CLOSURE PLAN FOR EXISTING CCR SURFACE IMPOUNDMENT

40 CFR 257.102 (b)

SITE INFORMATION

Site Name / Address
Duck Creek Power Station / 17751 North Cilco Road, Canton, IL 61520

Owner Name / Address
Illinois Power Generating Company / 1500 Eastport Plaza Drive, Collinsville, IL 62234

CCR Unit
Ash Pond No. 2

Reason for Initiating Closure
Known final receipt of waste

Final Cover Type
Clayey Soil Cover

Closure Method
Close-In Place

CLOSURE PLAN DESCRIPTION

(i)(10) - Narrative description of how the CCR unit will be closed in accordance with this section.

Ash Pond No. 2 will be dewatered to facilitate closure and closed-in-place. The final cover will be sloped to promote drainage and the stormwater runoff will be discharged through the existing NPDES permitted outfall. Closure operations will involve: (i) remove dry CCR from Pond No. 1 and Pond No. 2 for placement as fill (i.e., crown) in the north end of Pond No. 2 (CCR from station operations and/or from other affiliated stations may also be used for the crown); (ii) regrade/placing fill to create acceptable grades for closure; and (iii) install final cover. In accordance with 557.3023.003, this initial written closure plan will be amended to provide additional details after the final engineering design for the grading and cover system is completed. This initial closure plan reflects the best information available to date.

(i)(12) - If closure of the CCR unit will be accomplished by leaving CCR in place, a description of the final cover system and methods and procedures used to install the final cover.

The final cover system will be installed in direct contact with graded CCR and will include (from bottom up): (1) 18" of compacted earthen material with a permeability of less than or equal to the permeability of the natural subsoils present at the site or no greater than 1x10^{-5} cm/sec, whichever is less (infiltration layer); (2) 6" of soil capable of sustaining native plant growth (erosion layer); and (3) planted with native grasses. The final cover will have a minimum slope of 2% and will be graded to convey stormwater runoff to the recycle pond through leatdown structures on the existing pond embankments and through the existing NPDES permitted outfall. CCR material will be placed and regraded as fill to bring the grade up to the design slopes. Earthen material for the infiltration layer will be placed, graded, and compacted to meet the thickness and permeability, as discussed above. Earthen material will be placed to create a 6" soil erosion layer that will sustain native plant growth. The final cover surface will be seeded and vegetated.

(i)(13) - How the final cover system will be designed, including a geotechnical analysis.

The permeability of the final cover will be equal to or less than the permeability of the natural subsoils present or a permeability no greater than 1x10^{-5} cm/sec, whichever is less, and will be graded with a minimum 2% slope.

(i)(14) - The need for further maintenance of the CCR unit.

The final cover will be installed with a minimum 2% slope. Benches will have a maximum width of 300’, as needed across the unit.

(i)(15) - Completion of the short-term closure (within 12 months) as required at the time of construction and generally accepted good engineering practices.

The final cover will have a minimum 2% slope. Final slope of the berms and cover will meet the stability requirements to prevent sloughing or movement of the final cover system based on geotechnical analysis.

(i)(20) - The need for further maintenance of the CCR unit.

Closure is estimated to be completed by November 19, 2020.

(i)(30) - The permeability of the final cover system must be less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1x10^{-5} cm/sec, whichever is less.

The unit will be dewatered sufficiently to remove the free liquids to provide a stable base for the construction of the final cover system.

(i)(30)A - The permeability of the final cover system must be less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1x10^{-5} cm/sec, whichever is less.

Dewatering and regrading of existing in-place CCR will sufficiently stabilize the waste such that the final cover will be supported.

(i)(30)B - The infiltration of liquids through the closed CCR unit must be monitored by the use of an infiltration layer that contain a minimum of 6 inches of earthen material.

The final cover will consist of a minimum 18" infiltration layer with a permeability equal to or less than the permeability of the natural subsoils present or no greater than 1x10^{-5} cm/sec, whichever is less. Erosion will be minimized with an erosion layer no less than 6" of earthen material capable of sustaining native plant growth. The final cover surface will be seeded and vegetated.

(i)(30)C - The erosion of the final cover system must be monitored by the use of an erosion layer that contain a minimum of six inches of earthen material that is capable of sustaining native plant growth.

When the final design of the final cover system is completed, the written closure plan will be amended to include the detailed final design.

(i)(30)D - The duration of the impoundment of the final cover system must be minimized throughout in a design that accommodates settling and subsidence.

The permeability of the final cover will be equal to or less than the permeability of the natural subsoils present or a permeability no greater than 1x10^{-5} cm/sec, whichever is less.

INVENTORY AND AREA ESTIMATES

- Estimate of the maximum inventory of CCR ever on site over the active life of the CCR unit
5,500,000 cubic yards

- Estimate of the largest area of the CCR unit ever requiring a final cover
77 acres

CLOSURE SCHEDULE

- 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 this 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 major milestones, and the estimated timeframes to complete each step or phase of CCR unit closure.

The milestones and the associated timeframes are initial estimates. Some of the activities associated with the milestones will overlap. Amendments to the milestones and timeframes will be made as more information becomes available.

Written Closure Plan and Notice of Intent to Close Placed in Operating Record
By November 18, 2015

Agency coordination and permit acquisition
- Coordinating with state agencies for compliance
- Acquiring state permits
2020 (estimated)
2017 (estimated)

- Hosting public meetings
- Mobilization
2018 (estimated)

Renew plant process water pipes and de-water and stabilize CCR
- Complete de-watering
- Complete stabilization of CCR
2018 (estimated)

Grading
- Grading of CCR material in pond to facilitate surface water drainage
2019 (estimated)

- Installation of final cover
2020 (estimated)

- Estimate of year in which all closure activities will be completed
2020

Certification by qualified professional engineer appended to this plan.
Certification Statement 40 CFR § 257.102 (b)(4) – Initial Written Closure Plan for a CCR Surface Impoundment or Landfill

CCR Unit: Illinois Power Generating Company; Duck Creek Power Station; Duck Creek Ash Pond No. 2

I, Stefanie A. Voss, being a Registered Professional Engineer in good standing in the State of Illinois, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with the accepted practice of engineering. I certify, for the above referenced CCR Unit, that the information contained in the initial written closure plan, dated November 18, 2015, meets the requirements of 40 CFR § 257.102.

__________________________
Stefanie A. Voss

Printed Name

11-18-2015

Date
Certification Statement 40 CFR § 257.102 (d)(3)(iii) – Design of the Final Cover System for a CCR Surface Impoundment or Landfill

CCR Unit: Illinois Power Generating Company; Duck Creek Power Station; Duck Creek Ash Pond No. 2

I, Stefanie A. Voss, being a Registered Professional Engineer in good standing in the State of Illinois, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with the accepted practice of engineering. I certify, for the above referenced CCR Unit, that the design of the final cover system as included in the initial written closure plan, dated November 18, 2015, currently prepared meets the requirements of 40 CFR § 257.102.

Stefanie A. Voss
Printed Name

11-18-2015
Date