

Sunnyside Cogeneration Associates

***SCA #2 Ash Landfill
Post-Closure Plan***

October 2016

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1.0 Introduction

The Sunnyside Cogeneration Associates (SCA) power plant burns waste fuel left behind by other mines through the past decades of mining in the area and results in an efficient use of natural resources and reclamation of the existing refuse piles. Operations occur in a manner which protects air quality, surface waters and groundwater in the region. Ash is a byproduct of the SCA power plant and SCA has been disposing of this ash in existing landfills a short distance from the power plant since plant began operations in the early 1990's. The SCA#1 Ash Landfill was closed in 2015 when the SCA #2 Ash Landfill began operations. The ash from the SCA power plant meets the regulatory definition of Coal Combustion Residue (CCR) and the SCA#2 Ash Landfill meets the regulatory definition of an existing CCR Landfill under 40CFR 257.

The existing SCA #2 Ash Landfill is located in unincorporated Carbon County (Portions of Sections 7 & 8, Township 14 South, Range 14 East, SLB&M) just south of the city of Sunnyside / East Carbon. (Approximately Latitude 39° 32' 24" North and Longitude 110° 22' 50" West). Carbon County granted a Conditional Use Permit for the SCA #2 Ash Landfill. The Utah State Department of Environmental Quality also granted a construction permit for the landfill. The Utah State Engineer granted a permit to build Sediment Pond #018.

This report identifies the Post-Closure Plan for the existing SCA #2 Ash Landfill. The plan described herein identifies the care, maintenance and monitoring to occur at this facility after completion of closure activities. This plan has been prepared to meet the requirements of 40CFR 257.104 and the proposed Utah State regulations R315-319-104.

2.0 Executive Summary

The existing SCA #2 Ash Landfill encompasses a footprint of approximately 30-40 acres resting against and into a small side hill with existing elevations ranging from approximately 6400 to 6775. This location was chosen because there is no surface water flowing in the vicinity and it is up above the valley floor and has minimal potential for ground water.

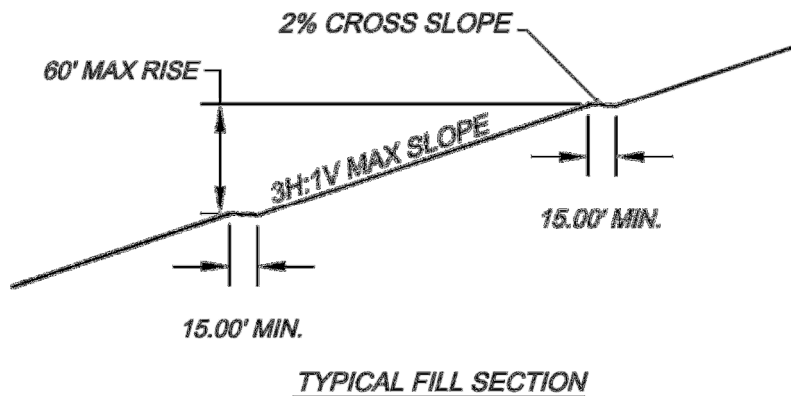
This Post-Closure Plan is focused on the care, maintenance and monitoring that will occur throughout the 30 year Post-closure care period. This will maintain the integrity and effectiveness of the final cover system, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion or other events, and preventing run-on and

run-off from eroding or otherwise damaging the final cover. The groundwater monitoring system will be maintained and monitored throughout the post-closure care period in accordance with the Groundwater Monitoring Plan associated with this facility.

3.0 Landfill and Cover Design Parameters

The design parameters for the SCA #2 Ash Landfill include the following:

- The SCA#2 Ash Landfill has a maximum design footprint of approximately 30-40 acres.
- The design capacity of the SCA #2 Ash Landfill is calculated to include capacity for up to 3.6 Million cubic yards of ash material with a maximum material thickness of approximately 170 feet above existing ground (approximately 375 feet from the toe to the top of the landfill).
- The landfill is designed with a 3H:1V slope on the face of the landfill with benches / terraces 15 feet wide at a maximum vertical spacing of 60 feet. This will provide a conservative slope and reduced need for maintenance throughout the post-closure care period.



- The infiltration cover layer will be 18-inch thick over the ash material consisting of soil material with a permeability of 1×10^{-5} cm/sec.
- The erosion and vegetation cover layer is required to be a minimum of 6-inches thick. However SCA will place a native soil layer approximately 18-inches thick with fertilizer and organic matter mixed in and the surface roughened with deep pockets. (The additional depth of this soil layer allows for significant pocketing without approaching the minimum 6-inch requirement even in the bottom of the pockets, and protects the final cover system in the event of settling or subsidence.)
- Seed with reclamation seed mix currently being used on SCA's Sunnyside properties.

4.0 Post-Closure Care Activities

- Final Cover System

It is important to maintain the integrity of the final cover system, including the infiltration cover layer and the erosion and vegetation cover layer. Potential impacts to this cover system can be caused by settlement, subsidence, erosion or other events. The landfill and cover systems are designed to minimize the potential of these impacts. Periodic inspections of the closed landfill surface will look for signs of irregularities in the cover.

- Erosion gullies can remove portions of the cover and expose lower layers of the cover system and in worse conditions can expose the ash materials.
 - In the event that erosion gullies are observed that could come within 6-inches above the top of the infiltration cover layer, maintenance activities will be implemented to fill the erosion and slow down the velocity of concentrated water flow in that area and possibly redirect or disperse surface runoff waters.
- Run-on / Run-off of precipitation may increase the possibility of erosion conditions on the cover system. Periodic inspections of the closed landfill surface will look for signs of erosion in the collection ditches across the landfill.
 - In the event that the ditches show erosion coming within 6-inches of the top of the infiltration cover layer, maintenance activities will be implemented to fill the erosion and slow down the velocity of water flow in that area.
 - In the event that evidence of significant run-on conditions develop which allow surface waters from off site to flow onto the closed landfill, maintenance activities will be implemented to re-grade, install ditches and or berms to reduce the potential for run-on conditions to occur.
- Impounded water can oversaturate the soils and decrease stability or increase the chance of percolation through the infiltration layer. The design of the facility is such that no significant impounded water should occur. However, surface roughening techniques are intended to hold small amounts of water in the vegetation cover soils to assist with plant growth.
 - In the event that water impounding conditions exist and cover an area greater than 20 square yards, additional fill and grading activities will be implemented to restore the positive drainage off from that area.

- Vegetation
 - A vegetated cover on the surface of the final cover system will assist in maintaining a stable cover system and resist erosion. The desert climate of this area presents a challenge for maintaining vegetation here. The surface roughening techniques discussed above are intended to assist with vegetation growth. Periodic inspections of the closed landfill surface will observe the conditions of the vegetative cover.
 - In the event that areas appear to have noticeably less vegetative cover in comparison with surrounding areas of the landfill or than other adjacent undisturbed areas, SCA will reseed the area the next fall season and seek to re-establish the vegetative cover.
 - In the event that fire or other catastrophic conditions destroy the vegetation, SCA will reseed the area and seek to re-establish the vegetative cover.
- Groundwater Monitoring
 - SCA has installed groundwater monitoring wells in conjunction with this ash landfill. SCA will protect and maintain the wells and monitor groundwater conditions as outlined in the Groundwater monitoring plan.

5.0 Schedule of Post-Closure Activities

Commencement of post-closure activities begins upon completion of closure activities. Closure activities are deemed to be completed upon placing the notice of completion of closure in the facilities operating record. Post-closure activities will occur throughout the post closure period of 30 years.

Inspections will occur throughout the post-closure period on the following schedule:

- Years 0-2 Quarterly
- Years 3-5 Semi-annually
- Years 6-10 Annually
- Years 10-30 Bi-annually

In the event that concerns are encountered during the scheduled inspections as described above, maintenance action will occur and a follow up inspection will be conducted at the conclusion of the maintenance activity.

Groundwater monitoring will be conducted on a schedule as outlined in the groundwater monitoring plan.

6.0 Contact information

During the post-closure care period, contact information regarding this facility can be directed as follows:

Sunnyside Cogeneration Associates
Attn. Plant Engineer
One Power Plant Road
PO Box 139
Sunnyside, UT 84539
435-888-4476
rusnetz@hotmail.com

7.0 Land Use during Post Closure Period

It is anticipated that the land use for this site will include wildlife and grazing uses during and throughout the post-closure period. Maintenance and monitoring activities are also expected to occur and will require access to and across the site. Any other disturbance to the site will require demonstration that the disturbance will not increase the potential threat to human health or the environment. Notification of such demonstration will be sent to the State Director and placed in the facility's operating record and on the internet site.

8.0 Amendments to this plan

It may become necessary to amend this plan or portions of this plan. In the event that amendments are needed, SCA will follow the requirements of 40CFR 257.104(d)(3) and obtain a written certification from a licensed professional engineer that the plan and any amendments to this written closure plan meet the requirements of 40CFR 257.104.

9.0 Notifications

SCA will comply with the closure recordkeeping requirements as specified in 40CFT 257.105(i), the post-closure notification requirements specified in 40CFR 257.106(i) and the closure Internet requirements specified in 40CFR 257.107(i).

SCA will prepare a notification of completion of post-closure care period no later than 60 days following the completion of the post-closure care period. The notification will verify that the post-closure care has been completed and will include a certification by a licensed professional engineer that the post-closure care has been completed in accordance with the plan required by 40CFR 257.104(d). The notification will be placed in the facility's operating record.

APPENDIX A

DESIGN DRAWING

**SUNNYSIDE COGENERATION ASSOC.
SCA #2 ASH LANDFILL CONSTRUCTION DRAWINGS
PROPOSED LANDFILL LAYOUT**

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SCALE	AS SHOWN

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