

Location Restrictions

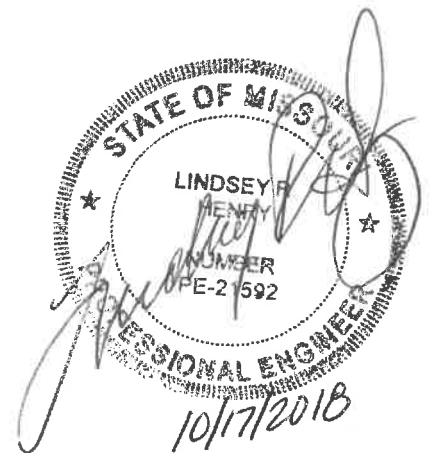
Existing CCR Impoundment
40 CFR 257.60 - 40 CFR 257.64

Asbury Power Plant
2133 Uphill Road
Asbury, Missouri 64832

October 17, 2018

Prepared For:

The Empire District Electric Company
602 S. Joplin Avenue
Joplin, Missouri 64801

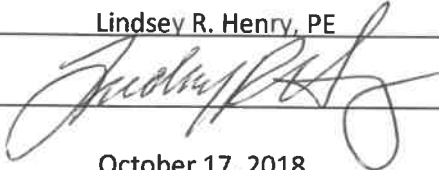


1.0 INTRODUCTION

40 CFR 257.60 through 40 CFR 257.64 of the CCR Rule requires a demonstration that the existing CCR impoundment must have a demonstration of the location restrictions completed by October 17, 2018.

2.0 PLAN CERTIFICATION 257.60 – 257.64

The undersigned Professional Engineer (PE) registered in the State of Missouri is familiar with the requirements of 40 CFR Part 257. The attached CCR Location Restrictions report for the existing CCR Impoundment at the Asbury Power Plant has been prepared in accordance with the requirements of 257.60 – 257.64.

Name: Lindsey R. Henry, PE
Signature: 
Date: October 17, 2018

Registration Number: E-21592

State: Missouri

Seal



3.0 LOCATION RESTRICTIONS

40 CFR 257.60 through 40 CFR 257.64 of the CCR Rule requires a demonstration that the existing CCR impoundment must have a demonstration of the location restrictions completed by October 17, 2018

3.1 Placement Above the Uppermost Aquifer.

40 CFR § 257.60 places restrictions on locating the base of a CCR landfill or surface impoundment within 5 feet of the uppermost aquifer.

New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must be constructed with a base that is located no less than 1.52 meters (five feet) above the upper limit of the uppermost aquifer, or must demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the CCR unit and the uppermost aquifer due to normal fluctuations in groundwater elevations (including the seasonal high water table). The owner or operator must demonstrate that the CCR unit meets the minimum requirements for placement above the uppermost aquifer.

Historic documents related to the existing Asbury CCR impoundment have been reviewed. Groundwater piezometric surface maps from 2009 to 2018 have been reviewed. These maps were completed by Midwest Environmental Consultants as part of groundwater monitoring activities. The second document was the Bottom of Ash Figure of the Coal Ash Volume Study completed by Palmerton & Parrish, June 2012.

Review of these documents indicate that the upper limit of the uppermost aquifer does not demonstrate compliance with the 1.52 meters (five feet) separation limit required by § 257.60 of the USEPA regulations.

3.2 Wetlands

40 CFR § 257.61 places restriction on locating CCR landfill and surface impoundments in areas designated as wetlands.

New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located in wetlands, as defined in § 232.2 of this chapter, unless the owner or operator demonstrates that the CCR unit meets the requirements of paragraphs (a)(1) through (5) of this section.

Review of the US Fish & Wildlife Service National Wetlands Inventory did not indicate that the existing CCR surface impoundment was located within a wetland.

As demonstrated, the site does not lie within a wetland area as defined by regulation. For this reason, the requirements of § 257.61 are met.

3.3 Fault Areas

40 CFR § 257.62 places restriction on locating CCR landfill and surface impoundments in close proximity to active fault areas.

New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located within 60 meters (200 feet) of the outermost damage zone of a fault that has had displacement in Holocene time unless the owner or operator demonstrates that an alternative setback distance of less than 60 meters (200 feet) will prevent damage to the structural integrity of the CCR unit.

Faults have not been identified at or within 200 feet of the Site. The nearest reported fault is the Portland fault in Jasper County near Carterville approximately 17 miles to the south southeast.

As demonstrated, the site does not lie within a fault area as defined by regulation. For this reason, the requirements of § 257.62 are met.

3.4 Seismic Impact Zones

40 CFR § 257.63 places restriction on locating CCR landfill and surface impoundments in seismic impact zones.

New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located in seismic impact zones unless the owner or operator demonstrates that all structural components including liners, leachate collection and removal systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site.

Seismic hazard maps by the United States Geological Survey were reviewed. The closest seismic area is in southeast Missouri at the New Madrid fault zone approximately 250 miles east-southeast of the Site. Faults have not been identified at or within 200 feet of the Site.

As demonstrated, the site does not lie within a seismic impact zone as defined by regulation. For this reason, the requirements of § 257.63 are met.

3.5 Unstable Areas

40 CFR § 257.64 places restrictions on locating CCR landfills and surface impoundments in unstable areas.

An existing or new CCR landfill, existing or new CCR surface impoundment, or any lateral expansion of a CCR unit must not be located in an unstable area unless the owner or operator demonstrates that recognized and generally accepted good engineering practices have been incorporated into the design of the CCR unit to ensure that the integrity of the structural components of the CCR unit will not be disrupted.

The Site does not contain unstable areas such as rock or soil conditions that may result in failure or significant differential settling, unsuitable geologic or geomorphologic conditions, or surface or subsurface human-made features or events.

As demonstrated, the site does not lie within an unstable area as defined by regulation. For this reason, the requirements of § 257.64 are met.

4.0 FINDINGS

Review of the four Location Restrictions indicates that the existing Asbury CCR Impoundment demonstrates compliance for Wetlands, Fault Areas Seismic Impact Zones, and Unstable Areas. The facility does not demonstrate compliance for Placement above the Uppermost Aquifer.

In accordance with the Amendments to the National Minimum Criteria (Phase One, Part One) to the CCR Rule published July 30, 2018 the existing Asbury CCR Impoundment must cease placing CCR into this unit no later than October 31, 2020 and close the CCR unit in accordance with § 257.102.

40 CFR § 257.101 (b)(1)(i) Location standard under § 257.60. Except as provided by paragraph (b)(4) of this section, the owner or operator of an existing CCR surface impoundment that has not demonstrated compliance with the location standard specified in § 257.60(a) must cease placing CCR and non-CCR wastestreams into such CCR unit no later than October 31, 2020, and close the CCR unit in accordance with the requirements of § 257.102.

5.0 NOTIFICATION REQUIREMENTS

§ 257.106(e) The owner or operator of a CCR unit subject to the requirements of this subpart must notify the Stat Director that each demonstration specified under § 257.105(e) has been placed in the operating record and on the owner or operator's publicly accessible internet site.

§ 257.107(e) The owner or operator of the CCR subject to this subpart must place each demonstration specified under § 257.105(e) on the owner or operator's CCR Web site.

Empire will prepare a Notification of Completion of the Location Restrictions in accordance with the requirements of 257.106(e). Empire will post the Location Restrictions to their website as required by 257.107(e). In addition, the State Director will be notified of the completion of this plan and subsequent placement on the website.