Kentucky Power Company

REQUEST

Refer to the Application, paragraph 1. Provide the current status of the Big Sandy Unit 1 conversion project

RESPONSE

As of September 7th, 2015, the status of the Big Sandy Unit 1 Refuel (conversion) project is as follows:

- Engineering is 87% complete. The Civil/Site Infrastructure work and the Boiler Building modifications are nearing completion.
- The pipeline under the Big Sandy River is complete. Work on the Point of Delivery (POD) station and pipeline on the West Virginia side of the river is in progress.
- The Structural/Mechanical and Electrical/I&C contracts are expected to be issued by the end of September and October, respectively.
- The total project is 18% complete. The bulk of the remaining work will be completed during the outage scheduled to begin November 14, 2015.

WITNESS: John A Rogness

Kentucky Power Company

REQUEST

Refer to the Application, paragraph 8. Explain whether the discharge pipe into Elaine Creek will be disabled or modified once the Big Sandy ash pond is closed and capped.

RESPONSE

The current discharge pipe will be closed off, abandoned and new storm water channels will be constructed that will discharge storm water runoff from the final cover system into Blaine Creek.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the Application, paragraph 10. Explain what is meant by a specific pond closure permitting protocol and how it differs from the Kentucky Division of Waste Management ("KDWM") closure permitting process.

RESPONSE

"Specific pond closure protocol" refers to a closing protocol made expressly applicable by statute or regulation to fly ash impoundments such as the Big Sandy fly ash impoundment. The Big Sandy fly ash impoundment is regulated under Kentucky's solid waste management rules and is considered a "special wastes surface impoundment." The special waste regulations do not include a closure permitting protocol specifically for special waste surface impoundments. In the absence of a specific permitting protocol, the Company consulted with KDWM regarding the appropriate permitting approach to close the landfill. The Company was directed by the KDWM to file an Application for a Special Waste Landfill Permit as the most appropriate process for the impoundment closure. Because there is no expressly applicable protocol, Kentucky Power cannot explain how the procedure it was directed by the Division of Waste Management to follow differs.

WITNESS: John A Rogness

Kentucky Power Company

REQUEST

Refer to the Application, paragraph 12.

a. State whether the Horseshoe Creek Dam is a high-hazard dam.

b. State whether the U.S. Environmental Protection Agency ("EPA") has performed an assessment of the Big Sandy ash pond. If so, provide the final EPA report and pond rating.

c. Refer also to the Application, Exhibit 3, regarding the extension of the revised permit from the Kentucky Department of Water's Dam Safety Section. Explain why this permit was extended.

RESPONSE

In the application and supporting testimony, the dam creating the Big Sandy Fly Ash Impoundment is incorrectly referred to as the Horseshoe Creek Dam. The proper name of the dam is the Horseford Creek Dam.

a. The Horseford Creek dam is classified by the State of Kentucky as a High Hazard dam.

b. The US EPA conducted a safety assessment of the Horseford Creek dam in October 2009 [Big Sandy fly ash dam] and concluded the rating was "Satisfactory". Please see KPCO_1_4_Attachment1.pdf for the final EPA report.

c. The permit was initially issued with a condition to start closure construction within a year of issuance. However, it took longer than a year to obtain the necessary KDWM Special Waste Landfill Permit. Therefore, the Company requested an extension of the dam safety permit so that construction could begin after the Special Waste Landfill Permit is received.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the Application, paragraph 13, concerning the flexible membrane liner.

a. Explain whether there are any other feasible options to the flexible membrane liner that have been chosen.

b. Provide justification for the belief that the flexible membrane liner is the least-cost option.

c. Confirm that the flexible membrane liner complies with the final Coal Combustion Residuals ("CCR") rule.

RESPONSE

a. The Company has determined there are no other technically feasible options other than the use of the Flexible Membrane Liner (FML). The Company originally considered the use of a combination cap consisting of a clay soil cover over a portion of the impoundment and a flexible membrane liner over the balance. However, after discussions with the KDWM, the FML was determined to be the better option.

b. KDWM recommended the use of the FML over the entire facility as its preferred technical option. The decision to use the FML over the entire facility, which was based on the permitting agency's recommendation, was the least cost option meeting KDWM's recommendation.

c. Confirmed. Please see response to question KPCO_1_11.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the Application, paragraph 14. Confirm that construction will not begin in early 2016 if all permits have not been secured. If this cannot be confirmed, explain.

RESPONSE

Confirmed. Construction will not begin until all approvals required to begin construction have been received. Construction may begin prior to receipt of the KPDES permit modification which is only required to be obtained prior to construction completion.

WITNESS: John A Rogness

Kentucky Power Company

REQUEST

Refer to the Application, paragraph 30. Confirm that the annual operation and maintenance cost of approximately $110,000 after the Big Sandy ash pond is closed in place will be deferred and recovered through the Big Sandy Retirement Rider. If this cannot be confirmed, explain

RESPONSE

Confirmed. The annual operation and maintenance costs will be deferred and recovered through the Big Sandy Retirement Rider (BSRR). The BSRR is updated annually and will continue after the impoundment is closed beginning in 2016 and continuing through 2039.

WITNESS: John A Rogness

Kentucky Power Company

REQUEST

Refer to the Direct Testimony of Joseph G. DeRuntz ("DeRuntz Testimony"), page 2, regarding the ash pond closure projects at the John Amos Plant and the Gavin Plant.

a. Provide the projected costs to close the Amos and Gavin ash ponds.

b. Provide the reasons for the closures of the Amos and Gavin ash ponds.

c. Provide any similarities and differences in the closing procedures for Amos and Gavin ash ponds to the closing procedures of the Big Sandy ash pond.

RESPONSE

a. Please see KPCO_1_8_CONFIDENTIAL_Attachment 1.pdf for projected costs for the Amos and Gavin ponds.

b. Both the Amos and Gavin ash impoundments became inactive when the plants installed flue gas desulphurization systems and, therefore, were no longer sluicing fly ash. Impoundment closure was initiated based on the proposed CCR Rule that required closure of inactive impoundments.

c. The closing procedures for the three ash ponds are the same. Please see the procedure described in the DeRuntz Testimony on page 9.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the DeRuntz Testimony, page 5, concerning the Special Waste Landfill permitting process.

a. Explain why Kentucky Power's Application for a Special Waste Landfill Permit will take over two years to complete.

b. State the length of time allowed for the public comment period.

c. Provide a status update of the Special Waste Landfill Permit application.

d. State the basis for Kentucky Power's expectation that the permit will be issued by the end of 2015.

RESPONSE

a. Kentucky Power does not control the application review process. The permit application first underwent an administrative completeness review. Once the application is found to be administratively complete, it underwent a technical review during which Kentucky Power responded to technical questions and worked with KDWM to resolve technical issues. In addition, there were two public comment periods included within this process.

b. There were two 30-day public comment periods. The first public comments period starts after the application is determined to be administratively complete and the second comment period commences after the draft permit is issued.

c-d. The final Special Waste Landfill Permit was issued on September 9, 2015. Please see KPCO_R_PSC1_9_Attachment1 for a copy of the permit.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the DeRuntz Testimony, page 6, regarding the need to obtain a Section 404 Permit from the U.S. Army Corps of Engineers and a water quality certification from the Kentucky Division of Water.

a. Provide the status of the two permitting processes.

b. With respect to the water quality certification, provide the following:(1) Explain why Kentucky Power is waiting until the end of 2015 to submit this request.

(2) Explain what Kentucky Power will do if the permit is denied.

RESPONSE

a. Kentucky Power submitted an application for a Section 404 Permit was submitted to the U.S. Army Corps of Engineers on February 24, 2015. Kentucky Power submitted an application for a water quality certification under Section 401 of the Clean Water Act to the Kentucky Division of Water on March 9, 2015. A Section 401 water quality certification is required to accompany all federally issued permits. The Company has met with the respective agencies to discuss the project and the required mitigation for impacts to wetlands adjacent to the impoundment. Based on these discussions, the Company does not anticipate any difficulty obtaining the Section 404 Permit or the water quality certification.

b. (1) The application for the water quality certification was submitted on March 9, 2015. The reference to submitting an application by the end of 2015 referred to the wastewater discharge permit for the plant (KPDES permit). The KPDES permit must be modified due to changes in the discharge from the impoundment. The KPDES permit is separate from the Section 404 permit/water quality certification process and is not required to begin closure the ash pond.

Kentucky Power Company

(2) It is unclear to the Company which permit is the subject of this data request. Based on progress to date, Kentucky Power expects the Section 404 Permit and Section 401 water quality certification to be issued. The KPDES permit is not a new application for approval, but rather modifies the existing discharge permit. Kentucky Power anticipates no difficulty obtaining the necessary modification to the KPDES permit.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the DeRuntz Testimony, page 6, regarding whether the proposed closure of the Big Sandy ash pond would comply with the CCR rule. Identify the CCR rule requirements for closing an ash pond and the steps that Kentucky Power is taking to comply with those requirements in closing the Big Sandy ash pond.

RESPONSE

The CCR rule allows in-place closure of surface impoundments. The closure requirements contained at 40 CFR257.100 (b)(1)-(b)(4), specify that the impoundment must be closed in a manner that controls, minimizes, or eliminates, to the maximum extent feasible, the post-closure infiltration of liquids. The design should also preclude the probability of future impoundment of water, sediment, or slurry; include measures that provide for slope stability; and, minimize the need for further maintenance. The final cover must be no less permeable than the bottom liner, or $1x10^{-5}$ cm/sec, whichever is less. The cover must also consist of 18 in. of earthen material to minimize the infiltration of liquids, and 6 in. of material capable of sustaining vegetation to minimize erosion.

Kentucky Power has designed the surface impoundment closure with a geomembrane liner, 18 in. of earthen material and 6 in. of topsoil to sustain vegetation. This combination will be less permeable than the underlying soils, and will minimize the infiltration of liquids. The cover is also designed with slopes to drain surface water on the cover. The designed surface impoundment closure is consistent with the CCR Rule requirements.

The final cover must be maintained during a 30 year post-closure care period, and the groundwater in the uppermost aquifer surrounding the impoundment must also be monitored during the 30 year post-closure care period.

Kentucky Power has written a post-closure care plan to monitor the final cover and has installed a groundwater monitoring network to monitor the groundwater during the post-closure care period.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the DeRuntz Testimony, page 7, lines 8-9, which state that, "there is no existing permitted landfill, owned by the Company, in the vicinity of the Big Sandy Impoundment that could receive the fly ash." State whether there is an existing landfill in the vicinity of the Big Sandy Impoundment not owned by Kentucky Power that could receive the fly ash.

RESPONSE

The Big Run Landfill, which is located approximately 35 miles by road from the Big Sandy Plant, accepts ash for disposal. It is not known if the landfill would be capable of accepting the specific ash from the Big Sandy Plant. As discussed on page 8 of the DeRuntz testimony, the estimated cost of fly ash handling and transportation a distance of approximately 30 miles would range between $150 - $175 million. This estimated cost does not include any additional tipping fee for disposal of the ash.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the DeRuntz Testimony, pages 7-8, concerning Kentucky Power's review of East Kentucky Power Cooperative, Inc.'s ("EKPC") plan to close the ash pond at EKPC's Dale Generating Station. One of the reasons provided in the testimony as to why EKPC's situation differs from that of Kentucky Power's is that EKPC would have more regulatory challenges in obtaining a permit from KDWM to close the Dale ash pond due to its location near the Kentucky River. With respect to the locational factor, fully explain how EKPC's situation differs from that of Kentucky Power's in light of the fact that the Big Sandy ash pond is located in close proximity to Blaine Creek and to the Big Sandy River.

RESPONSE

The ash ponds at the EKPC Dale Station are immediately adjacent to the Kentucky River. In its March 26, 2015 Order in Case No. 2014-00252 the Commission found:

"EKPC also stated that ... [the in-place closure options] would have kept the coal ash produced by the Dale Station permanently located adjacent to the Kentucky River, raising siting-requirement concerns that would make it unlikely that EKPC could successfully obtain a special waste landfill permit."

By contrast, the Big Sandy Fly Ash Impoundment is located approximately 0.75 mile from the Big Sandy River and is outside the 100-year floodplains of both Blaine Creek and the Big Sandy River.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the DeRuntzTestimony, pages 8-9, regarding the project design.

a. Explain how and why URS was selected as the external consultant to ensure that the proposed closure of the Big Sandy ash pond would be the least-cost option.

b. Provide a copy of any analyses performed by URS with respect to the engineering and design of the cap and associated site drainage in connection with the proposed closure of the Big Sandy ash pond.

c. Provide an estimate of how long it will take to drain water from the impoundment.

RESPONSE

a. URS was chosen as the external consultant based on its status as a pre-approved technical service contractor for AEP, previous work for AEP at other plant sites, and the specific investigatory work it performed related to the proposed landfill to be used if the Big Sandy Unit 2 Scrubber had been constructed. That project involved a landfill to receive Scrubber waste and would have been constructed over a portion of the fly ash impoundment. Because URS was familiar with the topography, hydrology and geology of the impoundment, it was the logical choice to engineer the impoundment closure.

b. All analyses performed by URS are reflected in the various calculations, documents and drawings submitted with special waste landfill permit application to the KDWM.

c. The surface water will be drained from the impoundment during the first year of construction. After the initial draining takes place a small pool will be maintained to control storm water runoff.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the DeRuntz Testimony, page 11.

a. Provide a copy of the Project Charter.

b. Explain the process by which the Project Charter was internally vetted and approved.

RESPONSE

a. Please see KPCO_1_15_Attachment1.pdf for the Project Charter.

b. The draft charter was circulated for comments among the project team, which includes the Big Sandy Plant Manager, Kentucky Power-Generation, and members from the AEP Engineering, Environmental, Construction and Project Management organizations. Any comments were reconciled and incorporated into the final document which is then routed for management approval.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the DeRuntz Testimony, page 14, lines 6-7. Provide the following:

a. The estimated date the request for proposal ("RFP") will be issued.
b. The estimated due date for the RFP responses.
c. The estimated date for awarding the bid.

RESPONSE

a. The RFP will be issued on or about January 29, 2016

b. RFP responses will be due on or about March 11, 2016

c. Bid award will be on or about April 1, 2016

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the DeRuntz Testimony, Exhibit JGD-2, page 1 of 1. Explain what is indicated by the asterisks next to certain dates on this schedule.

RESPONSE

The asterisks are a function of the scheduling software and denote schedule activities in which the date has been manually entered rather than calculated by the software.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the DeRuntz Testimony, Exhibit JGD-3, page 1 of 1. Explain why the Geomembrane cost estimate was revised to include a liner, geocomposite, and separation layer over the entire Big Sandy ash pond.

RESPONSE

The decision to include a geomembrane liner system over the entire impoundment was based the recommendation from KDWM, in which the agency recommended the use of a flexible membrane liner, geocomposite, and separation layer over the entire facility.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the DeRuntz Testimony, Exhibit JGD-3, page 1 of 1. Mitigation of Stream Impacts cost is shown as $4.2 million with a description of "Purchase 5600 wetland credits from area mitigation bank."

a. Explain what a "wetland credit" is and how it was determined that 5,600 credits would be needed.

b. Explain what a "mitigation bank" is and the requirements for it to be considered an "area mitigation bank."

c. State whether there are other options available to Kentucky Power for mitigation of stream impacts. If so, describe the options and explain why they were not chosen.

RESPONSE

a. Wetland credits are a mechanism for addressing mitigation obligations under Section 404 where wetlands are created, enhanced, or restored by one party and then sold to other parties to compensate for wetlands that are unavoidably impacted by those other parties. For Kentucky Power, the number of credits needed was established by the U.S. Army Corps of Engineers and was based on the acreage and function of streams/wetlands that will be impacted as part of the impoundment closure.

b. A mitigation bank is a site-specific account of total wetlands credits developed by one party that can be made available for purchase to other parties. An "area mitigation bank" refers to the limitation of use of credits from that bank for impacts within a specific geographic area.

c. An available option would be for Kentucky Power to construct its own replacement wetlands for those being impacted. The Corps of Engineers refers to this as "permittee-responsible mitigation." This is typically a more costly approach and includes inherent risk in that the constructed wetland must meet numerous ecological criteria at the end of a five to ten year monitoring period.

Subsequent to the submission of the application in this case, the Company investigated the option to mitigate the wetlands impacts by engineering and constructing wetlands within the closed impoundment channels. Initial indications from the Corps of Engineers and relevant Kentucky agencies are generally supportive of the conceptual plan. Final approval will require detailed drawings which are presently underway. A final decision will ultimately be based on the final cost to mitigate on site compared to the cost of wetland credits.

WITNESS: Joseph G DeRuntz

Kentucky Power Company

REQUEST

Refer to the Direct Testimony of John A. Rogness ("Rogness Testimony"), page 4, lines 15-17, which state, "However, once the station ceases to burn coal and no longer actively deposits fly ash into the ash impoundment, the Company is required by law to store the contents on a permanent basis." Specify which laws are referred to by use of the term "by law."

RESPONSE

Coal combustion residuals ("CCRs") are considered a special waste under KRS 224.50-760(1)(a). When the Big Sandy Impoundment is actively receiving CCRs, the impoundment is authorized through a permit by rule in accordance with 401 KAR 45:060, Section 1(4).

With the cessation of coal-fired generation at the Big Sandy Plant, the Big Sandy Impoundment will no longer actively receive CCRs and the permit by rule regulations will not apply. In the absence of a specific pond closure permitting protocol expressly provided by statute or regulaiton, and with the concurrence of the Kentucky Division of Waste Management (KDMW), the closure of the Big Sandy Impoundment is being pursued via KDWMs Special Waste Landfill Permitting process. Additionally, the final CCR Rule, which will be codified at 40 CFR Part 257, Subpart D, requires inactive surface impoundments to be closed in accordance with the technical specifications set forth therein. Please see the Company's response to Staff 1-11 for a description of how the proposed closure of the Big Sandy Impoundment complies with the technical specifications in the CCR Rule.

WITNESS: John A Rogness

Kentucky Power Company

REQUEST

Refer to the Rogness Testimony, page 4, in which Mr. Rogness states that once the Big Sandy ash pond is closed, a different set of environmental regulations will govern the site.

a. Describe these different regulations.

b. Describe the environmental and liability concerns once the Big Sandy ash pond is closed and capped with a flexible membrane liner.

c. Provide a copy of any and all reports of any Environmental Assessments regarding the closure of the Big Sandy ash pond.

RESPONSE

a. Once the fly ash impoundment is closed and the Special Waste Landfill permit has been issued by KDWM, the site will be regulated as a permitted Special Waste Landfill in accordance with the special waste regulations in 401 KAR Chapter 45. Additionally, the site will be regulated under the CCR Rule.

b. Following closure, Kentucky Power will operate the Big Sandy Impoundment in accordance with its KDWM issued Special Waste Landfill Permit and the CCR Rule, including long-term groundwater monitoring. The permit and the CCR Rule are designed to limit any potential liabilities, environmental or otherwise.

c. No Environmental Assessments, as that term is defined under the National Environmental Policy Act were required or have been completed for this project. All evaluations of the environmental impact of the closure of the Big Sandy Impoundment were prepared as part of the necessary permit applications and have been provided with the application in this case.

WITNESS: John A Rogness

Kentucky Power Company

REQUEST

Describe any beneficial reuse projects that have occurred with coal combustion byproducts generated by the Big Sandy Generating Station.

a. Define the percentage of the total coal-combustion byproduct that was used for beneficial reuse and the revenue generated.

b. Explain whether any of the coal combustion byproducts in the Big Sandy ash pond could be beneficially reused.

RESPONSE

Cenospheres, fly ash components that float on the surface of the impoundment and that are skimmed off the pond, constitute the only beneficial reuse projects undertaken in connection with the coal combustion byproducts generated by the Big Sandy generating station. Cenospheres may be used as filler for concrete, plastics or other related applications.

a. In 2014, 0.07% by weight of combustion by-product "fly ash" from Big Sandy Plant was recovered. The 2014 revenue for cenospheres totaled $55,400 for the 148 tons collected.

b. At Big Sandy Plant, coal combustion by-product "fly ash" is transported in a slurry. Once the fly ash has been combined with water, the quality is such that there is no market for the material beyond the cenospheres.

WITNESS: John A Rogness

Kentucky Power Company

REQUEST

Describe the methods to monitor routine groundwater and surface water once the Big Sandy ash pond is closed.

RESPONSE

A new spillway will be constructed and a network of groundwater monitoring wells will be installed to support the post closure care and monitoring requirements of the permit. Please see Attachment 43 (the Surface Water Monitoring Plan) and 44 (the Groundwater Monitoring Plan) to the Application for a Special Waste Landfill Permit included as part of Exhibit 2 to the Company's Application.

WITNESS: John A Rogness

Kentucky Power Company

REQUEST

After the Big Sandy Ash pond has been closed in place, explain whether the site could be used for other purposes in the future. If so, provide a list of the purposes that could be considered and an estimate of the benefit of such uses to Kentucky Power

RESPONSE

Once the site reclamation process has been completed, the integrity of the liner system must be maintained. This limits the possible future uses of the site. The Company's plans are to maintain the vegetative ground cover and perform the required environmental monitoring. There are no other plans for the site reuse contemplated at this time.

WITNESS: John A Rogness