

McElroy's Run Impoundment Periodic Hazard Potential Classification Assessment Report

Allegheny Energy Supply Company, LLC
A FirstEnergy Company
Pleasants Power Station
Pleasants County, West Virginia

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Prepared for:
Allegheny Energy Supply Company, LLC
A FirstEnergy Company
800 Cabin Hill Drive
Greensburg, Pennsylvania 15601

Prepared by:
GAI Consultants, Inc.
Pittsburgh Office
385 E. Waterfront Drive
Homestead, Pennsylvania 15120

Table of Contents

Certification/Statement of Professional Opinion ii

1.0 Purpose1

2.0 Introduction1

3.0 Hazard Classification.....1

4.0 Basis for Classification1

5.0 References.....3

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Certification/Statement of Professional Opinion

The Periodic Hazard Potential Classification Assessment for the McElroy's Run Impoundment was prepared by GAI Consultants, Inc. (GAI). The Assessment Report was based on certain information that, other than for information GAI originally prepared, GAI has relied on, but not independently verified. Therefore this Certification/Statement of Professional Opinion is limited to the information available to GAI at the time the Assessment Report was written. On the basis of and subject to the foregoing, it is my professional opinion as a Professional Engineer licensed in the State of West Virginia (WV), that the Assessment has been prepared in accordance with good and accepted engineering practices as exercised by other engineers practicing in the same discipline(s), under similar circumstances, and at the time and in the same locale. It is my professional opinion that the Initial Hazard Potential Classification Assessment was prepared consistent with the requirements of the United States Environmental Protection Agency's "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments," published in the Federal Register on April 17, 2015 with an effective date of October 19, 2015.

The use of the words "certification" and/or "certify" in this document shall be interpreted and construed as a Statement of Professional Opinion and is not and shall not to be interpreted or construed as a guarantee, warranty or legal opinion.



Arica L. DiTullio, P.E.
Senior Engineering Manager



1.0 Purpose

Declaration and documentation of periodic hazard classification pursuant to the Code of Federal Regulations (CFR) Coal Combustion Residuals (CCR) Rule [40 CFR §257.73(a)(2)].

The Initial Hazard Potential Classification Assessment Report (IHCP) was prepared in October 2016. The owner of the CCR until must prepare periodic IHCP reports every five years. Since the original report, the McElroy's Run CCR Surface Impoundment is still classified as having a high hazard potential.

2.0 Introduction

The McElroy's Run CCR Surface Impoundment (Impoundment) is a captive facility to the Pleasants Power Station (Station) located in Willow Island, Pleasants County WV. The Station is owned by Energy Harbor and the Impoundment receives flue gas desulfurization scrubber by-product generated at the Station, effluent from the recirculation system through Sedimentation Ponds 1 and 2 of the adjacent landfill and their underdrains, and waste materials collected primarily as a result of general house-cleaning maintenance and/or repair at the Station.

The dam of the Impoundment is approximately 243 feet (ft) high with a maximum storage of approximately 20,000 acre-ft. The crest of the dam is at elevation (El.) 900 ft, with El. 887.00 ft as the permitted final level of CCR and recommended normal operating pool level. The Impoundment area is approximately 253 acres.

3.0 Hazard Classification

The periodic hazard classification, pursuant to the CCR Rule, is a "high hazard potential CCR surface impoundment." This high hazard potential classification was assigned because failure or misoperation may cause loss of human life and could cause economic loss, environmental damage, or disruption of lifeline facilities.

4.0 Basis for Classification

GAI personnel performed a site reconnaissance of the Impoundment to verify site conditions and reviewed the documents in the reference section of this report to make the initial hazard classification.

1. The 1981 Inundation Study (prepared by GAI) illustrated the predicted inundation due to a static failure and failure resulting during the probable maximum flood (PMF). The study was reviewed to see the potential impacts that may result from failure or misoperation of the Impoundment.

There is a ridgeline separating the community of Eureka from the Impoundment. During a static failure, the ridge would likely divert the majority of the Impoundment water away from the community of Eureka because the ridge crest (approximate El. 904 ft) has a higher elevation than the dam (900 ft). However, farmland and houses located west of the ridgeline and close to the Ohio River would be impacted under a static failure, and some inundation would still flow northeast into the town of Eureka. According to the 1981 Inundation Study, during a PMF failure, the water would overtop the ridge and flow into both Eureka and the Station.

During a PMF failure, inundation would flow toward the active Station CCR Landfill, possibly carrying CCR material in the flow. The breached water would continue past the landfill, across State Route 2, and flow through the majority of the Station. The Station is

approximately 250 ft in elevation below and less than one mile from the Impoundment. The water could continue to flow into the Ohio River once it had passed through the Station.

2. Pursuant to WV Department of Environmental Protection, Section WV 47CSR34 of the "Dam Safety Rule," the Impoundment dam has a Class I Hazard Classification, meaning the failure of the dam may cause loss of human life or major damage to dwellings, buildings, railroads, or important utilities.
3. A 2010 Assessment of Dam Safety, prepared by CHA Consulting, Inc., reaffirmed the classification of McElroy's Run Impoundment Dam as a high hazard potential dam according to the WV Dam Safety Regulations. The study was performed by Lockheed Martin, per request of the Environmental Protection Agency, to conduct a dam safety assessment of the Impoundment following the coal ash spill at the Tennessee Valley Authority's Kingston facility in December of 2008.

5.0 References

CHA Consulting, Inc. 2010.

Assessment of Dam Safety, Coal Combustion Surface Impoundments (Task 3), Final Report,
April 21, 2010.

Federal Emergency Management Agency. 2004.

Federal Guidelines for Dam Safety, April 1, 2004.

GAI Consultants, Inc., *Inundation Report*, 1981.

West Virginia Secretary of State.

West Virginia Code, Chapter 22, Article 14: Dam Control Act.