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**MEMORANDUM**

12 October 2016
File No. 40373-440

SUBJECT: CCR Conceptual Closure Plan
Collection Basin No. 2
Dayton Power & Light Company
Killen Electric Generating Station
Manchester, Ohio

Dayton Power & Light Company (DP&L) operates the coal-fired Killen Electric Generating Station (KEGS) located near Manchester, Ohio. Since beginning operations in 1982, DP&L has stored and disposed of plant generated CCR in on-site impoundments. Collection Basin No. 2 and the adjacent Collection Basin No. 1, are the primary settling basins for all KEGS plant waste water including gypsum produced in the flue gas desulfurization (FGD) process. Collection Basin No. 2 is active and will continue to receive FGD/process water generated by the KEGS plant in the future. This written Closure Plan (Plan) addresses the requirements of §257.102 *Criteria for conducting the closure or retrofit of CCR units* of the USEPA's Final CCR Rule dated April 17, 2015 for the KEGS Collection Basin No. 2.

This Plan has been developed based upon information provided by DP&L and describes the impoundment, closure plan design, a schedule for closure, and steps required to amend the closure plan in the future if necessary. This plan calls for the impoundment to be closed by removal of the CCR and decontamination of the CCR unit (herein referred to as "closure by removal").

*§257.102(b)(1): The owner or operator of a CCR unit must prepare a written closure plan that describes the steps necessary to close the CCR unit at any point during the active life of the CCR unit consistent with recognized and generally accepted good engineering practices. The written closure plan must include, at a minimum, the information specified in paragraphs (b) (1) (i) through (vi) of this section.*

At any point during the active life of the impoundment closure may be necessary. Currently, DP&L plans to operate the KEGS facility through the year 2036 and begin closure of the impoundment thereafter. Regardless of when the impoundment is closed the following steps will be necessary for closure of the unit:

1. Finalize detailed construction plans for closure.
2. Obtain written Professional Engineer (PE) certification that the excavation and final grading plans meets the requirements of the Final CCR Rule.

3. No later than the date closure is initiated, prepare a notification of intent to close a CCR unit and place notification in the facility operating record. The notification of intent to close must include the PE certification from Step 2.
4. Obtain State regulatory agency closure design approval.
5. Commence closure no later than 30-days after known final receipt of CCR.
6. Complete closure within five years of commencing closure activities.
7. Obtain PE certification verifying closure has been completed in accordance with this Plan.
8. Within 30-days of completion of closure of the CCR unit, prepare a notification of closure of the CCR unit and place notification in the facility operating record. The notification of closure will include the PE certification from Step 7.

*§257.102(b)(1)(i): A narrative description of how the CCR unit will be closed in accordance with this section*

Prior to closure, a final grading plan will be prepared to establish final topographic elevations in and around Collection Basin No. 2. After final receipt of CCR and dewatering, CCR will be removed from Collection Basin No. 2. As part of its normal/routine operation, the pumped FGD/process water inflow is redirected to the adjacent Collection Basin No. 1, the basin is drained (via an 18-inch bottom drain) and dewatered. Collected solids are excavated and landfilled or beneficially used. The interior partial height intermediate "splitter" dike constructed of CCR and stone material that divides the basin into east and west sub-basins will also be excavated and landfilled.

The above grade portion of the impoundment berms will then be graded inward to reduce interior slopes and to minimize additional stormwater run-on from outside of the impoundment boundary. Additional miscellaneous clean fill material from on-site and/or offsite sources may need to be imported in order to achieve the elevations detailed in the final grading plan.

After removal of all CCR, groundwater monitoring concentrations will be analyzed to confirm no exceedance of the protection standard established by §257.95(h).

*§257.102(b)(1)(ii): If closure of the CCR unit will be accomplished through removal of CCR from the CCR unit, a description of the procedures to remove the CCR and decontaminate the CCR unit in accordance with paragraph (c) of this section.*

*§257.102(c): An owner or operator may elect to close a CCR unit by removing and decontaminating all areas affected by releases from the CCR unit. CCR removal and decontamination of the CCR unit are complete when constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have been removed and the groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to §257.95(h) for constituents listed in appendix IV to this part.*

After final receipt of CCR, Collection Basin No. 2 will be drained and dewatered. CCR will be removed from the basin, final grading of berms and/or placement of clean fill will be performed to achieve the elevations detailed in the final grading plan and groundwater monitoring concentrations will be

analyzed to confirm no exceedance of the protection standard established by §257.95(h) as described above.

*§257.102(b)(1)(iii): If closure of the CCR unit will be accomplished by leaving CCR in place, a description of the final cover system, designed in accordance with paragraph (d) of this section, and the methods and procedures to be used to install the final cover. The closure plan must also discuss how the final cover system will achieve the performance standards specified in paragraph (d) of this section.*

N/A – the CCR unit will be closed through closure by removal.

*§257.102(b)(1)(iv): An estimate of the maximum inventory ever on-site over the active life of the CCR unit.*

The maximum volume of CCRs ever stored in the unit is estimated to be less than or equal to approximately 15,000 CY.

*§257.102(b)(1)(v): An estimate of the largest area of the CCR unit ever requiring a final cover as required by paragraph (d) of this section at any time during the CCR unit's active life.*

The area of the impoundment is approximately 1.9 acres but is planned to be closed via closure by removal and will therefore not require a final cover. This area is based on data provided by DP&L of historic impoundment boundaries. There are no planned lateral expansions of the impoundment.

*§257.102(b)(1)(vi): A schedule for completing all activities necessary to satisfy the closure criteria in this section, including an estimate of the year in which all closure activities for the CCR unit will be completed. The schedule should provide sufficient information to describe the sequential steps that will be taken to close the CCR unit, including identification of major milestones such as coordinating with and obtaining necessary approvals and permits from other agencies, the dewatering and stabilization phases of CCR surface impoundment closure, or installation of the final cover system, and the estimated timeframes to complete each step or phase of CCR unit closure. When preparing the written closure plan, if the owner or operator of a CCR unit estimates that the time required to complete closure will exceed the timeframes specified in paragraph (f) (1) of this section, the written closure plan must include the site-specific information, factors and considerations that would support any time extension sought under paragraph (f)(2) of this section.*

An estimated schedule for completing the activities necessary to satisfy the closure criteria of the CCR Rule is provided below. The schedule lists the sequential steps that need to be taken to close the impoundment.

| Item # | Task Item | Completion Timeframe (months) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Design & Permitting | | | | | | | | Closure | | | | | | | | |
| | | -8 | -7 | -6 | -5 | -4 | -3 | -2 | -1 | | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 |
| 1 | Prepare Construction Plans | | | | | | | | | | | | | | | | | |
| 2 | PE Design Certification | | | | | | | | | | | | | | | | | |
| 3 | Notice of Intent to Close | | | | | | | | | | | | | | | | | |
| 4 | Agency Closure Permit Issuance | | | | | | | | | | | | | | | | | |
| 5 | Cease placing CCR | | | | | | | | | | | | | | | | | |
| 6 | Commence Closure | | | | | | | | | | | | | | | | | |
| 7 | Drain/Dewater Impoundment | | | | | | | | | | | | | | | | | |
| 8 | Excavate All CCR | | | | | | | | | | | | | | | | | |
| 9 | Fill/Regrade to Achieve Final Grades | | | | | | | | | | | | | | | | | |
| 10 | PE Closure Certification | | | | | | | | | | | | | | | | | |
| 11 | Notice of Impoundment Closure | | | | | | | | | | | | | | | | | |

DP&L will need to initiate some activities prior to commencing closure. As indicated on the schedule, DP&L will need to take action on Steps 1-4 as early as 8 months prior to the anticipated final receipt of CCR at the impoundment.

Per §257.102(e)(3) closure of the impoundment has commenced when DP&L has ceased sluicing CCR into the impoundment and completes any of the following actions or activities: (i) Taken any steps necessary to implement the written closure plan; (ii) Submitted a completed application for any required state or agency permit or permit modification; or (iii) Taken any steps necessary to comply with state or other agency standards that are a prerequisite, or are otherwise applicable, to initiating or completing the closure of the CCR impoundment.

DP&L intends to operate the plant through 2036. Closure activities for the CCR impoundment are estimated to be completed in 2038.

*§257.102(b)(3)(i): The owner or operator may amend the initial or any subsequent written closure plan developed pursuant to paragraph (b) (1) of this section at any time.*

DP&L will assess the plan and amend the plan whenever there is a change in operation of the CCR impoundment that would substantially affect the closure plan or when unanticipated events necessitate a revision of the plan either before or after closure activities have commenced.

The closure plan will be amended at least 60 days prior to a planned change in the operation of the facility or the CCR impoundment, or no later than 60 days after an unanticipated event requires the need to revise the closure plan. If the closure plan needs to be revised after closure activities have commenced, the plan will be revised no later than 30 days following the triggering event.
The amended closure plan will be placed in the facility operating record as required by the CCR Rule.

A record of amendments to the plan will be tracked below. The latest version of the closure plan will be noted on the front cover of the plan.

| Version | Date | Description of Changes Made |
|---|---|---|
| 1 | 12 October 2016 | Initial Issue |
| | | |
| | | |
| | | |
| | | |
| | | |

## Professional Engineer Certification

*§257.102(b)(4): The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer that the initial and any amendment of the written closure plan meets the requirements of this section.*

I certify that this written Closure Plan for DP&L's Collection Basin No. 2 at the Killen Electric Generating Station meets the USEPA's Final CCR Rule requirements of §257.102(b).

Signed: _____
Consulting Engineer

Print Name: Steven F. Putrich
Ohio License No.: 67329
Title: Vice President
Company: Haley & Aldrich, Inc.

Professional Engineer's Seal and date: