Closure Plan

C-Pond Greenidge Power Generating Station
Dresden, New York

Greenidge Generation LLC

Project number: 60707917

November 8, 2023

Greenidge Generation LLC
590 Plant Rd
Dresden, NY 14441

Delivering a better world

Revision History

Revision	Revision date	Details	Authorized	Name	Position
0	11/8/2023	Revised Plan - Final			

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Table of Contents

1. Introduction

1.1 Regulatory Background

The Greenidge Power Generating Station ("Greenidge") is an electrical generating plant in the Town of Torrey, Yates County, New York and is owned and operated by Greenidge Generation LLC. Greenidge was idle and in a protective layup status between the spring of 2011 and March 2017. Greenidge formerly burned coal and resumed electric generating operations in 2017 after being retrofitted to burn natural gas.

Greenidge Generation LLC purchased the facility in 2014 after it had ceased generating electricity and has never used coal as a fuel or disposed of Coal Combustion Residuals (CCR) in the C-Pond. Following conversion of the electricity generating unit from coal to natural gas, the C-Pond has only been used to manage non-CCR wastewater and stormwater pursuant to authorization under the facility's State Pollutant Discharge Elimination System ("SPDES") Permit No. NY0001325 issued by the New York State Department of Environmental Conservation ("NYSDEC"). Greenidge has been working with the NYSDEC on approval to redirect process and stormwaters away from the C-Pond. In July 2022, NYSDEC approved a plan that allowed Greenidge to redirect process and stormwaters away from the C-Pond and direct them to Outfall 002. Greenidge has completed construction of this C-Pond bypass project and is now diverting facility process and stormwaters to Outfall 002 and initiating closure of the C-Pond.

Greenidge finalized the prior closure plan for the C-Pond in November 2020 and posted the plan to the company's CCR website, per the United States Environmental Protection Agency's (EPA) regulations. This Closure Plan is prepared pursuant to 40 Code of Federal Regulations (C.F.R.) §257.102(b)(3)(i), which provides: "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." This Closure Plan was prepared to describe the steps necessary to close the C-Pond pursuant to Greenidge' s current chosen method (closure by removal under 40 C.F.R. §257.102(c)) consistent with recognized and generally accepted good engineering practices. This written closure plan includes all the information required to be included in a facility's closure plan under 40 C.F.R. §257.102(b). Closure implementation is detailed further in Section 2. To the extent Greenidge's chosen method of closure changes in the future, a new closure plan will be prepared and posted to the company's CCR website.

1.2 Description of C-Pond

The C-Pond is an unlined, earthen dike impoundment. The current C-Pond footprint itself covers approximately 1.2 acres with an additional 2.7-acre emergency overflow basin with a culvert that leads to a 3.3 acres sinuous channel which discharges to Outfall 002. The historical use of the C-Pond from 1960s through 2011 was used for CCR covering approximately 12 acres. The C-Pond is estimated to contain a CCR volume of about 300,000 cubic yards and is bound on three sides (north, east, south) by perimeter dikes to contain CCR. To the west, C-Pond is bounded by rising topography.

2. Closure Implementation

2.1 Closure Plan Description

Regulatory Citation: 40 C.F.R. §257.102 (b); Written Closure Plan;

> *(1) Content of the plan. 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.*

The Written Closure Plan for C-Pond is described herein.

2.1.1 Overview of Closure Approach

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

As described below, Greenidge presently intends to close C-Pond pursuant to 40 C.F.R. §257.102(c) using a phased excavation and removal approach that will also aid in managing contact stormwater, and site restoration.

The performance standard for closure by removal in 40 C.F.R. §257.102(c) provides:

> *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 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.*

Although this plan for the C-Pond calls for the removal of the vast majority of CCR material, based on site-specific conditions, including the existence of critical infrastructure and utilities as discussed below, a small, limited amount of CCR material may remain at the completion of closure. Excavation/backfill that terminates above normal lake level will be graded as needed to promote stormwater drainage towards the lake. The final graded surface will receive topsoil and seed to establish permanent vegetative growth.

(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.

The protocol for closure by removal of C-Pond will involve removing accumulated CCR such that constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have been removed Depending on site conditions, over-excavating of subgrade soil may be necessary in certain areas. Removed CCR will be transferred to a permitted offsite landfill (Lockwood Hills Landfill).

To facilitate removal of the CCR, a phased approach of removing ponded water will be initiated followed by dewatering pore water within the CCR unit. Dewatering will be conducted using perimeter trenching and sumps and/ or other dewatering methods to allow the CCR pore water to drain to these features where it can be removed by pumping. Water removed from C-Pond will be pumped for treatment and/ or discharge to the new plant discharge line installed adjacent to the west perimeter of C-Pond. These efforts to dewater C-Pond will continue to help stabilize the CCR until the pond can be safely accessed and excavated. After removal of CCR material from C-Pond, the area will be visually inspected. As part of the QA/QC program, targeted soil cores will be hand-augured to a depth of at least six (6) inches, at a frequency of at least one core per acre. A State of New York licensed Land Surveyor will prepare verification surveys of the pond closure. Certification of the closure by removal will be provided by a State of New York licensed Professional Engineer as provided by 40 C.F.R. §257.102(f)(3).

To facilitate effective management of stormwater and contact water, closure by removal of areas within C-Pond will be done in phases. Field work will be sequenced to provide safe construction equipment traffic patterns and to minimize impacts from ongoing Greenidge operations. A phased approach will also allow for documentation of clean areas within the excavation that are approved for soil backfill and/ or vegetation. During closure, temporary CCR excavation slopes will typically be maintained relatively flat so as not to introduce unexpected and unintended movement of CCR while working in the pond.

After CCR removal, the C-Pond footprint (which is above normal lake level) will be graded to promote stormwater drainage (sheet flow) toward the lake. The excavation footprint that is below normal lake level may be left as is or backfilled above normal lake level as needed. Vegetative stabilization will be established to prevent erosion, and the area will be maintained as a grassy area.

In areas in which CCR is identified outside the defined CCR unit boundary, a modified excavation protocol will be followed for removal of CCR. The CCR will be removed to a visually clean condition using methods that minimize impact to surrounding soils. Following CCR removal, the area will be graded and/ or vegetated to prevent erosion with materials suitable for the area.

Some CCR in the C-Pond is inaccessible due to prior beneficial use as structural fill during the historical installation of critical infrastructure. This infrastructure includes but is not limited to:

- The turbine condenser circulating water intake pipe at the toe of the northern perimeter dike;
- Twin water intake tunnels from Seneca Lake to plant house service water system buried directly below C-Pond;
- Power distribution overhead lines/poles;
- Substation access; and
- SPDES Outfall 002 access.

These infrastructure and utilities will be maintained in their current condition and protected during closure construction, possibly resulting in minor amounts of CCR remaining in place. Where minor amounts of CCR are required to remain in-place, engineering controls will be evaluated in the closure design to segregate these areas. Engineering controls may include covering CCRs with compacted soil and/or geosynthetics, seeding disturbed areas and/or placing protective aggregates during site restoration so that no remaining CCR is exposed to the environment.

In addition to the critical infrastructure noted above, limited amounts of CCR may be left adjacent to existing monitoring wells to preserve the integrity of the wells.

Groundwater monitoring will be conducted in accordance with the closure by removal standards set forth in 40 C.F.R. §257.102(c) (i.e., groundwater monitoring will continue until concentrations of constituents of concern in Appendix IV of 40 C.F.R. §257 do not exceed the site-specific groundwater protection standards established under 40 C.F.R. §257.95(h)).

(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.

Not applicable.

2.1.2 Inventory and Area Estimates

(iv) An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit.

An estimate of the maximum inventory of CCR ever on-site over the active life of the C-Pond is 300,000 cubic yards.

(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.

Not applicable.

2.1.3 Closure Schedule

(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.

Greenidge will excavate and remove CCR material from C-Pond for disposal in the Lockwood Landfill Facility. It is anticipated that the C-Pond closure activities will take five years to complete.

The projected schedule for closure activities is provided in Table 2-1 below.

Table 2-1 – Projected C-Pond Closure Timeline

Milestone	Schedule
Cease flows to C-Pond by placing C-Pond Bypass in service	October 10, 2023
Place Notice of Intent to Initiate Closure of C-Pond in Operating Record	November 9, 2023
Inactivate pumping system that supports non-CCR discharges to C-Pond	November 9, 2023

Free water removal from C-Pond, overflow area and sinuous channel	2023-2024
Clearing and grubbing of C-Pond and removal/closure of outlet structures and piping	2023-2024
Prepare engineering design and specifications for closure and bid construction	2024-2025
Prepare and secure necessary state and/or local permits	2024-2025
Award construction and initiate C-Pond dewatering	2024-2025
Conduct phased removal of CCR from C-Pond	2026-2028
Completion of closure activities and restoration	2028

Closure is considered complete when the elements of this Closure Plan specified above have been performed and groundwater monitoring results indicate that Groundwater Performance Standards (GWPSs) have been achieved as certified by a Professional Engineer licensed in the State of New York. This certification will be included as part of a closure certification report included in the operating record. In accordance with 40 C.F.R. §257.102(h), Greenidge will prepare a notification of closure of the C-Pond within 30 days of completion of closure and will place the notification in the operating record.

3. Certification

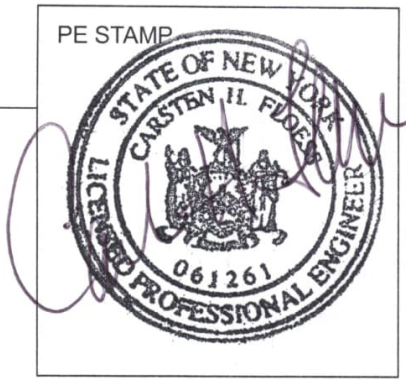
This Certification Statement documents that C-Pond at Greenidge meets the Written Closure Plan requirements specified in 40 C.F.R. §257.102(b) and the closure by removal requirements as specified in 40 C.F.R. §257.102(c).

CCR Unit: Greenidge Power Generating Station; C-Pond

I, **Carsten H. Floess**, being a Registered Professional Engineer in good standing in the State of New York, 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 Written Closure Plan dated November 8, 2023, meets the requirements of 40 C.F.R. §257.102.

Carsten H. Floess, PE Date: 11/8/2023

PE STAMP



Pursuant to Article 145 of the New York State Education Law: “It is a violation of this article for any person, unless he or she is acting under the direction of a licensed professional engineer or land surveyor, to alter an item in any way. If an item bearing the seal of an engineer or land surveyor is altered, the altering engineer or land surveyor shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration.