



Indianapolis Power & Light Company
Harding Street Generating Station

Pond 3 Location Restriction Compliance:
Unstable Areas

Prepared by



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S&L Project No. 10572-117

Rev. 0
Issue Date: October 17, 2018
Issue Purpose: Use

1 DEMONSTRATION

Federal CCR Rule References: 40 CFR 257.53, 257.64(a), and 257.64(b)

Indianapolis Power & Light Company (IPL) owns and operates the Harding Street Generating Station (HSS), which is now a natural gas-fueled power plant. Pond 3, an existing coal combustion residual (CCR) surface impoundment at the site, presently does not accept CCR and is planned to be closed in the future. This document addresses the demonstration required for the CCR unit to satisfy 40 CFR 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...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.”

Pursuant to 40 CFR 257.53:

“*Unstable area* means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity, including structural components of some or all of the CCR unit that are responsible for preventing releases from such unit. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains.”

Moreover, per 40 CFR 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).”

As documented in IPL’s “Structural Stability Assessment of CCR Surface Impoundments” for HSS, the foundation soils supporting Pond 3 are stable. This is corroborated in IPL’s “Safety Factor Assessment of CCR Surface Impoundments” for the site, which demonstrates that Pond 3 has adequate factors of safety to resist several different loading conditions, including post-earthquake liquefaction.

The preceding assessments further demonstrate that the soils supporting Pond 3 are not susceptible to mass movements. Based on the ground surface topography adjacent to this CCR unit, which is of relatively low relief as compared to the pond, this area is not susceptible to an external landslide that would impact the structural integrity of Pond 3.

Per the aforementioned structural stability assessment document, an interceptor sewer line owned by Citizens Energy Group extends below the southeastern dike of Pond 3. Citizens Energy Group has represented to IPL in a recorded easement amendment document that as of the date of the amended easement (July 19, 2018), the sewer line is in good and working condition free of any material defects that

could impact its integrity. Thus, this CCR unit's integrity is not considered to be susceptible to an event induced by deterioration of the underground sewer line.

Based on a review of the regional and site geology, the bedrock underlying Pond 3 is primarily comprised of shale. Based on the bedrock's composition, the site's susceptibility to karst solution features (e.g., sinkholes) is minimal. Moreover, the site is mapped by the Indiana Geological and Water Survey (IGS) as not being susceptible to karst solution features.

Finally, per the "Coal Mine Information System" maintained by the Indiana Department of Natural Resources (INDNR), no surface or underground mines have been mapped near the HSS site. Thus, Pond 3 is not susceptible to mine subsidence.

Based on the preceding statements, Pond 3 meets the performance standard promulgated by 40 CFR 257.64(a).

2 CERTIFICATION

Federal CCR Rule Reference: 40 CFR 257.64(c)

The demonstration presented herein meets the requirements of 40 CFR 257.64(a).

I certify that this document was prepared by me or under my direct supervision, and that I am a registered professional engineer under the laws of the State of Indiana.

Certified By: David E. Nielson

Date: October 17, 2018

Seal:

