

FIRST ISSUE – REVISION 0

Post-Closure Care Plan Ash Disposal Area PGE Boardman Power Plant

Prepared for

Portland General Electric

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40 Code of Federal Regulations 257.104.

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Acronyms and Abbreviations

§	section of the Final CCR Rule
BPP	Boardman Power Plant
CCR	Coal Combustion Residual
Rule	U.S. Environmental Protection Agency Final CCR Rule

Introduction

This *Post-Closure Care Plan* presents the activities that will be conducted and the procedures that will be followed for post-closure care following closure of the Ash Disposal Area (also known as the Ash Landfill) at the Portland General Electric (PGE) Boardman Power Plant (BPP) in Boardman, Oregon. Post-closure care will occur in accordance with the U.S. Environmental Protection Agency's Final Coal Combustion Residual (CCR) Rule (Rule). The Rule was published in the Federal Register on April 17, 2015, and becomes effective on October 19, 2015. The Rule regulates the disposal of CCR as solid waste under Subtitle D of the Resource Conservation and Recovery Act. The Rule sets forth national minimum criteria for existing and new CCR landfills and surface impoundments, and lateral expansions to landfills and impoundments.

This plan becomes effective once it is finalized, sealed by a qualified professional engineer, and placed, by PGE, in the facility's operating record. In accordance with Section 257.105(i) of the Rule, the plan must be placed in the operating record as it becomes available, but not later than October 17, 2016, per 257.102(a). Additionally, within 30 days of placing the plan in the operating record, PGE must post the plan on a publicly accessible Web site and notify the State Director (Oregon Department of Environmental Quality [DEQ]) in accordance with Section (§) 257.106(i) and §257.107(i) of the Rule, respectively.

1.1 Closure Criteria

The Rule includes the following closure criteria for CCR landfill units: (1) requirements for preparing closure plans; (2) requirements for clean closure and closure in place of a CCR unit, including design criteria for final cover systems; (3) timeframes for commencing and completing final closure activities; and (4) closure certification requirements. Specific closure requirements for CCR landfills are listed in §257.101 to §257.103 of the Rule.

1.2 Site Description

PGE owns and operates the Ash Disposal Area at the 617-megawatt BPP. The BPP is located approximately 12 miles south of the Columbia River near the town of Boardman, Oregon. The main plant is located north of the Carty Reservoir and the Ash Disposal Area is located on the south side of the Carty Reservoir (Exhibit 1-1). The Ash Disposal Area is approximately 43 acres in size and is used for disposal of surplus and off-spec fly ash and bottom ash materials generated by the BPP that are not otherwise beneficially used.

The disposal area is located on gently sloping ground with elevations ranging from approximately 715 feet above mean sea level on the south end to approximately 695 feet on the north end. The natural ground is "hummocky," which is typical of dune sand topography in this area. Dune sands are apparent today on the north end of the disposal area.¹ The Ash Disposal Area is located in Section 33, Township 2 North, Range 24 East, just southwest of the City of Boardman, Oregon.

The Ash Landfill operates under the Water Pollution Control Facilities permit (No. 100189) issued by the Oregon Department of Environmental Quality. Site use is restricted to BPP operations. The landfill is scheduled to continue to receive ash waste until the BPP is retired in 2020.

¹ Shannon & Wilson, Inc. 1979. *Geotechnical Investigation Ash Disposal Area Boardman Plant Unit #1*. September.



Exhibit 1-1. PGE Boardman Power Plant Site Map

Post-Closure Care

Long-term monitoring and maintenance of the Ash Landfill will be done in accordance with the post-closure care maintenance requirements as specified in §257.104. Following closure of the landfill, post-closure care will be conducted and will consist of the following:

1. Maintaining the integrity and effectiveness of the final cover system, including making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and runoff from eroding or otherwise damaging the final cover.
2. Maintaining the groundwater monitoring system and monitoring according to §§257.90 through 257.98.
3. Conducting the post-closure care period for 30 years, except if operating under the assessment monitoring program in accordance with §257.95. The post-closure care period will be extended until returning to detection monitoring in accordance with §257.95.
4. Ensuring post-closure use of the property does not disturb the integrity of the final cover system or any other components of the containment system or post-closure monitoring systems.

2.1 Final Cover System Monitoring and Maintenance Activities

The final cover system for the Ash Landfill will be inspected to maintain the integrity and effectiveness of the cover and monitoring systems.

2.1.1 Erosion Control

The vegetated cap will be inspected to ensure that proper drainage slopes are maintained, erosion and scouring of the surface are not occurring, and bare spots in the vegetation are corrected. The cover system will be inspected quarterly for the first 2 years of the post-closure care period and annually thereafter. Inspections will also occur after substantial rainfall events that could cause erosion. Additionally, the road surfacing over the cap areas will be inspected to ensure rutting and potholing of the surface is not occurring. Mowing of the cap may be necessary within the first 2 years after closure to enhance the vegetated stand. Because the Ash Landfill is located in a dry climate, the cap vegetation is not expected to require long-term mowing. If areas of erosion, scouring, rutting, or sparse vegetation occur, repairs will be made.

2.1.2 Groundwater Monitoring

Groundwater monitoring will be conducted in accordance with the CCR groundwater monitoring plan. The integrity of the wells will be inspected during each sampling event to ensure the wells can be accessed and used to effectively retrieve groundwater samples. Inspection will include the well locks and caps, well identifications, bollards, and access. Repairs to the wells will be made as needed.

2.1.3 Stormwater

Stormwater features, including ditches and culverts, will be inspected semiannually to ensure proper drainage of stormwater. Inspections will also occur after substantial rainfall events in which erosion could be encountered. Inspections will include culvert integrity, culvert inlet and outlet armoring, ditch drainage slopes and channel geometry, and the riprap armoring of the stormwater ditches. Repairs to the stormwater features will occur as needed.

2.1.4 Site Access Controls

Access to the Ash Landfill site will be restricted through the use of existing access gates to the PGE property, signage in the vicinity of the ash disposal area, and/or signage at other potential property access points. The integrity of these security features will be inspected annually and repaired as needed.

2.2 Post-Closure Contact Information

PGE will maintain ownership and responsibility of the Ash Landfill site. The contact information is as follows:

General Manager of Environment Licensing Services
Portland General Electric
121 SW Salmon Street, 3WTCBR05
Portland, OR 97204
Phone: 503-464-8000

2.3 Post-Closure Care Planned Uses

No reuse of the closed Ash Landfill is planned. If a beneficial reuse of the site is identified, the post-closure plan will be amended to ensure site activities associated with site use maintain the integrity and effectiveness of the final cover system and groundwater monitoring systems.

2.4 Schedule

Immediately following closure of the landfill, the 30-year post-closure care period will commence. Post-closure will be complete in 30 years unless assessment monitoring is occurring, at which point post-closure care will be extended until the landfill returns to detection monitoring. A notification of post-closure care period completion will be prepared no later than 60 days following the completion of post-closure care verifying that the post-closure has been completed. The certification will be provided by a qualified professional engineer verifying that completion has occurred in accordance with this plan and the Rule. Recordkeeping and compliance are considered complete once it has been placed in the operating record, as required in §257.105. Notification is complete once notice of completion is given to the State Director and posted on a public Web site, as required by §257.105.