



Steven L. Beshear  
Governor

Leonard K. Peters  
Secretary

**ENERGY AND ENVIRONMENT CABINET**

**Division of Waste Management**  
200 Fair Oaks, 2<sup>nd</sup> Floor  
FRANKFORT, KY 40601  
TELEPHONE: 502-564-6716  
FACSIMILE: 502-564-3492  
waste.ky.gov

*Tom 09.14.15*

September 9, 2015

Mr. Thomas Webb  
American Electric Power – Kentucky Power Company  
1 Riverside Plaza  
Columbus, Ohio 43215

**Certified Mail No. 7014 1820 0000 5796 9317**

**RE: Coal Combustion Residuals (CCR) Surface Impoundment Closure Plan  
Big Sandy Plant  
Agency Interest No. 2610  
Application I.D. No. APE20130002  
Lawrence County**

Dear Mr. Webb:

The Kentucky Division of Waste Management (DWM), Solid Waste Branch has completed review of application number APE20130002, proposing a closure plan for the CCR Surface Impoundment. DWM hereby approves this application. Please find enclosed a copy of the facility permit. If you would like an electronic copy of the approved application, please contact Lawrie Green the week of September 21, 2015 at (502) 564-6716, ext. 4663. Federal regulations concerning CCR units go into effect on October 19, 2015; the issuance of this permit does not supersede federal regulations.

Be advised that if you consider yourself aggrieved by the issuance of this permit, you have the right to file a petition demanding a hearing with the Cabinet pursuant to KRS 224.10-420(2). This right shall be limited to a period of thirty (30) days from the receipt of the permit. If you have any questions regarding this matter please contact Lindsey Briggs at (502) 564-6716, ext. 4665.

Sincerely, \_\_\_\_\_

A handwritten signature in cursive script that reads "Danny Anderson".

Danny Anderson, P.E.  
Manager, Solid Waste Branch

Enclosure  
DA/jnn

c: Marty Leedy via email: [mrleedy@aep.com](mailto:mrleedy@aep.com)



**Kentucky Energy and Environment Cabinet  
 Department for Environmental Protection  
 Division of Waste Management**

**PERMIT**

**Facility:** **Big Sandy Power Plant**  
**23000 Hwy 23**  
**Louisa, KY 41230**

**Permittee:** **American Electric Power - Kentucky Power Company**  
**1 Riverside Plaza**  
**Columbus, OH 43215**

**Agency Interest:** **KY Power Co-Big Sandy Plant**  
**23000 Hwy 23**  
**Louisa, KY 41230**

The Division has issued the permit under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. This permitted activity or activities are subject to all conditions and operating limitations contained herein. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses or approvals required by this Division or other state and local agencies.

No deviation from the plans and specifications submitted with your application or any condition specified herein is allowed, unless authorized in writing from the Division. Violation of the terms and conditions specified herein may render this permit null and void. All rights of inspection by representatives of the Division are reserved. Conformance with all applicable Waste Management Regulations is the responsibility of the permittee.

**Agency Interest ID #:** 2610  
**Solid Waste Permit #:** sw06400013  
**County:** Lawrence

**Permitted Activities:**

Subject Item	Activity	Type	Status
ACTV002	Coal Combustion Residuals Surface Impoundment/06400013	Permit-by-Rule	Active
ACTV004	Coal Combustion Residuals Surface Impoundment/06400013	Permit-by-Rule	Active

Permit Number: sw06400013

Agency Interest ID: 2616

**PERMIT**

**Acreeage Summary:**

**Waste Disposal Area (in Acres):**

Activity	Disposal Area
Coal Combustion Residuals Surface Impoundment	8.00
Coal Combustion Residuals Surface Impoundment	130.00
<b>Total Disposal Area</b>	<b>138.00</b>

**Cost Estimate Summary:**

Coverage Type	Cost Estimate	Effective	Comments
Closure	\$47,456,215.00	09/09/2015	Approved under APE20130002
Post-Closure	\$638,297.00	09/09/2015	Approved under APE20130002

**\* Financial Assurance Summary:**

The owner or operator shall maintain the following financial assurance approved by the Division in compliance with KRS Chapter 224.40-650, KRS Chapter 224.50-862, 401 KAR 45:080, and 401 KAR 48:310:


Instrument Type	Instrument Number	Amount	Date Received	Comments
*see note on page 3				

**First Operational Permit Effective Date: 06/24/1992**

**Permit Effective Date: 09/09/2015**

**Permit Expiration Date: Life of Facility**

**Permit issued: 09/09/2015**



**Danny Anderson, P.E.  
 Manager, Solid Waste Branch**

Permit Number: sw06400013

Agency Interest ID: 2610

## PERMIT

### Permit Conditions:

#### Facility Information and/or Conditions

ACTV0002 is known as the Big Sandy Fly Ash Pond.  
ACTV0004 is known as the Big Sandy Bottom Ash Pond.

#### Subject Items

### ACTV0002 - Coal Combustion Residuals Surface Impoundment

#### Variations, Alternate Specifications and Special Conditions:

1. **Operation:** For the operation of the coal combustion residuals surface impoundment, the owner or operator shall comply with KRS Chapter 224.50-760, 401 KAR Chapters 30, 40 and 45, and the approved permit application(s). [401 KAR 45:140 Section 2]
2. **General:** For the closure and post-closure of the coal combustion residuals surface impoundment, the owner or operator shall comply with KRS Chapter 224, 401 KAR Chapters 30, 40 and 45, the approved permit application(s), and all special waste landfill closure requirements. [401 KAR 45:140 Section 2, KRS 224.50-760]

**Approved Applications - The owner or operator shall comply with applicable statutes and regulations and the following approved applications:**

1. 9-9-2015 - Coal Combustion Residuals Surface Impoundment, Closure Plan - APE20130002

### ACTV0004 - Coal Combustion Residuals Surface Impoundment

#### Variations, Alternate Specifications and Special Conditions:

1. **Operation:** For the operation of the coal combustion residuals surface impoundment, the owner or operator shall comply with KRS Chapter 224.50-760 and 401 KAR Chapters 30, 40 and 45. [401 KAR 45:140 Section 2]

#### Financial Assurance

### ACTV0005 - Financial Assurance

**The following is a history of the financial assurance for this facility:**

The financial assurance shall be submitted to the Division of Waste Management within 14 days of approval of the APE20130002 Closure Plan and shall meet the requirements of 401 KAR 45:080.

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## PERMIT

### Monitoring Conditions

### **GSTR0001 - Groundwater Monitoring - Groundwater Monitoring Group**

**Group Members:** STRC0010 - Well MW-1007; STRC0011 - Well MW-1008; STRC0013 - Well MW-1009; STRC0017 - Well MW-1202; STRC0018 - Well MW-1207; STRC0019 - Well MW-1204; STRC0024 - Spring Monitoring Point

#### **Standard Requirements:**

1. The owner or operator shall satisfy the requirements of 401 KAR 45:160 for all wastes and waste constituents contained in the site or facility. [401 KAR 45:160 Section 1]
2. The permittee shall monitor for other parameters as required by the cabinet. [401 KAR 45:160 Section 8(2)(c)]
3. The owner or operator shall monitor groundwater on the approved schedule at each approved groundwater monitoring location in accordance with 401 KAR 45:160, the permit, and the approved plans. A table summarizing the parameters to be monitored, their respective limits and monitoring frequency is included herein. [401 KAR 45:160, 401 KAR 45:140 Section 1(1)]
4. The owner or operator shall conduct statistical analysis of the groundwater data in accordance with 401 KAR 45:160 Section 6 and the approved applications. The statistical test chosen shall be conducted separately for each parameter in each well for each monitoring event. The results shall be maintained as part of the facility record throughout the operating and post-closure life of the facility. [401 KAR 45:160 Section 6, 401 KAR 45:140 Section 1(1)]
5. The groundwater analytical data and statistical analysis shall be submitted on forms provided by the cabinet, within sixty (60) days after sampling or 15 days of the completion of statistical analysis, whichever is sooner. [401 KAR 45:160 Section 4]
6. Groundwater monitoring wells shall be constructed and maintained in accordance with 401 KAR 45:160 Section 3, the permit, and the approved plans. [401 KAR 45:160 Section 3, 401 KAR 45:140 Section 1(1)]
7. No monitoring well construction, maintenance, or abandonment may be conducted without prior approval by the Division of Waste Management. [401 KAR 45:140 Section 1(1)]
8. Only a Kentucky Certified Monitoring Well Driller may construct or abandon monitoring wells. [401 KAR 6:320]
9. If the analysis of groundwater sample results indicates contamination (i.e., a statistical or MCL exceedence) as specified in 401 KAR 45:160 Section 5, the owner or operator shall notify the cabinet within (forty-eight) 48 hours of receiving the results and shall arrange to split samples no later than ten (10) days from the receipt of the results. [401 KAR 45:160 Section 5]
10. The owner or operator shall be required to prepare and submit a groundwater contamination assessment plan if laboratory analyses of one (1) or more public or private water supplies or monitoring wells at the site shows the presence of one (1) or more parameters above the maximum contaminant level (MCL) as specified in

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**PERMIT**

401 KAR 30:031 or a statistically significant increase over background levels for parameters that have no MCL. [401 KAR 45:160 Section 5]

11. The owner or operator shall provide alternate water supplies to all affected parties within twenty-four (24) hours of notification of the cabinet that sample results indicate contamination of a drinking water supply if it has been determined that the special waste site or facility is the probable source of the contamination. [401 KAR 45:160 Section 3]

12. If required by the cabinet, groundwater contamination assessment and corrective action shall be performed in full compliance with all provisions of 401 KAR 45:160 Section 5. [401 KAR 45:160 Section 5]

13. The owner or operator shall provide the division a minimum of five (5) working days advance notice for all groundwater monitoring well construction and abandonment activities. [401 KAR 40:020 Section 2(4)]

PERMIT

Groundwater Monitoring Limits:

Subject Item	CAS Number	Parameter	Frequency	Lower Limit	Upper Limit	Units	Statistical Limit	Report Only
GSTR0001		Arsenic, Total Recoverable	semiannually		0.010	mg/L		
GSTR0001		Bicarbonate	semiannually			mg/L	Yes	
GSTR0001		Boron, Total Recoverable	semiannually			mg/L	Yes	
GSTR0001		Cadmium, Total Recoverable	semiannually		0.005	mg/L		
GSTR0001	07440-70-2	Calcium	semiannually			mg/L	Yes	
GSTR0001		Carbon, Total Organic	semiannually			mg/L	Yes	
GSTR0001		Carbonate	semiannually			mg/L	Yes	
GSTR0001		Chemical Oxygen Demand (COD)	semiannually			mg/L	Yes	
GSTR0001	16887-00-6	Chloride	semiannually			mg/L	Yes	
GSTR0001		Copper, Dissolved (as Cu)	semiannually		1.3	mg/L		
GSTR0001		Groundwater Elevation	semiannually			feet above mean sea level based on a USGS datum		Yes
GSTR0001		Iron, Total Recoverable	semiannually			mg/L	Yes	
GSTR0001		Lead, Total Recoverable	semiannually		0.015	mg/L		
GSTR0001		Magnesium, Total Recoverable	semiannually			mg/L	Yes	
GSTR0001		Mercury, Total Recoverable	semiannually		0.002	mg/L		
GSTR0001		Nickel, Total Recoverable	semiannually			mg/L	Yes	
GSTR0001		Potassium, Total	semiannually			mg/L	Yes	
GSTR0001		Selenium, Total Recoverable	semiannually		0.05	mg/L		
GSTR0001		Sodium, Total (as Na)	semiannually			mg/L	Yes	
GSTR0001		Solids, Total Dissolved	semiannually			mg/L	Yes	
GSTR0001		Specific Conductance	semiannually			umho/cm	Yes	
GSTR0001		Sulfate, Total (as SO4)	semiannually			mg/L	Yes	
GSTR0001		Temperature, Water Fahrenheit	semiannually			degrees Fahrenheit		Yes
GSTR0001		Zinc, Total Recoverable	semiannually			mg/L	Yes	
GSTR0001		pH	semiannually			standard units	Yes	