



February 29, 2024

Mr. Edward Dexter
Program Administrator
Maryland Department of the Environment
Land Management and Materials Administration
Solid Waste Program
1800 Washington Boulevard, Suite 605
Baltimore, Maryland 21230-1719

Re: Calendar Year 2023 Coal Combustion Byproducts Annual Generator Tonnage Reports for
Brandon Shores and H.A. Wagner Electric Generating Stations

Dear Mr. Dexter:

Enclosed please find the 2023 Coal Combustion Byproducts (CCBs) Annual Generator Tonnage Reports for Raven Power's Brandon Shores and H.A. Wagner Generating Stations. These reports cover the period from January 1, 2023 to December 31, 2023 for the coal-fired units at these facilities and reflect CCBs production, beneficial reuse, and disposal.

For any questions regarding these reports, please contact me at 443-934-4990, or by email at joshua.sawyers@talenenergy.com.

Regards,

A handwritten signature in black ink, appearing to be "JS", written in a cursive style.

Joshua Sawyers
Environmental Manager

Enclosures (2)



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:

Brandon Shores Generating Station consists of two coal fired units which produce electricity for commercial sale. Units are equipped with Babcock & Wilcox natural circulation radiant boilers. Bituminous coal is delivered by barge and stored in a pile adjacent to the plant. The coal is pulverized and fed by air to the boilers where it is burned using low NOx burners. Heavier bottom ash drops to the bottom of the boilers where it is conveyed by high-pressure water to settling bins before being loaded onto trucks for beneficial reuse or disposal. Lighter fly ash is conveyed by furnace air flow to electrostatic precipitators where the ash is collected on charged plates and falls into storage hoppers. Fly ash from the hoppers is conveyed pneumatically to storage silos before being trucked off site for beneficial reuse or disposal. High carbon fly ash is retained and re-burned. Pulse jet fabric filters downstream of the precipitators remove remaining fly ash which has been mixed with powdered activated carbon and hydrated lime injected into the flue gas stream for emissions control. This fly ash is conveyed to storage silos for reuse or disposal. The wet flue gas desulfurization (FGD) scrubber produces CCBs including fly ash, gypsum, and FGD sludge. These CCBs are stored under cover before being loaded onto trucks for beneficial reuse or disposal. Wastewater fines are from CCB clean up or area wash downs and are sent to the settling basin at the internal wastewater treatment plant for storage. This basin is periodically de-watered and the CCBs are allowed to dry before being excavated, loaded on trucks, and sent for disposal.

C. The volume and weight of CCBs generated during calendar year 2023, 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 2023: Please note that this table includes both the volume and weight of the types of CCBs your facility produces.

<u>Volume and Weight of CCBs Generated for Calendar Year 2023</u>				
<u>Fly Ash</u>	<u>Bottom Ash</u>	<u>Gypsum</u>	<u>FGD Sludge</u>	<u>Wastewater Fines</u>
Type of CCB	Type of CCB	Type of CCB	Type of CCB	Type of CCB
69,164	3,892	86,456	3,911	6,346
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
51,354	2,890	64,194	2,904	4,712
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 (CCBs) are reported in dry tons. Cubic yards are calculated using a conversion factor of 1 ton equals 1.3468 cubic yards (CY).

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 completed during 2023.

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

No chemical characterization of CCBs were performed during 2023.

F. A description of how you disposed of or used your CCBs in calendar year 2023, 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 - Beneficial Reuse

43,265 tons (58,269 CY) of fly ash was received by Separation Technologies in Baltimore, MD for use in concrete.

538 tons (725 CY) of fly ash was received by Lehigh in Union Bridge, MD for cement manufacturing.

Fly Ash - Disposal

7,551 tons (10,170 CY) of fly ash was delivered to Fort Armistead - Lot 15 landfill in Baltimore, MD for landfilling.

Bottom Ash - Beneficial Reuse

2,890 tons (3,892 CY) of bottom ash was received by the Fort Armistead - Lot 15 Landfill in Baltimore, MD for drainage/protective layer above the liner.

Gypsum - Beneficial Reuse

63,794 tons (85,917 CY) received by USG in Baltimore, MD for use in wallboard manufacturing.

Gypsum - Disposal

0 tons (0 CY) of gypsum was disposed of.

Gypsum - Storage

0 tons (0 CY) of gypsum was stored on site at the end of 2022.

400 tons (539 CY) of gypsum was stored on site at the end of 2023. Note that gypsum stored at the end 2023 is included in gypsum generated in 2023 (Table I).

FGD Sludge - Disposal

2,904 tons (3,911 CY) of FGD sludge was delivered to Fort Armistead Road - Lot 15 landfill in Baltimore, MD for landfilling.

Wastewater Fines - Disposal

4,712 tons (6,346 CY) of wastewater fines was delivered to the Fort Armistead - Lot 15 Landfill in Baltimore, MD for landfilling.

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

Fly Ash

43,803 tons (58,994 CY) of fly ash was used in cement/concrete manufacturing.

Bottom Ash

2,890 tons (3,892 CY) of bottom ash was used as drainage/protective layer above a landfill liner.

Gypsum

63,794 tons (85,917 CY) of gypsum was used in wallboard manufacturing.

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 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:

Brandon Shores Generating Station will cease burning coal by 2025; therefore, the projections are limited to the next two years.

Fly Ash

The facility projects that as much as 25,000 tons (33,670 CY) of fly ash will be generated each year for the next two years. Approximately 22,500 tons (30,303 CY) of fly ash will be beneficially used in cement products and the remaining 2,500 tons (3,367 CY) will be disposed of in the Fort Armistead Road - Lot 15 Landfill in Baltimore, MD.

Bottom Ash

The facility projects that as much as 5,000 tons (6,734 CY) of bottom ash will be generated each year for the next two years, all of which will be beneficially used as drainage/protective layer above the liner in the Fort Armistead Road - Lot 15 Landfill in Baltimore, MD.

Gypsum

The facility projects that as much as 50,000 tons (67,340 CY) of gypsum will be generated each year for the next two years, all of which will be beneficially used in wallboard and cement.

FGD Sludge

The facility projects that as much as 5,000 tons (6,734 CY) of FGD sludge will be generated each year for the next two years, all of which will be disposed of in the Fort Armistead Road - Lot 15 Landfill in Baltimore, MD.

Wastewater Fines

The facility projects that as much as 5,000 tons (6,734 CY) of wastewater fines will be generated each year for the next two years, all of which will be disposed of in the Fort Armistead Road - Lot 15 Landfill in Baltimore, MD.

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

Fly Ash

Approximately 22,500 tons (30,303 CY) of fly ash each year will be beneficially used in the manufacturing of cement.

Bottom Ash

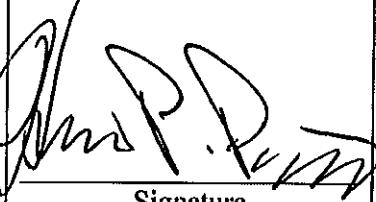
Approximately 5,000 tons (6,734 CY) of bottom ash each year will be beneficially used as drainage/protective layer above a landfill liner.

Gypsum

Approximately 50,000 tons (67,340 CY) of gypsum each year will be beneficially used in wallboard and cement.

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	Kevin Panzino Senior Director – Asset Management 724-640-0818	2/21/24 Date
	Name, Title, & Telephone No. (Print or Type) <u>kevin.panzino@talenergy.com</u> Your Email Address	

V: Attachments (please list):

None.