

Green Station Closure Extension Demonstration - Progress Report
Green Station Surface Impoundment (AI#4196)
Solid Waste Permit #SW11700016, SW11700007 (ACTV0005)

DATE: October 17, 2023

INTRODUCTION

The purpose of this memo is to fulfill the requirement of 40 Code of Federal Regulations (CFR) §257.103(f)(2)(x) for an annual progress report. Big Rivers Electric Corporation (BREC) submitted the *Green Station Closure Extension Demonstration (Report)* to the United States Environmental Protection Agency (USEPA) on November 25, 2020. The Report was prepared by Burns & McDonnell Engineering Company, Inc. requesting an alternate deadline to initiate closure for the ash pond located at R.D. Green Station (Units 1 & 2) at 9000 Highway 2096, Robards, Kentucky. The formal request was made pursuant to 40 CFR §257.103(f)(2) — “*Permanent Cessation of a Coal-Fired Boiler(s) by a Date Certain*”. The Report submitted in November of 2020 was determined to be complete by the USEPA on January 11, 2022 and is currently under review by the USEPA.

Per the Report referenced above, BREC was required to permanently cease coal-fired operations of the two (2) Green Station boilers by May 31, 2022, and complete closure of the 16.7-acre Coal Combustion Residual (CCR) surface impoundment used to manage CCR and non-CCR wastestreams no later than October 17, 2023. BREC continues to lack alternative disposal capacity as described in the Report and continues efforts to complete closure by removal of the subject impoundment. Therefore, site-specific alternative deadline is still necessary to allow the Green Ash Pond to continue receiving CCR and/or non-CCR wastestreams after April 11, 2021.

PROJECT UPDATE - PERMANENT CESSATION OF COAL-FIRED BOILERS

BREC was granted a Certificate of Public Convenience and Necessity (CPCN) by the Kentucky Public Service Commission (KPSC) to convert Green Station to a natural gas fired facility. The CPCN was entered as a public record on June 11, 2021, and is provided as an attachment to this memo. Likewise, BREC received a Proposed Title V Air Permit from the Kentucky Division for Air Quality (KDAQ) on November 9, 2021, which authorizes Green Station to be converted to natural gas firing. Receipt of the Proposed Title

V Air Permit allowed BREC to commence construction on the natural gas conversion project. A final permit was issued by KDAQ on January 17, 2022. Finally, a purchase order was issued to Graycor Southern, Inc. for the construction phase of converting Green Station to natural gas firing.

Both Green units converted to natural gas firing by May 31, 2022; thus, allowing the closure of the Green Ash Pond to commence after June 1, 2022. While originally designated to be closed using a hybrid approach, BREC has since decided to complete closure using a full closure by removal approach as documented in the updated Closure Plan (Revision 3) dated June 20, 2022. Northstar, the closure contractor, mobilized to the site on September 26, 2023 and has currently removed approximately 610,000 cubic yards (CY) of the total 900,000 CY previously contained in the Green Ash Pond at the start of the closure construction.

CONTINUED LACK OF ALTERNATIVE DISPOSAL CAPACITY

Per the requirements of 40 CFR §257.103(f)(2)(i), The Report dated November 25, 2020, provides documentation that no alternative disposal capacity is currently available on-site or off-site for each CCR and non-CCR wastestream that BREC seeks to continue placing into the Ash Pond after April 11, 2021. A summary of conditions from the Report for CCR and non-CCR waste streams are listed below:

- On-site alternative capacity is currently not available and would need to be developed. Development of on-site alternative capacity would require the design, permitting, and installation of a new treatment system including CCR ponds, conveyors, clarifiers, and/or storage tank(s), to provide the necessary retention time to meet current KPDES permit limits.
- Off-site alternative capacity is currently not available and would need to be developed. BREC has not yet identified a Publicly Owned Treatment Works (POTW) that will accept these waste streams. Developed off-site alternative capacity would consist of temporary on-site wet storage (such as frac tanks), the installation of sumps/pumps/piping/and power supply to reroute these flows to that temporary storage, KPDES permit modifications with external sources (if a POTW can be identified and contracted to receive these flows), and significant daily tanker truck traffic driving an unknown distance across Kentucky roadways.

BREC has ceased receipt of CCR wastestreams at the site; however, long term plant operation continues to require the use of the Green Ash Pond for treatment of non-CCR wastestreams after closure by removal is completed. Consequently, BREC is removing ash out of the Green Ash Pond and completing closure by removal while the impoundment continues to receive non-CCR wastestreams.

ADDITIONAL TIME NEEDED TO COMPLETE CLOSURE BY REMOVAL

BREC has experienced extenuating circumstances that have extended the timeframe required to complete closure by removal of the Green Ash Pond. EPA contemplated such circumstances when drafting the 2015

CCR rule, and provided such facilities with an alternative to extend the closure time frames with up to a two-year extension due to factors beyond the facility's control. While these extensions do not technically apply to the Green Ash Pond and its status under 257.103(f)(2), EPA cannot require the impossible and cannot expect BREC to complete closure by the originally requested site-specific alternate deadline of October 17, 2023. Since the Green Ash Pond is smaller than 40 acres, the closure timeframe would have been allowed to be extended up to two years per 40 CFR § 257.102(f)(2)(ii)(A) if the need for the extension could be substantiated. Per § 257.102(f)(2)(i), the following factors may be considered to support closure timeframe extensions:

- A. Complications stemming from the climate and weather, such as unusual amounts of precipitation or a significantly shortened construction season;
- B. Time required to dewater a surface impoundment due to the volume of CCR contained in the CCR unit or the characteristics of the CCR in the unit;
- C. The geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit; or
- D. Time required or delays caused by the need to coordinate with and obtain necessary approvals and permits from a state or other agency.

As noted in the Ash Impoundment Closure Plan (Revision 3, 11/20/2020), closure construction activities began in September 2022 and were projected to be completed by September of 2023 (within five years of commencing closure construction as required by § 257.102(f)(1)(ii)). As of October 17, 2023, the contractor had removed approximately 610,000 cubic yards (CY) of ponded sediment from the impoundment and an estimated 290,000 CY remains to be removed.

Based on the estimated remaining quantity of material in the impoundment it is anticipated that closure will be completed within the two-year extension timeframe provided to similar ponds. The extension is substantiated based on impacts of climate (§257.102(f)(2)(i)(A)) and challenges safely and efficiently dewatering the CCR material (§ 257.102(f)(2)(i)(B)). The certification statement required under § 257.102(f)(2)(iii) has been provided at the end of this letter and is signed by an authorized representative of the Owner/Operator.

CONCLUSION

Based upon the information included in the Report dated November 25, 2020, and summarized above, BREC has demonstrated the need for an extension per the requirements of 40 C.F.R. § 257.103(f)(2) and has experienced circumstances requiring additional time to complete the closure by removal efforts for the Green Ash Pond. This CCR surface impoundment (<40 acres) is needed to continue to manage the non-CCR waste streams during continued operation of the natural gas-fired boilers. EPA cannot require the

impossible and cannot expect BREC to complete closure by the originally requested site-specific alternate deadline of October 17, 2023. Closure by removal is 67% complete and is forecasted to be completed by the end of the first quarter 2024 if not sooner.

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Heather Todd

Plant Manager, R.D. Green Station

October 17, 2023