg/Kg-dry	1	1/3/2011 4:01:00 PM
Molybdenum	5.4	1.0		mg/Kg-dry	1	1/3/2011 4:01:00 PM
Nickel	27.9	0.5		mg/Kg-dry	1	1/3/2011 4:01:00 PM
Selenium	< 1.0	1.0		mg/Kg-dry	1	1/3/2011 4:01:00 PM
Silver	< 0.2	0.2		mg/Kg-dry	1	1/3/2011 4:01:00 PM
Vanadium	60.7	0.2		mg/Kg-dry	1	1/3/2011 4:01:00 PM
Zinc	31.2	0.5		mg/Kg-dry	1	1/4/2011 7:10:00 PM
TCLP METALS		EPA 7470				Analyst: JEK
Mercury	< 0.0002	0.0002		mg/L	1	12/30/2010 10:29:02 AM
TCLP METALS		EPA 6010				Analyst: MS
Aluminum	< 0.100	0.100		mg/L	1	12/29/2010 4:04:00 PM
Antimony	< 0.020	0.020		mg/L	1	12/30/2010 12:22:00 PM
Arsenic	< 0.020	0.020		mg/L	1	12/29/2010 4:04:00 PM
Barium	0.666	0.300		mg/L	1	12/30/2010 12:22:00 PM
Cadmium	< 0.002	0.002		mg/L	1	12/29/2010 4:04:00 PM
Chromium	< 0.010	0.010		mg/L	1	12/29/2010 4:04:00 PM
Cobalt	< 0.005	0.005		mg/L	1	12/29/2010 4:04:00 PM
Copper	< 0.010	0.010		mg/L	1	12/29/2010 4:04:00 PM
Lead	< 0.020	0.020		mg/L	1	12/29/2010 4:04:00 PM
Manganese	< 0.010	0.010		mg/L	1	12/29/2010 4:04:00 PM
Nickel	< 0.010	0.010		mg/L	1	12/29/2010 4:04:00 PM
Selenium	< 0.020	0.020		mg/L	1	12/29/2010 4:04:00 PM
Silver	< 0.005	0.005		mg/L	1	12/29/2010 4:04:00 PM
Vanadium	0.014	0.005		mg/L	1	12/29/2010 4:04:00 PM
Zinc	< 0.010	0.010		mg/L	1	12/29/2010 4:04:00 PM



Laboratory Results

Geochemical Testing

Date: 07-Jan-11

CLIENT: AES - WARRIOR RUN INC
Lab Order: G1012672
Project:
Lab ID: G1012672-002
Matrix: SOLID

Client Sample ID: Bed Ash
Sampled By: Client
Collection Date: 12/22/2010
Received Date: 12/22/2010 12:38:00 PM

Analyses	Result	QL	Q	Units	DF	Date Analyzed
TCLP EXTRACTION						
						Analyst: RLL
Extraction Fluid Used	1.0	0			1	12/27/2010
Final pH	12	1.0			1	12/27/2010
Initial pH	12	1.0			1	12/27/2010
pH with water	NA	1.0			1	12/27/2010
TCLP, non-volatile	NA	0			1	12/27/2010



GEOCHEMICAL TESTING

Environmental and Energy Analysis

2005 N Center Ave
Somerset PA 15501

814/443-1671
814/445-8666
FAX: 814/445-6729

Overburden Analysis Report

Client AES Warrior Run

Sampled By Client

Analysis Completed 12/28/2010

Description Fly Ash & Bed Ash

Sample Number	Interval From To	Description	Soil pH 2:1	Total Sulfur %	Sulfate plus Sulfide Sulfur %	Maximum Potential Acidity (1)	Fizz Rating (3)	Neutra- lization Potential (1)	Deficiency or Excess (1,2)
O-41703		Fly Ash Silo		2.83		91.56	2	176.33	64.77
O-41704		Bed Ash		5.22		163.12	2	238.23	75.11

Notes: (1) Tons CaCO₃/1000 tons overburden.
(2) Negative Number indicates deficiency.
(3) Legend 0=None 1=Slight 2=Moderate 3=Strong

Sample Preparation and Testing Techniques

All samples are top sized at 1/2". The gross samples are divided by riffing. One portion is pulverized to -80 mesh for all acid-base account testing and the other portion is saved for any further testing or examination. All preparation and testing procedures are performed according to the "Overburden Sampling and Testing Manual" as prepared for the Pennsylvania Department of Environmental Resources by Energy Center, Inc., T. Bergstresser, D. Noll, J Woodcock.

The maximum potential acidity is calculated from the sulfate plus sulfide sulfurs. Whenever the forms of sulfur are not determined, the total sulfur value is used to calculate the maximum potential acidity.


Robert L. Stull
Director of Coal Services