

SUBJECT: Location Restriction Demonstration – Unstable Areas

Coffeen Power Station

CCR Landfill

Coffeen, Illinois

Illinois Power Generating Company operates the coal-fired Coffeen Power Station (Plant) located near Coffeen, Illinois. The Subject Landfill is an existing coal combustion residuals (CCR) Unit at the Plant. This demonstration addresses the requirements of 40 CFR §257.64 Unstable Area of the US Environmental Protection Agency's (EPA) rule entitled Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities. 80 Fed. Reg. 21,302 (Apr. 17, 2015) (promulgating 40 CFR §257.64); 83 Fed. Reg. 36,435 (July 30, 2018) (amending 40 CFR §257.64).

§257.64(a): 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 by the dates specified in paragraph (d) of this section 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.

§257.64(b): The owner or operator must consider all of the following factors, at a minimum, when determining whether an area is unstable:

- (1) On-site or local soil conditions that may result in significant differential settling;*
- (2) On-site or local geologic or geomorphologic features; and*
- (3) On-site or local human-made features or events (both surface and subsurface).*

Determination of compliance with §257.64(b)(1) - Conditions associated with the potential for significant differential settlement due to consolidation or liquefaction were not identified in the area where the Unit is located. A separate report entitled "Unstable Areas Location Restriction Compliance Summary" was completed by Hanson Professional Services Inc. and confirms the integrity of the CCR Landfill and liner system.

Determination of compliance with §257.64(b)(2) - Based on available United States Geological Survey (USGS) and Illinois State Geological Survey (ISGS) information, karst topography or physiographic features such as sinkholes, vertical shafts, sinking streams, caves, large springs, or blind valleys do not exist at the Unit. To evaluate the susceptibility of landslides, readily available USGS and ISGS data was reviewed. The USGS data indicates that the Unit is in an area of low landslide incidence and ISGS data indicates that there has not been a documented landslide occurrence at the Unit. Accordingly, it is our opinion that the Unit is not located in an area that has high susceptibility to landslides.

Determination of compliance with §257.64(b)(3) - Finally, although a portion of the Unit is undermined by an abandoned coal mine, engineering analysis of the estimated potential ground slope and ground strain were developed during the Unit cell design, and recognized and generally accepted good engineering practices were incorporated into the design to ensure the integrity of the structural components and liner system. There are no other documented surface or subsurface anthropogenic activities that would be indicative of creating unstable foundation conditions.

§257.64(c): The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration meets the requirements of paragraph (a) of this section.

I, James P. Knutelski, being a Registered Professional Engineer in good standing in the State of Illinois, 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 demonstration indicating the CCR Unit is not located in an unstable area as included in the CCR Rule Unstable Areas Location Restriction Compliance Summary dated Oct. 15, 2018, meets the requirements of 40 CFR §257.64(a).

James P. Knutelski, P.E.
Geotechnical Engineer
Registration No. 062-054206
Hanson Professional Services Inc.

Seal:



Signature: 

Date: 10/15/2018, Exp. 11/30/2019