Location Restrictions
LCL1
Labadie Energy Center

Contents

LOCATION RESTRICTIONS - LABADIE ENERGY CENTER

I. Introduction

Ameren Missouri has evaluated the Labadie Energy Center's ("Labadie") CCR landfill LCL1 in accordance with location restriction set forth in §257.64, Unstable Areas.

II. Background

The Labadie Energy Center (Labadie) is located in northeastern Franklin County, Missouri. The plant is approximately 3 miles north of the Town of Labadie on the south bank of the Missouri River at river mile 57.5. Labadie has two active surface impoundments that are designated as LCPA (Bottom Ash Pond) and LCPB (Fly Ash Pond), and one active landfill designated as LCL1 (Landfill Cell 1). LCL1 is a permitted as a utility waste landfill in Franklin County, Missouri, and as a Solid Waste Disposal Area by the Missouri Department of Natural Resources (MDNR) Solid Waste Management Program (SWMP) under Operating Permit Number 0907101. The total permitted footprint for disposal of utility waste covers approximately 166 acres and will be developed in four phases. Phase I includes the development of LCL1, which has a disposal area of approximately 31 acres. Construction of LCL1 was completed in 2016.

III. Location Restrictions

A. Unstable Areas - 40 CFR §257.64

Existing CCR landfills 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.

Labadie is located within an extensive area of alluvial deposits largely derived from the Missouri River, which bounds the site to the north. The alluvial soils vary both with depth and in horizontal extent. The near-surface soils are generally clays and silty clays with scattered seams and layers of low plastic silt, underlain by silts. There is not an overall pattern to the stratification of the near-surface soils, except for the presence of clayey sandy silt at the surface near the southern end of the site. Sandy silts, silty fine sands, and fine sands underlie the near-surface soils. These soils are underlain by poorly-graded sands with some silty sands and gravelly sands at greater depths. Recent geologic mapping of the Labadie area by DGLS[1] indicate that the bedrock underlying the alluvium is most likely the Jefferson City-Cotter limestone formation.

[1] Starbuck, E. (2010), "Bedrock Geologic Map of the Labadie 7.5' Quadrangle, Franklin and St. Charles County, Missouri", Missouri Department of Natural Resources, Division of Geology and Land Survey, Open File Map OFM-10-556-GS.

The CCR unit at Labadie was evaluated to determine if it was located in an unstable area using data from existing geotechnical investigations and relevant information including maps showing regional bedrock geology, karst features, mines and other potential unstable features. There are no known springs, caves, sinkholes or rock outcrops within the alluvial plain. No other potentially significant geologic or geomorphic features have been identified at Labadie. No significant on-site or local human-made features or events, either surface or subsurface are in evidence at Labadie within the footprints of the CCR units.

In addition, the global stability and settlement of the solid waste disposal area CCR unit was evaluated during design. Those evaluations reflect that the CCR unit is not susceptible to significant differential settling or mass movement.

1. Engineer's Certification – Unstable Areas

Existing CCR landfills 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. An assessment of active CCR landfill LCL1 (Landfill Cell 1) at the Labadie Energy Center was conducted to prepare a demonstration that the CCR unit meets the requirements of 40 CFR §257.64.

CCR Unit	Meets requirements of 40 CFR §257.64
LCL1 (Landfill Cell 1)	Yes

Engineer's Seal

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