# CLOSURE PLAN FOR EXISTING CCR SURFACE IMPOUNDMENT
**40 *CFR* §257.102 (b)**

## SITE INFORMATION

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| Site Name / Address | Coleto Creek Power Plant, 45 FM 2987 Fannin, Goliad County, TX | | |
| Owner Name / Address | Coleto Creek Power, LP P.O. Box 8 Fannin, TX 77960 | | |
| CCR Unit | Primary and Secondary Ash Ponds | Final Cover Type | Soil/Synthetic Liner System |
| Reason for Initiating Closure | Known final receipt of waste/Final removal of beneficial reuse materials | Closure Method | Close In-Place |

## CLOSURE PLAN DESCRIPTION

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| (b)(1)(i) – Narrative description of how the CCR unit will be closed in accordance with this section. | The Primary and Secondary Ash Ponds (hereafter collectively referred to as the Ash Ponds or impoundment) will be closed such that contained CCR solids will remain in-place. In accordance with §257.102(b)(3), 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, and the plan may be amended in the future. |
| (b)(1)(iii) – 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. | First, the Ash Ponds will be dewatered with the resulting water to be discharged through existing TPDES Outfall No. 003. CCR solids will be graded and leveled, then covered with a final cover system as described below. Existing perimeter dikes will remain intact and the final cover system will tie into these dikes. The cover system will consist of the following elements, listed in order from contact with the CCR to the top: 1) 1 foot thick layer of subgrade leveling fill; 2) 1 foot thick soil liner with a permeability not to exceed the permeability of $1 \times 10^{-5}$ cm/sec; 3) Synthetic Liner System consisting of: Geosynthetic Clay Liner (GCL), Textured (both sides) 40 Mil Linear-Low Density Polyethylene Flexible Membrane Liner (LLDPE-FML), Double Sided (geotextile fabric on both sides) Geonet Drainage Layer; and 4) 24-inch Protective/Vegetative Soil Layer. The top of the final cover system will be vegetated to minimize erosion. The final cover will be sloped to promote drainage and storm water runoff. |
| (b)(1)(iii) – How the final cover system will achieve the performance standards in §257.102(d). | |
| (d)(1)(i) Control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters or to the atmosphere. | The permeability of the final cover will be equal to or less than the permeability of the bottom liner or a permeability no greater than $1 \times 10^{-5}$ cm/sec, whichever is less, and will be graded to prevent ponding and promote drainage. |
| (d)(1)(ii) – Preclude the probability of future impoundment of water, sediment, or slurry. | The final cover will be sloped across the unit as needed to preclude the probability of future impoundment of water, sediment, or slurry. |
| (d)(1)(iii) – Include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system during the closure and post-closure care period. | The top of the vegetated final cover system will be sloped and the outsides of the perimeter dikes will be vegetated as necessary to minimize the potential for erosion. The cap system will be designed by a Qualified Professional Engineer in a manner to prevent sloughing or movement of the final cover system and geotechnical testing will be performed during and after construction to confirm that engineering slope stability standards have been achieved. |
| (d)(1)(iv) – Minimize the need for further maintenance of the CCR unit. | The vegetative cover will be regularly mowed and maintained to minimize the potential for erosion or other structural issues that would cause more extensive and long-term maintenance issues. The storm water control system will be regularly inspected for proper operation. |
| (d)(1)(v) – Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices. | Construction would occur in a phased approach as sections of the impoundment are prepared, enabling expedited capping of portions of the CCR impoundment. |
| (d)(2)(i) – Free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residue. | The unit will be dewatered sufficiently to remove the free liquids to provide a stable base for the construction of the final cover system. |
| (d)(2)(ii) – Remaining wastes must be stabilized sufficiently to support the final cover system. | Dewatering and regrading of existing in-place CCR will sufficiently stabilize the waste such that the final cover will be supported. |
| (d)(3) – A final cover system must be installed to minimize infiltration and erosion, and at minimum, meets the requirements of (d)(3)(i). | The final cover system will be constructed as described above in accordance with (d)(3)(i) and will minimize infiltration and erosion. |
| (d)(3)(i) – The design of the final cover system must be included in the written closure plan. | When the final design of the final cover system is completed, the written closure plan will be amended to include the detailed final design. |
| (d)(3)(i)(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 $1 \times 10^{-5}$ cm/sec, whichever is less. | The permeability of the final cover will be equal to or less than the permeability of the existing bottom liner or no greater than $1 \times 10^{-5}$ cm/sec, whichever is less. This will be verified during construction per the construction quality assurance plan to be developed in conjunction with the detailed amended closure plan. |
| (d)(3)(i)(B) – The infiltration of liquids through the closed CCR unit must be minimized by the use of an infiltration layer than contains a minimum of 18 inches of earthen material. | Infiltration of liquids through the closed CCR unit will be minimized by the placement of a 24-inch thick protective/vegetated soil layer over the Geonet drainage layer. |
| (d)(3)(i)(C) – The erosion of the final cover system must be minimized by the use of an erosion layer that contains a minimum of six inches of earthen material that is capable of sustaining native plant growth. | The final cover will include a minimum 24-inch protective/vegetated soil layer that is capable of sustaining native plant growth. The vegetative cover will be regularly maintained to prevent erosion. |
| (d)(3)(i)(D) – The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence. | The final cover system will be designed to account for expected settlement and subsidence. |

## INVENTORY AND AREA ESTIMATES

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| (b)(1)(iv) – Estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit | Approx. 10 million cubic yards |
| (b)(1)(v) – Estimate of the largest area of the CCR unit ever requiring a final cover | Approx. 200 acres |

## CLOSURE SCHEDULE

(b)(1)(vi) – 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 major milestones …and the estimated timeframes to complete each step or phase of CCR unit closure.

Note: At the time of this Initial Written Closure Plan, there are no immediate plans to close the Ash Ponds. The Ash Ponds are currently actively managing CCR wastes generated during operation of the coal-fired power plant. CCR waste is also actively removed from the Ash Ponds for off-site beneficial use. This practice is expected to continue after the ponds no longer accept CCR solids. The milestones presented in this plan, therefore, provide an overview of major tasks associated with final closure of the Ash Ponds and a schedule relative to the timeframes specified in the rule. This Closure Plan will be amended with more specific information once closure activities have been initiated.

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| (b)(2) - Initial Written Closure Plan Placed in Permanent Record | By October 17, 2016 |

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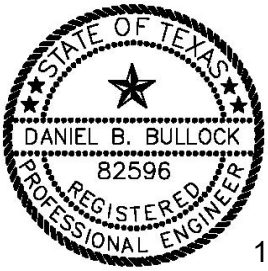
| (e)(1)(ii) – The owner or operator must commence closure of the CCR unit no later than 30 days after the date on which the CCR unit…: Removed the known final volume of CCR from the CCR unit for the purpose of beneficial use of CCR. | Closure activities will commence 30 days after known final receipt of CCR waste and removal of the last known quantity of CCR from the Ash Ponds for the purpose of beneficial reuse, which for the purposes of this plan is assumed to be the year 2045. Closure activities will consist of the following components which will be implemented between 2045 and 2050:<br>1) §257.102(g) Preparation of Notice of Intent to close a CCR Unit<br>2) Agency coordination<br>3) Mobilization<br>4) Reroute plant process water pipes and dewater and stabilize CCR<br>5) Grading of CCR material to final design grades<br>6) Installation of cap system<br>7) §257.102(h) Preparation of Notification of Closure of a CCR Unit<br>8) §257.102(h)(i) Deed Notation |
| f(2)(ii) – …the owner or operator must complete closure of the CCR unit: For existing and new CCR surface impoundments and any lateral expansion of a CCR surface impoundment, within five years of commencing closure activities pursuant to…paragraph (e)(2) of this section. | Final closure of the Ash Ponds will occur within 5 years of commencing closure activities. |

**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: Coleto Creek Power, LP; Coleto Creek Power Station; Primary and Secondary Ash Ponds**

I, Daniel Bullock, being a Registered Professional Engineer in good standing in the State of Texas, 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 October 13, 2016, meets the requirements of 40 *CFR* § 257.102.




10/13/2016

Daniel Bullock, P.E. (TX 82596)
Bullock, Bennett & Associates, LLC
Firm Registrations: Engineering F-8542, Geoscience 50127

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

**CCR Unit: Coleto Creek Power, LP; Coleto Creek Power Station; Primary and Secondary Ash Ponds**

I, Daniel Bullock, being a Registered Professional Engineer in good standing in the State of Texas, 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 conceptual-level design of the final cover system as included in the initial written closure plan, dated October 13, 2016, currently prepared meets the requirements of 40 *CFR* § 257.102.


10/13/2016

Daniel Bullock, P.E. (TX 82596)
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