



17 October 2016

Kansas City Board of Public Utilities
540 Minnesota Avenue
Kansas City, KS 66101

Attention: Ingrid Setzler, Director of Environmental Services

Subject: Bottom Ash Surface Impoundment Hazard Potential Classification Assessment

Conclusion:

For the Bottom Ash Impoundment at the Nearman Creek Power Station, the Hazard Potential Classification per CCR Rule §257.73 is designated as a Low Hazard Potential.

Site Description / Location:

The bottom ash impoundment is part of the Nearman Creek Power Station which is located at 4240 North 55th Street in Kansas City, Kansas in Wyandotte County. The bottom ash impoundment is located northeast of the plant site (Attachment 1). The impoundment is a surface impoundment that consists of bottom ash settling, and clear water ponds that are separated by a hydraulically connected, internal dike. The bottom ash and clear water ponds form a closed loop system with the water recycled for plant use. The impoundment has dikes along the northwest, northeast, and southeast sides and is bounded by the plant levee on the southwest side. Based on the original construction drawings, the impoundment's exterior and internal dikes have a nominal crest elevation of 763 feet. The normal pool elevation of the impoundment is 758.8 feet. The elevation of the impoundment dikes are below the elevation of the levee surrounding the plant site.

The Nearman Creek Power Station is located along the southern bank of the Missouri River alluvial valley. In the general area of the plant site, the Missouri River alluvial valley is approximately 1.5 miles wide and is characterized by a broad flood plain bounded on the north and south by uplands. The area immediately surrounding the impoundment is relatively flat with minor creek channels. The flat open areas contain dry shallow depressions that generally hold water only during major precipitation events. Nearman Creek is located northwest of the impoundment and flows north to north-east into the Missouri River. East of the impoundment, an unnamed ephemeral creek flows to the east into the Missouri River.

Land use and structures:

The land surrounding the plant site and impoundment is rural and either used for cropland or is forest.

The facilities at the Nearman Creek Power Station are located to the southwest of the impoundment and are within the levee surrounding the plant site.

In the immediate area of the impoundment, three structures exist along the banks of the Missouri River. These structures are the intake and outfall structures for the facility and are located to the northwest and west of Nearman Creek (Attachment 1) from the impoundment.

A police firing range operates approximately 1,800 feet to the northeast of the impoundment. A small swale or ephemeral stream bed exists between the ash pond and the firing range as well as a road out to the firing range.

There are no residential structures located immediately downstream of the impoundment. The nearest residential structure is approximately $\frac{3}{4}$ mile to the south along the edge of the flood plain.

Risk to Humans:

No permanent or temporary housing exists in the area surrounding the impoundment and the area affected by a potential failure (Attachment 1). The power station is within the floodwalls which are higher than the impoundment; therefore, are protected from a potential failure of the impoundment.

The firing range located to the northeast of the impoundment is on the opposite side of an ephemeral stream bed. The ephemeral stream bed would likely divert any release and prevent inundation of the facility.

Thus, the probability of humans being present in the area of a potential failure is low, and potential for loss of human life is low to non-existent.

Risk to Economic Loss and Environment:

Damage to structures within the plant area is unlikely. The plant structures outside the levee area are across Nearman Creek, which would likely divert water from the impoundment away from any structures. These structures are unlikely to suffer damage if the impoundment failed.

The structures at the firing range are more than a quarter mile from the impoundment with an ephemeral stream bed in between. Again, the ephemeral stream bed would likely divert the water from a failure, and damage to these structures is unlikely. The road to the firing range could experience some minor inundation.

No other major roads or lifeline routes are present surrounding the impoundment. The risk of structural damage is considered low.

In the event of a failure of the impoundment, the economic loss would be limited to the farmland immediately adjacent to the impoundment.

Environmental loss in the event of failure would be confined to the plant site for the reasons mentioned above and could include temporary loss of cropland.

Hazard Potential Classification:

The EPA defines the following hazard potential levels:

- High hazard potential would exist where failure or mis-operation will probably cause loss of human life.
- Significant hazard potential exist where no probable loss of human life exists, but failure or mis-operation can cause economic loss, environmental damage, or disruption of lifeline facilities, or impact other concerns.
- Low hazard potential exist where no probable loss of human life exists and low economic loss and/or environmental losses.

For the bottom ash impoundment at the Nearman Creek Power Station, the hazard potential is low, because no probable loss of human life exists and low economic and environmental losses should be confined to the site.

This Initial Hazard Potential Classification Assessment was conducted in accordance with CCR Rule §257.73(a)(2).

Very truly yours,

BLACK & VEATCH CORPORATION



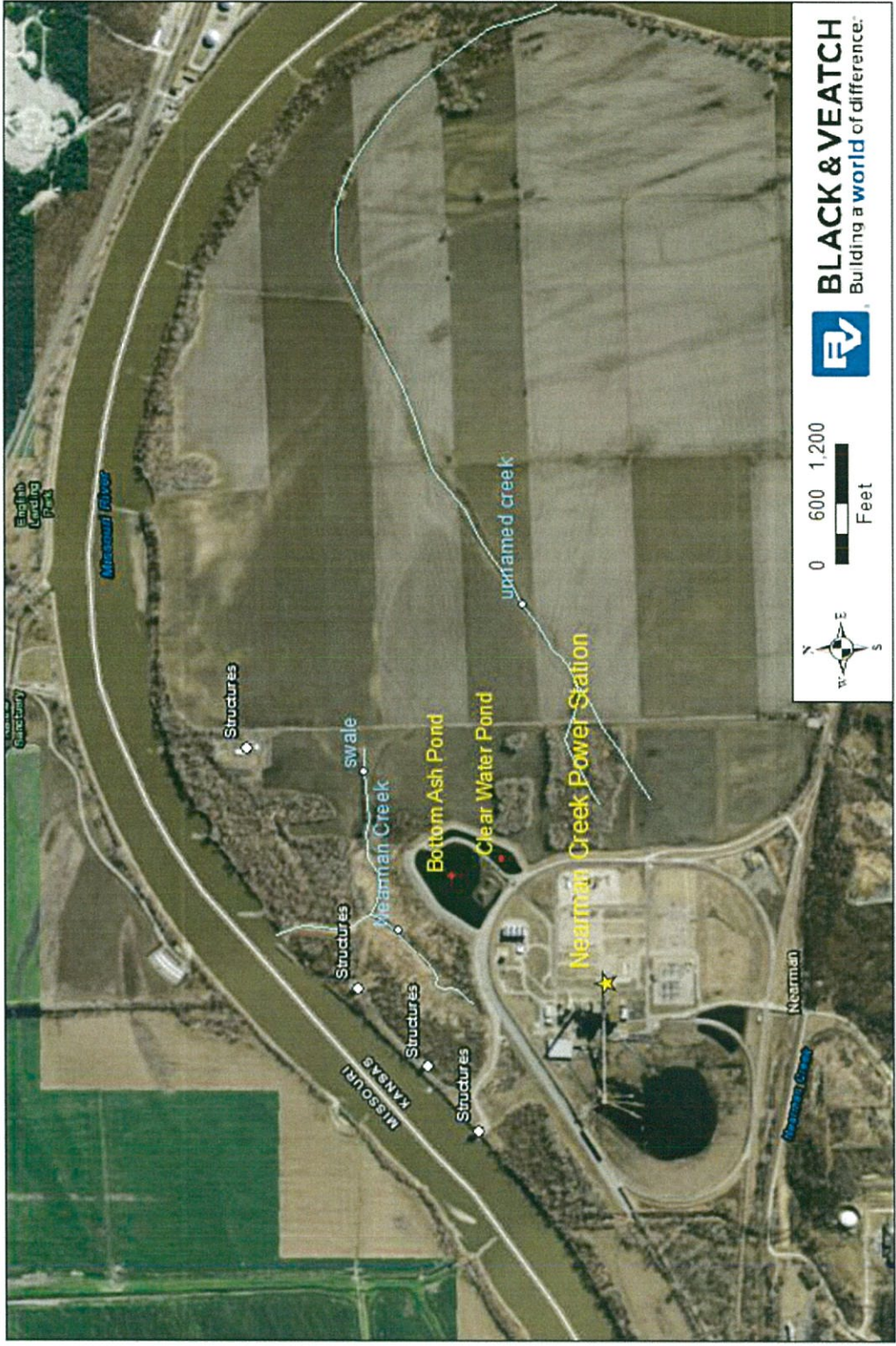
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Attachment 1 -Figure

cc: File
Fred Freeland
Jim Liljegen



Attachment 1 Nearman Creek Power Station, Ash and Clear Water Ponds and Surrounding Features.