Luminant

Kincaid Generation, LLC
1500 Eastport Plaza Dr.
Collinsville, IL 62234

January 28, 2022

Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Re: Kincaid Ash Pond (IEPA ID: W0218140002-01) Annual Consolidated Report

Dear Mr. LeCrone:

In accordance with 35 IAC § 845.550, Kincaid Generation, LLC is submitting the annual consolidated report for the Kincaid Ash Pond (IEPA ID: W0218140002-01), as enclosed.

Sincerely,

Phil Morris
Senior Environmental Director

Enclosures

Annual Consolidated Report
Kincaid Generation, LLC
Kincaid Power Plant
Ash Pond; IEPA **ID: W0218140002-01**

In accordance with 35 IAC § 845.550, Kincaid Generation, LLC has prepared the annual consolidated report. The report is provided in three sections as follows:

<u>Section 1</u>
1) Annual CCR fugitive dust control report (Section 845.500(c))

<u>Section 2</u>
2) Annual inspection report (Section 845.540(b)), including:

A) Annual hazard potential classification certification

B) Annual structural stability assessment certification

C) Annual safety factor assessment certification

D) Inflow design flood control system plan certification

It should be noted that the drawings and attachments of the certification report were included in the operating permit application submittal.

<u>Section 3</u>
3) Annual Groundwater Monitoring and Corrective Action Report (Section 845.610(e))

Section 1

Annual CCR Fugitive Dust Control Report

Annual CCR Fugitive Dust Control Report

for

Kincaid Power Plant

Prepared for:

Luminant

Kincaid Generation, LLC

Kincaid Power Plant
4 Miles West of Kincaid on Route 104
Kincaid, IL 62540

November 2021

Kincaid Power Plant
ANNUAL CCR FUGITIVE DUST CONTROL REPORT

Reporting Year: 4th Quarter 2020 through 3rd Quarter 2021

Completed by: [signature] | Plant Manager

Name | Title

This Annual CCR Fugitive Dust Control Report has been prepared for the Kincaid Power Plant in accordance with 40 CFR 257.80(c) and 35 I.A.C. 845.500. Section 1 provides a description of the actions taken to control CCR fugitive dust at the facility during the reporting year, including a summary of any corrective measures taken. Section 2 provides a record of citizen complaints received concerning CCR fugitive dust at the facility during the reporting year, including a summary of any corrective measures taken.

Section 1 Actions Taken to Control CCR Fugitive Dust

In accordance with the Kincaid Power Plant CCR Fugitive Dust Control Plan (Plan), the following measures were used to control CCR fugitive dust from becoming airborne at the facility during the reporting year:

CCR Activity	Actions Taken to Control CCR Fugitive Dust
Management of CCR in the facility's CCR units	Wet management of CCR bottom ash in CCR surface impoundment.
	Water areas of exposed CCR in CCR unit, as necessary.
	Naturally occurring grass vegetation in areas of exposed CCR in CCR surface impoundment.
Handling of CCR at the facility	Wet sluice CCR bottom ash to the CCR surface impoundment.
	Pneumatically convey dry CCR fly ash to storage silos in an enclosed system.
	CCR bottom ash removed from the CCR surface impoundment and loaded into trucks for transport remains conditioned during handling.
	Load CCR transport trucks from the CCR fly ash silos in a partially enclosed area.

CCR Activity	Actions Taken to Control CCR Fugitive Dust
Handling of CCR at the facility	Perform housekeeping, as necessary, in the fly ash loading area.
	Operate fly ash handling system in accordance with good operating practices.
	Maintain and repair as necessary dust controls on the fly ash handling system.
Transportation of CCR at the facility for onsite and offsite disposal	Cover or enclose trucks or containers used to transport CCR fly ash.
	Limit the speed of vehicles to no more than 15 mph on facility roads.
	Cover or enclose trucks or containers used to transport CCR other than fly ash, as necessary.
	Watering roads used to transport CCR materials, as needed.
	Sweep or rinse off the outside of the trucks transporting CCR, as necessary.
	Remove CCR, as necessary, deposited on facility road surfaces during transport.

Based on a review of the Plan and inspections associated with CCR fugitive dust control performed in the reporting year, the control measures identified in the Plan as implemented at the facility effectively minimized CCR from becoming airborne at the facility. No corrective actions were needed during the reporting period. No revisions or additions to control measures identified in the Plan were needed. No material changes occurred in the reporting year in site conditions potentially resulting in CCR fugitive dust becoming airborne at the facility that warrant amendment of the Plan.

Section 2 Record of Citizen Complaints

No citizen complaints were received regarding CCR fugitive dust at Kincaid Power Plant in the reporting year.

Section 2

Annual Inspection Report (Section 845.540(b)), including:

A) Annual Hazard Potential Classification Certification, if applicable (Section 845.440)

B) Annual Structural Stability Assessment Certification, if applicable (Section 845.450)

C) Annual Safety Factor Assessment Certification, if applicable (Section 845.460)

D) Inflow Design Flood Control System Plan Certification (Section 845.510(c))

ANNUAL INSPECTION BY A QUALIFIED PROFESSIONAL ENGINEER 35 IAC § 845.540
(b)(1) The CCR surface impoundment must be inspected on an annual basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR surface impoundment is consistent with recognized and generally accepted engineering standards. The inspection must, at a minimum, include: A) A review of available information regarding the status and condition of the CCR surface impoundment, including files available in the operating record (e.g., CCR surface impoundment design and construction information required by Sections 845.220(a)(1) and 845.230(d)(2)(A), previous structural stability assessments required under Section 845.450, the results of inspections by a qualified person, and results of previous annual inspections); B) A visual inspection of the CCR surface impoundment to identify signs of distress or malfunction of the CCR surface impoundment and appurtenant structures; C) A visual inspection of any hydraulic structures underlying the base of the CCR surface impoundment or passing through the dike of the CCR surface impoundment for structural integrity and continued safe and reliable operation; D) The annual hazard potential classification certification, if applicable (see Section 845.440); E) The annual structural stability assessment certification, if applicable (see Section 845.450); F) The annual safety factor assessment certification, if applicable (see Section 845.460); and G) The inflow design flood control system plan certification (see Section 845.510(c)).

SITE INFORMATION	
Site Name / Address / Date of Inspection	Kincaid Generation, LLC Sangamon County, Illinois 62540 10/26/2021
Operator Name / Address	Luminant Generation Company LLC 6555 Sierra Drive, Irving, TX 75039
CCR unit	Ash Pond

INSPECTION REPORT 35 IAC § 845.540 Date of Inspection 10/26/2021	
(b)(1)(D) The annual hazard potential classification certification, if applicable (see Section 845.440).	Based on a review of the CCR unit's annual hazard potential classification, the unit is classified as a Class II CCR surface impoundment.
(b)(2)(A) Any changes in geometry of the structure since the previous annual inspection.	Based on a review of the CCR unit's records and visual observation during the on-site inspection, no changes in geometry of the structure have taken place since the previous annual inspection.
(b)(2)(B) The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection	See the attached.
b)(2)(C) The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection;	See the attached.
b)(2)(D) The storage capacity of the impounding structure at the time of the inspection	Approximately 5600 acre-feet
(b)(2)(E) The approximate volume of the impounded water and CCR contained in the unit at the time of the inspection.	Approximately 2400 acre-feet
(b)(2)(F) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit	Based on a review of the CCR unit's records and visual observation during the on-site inspection, there was no appearance of an actual or potential structural weakness of the CCR unit, nor an existing condition that is disrupting or would disrupt the operation and safety of the unit.

INSPECTION REPORT 35 IAC § 845.540 Date of Inspection 10/26/2021	
(b)(2)(G) Any other changes that may have affected the stability or operation of the impounding structure since the previous annual inspection.	Based on a review of the CCR unit’s records and visual observation during the on-site inspection, no other changes which may have affected the stability or operation of the CCR unit have taken place since the previous annual inspection.
(b)(1)(G) The inflow design flood control system plan certification (see Section 845.510(c))	Based on a review of the CCR unit's records, the CCR unit is designed, operated, and maintained to adequately manage the flow from the CCR impoundment and control the peak discharge from the inflow design flood.

35 IAC § 845.540 - Annual inspection by a qualified professional engineer.

I, James Knutelski, P.E., certify under penalty of law that the information submitted in this report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Illinois. The information submitted, is to the best of my knowledge and belief, true, accurate and complete. Based on the annual inspection, the design, construction, operation, and maintenance of the CCR Unit is consistent with recognized and generally accepted good engineering standards. Based on a review of the records for the CCR unit, the hazard potential classification was conducted in accordance with the requirements of Section 845.440 and the Safety Factor Assessment was conducted in accordance with the requirements of Section 845.460.

LICENSED PROFESSIONAL ENGINEER
JAMES P. KNUTELSKI
062-054206
OF ILLINOIS

James Knutelski, PE
Illinois PE No. 062-054206, Expires: 11/30/2023
Date: 01/05/2022

Site Name:	Kincaid Generation, LLC
CCR Unit:	Ash Pond

35 IAC § 845.540 (b)(2)(B)		
Instrument ID #	Type	Maximum recorded reading since previous annual inspection (ft)
KIN-001	Piezometer	588.7'
KIN-002	Piezometer	600.0'
KIN-003	Piezometer	601.1'
KIN-004	Piezometer	599.8'
KIN-005	Piezometer	595.1'
KIN-006	Piezometer	589.0'
KIN-007	Piezometer	595.5'
KIN-008	Piezometer	587.4'
KIN-009	Piezometer	587.1'
KIN-010	Piezometer	600.9'
KIN-011	Piezometer	602.0'
KIN-012	Piezometer	600.0'

35 IAC § 845.540 (b)(2)(C)						
	Approximate Depth / Elevation					
Since previous inspection:	Elevation (ft)			Depth (ft)		
	Minimum	Present	Maximum	Minimum	Present	Maximum
Impounded Water		601.5'			3.5'	
CCR	598		625	18		45

Geosyntec consultants

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October 11, 2021

Kincaid Generation, LLC
199 IL-104
Kincaid, Illinois 62540

Subject: USEPA CCR Rule and IEPA Part 845 Rule Applicability Cross-Reference
2021 USEPA CCR Rule Periodic Certification Report
Ash Pond, Kincaid Power Plant, Kincaid, Illinois

At the request of Kincaid Generation, LLC (KG), Geosyntec Consultants (Geosyntec) has prepared this letter to document how the attached 2021 United States Environmental Protection Agency (USEPA) CCR Rule Periodic Certification Report (Report) was prepared in accordance with both the Federal USEPA CCR Rule[1] and the state-specific Illinois Environmental Protection Agency (IEPA) Part 845 Rule[2]. Specific sections of the report and the applicable sections of the USEPA CCR Rule and Illinois Part 845 Rule are cross-referenced in **Table 1**. A certification from a Qualified Professional Engineer for each of the CCR Rule sections listed in **Table 1** is provided in Section 9 of the attached Report. This certification statement is also applicable to each section of the Part 845 Rule listed in **Table 1.**

Table 1 – USEPA CCR Rule and Illinois Part 845 Rule Cross-Reference

Report Section	USEPA CCR Rule		Illinois Part 845 Rule	
3	§257.73 (a)(2)	Hazard Potential Classification	845.440	Hazard Potential Classification Assessment[3]
4	§257.73 (c)(1)	History of Construction	845.220(a)	Design and Construction Plans (Construction History)
5	§257.73 (d)(1)	Structural Stability Assessment	845.450 (a) and (c)	Structural Stability Assessment
6	§257.73 (e)(1)	Safety Factor Assessment	845.460 (a-b)	Safety Factor Assessment
7	§257.82 (a)(1-3)	Adequacy of Inflow Design Control System Plan	845.510(a), (c)(1), (c)(3)	Hydrologic and Hydraulic Capacity Requirements / Inflow Design Flood Control System Plan
	§257.82 (b)	Discharge from CCR Unit	845.510(b)	Discharge from CCR Surface Impoundment

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[1] United Stated Environmental Protection Agency, 2015. *40 CFR Parts 257 and 261, Hazardous and Solid Waste Management System, Disposal of Coal Combustion Residuals from Electric Utilities, Final Rule.*
[2] State of Illinois, Joint Committee on Administrative Rule, Administrative Code (2021). *Title 35: Environmental Protection, Subtitle G: Waste Disposal, Chapter I: Pollution Control Board, Subchapter j: Coal Combustion Waste Surface Impoundment, Part 845 Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments.*
[3] "Significant" and "High" hazard, per the CCR Rule[1], are equivalent to Class II and Class I hazard potential, respectively, per Part 845[2].

CLOSING

This letter has been prepared to demonstrate that the content and Qualified Professional Engineer Certification of the 2021 Periodic USEPA CCR Rule Certification Report fulfills the corresponding requirements of Part 845 of Illinois Administrative Code listed in **Table 1**.

Sincerely,

Thomas Ward, P.E.
Senior Engineer

John Seymour, P.E.
Senior Principal

2021 USEPA CCR RULE PERIODIC CERTIFICATION REPORT
§257.73(a)(2)-(3), (c), (d[1]), (e) and §257.82
ASH POND
Kincaid Power Plant
Kincaid, Illinois

Submitted to

Kincaid Generation, LLC

199 IL-104
Kincaid, Illinois 62540

Submitted by

Geosyntec consultants

engineers | scientists | innovators

1 McBride and Son Center Drive, Suite 202
Chesterfield, Missouri 63005

October 11, 2021

[1] Except for §257.73(d)(1)(vi).

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EXECUTIVE SUMMARY

This Periodic United States Environmental Protection Agency (USEPA) Coal Combustion Residuals (CCR) Rule [1] certification report (Periodic Certification Report) for the Ash Pond (AP) at the Kincaid Power Plant (KPP)[2], also known as the Kincaid Power Station (KIN), has been prepared in accordance with Rule 40, Code of Federal Regulations (CFR) §257, herein referred to as the "CCR Rule" [1]. The CCR Rule requires that initial certifications for existing CCR surface impoundment, completed in 2016 and subsequently posted on Kincaid Generation, LLC (KG) CCR Website ([2], [3], [4], [5], [6], [7]), be updated on a five-year basis.

The initial certification reports developed in 2016 and 2017 were independently reviewed by Geosyntec ([2], [3], [4], [5], [6], [7], [8], [9]). Additionally, field observations, interviews with plant staff, updated engineering analyses, and evaluations were performed to compare conditions in 2021 at the Ash Pond relative to the 2016 and 2017 initial certifications. These tasks determined that updates are not required for the Initial Hazard Potential Classification and Initial Safety Factor Assessment. However, due to changes at the site, updates were required and were performed for the:

- History of Construction Report;
- Initial Structural Stability Assessment, and
- Initial Inflow Design Flood Control System Plan.

Geosyntec's evaluations of the initial certification reports and updated analyses determined that the KPP Ash Pond meets all requirements for hazard potential classification, history of construction reporting, structural stability, safety factor assessment, and hydrologic and hydraulic control. **Table 1** provides a summary of the initial 2016 certifications and the updated 2021 periodic certifications.

[2] The Ash Pond is also referred to as ID Number W0218140002-01, Ash Pond by the Illinois Environmental Protection Agency (IEPA); CCR unit ID 141 by KG; and IL50706 within the National Inventory of Dams (NID) maintained by the Illinois Department of Natural Resources (IDNR). Within this document it is referred to as the AP.

Table 1 – Periodic Certification Summary

	CCR Rule Reference	Requirement Summary	2016 Initial Certification		2021 Periodic Certification	
			Requirement Met?	Comments	Requirement Met?	Comments
Hazard Potential Classification						
3	§257.73(a)(2)	Document Hazard Potential Classification	Yes	Impoundment was determined to have "Significant" hazard potential classification [2].	Yes	No changes were identified that may affect this requirement.
History of Construction						
5	§257.73(c)(1)	Compile a History of Construction	Yes	A History of Construction report was prepared for the Ash Pond [4].	Yes	A letter listing updates to the History of Construction report is provided in **Attachment C**.
Structural Stability Assessment						
6	§257.73(d)(1)(i)	Stable Foundations	Yes	Foundations were found to be stable [9].	Yes	No changes were identified that may affect this requirement.
	§257.73(d)(1)(ii)	Adequate Slope Protection	Yes	Slope protection was adequate [9].	Yes	No changes were identified that may affect this requirement.
	§257.73(d)(1)(iii)	Sufficiency of Dike Compaction	Yes	Dike compaction was sufficient for expected ranges in loading conditions [9].	Yes	No changes were identified that may affect this requirement.
	§257.73(d)(1)(iv)	Presence and Condition of Slope Vegetation	Yes	Vegetation was present on exterior slopes and is maintained [9].	Yes	No substantial bare or overgrown areas were observed.
	§257.73(d)(1)(v)(A) and (B)	Adequacy of Spillway Design and Management	Yes	Spillways were adequately designed and constructed and were expected to adequately manage flow during 1,000-year flood [9].	Yes	Spillways were found to be adequately designed and constructed and are expected to manage flow during the 1,000-year flood, after performing updated hydrologic and hydraulic analyses, if the starting water surface elevation does not exceed El. 602.8 ft.
	§257.73(d)(1)(vi)	Structural Integrity of Hydraulic Structures	No	Requirement could not be certified in 2016 due to inability to complete a CCTV inspection of the recycle intake structure pipe. AECOM recommended inspecting this pipe as soon as feasible to address the issue [9].	Periodic certification of §257.73(d)(1)(vi) was performed independently Luminant in 2020 [10].	
	§257.73(d)(1)(vii)	Stability of Downstream Slopes Inundated by Waterbody	Yes	A sudden drawdown factor of safety was determined to satisfy §257.73(d)(1)(vii) [9].	Yes	No changes were identified that may affect this requirement.
Safety Factor Assessment						
7	§257.73€(1)(i)	Maximum storage pool safety factor must be at least 1.50	Yes	The safety factor was calculated to be 1.57 [6].	Yes	No changes were identified that may affect this requirement.
	§257.73€(1)(ii)	Maximum surcharge pool safety factor must be at least 1.40	Yes	The safety factor was calculated to be 1.57 [6].	Yes	No changes were identified that may affect this requirement.
	§257.73(e)(1)(iii)	Seismic safety factor must be at least 1.00	Yes	Safety factor was calculated to be 1.27 [6].	Yes	No changes were identified that may affect this requirement.
	§257.73(e)(1)(iv)	For dike construction of soils that have susceptible to liquefaction, safety factor must be at least 1.20	Not Applicable	Dike soils were not susceptible to liquefaction [6].	Not Applicable	No changes were identified that may affect this requirement.
Inflow Design Flood Control System Plan						
8	§257.82(a)(1), (2), (3)	Adequacy of Inflow Design Control System Plan	Yes	Flood control system adequately managed inflow and peak discharge during the 1,000-year, 24-hour, Inflow Design Flood [9].	Yes	The flood control system was found to adequately manage inflow and peak discharge during the 1,000-year, 24-hour, Inflow Design Flood, after performing updated hydrologic and hydraulic analyses, if the starting water surface elevation does not exceed El. 602.8 ft.
	§257.82(b)	Discharge from CCR Unit	Yes	Discharge from the CCR Unit is routed through an NPDES-permitted outfall during both normal and 1,000-year, 24-hour Inflow Design Flood conditions [7].	Yes	Discharge in pollutants in violation of the NPDES permit were found to not be expected to occur during both normal and 1,000-year, 24-hour Inflow Design Flood conditions, after performing updated hydrologic and hydraulic analyses, if the starting water surface elevation does not exceed El. 602.8 ft.

SECTION 1

INTRODUCTION AND BACKGROUND

This Periodic United States Environmental Protection Agency (USEPA) Coal Combustion Residual (CCR) Rule [1] Certification Report was prepared by Geosyntec Consultants (Geosyntec) for Kincaid Generation, LLC (KG) to document the periodic certification of the Ash Pond (AP) at the Kincaid Power Plant (KPP), also known as the Kincaid Power Station, located at 199 IL-104, Kincaid, Illinois, 62540. The location of KPP is provided in **Figure 1**, and a site plan showing the location of the Ash Pond (AP) is provided in **Figure 2**.

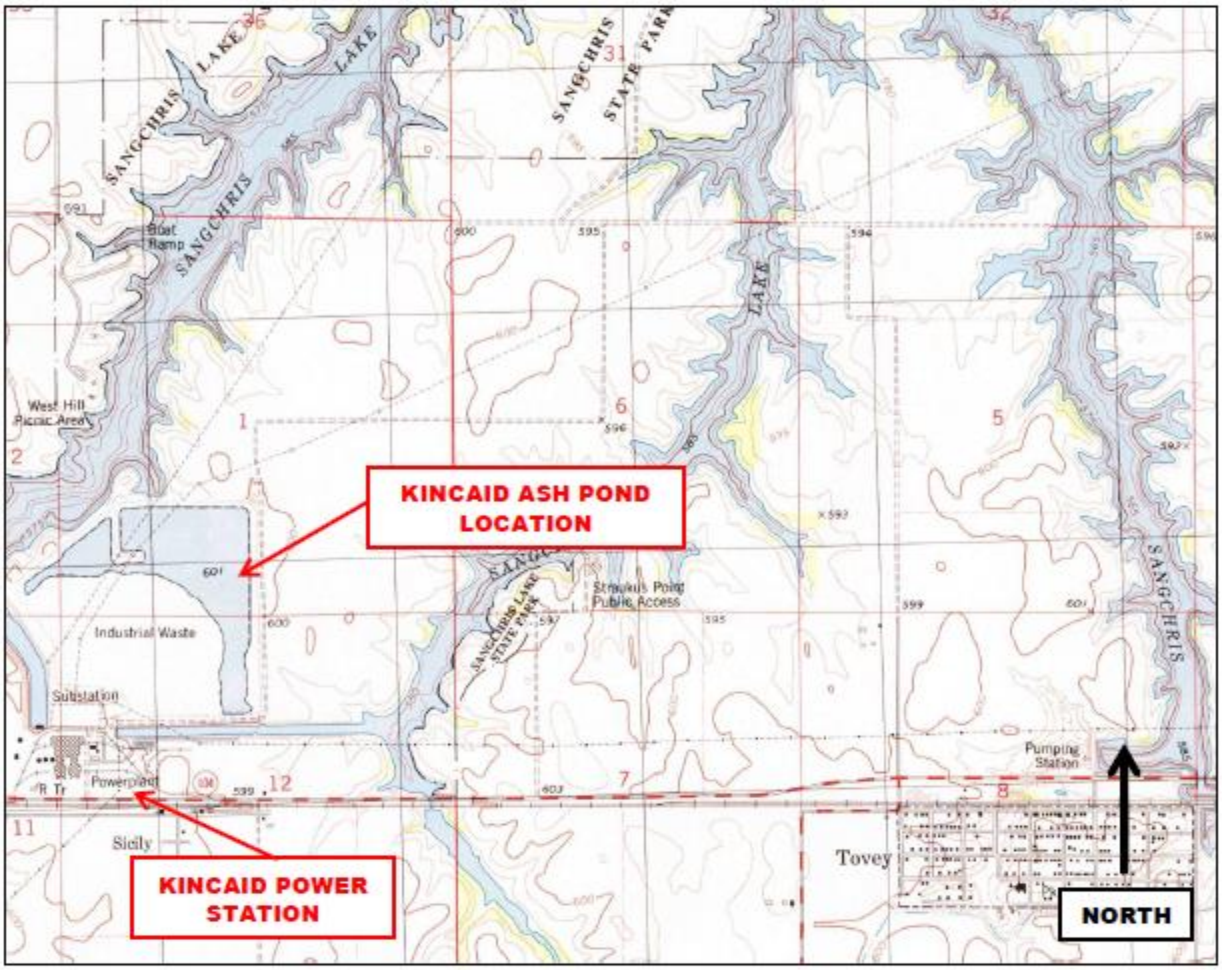

Figure 1 – Kincaid Power Plant Location Map (from AECOM, 2016)

Figure 2 – Kincaid Power Plant Site Plan (adapted from Google Earth Pro, October 2018)

1.1 Ash Pond Description

The Kincaid Ash Pond serves as the wet ash impoundment basin and contains materials such as bottom ash, fly ash, and miscellaneous non-CCR process water from the Kincaid Power Plant. The Kincaid Ash Pond receives sluiced bottom ash from the power plant through eight sluice pipes, which discharge into the southwest side of the basin. A third-party recycling company recovers acceptable ash for beneficial reuse, and unacceptable materials are left in the Kincaid Ash Pond. Due to the volumes of ash removed for beneficial reuse, the quantity of ash within the Kincaid Ash Pond does not significantly change from year to year [9].

Normal outflow from the Kincaid Ash Pond is conveyed into the recycle intake structure (screen house) located at the southeast corner of the embankment. This structure is comprised of a concrete headwall, a fiberglass and steel grating system to control (screen) debris, and a 60-in. diameter reinforced concrete recycle pipe (RCP) with an obvert centerline elevation of 589.45 feet[3], which is used to convey water approximately 2,000 feet westward to the recycle pump house, where it is recycled for use in plant processes or is diverted to the onsite wastewater treatment plant. Outflow

[3] All elevations in this report are in the North American Vertical Datum of 1988 (NAVD88) unless otherwise noted.

from the Kincaid Ash Pond into the recycle pipe is controlled by a steel gate valve installed on the pipe inlet, which can be operated from inside the screen house. A concrete weir is also present in front of the recycle pipe but has a top elevation of 595.21 feet, which is lower than the maximum normal operating pool of the Kincaid Ash Pond (El. 603.3 feet). Therefore, the weir is completely submerged during normal operations [9].

An emergency outlet (effluent) structure is also located at the southeast corner of the impoundment and serves to discharge pond water into the adjacent discharge flume during emergency or upset conditions. The discharge flume feeds into Sangchris Lake. The emergency outlet structure consists of a square concrete riser structure with an exterior steel 3-foot circular gate valve (invert El. 597.21 feet) and opening discharging into the center of the concrete riser structure, which leads into an open 48-inch corrugated metal pipe (CMP) emergency outlet (approximate centerline elevation of 529.5 feet, based on historic drawings). The gate valve can be operated from an access walkway leading to the emergency outlet structure. The top of the emergency outlet structure is open to the Kincaid Ash Pond on three sides, with open dimensions of 3-foot square. The opening effectively acts as a 9-foot-wide overflow weir that is activated when the pool level in the Kincaid Ash Pond exceeds El. 604.3 feet. As the 48-inch CMP is ungated, flow is transmitted freely into the emergency outlet structure when the pond level exceeds El. 604.3 feet and outflows to the discharge flume via the 48-inch CMP, without needing to manually operate the exterior gate valve [9].

An approximately 1,100-foot-long section of the south embankment, adjacent to the discharge flume, has a crest elevation around 6 to 17 feet lower than the rest of the embankment, with typical elevation of 605 ft, and is intended to act as a secondary emergency spillway. Outside of the gravel crest access road and riprap erosion protection at the embankment toe adjacent to the discharge channel, this area is not lined [9].

An engineered liner system is not present beneath the Kincaid Ash Pond. The surface area of the impoundment is approximately 178 acres, and the embankment portion of the Kincaid Ash Pond has a total length of approximately 11,000 feet and a maximum height above the exterior grade of 30 feet. The embankment was constructed as a homogenous earthen structure with well-compacted clayey fill. Portions of the north embankment adjacent to Sangchris Lake include crushed stone near the waterline for erosion protection. The north, northwest, and south embankment sections exhibit approximately 1.4H:1V (horizontal: vertical) downstream slopes, and the south embankment sections near the southeast corner exhibit a 6H:1V slope. Upstream slopes are typically around 3H:1V. Embankment crest width ranges from approximately 10 to 25 feet, and the crest is covered with a gravel access road [9].

As currently operated, the normal pool elevation ranges from 601.8 to 602.5 feet during non-winter conditions. A maximum pool elevation of 603.3 feet may be used during winter conditions to alleviate problems with freezing that may affect flow into the recycle intake structure. Dike crest elevations range from approximately 604.5 to 607 feet for the south embankment and 614 to 622 feet for all other embankments with erosion-resistant material [9].

Initial certifications for the AP for Hazard Potential Classification (§257.73(a)(2)), History of Construction (§257.73(c)), Structural Stability Assessment (§257.73(d)), Safety Factor Assessment (§257.73(e)(1)), and Inflow Design Flood Control System Plan (§257.82) were completed by Stantec and AECOM in 2016 and 2017 and subsequently posted to KG's CCR Website ([2], [3], [4], [5], [6], [7]). Additional documentation for the initial certifications included detailed operating record reports containing calculations and other information prepared for the hazard potential classification by Stantec [8] and for the structural stability assessment, safety factor assessment, and inflow design flood control system plan by AECOM [9]. These operating record reports were not posted to KG's CCR Website.

1.2 Report Objectives

These following are the objectives of this report:

- Compare site conditions from 2015/2016, when the initial certifications were developed, to site conditions in 2020/2021, when data for the periodic certification was obtained, and evaluate if updates are required for the:
    - §257.73(a)(2) Hazard Potential Classification [2];
    - §257.73(c) History of Construction [4];
    - §257.73(d) Structural Stability Assessment [5];
    - §257.73(e) Safety Factor Assessment [6]; and/or
    - §257.82 Inflow Design Flood Control System Plan [7].
- Independently review the Hazard Potential Classification ([2], [8]), Inundation Map [3], Structural Stability Assessment ([5], [9]), Safety Factor Assessment ([6], [9]), and Inflow Design Flood Control System Plan ([7], [9]) reports to assess if updates may be required based on technical considerations.
    - The History of Construction report [4] was not independently reviewed for technical considerations, as this report contained historical information primarily developed prior to promulgation of the CCR Rule [1] for the CCR units at KPP and did not include calculations or other information used to certify performance and/or integrity of the impoundments under §257.73(a)(2)-(3), §257.73(c)-(e), or §257.82.
- If updates are required, they will be performed and documented within this report.

- Confirm that the AP meets all the requirements associated with §257.73(a)(2)-(3), (c), (d), (e), and §257.82, or, if the AP does not meet all requirements, provide recommendations for compliance with these sections of the CCR Rule [1].

SECTION 2

COMPARISON OF INITIAL AND PERIODIC SITE CONDITIONS

2.1 Overview

This section describes the comparison of conditions at the Ash Pond (AP) between the start of the initial CCR certification program in 2015 and 2016 (initial conditions) and subsequent collection of periodic certification site data in 2020 and 2021 (periodic conditions).

2.2 Review of Annual Inspection Reports

Annual onsite inspections for the AP were performed between 2016 and 2020 ([11], [12], [13], [14], [15]) and were certified by a licensed professional engineer in accordance with §257.83(b). Each inspection report stated the following information, relative to the previous inspection:

- A statement that no changes in geometry of the impounding structure were observed since the previous inspection;
- Information on maximum recorded instrumentation readings and water levels;
- Approximate volumes of impounded water and CCR at the time of inspection;
- A statement that no appearances of actual or potential structural weakness or other disruptive conditions were observed; and
- A statement that no other changes which may have affected the stability or operation of the impounding structure were observed.

In summary, the reports did not indicate any significant changes to the Ash Pond between 2015 and 2020. No signs of instability, structural weakness, or changes which may have affected the operation or stability of the AP were noted in the inspection reports.

2.3 Review of Instrumentation Data

Fifteen piezometers are present at the AP and were monitored monthly by KG between August 23, 2015 and June 16, 2021 [16]. These piezometers consist of KIN-P001 through KIN-P012 and PZ-4A through PZ-4C. Geosyntec reviewed the piezometer data to evaluate if significant fluctuations, partially increases in phreatic levels, may have occurred between development of the initial structural stability and factor of safety certifications ([9], [5], [6]) and May 19, 2021. Available piezometer readings are plotted in **Attachment A**.

In summary, only minor changes in phreatic conditions were observed in the available piezometric data. Phreatic levels typically varied by five feet on average. Changes in these phreatic levels do not significantly differ from those utilized in the initial structural stability and factor of safety certifications ([9], [5], [6]).

2.4 Comparison of Initial to Periodic Surveys

The initial survey of the Ash Pond, conducted by Weaver Consultants Group (Weaver) in 2015 [17], was compared to the periodic survey of the AP, conducted by IngenAE, LLC (IngenAE) in 2020 [18], using AutoCAD Civil3D 2021 software. This comparison quantified changes in the volume of CCR placed within the AP and considered volumetric changes above and below the starting water surface elevation (SWSE) used for the 2016 §257.82 inflow design flood control plan hydraulic analysis [9]. Potential changes to embankment geometry were also evaluated. This comparison is presented in a side-by-side view of the surveys in **Drawing 1** and a plan view isopach map denoting changes in ground surface elevation in **Drawing 2**. A summary of the water elevations and changes in CCR volumes is provided in **Table 2**.

Table 2 – Initial to Periodic Survey Comparison

Initial Surveyed Pool Elevation (ft)	602.6
Periodic Surveyed Pool Elevation (ft)	602.4
Initial §257.82 Starting Water Surface Elevation (SWSE) (ft)	603.3
Total Change in CCR Volume (CY)	-77,671
Change in CCR Volume Above SWSE (CY)	-49,042
Change in CCR Volume Below SWSE (CY)	-28,819

The comparison indicated that approximately 78,000 CY of CCR may have been removed from the Ash Pond between the initial and periodic surveys. The periodic survey also indicated dike crest elevations of initial and periodic surveys on the order of two feet lower than the initial survey, with the minimum crest elevation being 604.5 feet, compared to 605.2 ft in the initial survey.

2.5 Comparison of Initial to Periodic Aerial Photography

Initial aerial photographs of the Ash Pond collected by Weaver in 2015 [17] were compared to periodic aerial photographs collected by IngenAE in 2020 [18] to visually evaluate if potential site changes (i.e., changes to the embankment, outlet structures, limits of CCR, other appurtenances) may have occurred. A comparison of these aerial photographs is provided in **Drawing 3**. No significant changes were identified.

2.6 Comparison of Initial to Periodic Site Visits

An initial site visit to the Ash Pond was conducted by AECOM in 2015 and documented with a Site Visit Summary and corresponding photographs [19].

A periodic site visit was conducted by Geosyntec on June 10, 2021, with Mr. Thomas Ward, P.E. and Ms. Crystal Luttrell conducting the site visit. The site visit was intended to evaluate potential changes at the site since the initial certifications were prepared (i.e., modification to the embankment, outlet structures or other appurtenances, limits of CCR, maintenance programs, repairs), in addition to performing visual observations of the AP to evaluate if the structural stability requirements (§257.73(d)) were met. The site visit included walking the perimeter of the

AP, visually observing conditions, recording filed notes, and collecting photographs. The site visit is documented in a field observation form and photographic log provided in **Attachment B**.

2.7 Interview with Power Plant Staff

An interview with Mr. Tim Arnold of KPP was conducted by Mr. Thomas Ward, P.E. and Ms. Crystal Luttrell of Geosyntec on June 10, 2021. Mr. Arnold was employed at KPP between 2019 and 2021 as the manager of environmental, with the responsibility of managing the Ash Pond from an environmental standpoint. The interview included a discussion of potential changes that may have occurred at the Ash Pond since development of the initial certifications ([2], [3], [4], [5], [6], [7]).

A summary of the interview is provided below.

- Were any construction projects completed for the CCR Surface Impoundment since 2015, and, if so, can you please describe the work, reason for the work, and provide any design drawings and/or details available?
  - No.
- Were there any changes to the purpose of the CCR Surface Impoundment since 2015?
  - No.
- Were there any changes to the instrumentation program and/or physical instruments for the CCR Surface Impoundment between 2015 and 2021, and, if so, are records available?
  - No.
- Have any area-capacity curves for the CCR Surface Impoundment been prepared since 2015?
  - No.
- Were there any changes to spillways and/or diversion features for the CCR Surface Impoundment completed since 2015, and, if so, are records available?
  - No.
- Were there any changes to construction specifications, surveillance, maintenance, and repair procedures for the CCR Surface Impoundment since 2015, and, if so, are records available?
  - No.
- Were there any instances of dike and/or structural instability for the CCR Surface Impoundment since 2015, and, if so, are records available?

  - No.

SECTION 3

HAZARD POTENTIAL CLASSIFICATION - §257.73(a)(2)

3.1 Overview of Initial HPC

The Initial Hazard Potential Classification (Initial HPC) was prepared by Stantec Consulting Services, Inc. (Stantec) in 2016 ([2], [8]), following the requirements of §257.73(a)(2). The Initial HPC included the following information:

- Performing a breach analysis to evaluate the potential hazards associated with a failure of the AP's perimeter containment dike, along the east embankment and the lowest crest elevation on the AP embankment [2].

- Evaluation of potential breach flow paths were evaluated using elevation data and aerial imagery to evaluate potential impacts to downstream structures, infrastructure, frequently occupied facilities/areas, and waterways [2].

- While a breach map is not included within the Initial HPC, it included within the §257.73(a)(3) Initial Emergency Action Plan [3].

The visual analysis indicated that none of the breach scenarios appeared to impact occupied structures, although a breach of the east embankment could impact an infrequently used gravel site access road and a breach to the north would inundate the leachate pond. The Initial HPC concluded that neither breach would be likely to result in a probable loss of human life, although the breach could cause CCR to be released onto farmland, thereby causing environmental damage. The Initial HPC therefore recommended a "Significant" hazard potential classification for the Ash Pond [2].

3.2 Review of Initial HPC

Geosyntec performed a review of the Initial HPC ([2], [8]) in terms of technical approach, input parameters, assessment of the results, and applicable requirements of the CCR Rule [1]. Some technical issues were noted within the technical review, although a detailed review (e.g., check) of the calculations. The review included the following tasks:

- Review of all report documentation and figures

- Check that correct CCR Rule guidance is referenced and followed

- Review of appropriate failure mode selections

- Review for changes to the site and surrounding area

- Review that appropriate breach analysis methodology, model software, and inputs were utilized

- Check that selected HPC is appropriate per results of the breach analysis

No significant technical issues were noted within the technical review, although a detailed review (e.g., check) of the calculations was not performed.

3.3 Summary of Site Changes Affecting the Initial HPC

Geosytnec recommends retaining the "Significant" hazard potential classification for the Ash Pond, per §257.73(a)(2), based on the lack of site changes potentially affecting the Initial HPC occurring since the Initial HPC was developed, as described in **Section 3.3**, and the lack of significant review comments, as described in **Section 3.2**. Updates to the Initial HPC reports ([2], [8]) are not recommended at this time.

SECTION 4

HISTORY OF CONSTRUCTION REPORT - §257.73(c)

4.1 Overview of Initial HoC

The Initial History of Construction report (Initial HoC) was prepared by AECOM in 2016 [4], following the requirements of §257.73(c), and included information on the CCR surface impoundment, AP, at KPP. The Initial HoC included the following information for the CCR surface impoundment:

- The name and address of the owner/operator,
- Location maps,
- Statements of purpose,
- The names and size of the surrounding watershed,
- A description of the foundation and abutment materials,
- A description of the dike materials,
- Approximate dates and stages of construction,
- Available design and engineering drawings,
- A summary of instrumentation,
- A statement that area-capacity curves are not available,
- Information on spillway structures,
- Construction specifications,
- Inspection and surveillance plans,
- Information on operational and maintenance procedures, and
- A statement that historical structural instability had not occurred at any of the CCR surface impoundments.

4.2 Summary of Site Changes Affecting the Initial HoC

Several significant changes were identified at the site that occurred after development of the Initial HoC report [4] and are described below:

- A state identification number (ID) of W0218140002-01 was assigned to the AP by the Illinois Environmental Protection Agency (IEAP).

- Revised area-capacity curves and spillway design calculations for the AP were prepared as part of the Periodical Inflow Design Flood Control System Plan Assessment, as described in **Section 7.**

A letter documenting changes to the HoC report is provided in **Attachment C**.

SECTION 5

STRUCTURAL STABILITY ASSESSMENT - §257.73(d)

5.1 Overview of Initial SSA

The Initial Structural Stability Assessment (Initial SSA) was prepared by AECOM in 2016 ([5], [9]), following the requirements of §257.73(d)(1), and included the following evaluations:

- Stability of dike foundations, slope protection, dike compaction, and slope vegetation,
- Spillway stability including capacity, structural stability and integrity; and
- Downstream slope stability under sudden drawdown conditions for a downstream water body.

The Initial SSA concluded that the AP met all structural stability requirements for §257.73(d)(1)(i) through (v) and (vii), but recommended inspection of the recycle intake structure pipe in the southeast corner of the AP in order to verify that the AP meets the stability and structural integrity criteria for hydraulic outfall structures, per §257.73(d)(1)(vi). An inspection of this intake pipe was not previously performed due to high pipe flows required for operation precluding closed-circuit television (CCTV) inspections.

A periodic certification of the structural stability and structural integrity for hydraulic outfall structures (§257.73(d)(1)(vi)) was performed by Luminant in 2020 [10]. This certification independently determined that the criteria was met due to the condition of the spillway pipes and the soil types within the embankment. Therefore, the review and certification of §257.73(d)(1)(vi) is not included within the scope of this report.

The Initial SSA referenced the results of the Initial Structural Factor Assessment (Initial SFA) ([6], [9]), to demonstrate stability of the stability of foundations and abutments (§257.73(d)(1)(i)) and sufficiency of dike compaction (§257.73(d)(1)(iii)) portions of the SSA criteria. This included stating that slope stability analyses for slip surfaces passing through the foundation met or exceeded the criteria listed in §257.73(e)(1), for the stability of foundations and abutments. For the sufficiency of dike compaction, this included stating that slope stability analyses for slip surfaces passing through the dike also met or exceeded the §257.73(e)(1) criteria.

Additionally, the Initial SSA included a sudden drawdown slope stability analysis to evaluate the effect of a drawdown event in adjacent Sangchris Lake from normal pool to empty pool, as required by §257.73(d)(1)(vii) for CCR units where the downstream slopes are inundated by an adjacent water body. The minimum factor of safety for this loading condition was assumed to be 1.3 based on U.S. Army Corps of Engineers guidance [20].

5.2 Review of Initial SSA

Geosyntec performed a review of the Initial SSA ([5], [9]) in terms of technical approach, calculation input parameters and methodology, recommendations, and completeness. The review included the following tasks:

- Review of photographs collected in 2015 and used to demonstrate compliance with §257.73(d)(1)(i)-(vii).
- Reviewing geotechnical calculations used to demonstrate the stability of foundations, per §257.73(d)(1)(i); sufficiency of dike compaction, per §257.73(d)(1)(iii); and downstream slope stability, per §257.73(d)(1)(vii). Supporting geotechnical investigation and testing data, input parameters, analysis methodology, selection of critical cross-sections, and loading conditions were reviewed.
- Review of the methodology used to demonstrate that a downstream water body that could induce a sudden drawdown condition, per §257.73(d)(1)(vii), is not present.

No significant technical issues were noted within the technical review of the Initial SSA, although a detailed review (e.g., check) of the calculations was not performed.

5.3 Summary of Site Changes Affecting the Initial SSA

One change at the site that occurred after development of the Initial SSA was identified. This change required an update to the Initial SSA and is described below:

- The Initial SSA utilized the results of the Initial Inflow Design Flood Control System Plan (IDF) to demonstrate compliance with the adequacy of spillway design and management (§257.73(d)(1)(v)(A)-(B)). The Initial IDF was subsequently updated to develop a Periodic IDF, based on site changes, as discussed in **Section 7**.

5.4 Periodic SSA

The Periodic IDF (**Section 7**) indicates that spillways are adequately designed and constructed to adequately manage flow during the 1,000-year flood, as the spillways can adequately manage flow during peak discharge from the 1,000-year storm event without overtopping of the embankments. Therefore, the requirements of §257.73(d)(1)(v)(A)-(B) are met for the Periodic SSA.

Certification of §257.73(d)(1)(vi) was independently performed by Luminant [10].

SECTION 6

SAFETY FACTOR ASSESSMENT - §257.73(e)(1)

6.1 Overview of Initial SFA

The Initial Safety Factor Assessment (Initial SFA) was prepared by AECOM in 2016 ([6], [9]), following the requirements of §257.73(e)(1). The Initial SFA included the following information:

- A geotechnical investigation program with in-situ and laboratory testing;
- An assessment of the potential for liquefaction in the dike and foundation soils;
- The development of five slope stability cross-sections for limit equilibrium stability analysis utilizing GeoStudio SLOPE/W software; and
- The analysis of the critical cross-sections for maximum storage pool, maximum surcharge pool, and seismic loading conditions.
    - Liquefaction loading conditions were evaluated via post-earthquake analysis as liquefaction-susceptible soil layers were identified in the soft clay layer located between the foundation clay and glacial till layer in the Kincaid Ash Pond.

The Initial SFA concluded that the Ash Pond met all safety factor requirements, per §257.73(e), as all calculated safety factors were equal to or higher than the minimum required values.

6.2 Review of Initial SFA

Geosyntec performed a review of the Initial SFA ([6], [9]) in terms of technical approach, calculation input parameters and methodology, recommendations, and completeness. The review included the following tasks:

- Reviewing geotechnical calculations used to demonstrate the acceptable safety factors, per §257.73(e)(1), in terms of:
    - Completeness and adequacy of supporting geotechnical investigation and testing data;
    - Completeness and approach of liquefaction triggering assessments; and
    - Analyzed loading conditions relative to the applicable CCR Rule [1] requirements and site-specific conditions.
    - Input parameters, analysis methodology, selection of critical cross-sections, loading conditions, and piezometric/groundwater levels utilized for slope stability analyses.

- Reviewing the contents vs. the applicable CCR Rule requirements [1].

No significant technical issues were noted within the technical review, although a detailed review (e.g., check) of the calculations was not performed.

6.3 Summary of Site Changes Affecting the Initial SFA

No changes since development of the Initial SFA were identified that would require updates to the Initial SFA ([6], [9]). Although normal and peak (i.e., flood) water levels within the AP have changed as a result of the Periodic IDF (**Section 7**), water levels are lower than those utilized in the Initial SFA. Therefore, the water levels utilized in the Initial SFA are conservative relative to current conditions.

SECTION 7

INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN - §257.82

7.1 Overview of Initial IDF

The Initial Inflow Design Flood Control System Plan (Initial IDF) was prepared by AECOM in 2016 ([7], [9]), following the requirements of §257.82. The Initial IDF included the following information:

- A hydraulic and hydrologic analysis, performed for the 1,000-year design flood event because of the hazard potential classification of "Significant", which corresponded to 8.08 inches of rainfall over a 24-hour period.

- The Initial IDF utilized a HydroCAD (Version 10) model to evaluate spillway flows and pool level increases during the design flood, with a SWSE of 603.3 feet.

The Initial IDF concluded that the Ash Pond met the requirements of §257.82, as the peak water surcharge elevation estimated by the HydroCAD model was 605.1 feet, relative to a minimum Ash Pond dike crest elevation of 605.2 feet. Therefore, overtopping was not expected. The Initial IDF also evaluated the potential for discharge from the CCR unit and concluded that discharge in violation of the existing NDPES for the Ash Pond was not expected, as all discharge from the Ash Pond during both normal and inflow design flood conditions was expected to be routed back to KPP for use in plant operations, is discharged via a NPDES-permitted outfall after treatment or is routed through the emergency outlet structure and NDPES-permitted outfall to Sangchris Lake [7].

7.2 Review of Initial IDF

Geosyntec performed a review of the Initial IDF ([7], [9]) in terms of technical approach, calculation input parameters and methodology, recommendations, and completeness. The review included the following tasks:

- Reviewing the return interval used vs. the hazard potential classification,

- Reviewing the rainfall depth and distribution for appropriateness,

- Performing a high-level review of the inputs to the hydrological modeling,

- Reviewing the hydrologic model parameters for spillway parameters, starting pool elevation, and storage vs. the reference data, and

- Reviewing the overall Initial IDF vs. the applicable requirements of the CCR Rule [1].

Several comments were identified during review of the Initial IDF. The comments are described below:

- The Initial IDF utilized the National Resource Conservation Service (NRCS) Type II rainfall distribution type [21]. Geosyntec recommends utilizing the Huff 3rd Quartile distribution for areas less than 10 square miles [22] for the reasons listed below.
  - Huff 3rd Quartile distribution was identified to be a more appropriate representation of a 1,000-year, 24-hour storm event per the Illinois State Water Survey (ISWS) Circular 173 [22] which developed standardized rainfall distributions from compiled rainfall data at sites throughout Illinois.
  - Illinois Department of Natural Resources, Office of Water Resources (IDNR-OWR) [23] recommends use of the Huff Quartile distributions in Circular 173 when using frequency events to determine the spillway design flood inflow hydrograph, "*The suggested method to distribute this rainfall is described in the ISWS publication, Circular 173, "Time Distributions of Heavy Rainstorms in Illinois".*

7.3 Summary of Site Changes Affecting the Initial IDF

Two changes at the site that occurred since development of the Initial IDF were identified. These changes required updates to the Initial IDF and are described below:

- The minimum elevation of the perimeter dike is estimated to be 604.5 feet based on the 2020 survey [18], which is 0.7 ft lower than the El. 605.2 ft perimeter dike elevation estimated from the 2015 survey [17].
- Approximately 78,000 CY of CCR were removed above the SWSE utilized for the Initial IDF certification, thereby altering the stage-storage curve, relative to the Initial IDF.

7.4 Periodic IDF

Geosyntec revised the HydroCAD model associated with the Initial IDF to account for the changes in the drainage area, changes in the time of concentration, changes in CCR volume, revised rainfall distribution type, and changes in the lowest point of the perimeter dike elevation, as described in **Section 7.3**.

The following approach and input data were used for the revised analyses:

- The SWSE was lowered from El. 603.3 ft to El. 602.8 ft, in order to provide additional capacity.
- The AP drainage area was updated from 178 acres to 171 acres to reflect the 2020 site survey.
- Time of concentration was updated from 5 minutes to 6 minutes in accordance with the recommended minimum time of concentration for direct entry of rainfall [24].

- The stage-storage (i.e., area-capacity) curve for the AP was updated based on the 2020 site survey [18].
    - A revised stage-volume curve for the AP was prepared based on measuring the storage volume of the AP at every one-foot increment of depth from an elevation at the bottom of the AP (594 ft) to the approximate minimum perimeter dike embankment crest elevation (605 ft). This analysis identified an overall increase of 90,378 CY (56 ac-ft) of storage volume at the AP from the storage used in the 2016 Initial IDF Certification.
- The rainfall distribution type was updated to the “Huff 3rd Quartile” storm type provided by HydroCAD [22].
- The minimum dike crest elevation was updated from 605.2 ft to 604.5 ft based on the 2020 site survey.
- All other input data and settings from the Initial IDF HydroCAD model were utilized, including, but not limited to software package and version, runoff method, analysis time span and analysis time step.

The results of the Periodical IDF Assessment are summarized in **Table 3** and confirm that the AP sill meets the requirements of §257.82(a)-(b) if the SWSE is maintained no higher than El. 602.8 ft, as the peak water surface elevation does not exceed the minimum perimeter dike crest elevations. Additionally, all discharge from the AP is routed through the existing spillway system to the NPDES-permitted outfall, during both normal and IDF conditions. Updated area-capacity curves and HydroCAD model output is provided in **Attachment D**.

Table 3 – Water Levels from Periodical IDF Assessment

Analysis	Starting Water Surface Elevation (ft)	Peak Water Surface Elevation (ft)	Minimum Dike Crest Elevation (ft)
Initial IDF	603.3	605.1	605.2
Periodical IDF Assessment	602.8	604.4	604.5
Initial to Periodic Change[1]	-0.5	-0.7	

Notes:
[1]Postive change indicates increase in the WSE, negative change indicates decrease in the WSE.

SECTION 8 CONCLUSIONS

The Ash Pond at KPP was evaluated relative to the USEPA CCR Rule periodic assessment requirements for:

- Hazard potential classification (§257.73(a)(2));
- History of Construction reporting (§257.73(d));
- Structural stability assessment (§257.73(d)) with the exception of §257.73(d)(1)(vi) that was independently certified by Luminant [10], and considering a starting water surface elevation no higher than El. 602.8 ft;
- Safety factor assessment (§257.73(e)); and
- Inflow design flood control system planning (§257.82), if the starting water surface elevation does not exceed El. 602.8 ft.

Based on the evaluations presented herein, the referenced requirements are satisfied.

SECTION 9

CERTIFICATION STATEMENT

CCR Unit: Kincaid Generation, LLC, Kincaid Power Plant, Ash Pond

I, Thomas W. Ward, 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 2021 USEPA CCR Rule Periodic Certification Report, has been prepared in accordance with the accepted practice of engineering. I certify, for the above-referenced CCR Unit, that the periodic assessment of the hazard potential classification, history of construction report, structural stability, safety factors, and inflow design flood control system planning, dated October 2016, were conducted in accordance with the requirements of 40 CFR §257.73(a)(2), (c), (d), (e), and §257.82, with the exception of §257.73(d)(1)(vi)) that was independently certified by others.

Thomas W. Ward

10/11/21

Date

Exp. 11/30/2021

SECTION 10

REFERENCES

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[15] J. Knutelski, *Annual Inspection by a Qualified Professional Engineer, 40 CFR §257.83(b), Kincaid Generation, Ash Pond*, January 6, 2021.

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[19] AECOM, "Initial Station Site Visit Summary, Dynegy CCR Compliance Program," June 24, 2015.

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[21] C. E. D. Natural Resource Conservation Service, "Urban Hydrology for Small Watersheds (TR-55)," United States Department of Agriculture, 1985.

[22] State of Illinois Department of Energy and Natural Resources, "Time Distributions of Heavy Rainstorms in Illinois," State Water Survey Division, Champaign, Illinois, 1990.

[23] State of Illinois Department of Natural Resources, "Procedural Guidelines for Preparation of Technical Data to be Included in Applications for Permits for Construction and Maintenance of Dams," Springfield, Illinois.

[24] USDA Natural Resources Conservation Service, "WinTR-20 Project Formulation Hydrology, Version 3.20".

Section 3

Annual Groundwater Monitoring and Corrective Action Report (Section 845.610(e))

Prepared for
Kincaid Generation, LLC

Date
January 31, 2022

Project No.
1940100711-010

2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

RAMBOLL Bright ideas. Sustainable change.

2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT KINCAID POWER PLANT ASH POND

Project name	**Kincaid Power Plant Ash Pond**
Project no.	**1940100711-010**
Recipient	**Kincaid Generation, LLC**
Document type	**Annual Groundwater Monitoring and Corrective Action Report**
Version	**FINAL**
Date	**January 31, 2022**
Prepared by	**Lauren D. Cook**
Checked by	**Lauren Cook**
Approved by	**Brian Hennings**
Description	**Annual Report in Support of Part 845**

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APPENDICES

ACRONYMS AND ABBREVIATIONS

§	Section
35 I.A.C.	Title 35 of the Illinois Administrative Code
40 C.F.R.	Title 40 of the Code of Federal Regulations
AP	Ash Pond
bgs	below ground surface
CCR	coal combustion residuals
GMP	Groundwater Monitoring Plan
GWPS	groundwater protection standard
HCR	Hydrogeologic Site Characterization Report
ID	identification
IEPA	Illinois Environmental Protection Agency
KPP	Kincaid Power Plant
NA	not applicable
NID	National Inventory of Dams
No.	number
Part 845	35 I.A.C. § 845: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments
PMP	potential migration pathway
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SI	surface impoundment
SSI	statistically significant increase
TDS	total dissolved solids
UA	uppermost aquifer
USCU	upper semi-confining unit
WLO	water level only

EXECUTIVE SUMMARY

This report has been prepared to provide the information required by Title 35 of the Illinois Administrative Code (35 I.A.C.) Section (§) 845.610(e) (*Annual Groundwater Monitoring and Corrective Action Report*) for the Ash Pond (AP) located at Kincaid Power Plant (KPP) near Kincaid, Illinois.

An operating permit application for the AP was submitted by Kincaid Generation, LLC to the Illinois Environmental Protection Agency (IEPA) by October 31, 2021 in accordance with the requirements specified in 35 I.A.C. § 845.230(d), and is pending approval. The AP is recognized by Vistra identification (ID) number (No.) 141, IEPA ID No. W0218140002-01, and National Inventory of Dams (NID) No. IL50706.

A Groundwater Monitoring Plan (GMP; Ramboll Americas Engineering Solutions, Inc. [Ramboll], 2021a), which included a Statistical Analysis Plan, was developed and submitted as part of the operating permit application to propose a monitoring well network and monitoring program specific to the AP that will comply with 35 I.A.C. § 845: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments (Part 845; IEPA, 2021). The proposed groundwater protection standards (GWPS), as presented in the GMP, are shown in **Appendix A**.

Groundwater concentrations observed from 2015 to 2021 were presented in the Hydrogeologic Site Characterization Report (HCR; Ramboll, 2021b) and evaluated in the presentation of the History of Potential Exceedances (Ramboll, 2021c) included in the operating permit application, as required by 35 I.A.C. § 845.230(d). Groundwater concentrations from 2015 to 2021 that exceeded the GWPS set forth in 35 I.A.C. § 845.600(a) are considered potential exceedances because the methodology used to determine them is proposed in the Statistical Analysis Plan, which is pending IEPA approval. The determination of potential historical exceedances of 35 I.A.C. § 845.600(a) and a summary of potential historical exceedances of proposed GWPS are shown in **Appendix B**.

Evaluation of background groundwater quality was presented in the GMP (Ramboll, 2021a), and compliance with Part 845 will be determined after the first round of groundwater sampling following IEPA's issuance of an operating permit.

This report summarizes only the information presented in the operating permit application for the AP, submitted to IEPA by October 31, 2021, which is pending IEPA approval.

1. INTRODUCTION

This report has been prepared by Ramboll, on behalf of Kincaid Generation, LLC, to provide the information required by 35 I.A.C. § 845.610(e) for the AP located at KPP near Kincaid, Illinois. The owner or operator of a coal combustion residuals (CCR) surface impoundment (SI) must prepare and submit to IEPA by January 31st of each year an Annual Groundwater Monitoring and Corrective Action Report for the preceding calendar year as part of the Annual Consolidated Report required by 35 I.A.C. § 845.550. The Annual Groundwater Monitoring and Corrective Action Report shall document the status of the groundwater monitoring and corrective action plan for the CCR SI, summarize key actions completed, including the status of permit applications and Agency approvals, describe any problems encountered and actions to resolve the problems, and project key activities for the upcoming year. At a minimum, the annual report must contain the following information, to the extent available:

1. A map, aerial image, or diagram showing the CCR SI and all background (or upgradient) and downgradient monitoring wells, including the well ID Nos., that are part of the groundwater monitoring program for the CCR SI, and a visual delineation of any exceedances of the GWPS.
2. Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken.
3. A potentiometric surface map for each groundwater elevation sampling event required by 35 I.A.C. § 845.650(b)(2).
4. In addition to all the monitoring data obtained under 35 I.A.C. §§ 845.600-680, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, and the dates the samples were collected.
5. A narrative discussion of any statistically significant increases (SSIs) over background levels for the constituents listed in 35 I.A.C. § 845.600.
6. Other information required to be included in the annual report as specified in 35 I.A.C. §§ 845.600-680.
7. A section at the beginning of the annual report that provides an overview of the current status of the groundwater monitoring program and corrective action plan for the CCR SI. At a minimum, the summary must:
   i. Specify whether groundwater monitoring data shows a SSI over background concentrations for one or more constituents listed in 35 I.A.C. § 845.600.
   ii. Identify those constituents having a SSI over background concentrations and the names of the monitoring wells associated with the SSI(s).
   iii. Specify whether there have been any exceedances of the GWPS for one or more constituents listed in 35 I.A.C. § 845.600.
   iv. Identify those constituents with exceedances of the GWPS in 35 I.A.C. § 845.600 and the names of the monitoring wells associated with the exceedance.
   v. Provide the date when the assessment of corrective measures was initiated for the CCR SI.

vi. Provide the date when the assessment of corrective measures was completed for the CCR SI.

vii. Specify whether a remedy was selected under 35 I.A.C. § 845.670 during the current annual reporting period, and if so, the date of remedy selection.

viii. Specify whether remedial activities were initiated or are ongoing under 35 I.A.C. § 845.780 during the current annual reporting period.

An operating permit application for the AP was submitted by Kincaid Generation, LLC to IEPA by October 31, 2021 in accordance with the requirements specified in 35 I.A.C. § 845.230(d), and is pending approval. Therefore, the Part 845 groundwater monitoring program has not yet been initiated. This report summarizes the data collected for the AP as it was presented in the operating permit application, and includes the following:

- A map showing the CCR SI and all proposed background (or upgradient) and downgradient monitoring wells, including their identification numbers, that are part of the proposed groundwater monitoring program for the CCR SI presented in the GMP included in the operating permit application (Ramboll, 2021a).
- Identification of monitoring wells that were installed during 2021 to fulfill the requirements of 35 I.A.C. § 845.620(b).
- Representative potentiometric surface maps from the independent sampling events conducted in 2021 to meet the requirements of 35 I.A.C. § 845.650(b)(1)(A), as presented in the HCR included in the operating permit application (Ramboll, 2021b).
- A summary from the independent sampling events completed in 2021, including the number of groundwater samples that were collected for analysis for each proposed background and downgradient well and the dates the samples were collected.
- The proposed GWPS as presented in the GMP.
- A summary of the History of Potential Exceedances included in the operating permit application (Ramboll, 2021c), as required by 35 I.A.C. § 845.230(d), summarizing groundwater concentrations from 2015 to 2021 that exceeded the proposed GWPS.
  - These are considered potential exceedances because the methodology used to determine them is proposed in the Statistical Analysis Plan (Appendix A of the GMP), which is pending IEPA approval.

2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

The Part 845 groundwater monitoring program will commence the quarter following IEPA approval and issuance of the operating permit for the AP.

3. KEY ACTIONS COMPLETED IN 2021

Work was completed in 2021 to meet the requirements of Part 845 and details were provided in the operating permit application submitted to IEPA. The boring logs and well construction forms are included in the HCR provided with the operating permit application (Ramboll, 2021b).

The proposed Part 845 monitoring well network is presented in **Figure 1** and summarized below in **Table A**. The proposed Part 845 monitoring well network also includes wells previously installed for other programs.

Table A. Proposed Part 845 Monitoring Well Network

Well ID	Monitored Unit	Well Screen Interval (feet bgs)	Well Type [1]
MW-1	UA	15 - 25	Background
MW-2	UA	10 - 20	Background
MW-3	UA	14 - 24	Compliance
MW-5	UA	30 - 40	Compliance
MW-6	UA	10 - 20	Compliance
MW-7	UA	10 - 20	Compliance
MW-7S*	USCU	6 - 11	Compliance
MW-8	UA	12 - 22	Compliance
MW-8S	USCU	4 - 7	Compliance
MW-11	UA	11 - 21	Compliance
MW-12	UA	15 - 25	Compliance
MW-20	UA	14 - 24	Compliance
MW-20S*	USCU	4 - 10	Compliance
MW-23	UA	23 - 28	Compliance
MW-27*	USCU	10 - 15	Compliance
MW-28	UA	12 - 22	Compliance
MW-30	UA	35 - 40	Compliance
MW-31	UA	35 - 40	Compliance
MW-31S	USCU	25 - 30	Compliance
MW-32	UA	32 - 37	Compliance
PZ-4C	UA	15.5 - 20.5	Compliance
XSG-01 [1,2]	CCR	NA	WLO
SG-02 [1,2]	Surface Water	NA	WLO

[1] Well type refers to the role of the well in the monitoring network.
[2] Surface water level measuring point.
[3] Location is temporary pending implementation of impoundment closure per an approved construction permit application.
* Well in the USCU that has been identified to monitor the potential migration pathway (PMP).
bgs = below ground surface
CCR = coal combustion residuals
NA = not applicable
UA = uppermost aquifer
USCU = upper semi-confining unit
WLO = water level only

Proposed Part 845 monitoring wells were sampled for eight rounds of independent groundwater samples from February to August 2021 and the results were analyzed for the parameters listed in 35 I.A.C. § 845.600. Select proposed Part 845 monitoring wells are also monitored as part of the monitoring system for the requirements of Title 40 of the Code of Federal Regulations (40 C.F.R.) § 257. A summary of the samples collected from background and compliance monitoring wells for determination of the history of potential exceedances is included in **Table B** below. All groundwater elevation data and analytical results obtained in 2021 are presented in the HCR (Ramboll, 2021b). Groundwater elevation contour maps representative of the independent sampling events are presented in **Figures 2 through 4**.

Table B. Summary of Groundwater Samples Collected

Sampling Dates	Parameters Collected	Monitoring Wells Sampled [1]
February 24 - March 1, 2021	Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4]	MW-1, MW-2, MW-3, MW-4, MW-7S, MW-8S, MW-12S, MW-12D, MW-20, MW-20S, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31, MW-31S, MW-32, and PZ-4C
March 15 - 18, 2021	Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4]	MW-1, MW-2, MW-3, MW-4, MW-7S, MW-8S, MW-12S, MW-12D, MW-20, MW-20S, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31, MW-31S, MW-32, and PZ-4C
March 30, 2021	Appendix III [5], Appendix IV [6], field parameters [4]	MW-1, MW-2, MW-5, MW-6, MW-7, MW-8, MW-11, and MW-12
April 5 - 7, 2021	Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4]	MW-1, MW-2, MW-3, MW-4, MW-7S, MW-8S, MW-12S, MW-12D, MW-20, MW-20S, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31, MW-31S, MW-32, and PZ-4C
May 18 - 21, 2021	Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4]	MW-1, MW-2, MW-3, MW-4, MW-7S, MW-8S, MW-12S, MW-12D, MW-20, MW-20S, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31, MW-31S, MW-32, and PZ-4C
June 9 - 10, 2021	Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4]	MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-7S, MW-8, MW-9, MW-10, MW-11, MW-12, MW-12S, MW-12D, MW-20, MW-20S, MW-23, MW-27, MW-28, MW-29, MW-30, MW-31, MW-31S, MW-32, and PZ-4C
July 1 - 2, 2021	Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4]	MW-1, MW-2, MW-3, MW-7S, MW-12S, MW-12D, MW-20, MW-20S, MW-23, MW-27, MW-28, MW-29, MW-30, MW-31, MW-31S, MW-32, and PZ-4C

Sampling Dates	Parameters Collected	Monitoring Wells Sampled [1]
July 22 - 23, 2021	Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4]	MW-1, MW-2, MW-3, MW-7S, MW-12S, MW-12D, MW-20, MW-20S, MW-23, MW-27, MW-28, MW-29, MW-30, MW-31, MW-31S, MW-32, and PZ-4C
August 10 - 11, 2021	Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4]	MW-1, MW-2, MW-3, MW-7S, MW-12S, MW-12D, MW-20, MW-20S, MW-23, MW-25, MW-27, MW-28, MW-29, MW-30, MW-31, MW-31S, MW-32, and PZ-4C
September 1, 2021	Appendix III [5], Appendix IV [6] (detected only) , field parameters [3]	MW-1, MW-2, MW-5, MW-6, MW-7, MW-8, MW-11, and MW-12

[1] In general, one sample was collected per monitoring well per event.
[2] Metals include antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, lead, lithium, molybdenum, selenium, and thallium.
[3] Inorganic parameters include fluoride, chloride, sulfate, and total dissolved solids (TDS).
[4] Field parameters include pH, dissolved oxygen, temperature, oxidation/reduction potential, specific conductance, and turbidity.
[5] Appendix III parameters include boron, calcium, chloride, fluoride, pH, sulfate, and TDS.
[6] Appendix IV parameters include antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, radium 226 and 228 combined, selenium, and thallium.

Evaluation of background groundwater quality is presented in the GMP and the proposed GWPSs are included in **Appendix A.** Compliance with Part 845 will be determined after the first round of groundwater sampling following IEPA's issuance of the operating permit for the AP.

Groundwater concentrations from 2015 to 2021 were presented in the HCR and evaluated in the presentation of the History of Potential Exceedances included in the operating permit application. Groundwater concentrations that exceeded the proposed GWPS are considered potential exceedances because the methodology used to determine them is proposed in the Statistical Analysis Plan, which is pending IEPA approval. Tables summarizing how potential historical exceedances were determined and the potential exceedances themselves are provided in **Appendix B**.

4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

The first round of groundwater sampling for compliance with the Part 845 groundwater monitoring program will commence the quarter following IEPA approval and issuance of the operating permit for the AP, and in accordance with the GMP.

5. KEY ACTIVITIES PLANNED FOR 2022

The following key activities are planned for 2022:

- Groundwater sampling and reporting for compliance will be initiated the quarter following issuance of the operating permit at all monitoring wells in the approved monitoring well network as presented in the GMP and required by 35 I.A.C. § 845.610(b)(3), including:
  - Monthly groundwater elevations.
  - Quarterly groundwater sampling.

6. REFERENCES

Illinois Environmental Protection Agency (IEPA), 2021. *In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Title 35 Illinois Administration Code 845, Addendum*. April 15, 2021.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2021a. *Groundwater Monitoring Plan. Kincaid Power Plant, Ash Pond, Kincaid, Illinois*. Kincaid Generation, LLC. October 25, 2021.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2021b. *Hydrogeologic Site Characterization Report. Kincaid Power Plant, Ash Pond, Kincaid, Illinois*. Kincaid Generation, LLC. October 25, 2021.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2021c. *History of Potential Exceedances. Kincaid Power Plant, Ash Pond, Kincaid, Illinois*. Kincaid Generation, LLC. October 25, 2021.

FIGURES

Y:\Mapping\Projects\22\2285\MXD\845_Operating_Permit\Kincaid\GMP\Figure 2-1_Proposed Monitoring Well Network.mxd

PROJECT: 169000XXXX | DATED: 10/7/2021 | DESIGNER: STOLZSD

BACKGROUND WELL
COMPLIANCE WELL
STAFF GAGE
PART 845 REGULATED UNIT (SUBJECT UNIT)
PROPERTY BOUNDARY

0 250 500 Feet

PROPOSED PART 845 GROUNDWATER MONITORING WELL NETWORK

2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
ASH POND
KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\2285\MXD\845_Operating_Permit\Kincaid\Figure 3-3_GWE_Contours_20210223.mxd

PROJECT: 169000XXXX | DATED: 10/1/2021 | DESIGNER: STOLZSD

BACKGROUND WELL
MONITORING WELL
SOURCE SAMPLE LOCATION
STAFF GAGE

GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
INFERRED GROUNDWATER ELEVATION CONTOUR
GROUNDWATER FLOW DIRECTION
PART 845 REGULATED UNIT (SUBJECT UNIT)
PROPERTY BOUNDARY

0 250 500 Feet

POTENTIOMETRIC SURFACE MAP
FEBRUARY 23, 2021

2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
ASH POND

KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

BACKGROUND WELL
MONITORING WELL
SOURCE SAMPLE LOCATION
STAFF GAGE

GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
INFERRED GROUNDWATER ELEVATION CONTOUR
GROUNDWATER FLOW DIRECTION
PART 845 REGULATED UNIT (SUBJECT UNIT)
PROPERTY BOUNDARY

0 250 500 Feet

POTENTIOMETRIC SURFACE MAP
MARCH 15, 2021

2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
ASH POND

KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 3

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\2285\MXD\845_Operating_Permit\Kincaid\Figure 3-4_GWE_Contours_20210315.mxd

PROJECT: 169000XXXX | DATED: 9/28/2021 | DESIGNER: STOLZSD

ELEVATIONS IN PARENTHESIS WERE NOT USED FOR CONTOURING.
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

BACKGROUND WELL
MONITORING WELL
SOURCE SAMPLE LOCATION
STAFF GAGE

GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
INFERRED GROUNDWATER ELEVATION CONTOUR
GROUNDWATER FLOW DIRECTION
PART 845 REGULATED UNIT (SUBJECT UNIT)
PROPERTY BOUNDARY

0 250 500
Feet

POTENTIOMETRIC SURFACE MAP
APRIL 5, 2021

2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
ASH POND

KINCAID POWER PLANT
KINCAID, ILLINOIS

FIGURE 4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\2285\MXD\845_Operating_Permit\Kincaid\Figure 3-5_GWE_Contours_20210405.mxd

PROJECT: 169000XXXX | DATED: 9/28/2021 | DESIGNER: STOLZSD

APPENDICES

APPENDIX A
TABLE 3-1. BACKGROUND GROUNDWATER QUALITY AND STANDARDS

TABLE 3-1. BACKGROUND GROUNDWATER QUALITY AND STANDARDS
GROUNDWATER MONITORING PLAN
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Parameter	Background Concentration	845 Limit	Groundwater Protection Standard	Unit
Antimony, total	0.001	0.006	0.006	mg/L
Arsenic, total	0.0048	0.010	0.010	mg/L
Barium, total	0.15	2.0	2.0	mg/L
Beryllium, total	0.001	0.004	0.004	mg/L
Boron, total	0.296	2	2	mg/L
Cadmium, total	0.001	0.005	0.005	mg/L
Chloride, total	18	200	200	mg/L
Chromium, total	0.0095	0.1	0.1	mg/L
Cobalt, total	0.0039	0.006	0.006	mg/L
Fluoride, total	0.51	4.0	4.0	mg/L
Lead, total	0.0051	0.0075	0.0075	mg/L
Lithium, total	0.012	0.04	0.04	mg/L
Mercury, total	0.0002	0.002	0.002	mg/L
Molybdenum, total	0.0062	0.1	0.1	mg/L
pH (field)	7.6 / 5.6	9.0 / 6.5	9.0 / 5.6	SU
Radium 226 and 228 combined	1	5	5	pCi/L
Selenium, total	0.0018	0.05	0.05	mg/L
Sulfate, total	151	400	400	mg/L
Thallium, total	0.002	0.002	0.002	mg/L
Total Dissolved Solids	494	1200	1200	mg/L

Notes:
For pH, the values presented are the upper / lower limits
Groundwater protection standards for calcium and turbidity do not apply per 35 I.A.C. § 845.600(b)
mg/L = milligrams per liter
SU = standard units
pCi/L = picocuries per liter

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APPENDIX B
HISTORY OF POTENTIAL EXCEEDANCES

HISTORY OF POTENTIAL EXCEEDANCES

This presentation of the History of Potential Exceedances, and any corrective action taken to remediate groundwater, is provided to meet the requirements of Title 35 of the Illinois Administrative Code (35 I.A.C.) § 845.230(d)(2)(M) for the Kincaid Power Plant Ash Pond, Illinois Environmental Protection Agency (IEPA) ID No. W0218140002-01.

Note

Groundwater concentrations from 2015 to 2021 presented in the Hydrogeologic Site Characterization Report (HCR) Table 4-1, and evaluated and summarized in the following tables, are considered potential exceedances because the methodology used to determine them is proposed in the Statistical Analysis Plan (Appendix A to Groundwater Monitoring Plan [GMP]), which has not been reviewed or approved by IEPA at the time of submittal of the 35 I.A.C. § 845 Operating Permit application.

Alternate sources for potential exceedances as allowed by 35 I.A.C. § 845.650(e) have not yet been evaluated. These will be evaluated and presented in future submittals to IEPA as appropriate.

Table 1 summarizes how the potential exceedances were determined. Table 2 is a summary of all potential exceedances.

<u>Background Concentrations</u>

Background monitoring wells identified in the GMP include MW-1 and MW-2.

For monitoring wells that have been historically monitored in accordance with Title 40, Code of Federal Regulations, Part 257, Subpart D (Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments), background concentrations calculated from sampling events in 2015-2017 were compared to the standards identified in 35 I.A.C. § 845.600(a)(1). For constituents with calculated background concentrations in 2015-2017 greater than the standards in 35 I.A.C. § 845.600(a)(1), those calculated background concentrations were used as Groundwater Protection Standards (GWPSs) for comparing to statistical calculation results for each compliance well to determine potential exceedances. Compliance well statistical calculations consider concentrations from all sampling events in 2015-2021.

For all other monitoring wells, either newly constructed in 2021 or existing wells not monitored under Title 40, Code of Federal Regulations, Part 257, Subpart D, background concentrations calculated from the eight sampling events required by 35 I.A.C. § 845.650(b)(1)(A), to be collected within 180 days from April 21, 2021, were compared to the standards identified in 35 I.A.C. § 845.600(a)(1). For constituents with calculated background concentrations greater than the standards in 35 I.A.C. § 845.600(a)(1), those calculated background concentrations were used as GWPSs. Compliance well statistical calculations from that same time period were compared to the GWPSs to determine potential exceedances.

<u>Corrective Action</u>

No corrective actions have been taken to remediate the groundwater.

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-3	UA	845	Antimony, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-3	UA	845	Arsenic, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.010	0.0048	0.01	Standard
MW-3	UA	845	Barium, total	mg/L	02/25/2021 - 08/10/2021	CI around median	0.047	2.0	0.15	2	Standard
MW-3	UA	845	Beryllium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-3	UA	845	Boron, total	mg/L	02/25/2021 - 08/10/2021	CI around median	1.6	2.0	0.30	2	Standard
MW-3	UA	845	Cadmium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-3	UA	845	Chloride, total	mg/L	02/25/2021 - 08/10/2021	CI around mean	31	200	18	200	Standard
MW-3	UA	845	Chromium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.0015	0.10	0.0095	0.1	Standard
MW-3	UA	845	Cobalt, total	mg/L	02/25/2021 - 08/10/2021	CI around median	0.001	0.006	0.0039	0.006	Standard
MW-3	UA	845	Fluoride, total	mg/L	02/25/2021 - 08/10/2021	CI around mean	0.24	4.0	0.51	4	Standard
MW-3	UA	845	Lead, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-3	UA	845	Lithium, total	mg/L	02/25/2021 - 08/10/2021	CI around median	0.003	0.040	0.012	0.04	Standard
MW-3	UA	845	Mercury, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-3	UA	845	Molybdenum, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.0015	0.10	0.0062	0.1	Standard
MW-3	UA	845	pH (field)	SU	02/25/2021 - 08/10/2021	CI around mean	6.5	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-3	UA	845	Radium-226 + Radium 228, tot	pCi/L	02/25/2021 - 08/10/2021	CI around mean	-0.0162	5.0	1.0	5	Standard
MW-3	UA	845	Selenium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-3	UA	845	Sulfate, total	mg/L	02/25/2021 - 08/10/2021	CI around mean	138	400	151	400	Standard
MW-3	UA	845	Thallium, total	mg/L	02/25/2021 - 08/10/2021	CI around median	0.002	0.002	0.002	0.002	Standard
MW-3	UA	845	Total Dissolved Solids	mg/L	02/25/2021 - 08/10/2021	CB around T-S line	540	1200	494	1200	Standard
MW-4	UA	845	Antimony, total	mg/L	02/25/2021 - 06/09/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-4	UA	845	Arsenic, total	mg/L	02/25/2021 - 06/09/2021	All ND - Last	0.001	0.010	0.0048	0.01	Standard
MW-4	UA	845	Barium, total	mg/L	02/25/2021 - 06/09/2021	CI around mean	0.096	2.0	0.15	2	Standard
MW-4	UA	845	Beryllium, total	mg/L	02/25/2021 - 06/09/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-4	UA	845	Boron, total	mg/L	02/25/2021 - 06/09/2021	CI around mean	0.39	2.0	0.30	2	Standard
MW-4	UA	845	Cadmium, total	mg/L	02/25/2021 - 06/09/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-4	UA	845	Chloride, total	mg/L	02/25/2021 - 06/09/2021	CI around mean	25	200	18	200	Standard
MW-4	UA	845	Chromium, total	mg/L	02/25/2021 - 06/09/2021	All ND - Last	0.0015	0.10	0.0095	0.1	Standard
MW-4	UA	845	Cobalt, total	mg/L	02/25/2021 - 06/09/2021	All ND - Last	0.001	0.006	0.0039	0.006	Standard
MW-4	UA	845	Fluoride, total	mg/L	02/25/2021 - 06/09/2021	CI around mean	0.27	4.0	0.51	4	Standard
MW-4	UA	845	Lead, total	mg/L	02/25/2021 - 06/09/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-4	UA	845	Lithium, total	mg/L	02/25/2021 - 05/19/2021	CI around mean	0.00151	0.040	0.012	0.04	Standard
MW-4	UA	845	Mercury, total	mg/L	02/25/2021 - 06/09/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-4	UA	845	Molybdenum, total	mg/L	02/25/2021 - 05/19/2021	All ND - Last	0.0015	0.10	0.0062	0.1	Standard
MW-4	UA	845	pH (field)	SU	02/25/2021 - 06/09/2021	CI around mean	6.3	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-4	UA	845	Radium-226 + Radium 228, tot	pCi/L	02/25/2021 - 06/09/2021	CI around mean	-0.0508	5.0	1.0	5	Standard
MW-4	UA	845	Selenium, total	mg/L	02/25/2021 - 06/09/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-4	UA	845	Sulfate, total	mg/L	02/25/2021 - 06/09/2021	CI around mean	20	400	151	400	Standard
MW-4	UA	845	Thallium, total	mg/L	02/25/2021 - 06/09/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-4	UA	845	Total Dissolved Solids	mg/L	02/25/2021 - 06/09/2021	CI around mean	469	1200	494	1200	Standard
MW-5	UA	257	Antimony, total	mg/L	06/16/2015 - 09/01/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-5	UA	257	Arsenic, total	mg/L	06/16/2015 - 09/01/2021	CI around median	0.001	0.010	0.0022	0.01	Standard
MW-5	UA	257	Barium, total	mg/L	06/16/2015 - 09/01/2021	CI around mean	0.14	2.0	0.13	2	Standard
MW-5	UA	257	Beryllium, total	mg/L	06/16/2015 - 09/01/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-5	UA	257	Boron, total	mg/L	06/16/2015 - 09/01/2021	CI around mean	0.53	2.0	0.27	2	Standard
MW-5	UA	257	Cadmium, total	mg/L	06/16/2015 - 09/01/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-5	UA	257	Chloride, total	mg/L	06/16/2015 - 09/01/2021	CB around linear reg	44	200	18	200	Standard
MW-5	UA	257	Chromium, total	mg/L	06/16/2015 - 09/01/2021	CB around T-S line	0.001	0.10	0.0025	0.1	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-5	UA	257	Cobalt, total	mg/L	06/16/2015 - 09/01/2021	CI around median	0.001	0.006	0.0012	0.006	Standard
MW-5	UA	257	Fluoride, total	mg/L	06/04/2015 - 09/01/2021	CI around median	0.15	4.0	0.47	4	Standard
MW-5	UA	257	Lead, total	mg/L	06/16/2015 - 09/01/2021	CI around median	0.001	0.0075	0.0014	0.0075	Standard
MW-5	UA	257	Lithium, total	mg/L	12/15/2015 - 09/01/2021	CI around mean	0.00286	0.040	0.0068	0.04	Standard
MW-5	UA	257	Mercury, total	mg/L	06/04/2015 - 09/01/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-5	UA	257	Molybdenum, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.0015	0.10	0.0053	0.1	Standard
MW-5	UA	257	pH (field)	SU	06/16/2015 - 09/01/2021	CI around mean	6.7	6.3/9.0	6.3/7.7	6.5/9	Background/Standard
MW-5	UA	257	Radium-226 + Radium 228, tot	pCi/L	12/15/2015 - 09/01/2021	CB around T-S line	-0.291	5.0	2.0	5	Standard
MW-5	UA	257	Selenium, total	mg/L	06/16/2015 - 09/01/2021	All ND - Last	0.001	0.050	0.0048	0.05	Standard
MW-5	UA	257	Sulfate, total	mg/L	06/16/2015 - 09/01/2021	CI around median	10	400	202	400	Standard
MW-5	UA	257	Thallium, total	mg/L	06/16/2015 - 09/01/2021	CB around linear reg	0.00197	0.002	0.001	0.002	Standard
MW-5	UA	257	Total Dissolved Solids	mg/L	06/16/2015 - 09/01/2021	CI around mean	641	1200	685	1200	Standard
MW-6	UA	257	Antimony, total	mg/L	06/16/2015 - 09/01/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-6	UA	257	Arsenic, total	mg/L	06/16/2015 - 09/01/2021	All ND - Last	0.001	0.010	0.0022	0.01	Standard
MW-6	UA	257	Barium, total	mg/L	06/16/2015 - 09/01/2021	CI around geomean	0.032	2.0	0.13	2	Standard
MW-6	UA	257	Beryllium, total	mg/L	06/16/2015 - 09/01/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-6	UA	257	Boron, total	mg/L	06/16/2015 - 09/01/2021	CI around mean	0.93	2.0	0.27	2	Standard
MW-6	UA	257	Cadmium, total	mg/L	06/16/2015 - 09/01/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-6	UA	257	Chloride, total	mg/L	06/16/2015 - 09/01/2021	CI around median	5.0	200	18	200	Standard
MW-6	UA	257	Chromium, total	mg/L	06/16/2015 - 09/01/2021	CI around median	0.001	0.10	0.0025	0.1	Standard
MW-6	UA	257	Cobalt, total	mg/L	06/16/2015 - 09/01/2021	All ND - Last	0.001	0.006	0.0012	0.006	Standard
MW-6	UA	257	Fluoride, total	mg/L	06/04/2015 - 09/01/2021	CB around linear reg	0.19	4.0	0.47	4	Standard
MW-6	UA	257	Lead, total	mg/L	06/16/2015 - 09/01/2021	All ND - Last	0.001	0.0075	0.0014	0.0075	Standard
MW-6	UA	257	Lithium, total	mg/L	12/15/2015 - 09/01/2021	CB around linear reg	0.00259	0.040	0.0068	0.04	Standard

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TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-6	UA	257	Mercury, total	mg/L	06/04/2015 - 09/01/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-6	UA	257	Molybdenum, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.0015	0.10	0.0053	0.1	Standard
MW-6	UA	257	pH (field)	SU	06/16/2015 - 09/01/2021	CI around mean	6.5	6.3/9.0	6.3/7.7	6.5/9	Background/Standard
MW-6	UA	257	Radium-226 + Radium 228, tot	pCi/L	12/15/2015 - 09/01/2021	CI around geomean	0.19	5.0	2.0	5	Standard
MW-6	UA	257	Selenium, total	mg/L	06/16/2015 - 09/01/2021	CI around median	0.001	0.050	0.0048	0.05	Standard
MW-6	UA	257	Sulfate, total	mg/L	06/16/2015 - 09/01/2021	CB around linear reg	63	400	202	400	Standard
MW-6	UA	257	Thallium, total	mg/L	06/16/2015 - 09/01/2021	All ND - Last	0.002	0.002	0.001	0.002	Standard
MW-6	UA	257	Total Dissolved Solids	mg/L	06/16/2015 - 09/01/2021	CB around linear reg	373	1200	685	1200	Standard
MW-7	UA	257	Antimony, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-7	UA	257	Arsenic, total	mg/L	06/17/2015 - 09/01/2021	CI around median	0.001	0.010	0.0022	0.01	Standard
MW-7	UA	257	Barium, total	mg/L	06/17/2015 - 09/01/2021	CI around mean	0.049	2.0	0.13	2	Standard
MW-7	UA	257	Beryllium, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-7	UA	257	Boron, total	mg/L	06/17/2015 - 09/01/2021	CI around mean	0.21	2.0	0.27	2	Standard
MW-7	UA	257	Cadmium, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-7	UA	257	Chloride, total	mg/L	06/17/2015 - 09/01/2021	CB around linear reg	3.2	200	18	200	Standard
MW-7	UA	257	Chromium, total	mg/L	06/17/2015 - 09/01/2021	CI around median	0.001	0.10	0.0025	0.1	Standard
MW-7	UA	257	Cobalt, total	mg/L	06/17/2015 - 09/01/2021	CI around median	0.001	0.006	0.0012	0.006	Standard
MW-7	UA	257	Fluoride, total	mg/L	06/04/2015 - 09/01/2021	CI around mean	0.25	4.0	0.47	4	Standard
MW-7	UA	257	Lead, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.001	0.0075	0.0014	0.0075	Standard
MW-7	UA	257	Lithium, total	mg/L	12/15/2015 - 09/01/2021	CI around mean	0.003	0.040	0.0068	0.04	Standard
MW-7	UA	257	Mercury, total	mg/L	06/04/2015 - 09/01/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-7	UA	257	Molybdenum, total	mg/L	12/15/2015 - 09/01/2021	CI around mean	0.00262	0.10	0.0053	0.1	Standard
MW-7	UA	257	pH (field)	SU	06/17/2015 - 09/01/2021	CI around mean	7.0	6.3/9.0	6.3/7.7	6.5/9	Background/Standard
MW-7	UA	257	Radium-226 + Radium 228, tot	pCi/L	12/15/2015 - 09/01/2021	CI around mean	0.55	5.0	2.0	5	Standard

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TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-7	UA	257	Selenium, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.001	0.050	0.0048	0.05	Standard
MW-7	UA	257	Sulfate, total	mg/L	06/17/2015 - 09/01/2021	CI around geomean	167	400	202	400	Standard
MW-7	UA	257	Thallium, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.002	0.002	0.001	0.002	Standard
MW-7	UA	257	Total Dissolved Solids	mg/L	06/17/2015 - 09/01/2021	CI around mean	558	1200	685	1200	Standard
MW-7S	USCU	845	Antimony, total	mg/L	02/24/2021 - 08/11/2021	CI around median	0.001	0.006	0.001	0.006	Standard
MW-7S	USCU	845	Arsenic, total	mg/L	02/24/2021 - 08/11/2021	CI around geomean	0.00349	0.010	0.0048	0.01	Standard
MW-7S	USCU	845	Barium, total	mg/L	02/24/2021 - 08/11/2021	CI around geomean	0.035	2.0	0.15	2	Standard
MW-7S	USCU	845	Beryllium, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-7S	USCU	845	Boron, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	3.5	2.0	0.30	2	Standard
MW-7S	USCU	845	Cadmium, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-7S	USCU	845	Chloride, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	10	200	18	200	Standard
MW-7S	USCU	845	Chromium, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	-0.000952	0.10	0.0095	0.1	Standard
MW-7S	USCU	845	Cobalt, total	mg/L	02/24/2021 - 08/11/2021	CI around geomean	0.00107	0.006	0.0039	0.006	Standard
MW-7S	USCU	845	Fluoride, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	0.30	4.0	0.51	4	Standard
MW-7S	USCU	845	Lead, total	mg/L	02/24/2021 - 08/11/2021	CI around geomean	0.000776	0.0075	0.0051	0.0075	Standard
MW-7S	USCU	845	Lithium, total	mg/L	02/24/2021 - 08/11/2021	CI around median	0.003	0.040	0.012	0.04	Standard
MW-7S	USCU	845	Mercury, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-7S	USCU	845	Molybdenum, total	mg/L	02/24/2021 - 08/11/2021	CI around geomean	0.00121	0.10	0.0062	0.1	Standard
MW-7S	USCU	845	pH (field)	SU	02/24/2021 - 08/11/2021	CI around mean	6.4	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-7S	USCU	845	Radium-226 + Radium 228, tot	pCi/L	02/24/2021 - 08/11/2021	CI around mean	-0.113	5.0	1.0	5	Standard
MW-7S	USCU	845	Selenium, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-7S	USCU	845	Sulfate, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	379	400	151	400	Standard
MW-7S	USCU	845	Thallium, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-7S	USCU	845	Total Dissolved Solids	mg/L	02/24/2021 - 08/11/2021	CI around mean	1010	1200	494	1200	Standard

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TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-8	UA	257	Antimony, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-8	UA	257	Arsenic, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.001	0.010	0.0022	0.01	Standard
MW-8	UA	257	Barium, total	mg/L	06/17/2015 - 09/01/2021	CB around linear reg	0.023	2.0	0.13	2	Standard
MW-8	UA	257	Beryllium, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-8	UA	257	Boron, total	mg/L	06/17/2015 - 09/01/2021	CI around geomean	0.96	2.0	0.27	2	Standard
MW-8	UA	257	Cadmium, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-8	UA	257	Chloride, total	mg/L	06/17/2015 - 09/01/2021	CB around linear reg	15	200	18	200	Standard
MW-8	UA	257	Chromium, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.0015	0.10	0.0025	0.1	Standard
MW-8	UA	257	Cobalt, total	mg/L	06/17/2015 - 09/01/2021	CB around T-S line	0.000724	0.006	0.0012	0.006	Standard
MW-8	UA	257	Fluoride, total	mg/L	06/04/2015 - 09/01/2021	CB around linear reg	0.22	4.0	0.47	4	Standard
MW-8	UA	257	Lead, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.001	0.0075	0.0014	0.0075	Standard
MW-8	UA	257	Lithium, total	mg/L	12/15/2015 - 09/01/2021	CB around linear reg	0.00279	0.040	0.0068	0.04	Standard
MW-8	UA	257	Mercury, total	mg/L	06/04/2015 - 09/01/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-8	UA	257	Molybdenum, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.0015	0.10	0.0053	0.1	Standard
MW-8	UA	257	pH (field)	SU	06/17/2015 - 09/01/2021	CI around mean	6.6	6.3/9.0	6.3/7.7	6.5/9	Background/Standard
MW-8	UA	257	Radium-226 + Radium 228, tot	pCi/L	12/15/2015 - 09/01/2021	CI around median	0.15	5.0	2.0	5	Standard
MW-8	UA	257	Selenium, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.001	0.050	0.0048	0.05	Standard
MW-8	UA	257	Sulfate, total	mg/L	06/17/2015 - 09/01/2021	CB around linear reg	241	400	202	400	Standard
MW-8	UA	257	Thallium, total	mg/L	06/17/2015 - 09/01/2021	All ND - Last	0.002	0.002	0.001	0.002	Standard
MW-8	UA	257	Total Dissolved Solids	mg/L	06/17/2015 - 09/01/2021	CB around linear reg	780	1200	685	1200	Standard
MW-8S	USCU	845	Antimony, total	mg/L	02/24/2021 - 05/21/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-8S	USCU	845	Arsenic, total	mg/L	02/24/2021 - 05/21/2021	CI around mean	-0.00072	0.010	0.0048	0.01	Standard
MW-8S	USCU	845	Barium, total	mg/L	02/24/2021 - 05/21/2021	CI around mean	0.042	2.0	0.15	2	Standard
MW-8S	USCU	845	Beryllium, total	mg/L	02/24/2021 - 05/21/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard

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TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-8S	USCU	845	Boron, total	mg/L	02/24/2021 - 05/21/2021	CI around mean	0.60	2.0	0.30	2	Standard
MW-8S	USCU	845	Cadmium, total	mg/L	02/24/2021 - 05/21/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-8S	USCU	845	Chloride, total	mg/L	02/24/2021 - 05/21/2021	CI around mean	7.1	200	18	200	Standard
MW-8S	USCU	845	Chromium, total	mg/L	02/24/2021 - 05/21/2021	CI around median	0	0.10	0.0095	0.1	Standard
MW-8S	USCU	845	Cobalt, total	mg/L	02/24/2021 - 05/21/2021	CI around mean	-0.000368	0.006	0.0039	0.006	Standard
MW-8S	USCU	845	Fluoride, total	mg/L	02/24/2021 - 05/21/2021	CI around geomean	0.12	4.0	0.51	4	Standard
MW-8S	USCU	845	Lead, total	mg/L	02/24/2021 - 05/21/2021	CI around median	0	0.0075	0.0051	0.0075	Standard
MW-8S	USCU	845	Lithium, total	mg/L	02/24/2021 - 05/21/2021	All ND - Last	0.003	0.040	0.012	0.04	Standard
MW-8S	USCU	845	Mercury, total	mg/L	02/24/2021 - 05/21/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-8S	USCU	845	Molybdenum, total	mg/L	02/24/2021 - 05/21/2021	CI around mean	0.000473	0.10	0.0062	0.1	Standard
MW-8S	USCU	845	pH (field)	SU	02/24/2021 - 05/21/2021	CI around mean	6.2	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-8S	USCU	845	Radium-226 + Radium 228, tot	pCi/L	02/24/2021 - 05/21/2021	CI around mean	-1.13	5.0	1.0	5	Standard
MW-8S	USCU	845	Selenium, total	mg/L	02/24/2021 - 05/21/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-8S	USCU	845	Sulfate, total	mg/L	02/24/2021 - 05/21/2021	CI around mean	361	400	151	400	Standard
MW-8S	USCU	845	Thallium, total	mg/L	02/24/2021 - 05/21/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-8S	USCU	845	Total Dissolved Solids	mg/L	02/24/2021 - 05/21/2021	CI around mean	1050	1200	494	1200	Standard
MW-9	UA	845	Antimony, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.006	0.001	0.006	Standard
MW-9	UA	845	Arsenic, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.010	0.0048	0.01	Standard
MW-9	UA	845	Barium, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.053	2.0	0.15	2	Standard
MW-9	UA	845	Beryllium, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.004	0.001	0.004	Standard
MW-9	UA	845	Boron, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.092	2.0	0.30	2	Standard
MW-9	UA	845	Cadmium, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.005	0.001	0.005	Standard
MW-9	UA	845	Chloride, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	1.0	200	18	200	Standard
MW-9	UA	845	Chromium, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.0015	0.10	0.0095	0.1	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-9	UA	845	Cobalt, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.006	0.0039	0.006	Standard
MW-9	UA	845	Fluoride, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.20	4.0	0.51	4	Standard
MW-9	UA	845	Lead, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.0075	0.0051	0.0075	Standard
MW-9	UA	845	Mercury, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.0002	0.002	0.0002	0.002	Standard
MW-9	UA	845	pH (field)	SU	06/10/2021 - 06/10/2021	Most recent sample	6.8	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-9	UA	845	Radium-226 + Radium 228, tot	pCi/L	06/10/2021 - 06/10/2021	Most recent sample	0.89	5.0	1.0	5	Standard
MW-9	UA	845	Selenium, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.050	0.0018	0.05	Standard
MW-9	UA	845	Sulfate, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	33	400	151	400	Standard
MW-9	UA	845	Thallium, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.002	0.002	0.002	0.002	Standard
MW-9	UA	845	Total Dissolved Solids	mg/L	06/10/2021 - 06/10/2021	Most recent sample	244	1200	494	1200	Standard
MW-10	UA	845	Antimony, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.006	0.001	0.006	Standard
MW-10	UA	845	Arsenic, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.010	0.0048	0.01	Standard
MW-10	UA	845	Barium, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.026	2.0	0.15	2	Standard
MW-10	UA	845	Beryllium, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.004	0.001	0.004	Standard
MW-10	UA	845	Boron, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	1.4	2.0	0.30	2	Standard
MW-10	UA	845	Cadmium, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.005	0.001	0.005	Standard
MW-10	UA	845	Chloride, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	11	200	18	200	Standard
MW-10	UA	845	Chromium, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.0015	0.10	0.0095	0.1	Standard
MW-10	UA	845	Cobalt, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.006	0.0039	0.006	Standard
MW-10	UA	845	Fluoride, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.21	4.0	0.51	4	Standard
MW-10	UA	845	Lead, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.001	0.0075	0.0051	0.0075	Standard
MW-10	UA	845	Mercury, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.0002	0.002	0.0002	0.002	Standard
MW-10	UA	845	pH (field)	SU	06/10/2021 - 06/10/2021	Most recent sample	6.1	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-10	UA	845	Radium-226 + Radium 228, tot	pCi/L	06/10/2021 - 06/10/2021	Most recent sample	1.1	5.0	1.0	5	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-10	UA	845	Selenium, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.0036	0.050	0.0018	0.05	Standard
MW-10	UA	845	Sulfate, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	311	400	151	400	Standard
MW-10	UA	845	Thallium, total	mg/L	06/10/2021 - 06/10/2021	Most recent sample	0.002	0.002	0.002	0.002	Standard
MW-10	UA	845	Total Dissolved Solids	mg/L	06/10/2021 - 06/10/2021	Most recent sample	758	1200	494	1200	Standard
MW-11	UA	257	Antimony, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-11	UA	257	Arsenic, total	mg/L	12/15/2015 - 09/01/2021	CI around median	0.0011	0.010	0.0022	0.01	Standard
MW-11	UA	257	Barium, total	mg/L	12/15/2015 - 09/01/2021	CB around linear reg	0.11	2.0	0.13	2	Standard
MW-11	UA	257	Beryllium, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-11	UA	257	Boron, total	mg/L	12/15/2015 - 09/01/2021	CI around mean	1.5	2.0	0.27	2	Standard
MW-11	UA	257	Cadmium, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-11	UA	257	Chloride, total	mg/L	12/15/2015 - 09/01/2021	CB around linear reg	32	200	18	200	Standard
MW-11	UA	257	Chromium, total	mg/L	12/15/2015 - 09/01/2021	CB around linear reg	0.00148	0.10	0.0025	0.1	Standard
MW-11	UA	257	Cobalt, total	mg/L	12/15/2015 - 09/01/2021	CI around median	0.001	0.006	0.0012	0.006	Standard
MW-11	UA	257	Fluoride, total	mg/L	12/15/2015 - 09/01/2021	CI around mean	0.49	4.0	0.47	4	Standard
MW-11	UA	257	Lead, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.001	0.0075	0.0014	0.0075	Standard
MW-11	UA	257	Lithium, total	mg/L	12/15/2015 - 09/01/2021	CI around mean	0.00234	0.040	0.0068	0.04	Standard
MW-11	UA	257	Mercury, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-11	UA	257	Molybdenum, total	mg/L	12/15/2015 - 09/01/2021	CI around geomean	0.00217	0.10	0.0053	0.1	Standard
MW-11	UA	257	pH (field)	SU	12/15/2015 - 09/01/2021	CB around linear reg	6.6	6.3/9.0	6.3/7.7	6.5/9	Background/Standard
MW-11	UA	257	Radium-226 + Radium 228, tot	pCi/L	12/15/2015 - 09/01/2021	CI around mean	0.51	5.0	2.0	5	Standard
MW-11	UA	257	Selenium, total	mg/L	12/15/2015 - 09/01/2021	CI around median	0.001	0.050	0.0048	0.05	Standard
MW-11	UA	257	Sulfate, total	mg/L	12/15/2015 - 09/01/2021	CB around linear reg	86	400	202	400	Standard
MW-11	UA	257	Thallium, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.002	0.002	0.001	0.002	Standard
MW-11	UA	257	Total Dissolved Solids	mg/L	12/15/2015 - 09/01/2021	CB around linear reg	573	1200	685	1200	Standard

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TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-12	UA	257	Antimony, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-12	UA	257	Arsenic, total	mg/L	12/15/2015 - 09/01/2021	CI around median	0.001	0.010	0.0022	0.01	Standard
MW-12	UA	257	Barium, total	mg/L	12/15/2015 - 09/01/2021	CB around linear reg	0.052	2.0	0.13	2	Standard
MW-12	UA	257	Beryllium, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-12	UA	257	Boron, total	mg/L	12/15/2015 - 09/01/2021	CI around mean	2.5	2.0	0.27	2	Standard
MW-12	UA	257	Cadmium, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-12	UA	257	Chloride, total	mg/L	12/15/2015 - 09/01/2021	CB around linear reg	18	200	18	200	Standard
MW-12	UA	257	Chromium, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.0015	0.10	0.0025	0.1	Standard
MW-12	UA	257	Cobalt, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.001	0.006	0.0012	0.006	Standard
MW-12	UA	257	Fluoride, total	mg/L	12/15/2015 - 09/01/2021	CI around median	0.18	4.0	0.47	4	Standard
MW-12	UA	257	Lead, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.001	0.0075	0.0014	0.0075	Standard
MW-12	UA	257	Lithium, total	mg/L	12/15/2015 - 09/01/2021	CI around mean	0.00819	0.040	0.0068	0.04	Standard
MW-12	UA	257	Mercury, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-12	UA	257	Molybdenum, total	mg/L	12/15/2015 - 09/01/2021	CB around linear reg	0.00139	0.10	0.0053	0.1	Standard
MW-12	UA	257	pH (field)	SU	12/15/2015 - 09/01/2021	CB around linear reg	6.4	6.3/9.0	6.3/7.7	6.5/9	Background/Standard
MW-12	UA	257	Radium-226 + Radium 228, tot	pCi/L	12/15/2015 - 09/01/2021	CI around median	0.28	5.0	2.0	5	Standard
MW-12	UA	257	Selenium, total	mg/L	12/15/2015 - 09/01/2021	CI around median	0.001	0.050	0.0048	0.05	Standard
MW-12	UA	257	Sulfate, total	mg/L	12/15/2015 - 09/01/2021	CI around mean	357	400	202	400	Standard
MW-12	UA	257	Thallium, total	mg/L	12/15/2015 - 09/01/2021	All ND - Last	0.002	0.002	0.001	0.002	Standard
MW-12	UA	257	Total Dissolved Solids	mg/L	12/15/2015 - 09/01/2021	CB around linear reg	983	1200	685	1200	Standard
MW-12S	USCU	845	Antimony, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-12S	USCU	845	Arsenic, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.00205	0.010	0.0048	0.01	Standard
MW-12S	USCU	845	Barium, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.064	2.0	0.15	2	Standard
MW-12S	USCU	845	Beryllium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard

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TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-12S	USCU	845	Boron, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	1.0	2.0	0.30	2	Standard
MW-12S	USCU	845	Cadmium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-12S	USCU	845	Chloride, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.91	200	18	200	Standard
MW-12S	USCU	845	Chromium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.0015	0.10	0.0095	0.1	Standard
MW-12S	USCU	845	Cobalt, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.00117	0.006	0.0039	0.006	Standard
MW-12S	USCU	845	Fluoride, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.17	4.0	0.51	4	Standard
MW-12S	USCU	845	Lead, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-12S	USCU	845	Lithium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.003	0.040	0.012	0.04	Standard
MW-12S	USCU	845	Mercury, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-12S	USCU	845	Molybdenum, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.00326	0.10	0.0062	0.1	Standard
MW-12S	USCU	845	pH (field)	SU	02/25/2021 - 08/11/2021	CI around mean	6.3	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-12S	USCU	845	Radium-226 + Radium 228, tot	pCi/L	02/25/2021 - 08/11/2021	CI around mean	0.15	5.0	1.0	5	Standard
MW-12S	USCU	845	Selenium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-12S	USCU	845	Sulfate, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	131	400	151	400	Standard
MW-12S	USCU	845	Thallium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-12S	USCU	845	Total Dissolved Solids	mg/L	02/25/2021 - 08/11/2021	CI around mean	608	1200	494	1200	Standard
MW-12D	BCU	845	Antimony, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-12D	BCU	845	Arsenic, total	mg/L	02/25/2021 - 08/11/2021	CI around median	0.001	0.010	0.0048	0.01	Standard
MW-12D	BCU	845	Barium, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	1.4	2.0	0.15	2	Standard
MW-12D	BCU	845	Beryllium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-12D	BCU	845	Boron, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.75	2.0	0.30	2	Standard
MW-12D	BCU	845	Cadmium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-12D	BCU	845	Chloride, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	200	200	18	200	Standard
MW-12D	BCU	845	Chromium, total	mg/L	02/25/2021 - 08/11/2021	CI around median	0.0015	0.10	0.0095	0.1	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-12D	BCU	845	Cobalt, total	mg/L	02/25/2021 - 08/11/2021	CI around median	0.001	0.006	0.0039	0.006	Standard
MW-12D	BCU	845	Fluoride, total	mg/L	02/25/2021 - 08/11/2021	CI around median	0.33	4.0	0.51	4	Standard
MW-12D	BCU	845	Lead, total	mg/L	02/25/2021 - 08/11/2021	CI around median	0.001	0.0075	0.0051	0.0075	Standard
MW-12D	BCU	845	Lithium, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.00926	0.040	0.012	0.04	Standard
MW-12D	BCU	845	Mercury, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-12D	BCU	845	Molybdenum, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.0015	0.10	0.0062	0.1	Standard
MW-12D	BCU	845	pH (field)	SU	02/25/2021 - 08/11/2021	CI around median	6.7	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-12D	BCU	845	Radium-226 + Radium 228, tot	pCi/L	02/25/2021 - 08/11/2021	CI around mean	1.1	5.0	1.0	5	Standard
MW-12D	BCU	845	Selenium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-12D	BCU	845	Sulfate, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	10	400	151	400	Standard
MW-12D	BCU	845	Thallium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-12D	BCU	845	Total Dissolved Solids	mg/L	02/25/2021 - 08/11/2021	CI around mean	602	1200	494	1200	Standard
MW-20	UA	845	Antimony, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-20	UA	845	Arsenic, total	mg/L	02/26/2021 - 08/10/2021	CB around linear reg	0.00127	0.010	0.0048	0.01	Standard
MW-20	UA	845	Barium, total	mg/L	02/26/2021 - 08/10/2021	CI around mean	0.11	2.0	0.15	2	Standard
MW-20	UA	845	Beryllium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-20	UA	845	Boron, total	mg/L	02/26/2021 - 08/10/2021	CB around linear reg	0.46	2.0	0.30	2	Standard
MW-20	UA	845	Cadmium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-20	UA	845	Chloride, total	mg/L	02/26/2021 - 08/10/2021	CI around mean	23	200	18	200	Standard
MW-20	UA	845	Chromium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.0015	0.10	0.0095	0.1	Standard
MW-20	UA	845	Cobalt, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.006	0.0039	0.006	Standard
MW-20	UA	845	Fluoride, total	mg/L	02/26/2021 - 08/10/2021	CI around mean	0.38	4.0	0.51	4	Standard
MW-20	UA	845	Lead, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-20	UA	845	Lithium, total	mg/L	02/26/2021 - 08/10/2021	CB around linear reg	0.00557	0.040	0.012	0.04	Standard

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TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-20	UA	845	Mercury, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-20	UA	845	Molybdenum, total	mg/L	02/26/2021 - 08/10/2021	CI around geomean	0.00477	0.10	0.0062	0.1	Standard
MW-20	UA	845	pH (field)	SU	02/26/2021 - 08/10/2021	CI around mean	6.7	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-20	UA	845	Radium-226 + Radium 228, tot	pCi/L	02/26/2021 - 08/10/2021	CI around mean	0.096	5.0	1.0	5	Standard
MW-20	UA	845	Selenium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-20	UA	845	Sulfate, total	mg/L	02/26/2021 - 08/10/2021	CB around linear reg	136	400	151	400	Standard
MW-20	UA	845	Thallium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-20	UA	845	Total Dissolved Solids	mg/L	02/26/2021 - 08/10/2021	CI around mean	584	1200	494	1200	Standard
MW-20S	USCU	845	Antimony, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-20S	USCU	845	Arsenic, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.010	0.0048	0.01	Standard
MW-20S	USCU	845	Barium, total	mg/L	02/26/2021 - 08/10/2021	CI around median	0.0005	2.0	0.15	2	Standard
MW-20S	USCU	845	Beryllium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-20S	USCU	845	Boron, total	mg/L	02/26/2021 - 08/10/2021	CI around mean	0.67	2.0	0.30	2	Standard
MW-20S	USCU	845	Cadmium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-20S	USCU	845	Chloride, total	mg/L	02/26/2021 - 08/10/2021	CI around mean	20	200	18	200	Standard
MW-20S	USCU	845	Chromium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.0015	0.10	0.0095	0.1	Standard
MW-20S	USCU	845	Cobalt, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.006	0.0039	0.006	Standard
MW-20S	USCU	845	Fluoride, total	mg/L	02/26/2021 - 08/10/2021	CI around mean	0.17	4.0	0.51	4	Standard
MW-20S	USCU	845	Lead, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-20S	USCU	845	Lithium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.003	0.040	0.012	0.04	Standard
MW-20S	USCU	845	Mercury, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-20S	USCU	845	Molybdenum, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.0015	0.10	0.0062	0.1	Standard
MW-20S	USCU	845	pH (field)	SU	02/26/2021 - 08/10/2021	CI around mean	6.4	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-20S	USCU	845	Radium-226 + Radium 228, tot	pCi/L	02/26/2021 - 08/10/2021	CI around mean	0.002	5.0	1.0	5	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-20S	USCU	845	Selenium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-20S	USCU	845	Sulfate, total	mg/L	02/26/2021 - 08/10/2021	CB around linear reg	336	400	151	400	Standard
MW-20S	USCU	845	Thallium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-20S	USCU	845	Total Dissolved Solids	mg/L	02/26/2021 - 08/10/2021	CI around mean	835	1200	494	1200	Standard
MW-22	UA	845	Antimony, total	mg/L	02/26/2021 - 05/18/2021	Most recent sample	0.001	0.006	0.001	0.006	Standard
MW-22	UA	845	Arsenic, total	mg/L	02/26/2021 - 05/18/2021	All ND - Last	0.001	0.010	0.0048	0.01	Standard
MW-22	UA	845	Barium, total	mg/L	02/26/2021 - 05/18/2021	CI around mean	0.065	2.0	0.15	2	Standard
MW-22	UA	845	Beryllium, total	mg/L	02/26/2021 - 05/18/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-22	UA	845	Boron, total	mg/L	02/26/2021 - 05/18/2021	CI around mean	1.4	2.0	0.30	2	Standard
MW-22	UA	845	Cadmium, total	mg/L	02/26/2021 - 05/18/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-22	UA	845	Chloride, total	mg/L	02/26/2021 - 05/18/2021	CI around mean	23	200	18	200	Standard
MW-22	UA	845	Chromium, total	mg/L	02/26/2021 - 05/18/2021	All ND - Last	0.0015	0.10	0.0095	0.1	Standard
MW-22	UA	845	Cobalt, total	mg/L	02/26/2021 - 05/18/2021	All ND - Last	0.001	0.006	0.0039	0.006	Standard
MW-22	UA	845	Fluoride, total	mg/L	02/26/2021 - 05/18/2021	CI around median	0	4.0	0.51	4	Standard
MW-22	UA	845	Lead, total	mg/L	02/26/2021 - 05/18/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-22	UA	845	Lithium, total	mg/L	02/26/2021 - 05/18/2021	CI around mean	0.00151	0.040	0.012	0.04	Standard
MW-22	UA	845	Mercury, total	mg/L	02/26/2021 - 05/18/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-22	UA	845	Molybdenum, total	mg/L	02/26/2021 - 05/18/2021	CI around mean	0.00166	0.10	0.0062	0.1	Standard
MW-22	UA	845	pH (field)	SU	02/26/2021 - 05/18/2021	CI around mean	6.3	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-22	UA	845	Radium-226 + Radium 228, tot	pCi/L	02/26/2021 - 05/18/2021	CI around mean	-0.165	5.0	1.0	5	Standard
MW-22	UA	845	Selenium, total	mg/L	02/26/2021 - 05/18/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-22	UA	845	Sulfate, total	mg/L	02/26/2021 - 05/18/2021	CI around mean	97	400	151	400	Standard
MW-22	UA	845	Thallium, total	mg/L	02/26/2021 - 05/18/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-22	UA	845	Total Dissolved Solids	mg/L	02/26/2021 - 05/18/2021	CI around mean	487	1200	494	1200	Standard

RAMBOLL

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-23	UA	845	Antimony, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-23	UA	845	Arsenic, total	mg/L	02/26/2021 - 08/10/2021	CI around median	0.001	0.010	0.0048	0.01	Standard
MW-23	UA	845	Barium, total	mg/L	02/26/2021 - 08/10/2021	CI around mean	0.071	2.0	0.15	2	Standard
MW-23	UA	845	Beryllium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-23	UA	845	Boron, total	mg/L	02/26/2021 - 08/10/2021	CI around mean	1.4	2.0	0.30	2	Standard
MW-23	UA	845	Cadmium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-23	UA	845	Chloride, total	mg/L	02/26/2021 - 08/10/2021	CI around mean	29	200	18	200	Standard
MW-23	UA	845	Chromium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.0015	0.10	0.0095	0.1	Standard
MW-23	UA	845	Cobalt, total	mg/L	02/26/2021 - 08/10/2021	CI around geomean	0.000944	0.006	0.0039	0.006	Standard
MW-23	UA	845	Fluoride, total	mg/L	02/26/2021 - 08/10/2021	CI around mean	0.34	4.0	0.51	4	Standard
MW-23	UA	845	Lead, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-23	UA	845	Lithium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.003	0.040	0.012	0.04	Standard
MW-23	UA	845	Mercury, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-23	UA	845	Molybdenum, total	mg/L	02/26/2021 - 08/10/2021	CI around median	0.0015	0.10	0.0062	0.1	Standard
MW-23	UA	845	pH (field)	SU	02/26/2021 - 08/10/2021	CI around mean	6.4	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-23	UA	845	Radium-226 + Radium 228, tot	pCi/L	02/26/2021 - 08/10/2021	CI around mean	0.066	5.0	1.0	5	Standard
MW-23	UA	845	Selenium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-23	UA	845	Sulfate, total	mg/L	02/26/2021 - 08/10/2021	CI around median	42	400	151	400	Standard
MW-23	UA	845	Thallium, total	mg/L	02/26/2021 - 08/10/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-23	UA	845	Total Dissolved Solids	mg/L	02/26/2021 - 08/10/2021	CI around mean	571	1200	494	1200	Standard
MW-24	UA	845	Antimony, total	mg/L	03/01/2021 - 05/19/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-24	UA	845	Arsenic, total	mg/L	03/01/2021 - 05/19/2021	Most recent sample	0.001	0.010	0.0048	0.01	Standard
MW-24	UA	845	Barium, total	mg/L	03/01/2021 - 05/19/2021	CI around mean	0.15	2.0	0.15	2	Standard
MW-24	UA	845	Beryllium, total	mg/L	03/01/2021 - 05/19/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-24	UA	845	Boron, total	mg/L	03/01/2021 - 05/19/2021	CI around mean	0.081	2.0	0.30	2	Standard
MW-24	UA	845	Cadmium, total	mg/L	03/01/2021 - 05/19/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-24	UA	845	Chloride, total	mg/L	03/01/2021 - 05/19/2021	CI around mean	14	200	18	200	Standard
MW-24	UA	845	Chromium, total	mg/L	03/01/2021 - 05/19/2021	All ND - Last	0.0015	0.10	0.0095	0.1	Standard
MW-24	UA	845	Cobalt, total	mg/L	03/01/2021 - 05/19/2021	CI around mean	0.00039	0.006	0.0039	0.006	Standard
MW-24	UA	845	Fluoride, total	mg/L	03/01/2021 - 05/19/2021	CI around mean	0.20	4.0	0.51	4	Standard
MW-24	UA	845	Lead, total	mg/L	03/01/2021 - 05/19/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-24	UA	845	Lithium, total	mg/L	03/01/2021 - 05/19/2021	CI around mean	0.00142	0.040	0.012	0.04	Standard
MW-24	UA	845	Mercury, total	mg/L	03/01/2021 - 05/19/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-24	UA	845	Molybdenum, total	mg/L	03/01/2021 - 05/19/2021	CI around mean	0.0021	0.10	0.0062	0.1	Standard
MW-24	UA	845	pH (field)	SU	03/01/2021 - 05/19/2021	CI around mean	5.8	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-24	UA	845	Radium-226 + Radium 228, tot	pCi/L	03/01/2021 - 05/19/2021	CI around mean	-0.382	5.0	1.0	5	Standard
MW-24	UA	845	Selenium, total	mg/L	03/01/2021 - 05/19/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-24	UA	845	Sulfate, total	mg/L	03/01/2021 - 05/19/2021	CI around mean	49	400	151	400	Standard
MW-24	UA	845	Thallium, total	mg/L	03/01/2021 - 05/19/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-24	UA	845	Total Dissolved Solids	mg/L	03/01/2021 - 05/19/2021	CI around mean	585	1200	494	1200	Standard
MW-25	USCU	845	Antimony, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-25	USCU	845	Arsenic, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.00195	0.010	0.0048	0.01	Standard
MW-25	USCU	845	Barium, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.047	2.0	0.15	2	Standard
MW-25	USCU	845	Beryllium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-25	USCU	845	Boron, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	1.0	2.0	0.30	2	Standard
MW-25	USCU	845	Cadmium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-25	USCU	845	Chloride, total	mg/L	02/25/2021 - 08/11/2021	CI around median	0	200	18	200	Standard
MW-25	USCU	845	Chromium, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.00133	0.10	0.0095	0.1	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-25	USCU	845	Cobalt, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.00372	0.006	0.0039	0.006	Standard
MW-25	USCU	845	Fluoride, total	mg/L	02/25/2021 - 08/11/2021	Most recent sample	0.17	4.0	0.51	4	Standard
MW-25	USCU	845	Lead, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.000583	0.0075	0.0051	0.0075	Standard
MW-25	USCU	845	Lithium, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.00189	0.040	0.012	0.04	Standard
MW-25	USCU	845	Mercury, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-25	USCU	845	Molybdenum, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.00118	0.10	0.0062	0.1	Standard
MW-25	USCU	845	pH (field)	SU	02/25/2021 - 08/11/2021	CI around mean	6.1	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-25	USCU	845	Radium-226 + Radium 228, tot	pCi/L	02/25/2021 - 08/11/2021	CI around mean	0.0092	5.0	1.0	5	Standard
MW-25	USCU	845	Selenium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-25	USCU	845	Sulfate, total	mg/L	02/25/2021 - 08/11/2021	CI around median	0	400	151	400	Standard
MW-25	USCU	845	Thallium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-25	USCU	845	Total Dissolved Solids	mg/L	02/25/2021 - 08/11/2021	CI around mean	433	1200	494	1200	Standard
MW-26	UA	845	Antimony, total	mg/L	02/25/2021 - 05/21/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-26	UA	845	Arsenic, total	mg/L	02/25/2021 - 05/21/2021	CI around mean	-0.000205	0.010	0.0048	0.01	Standard
MW-26	UA	845	Barium, total	mg/L	02/25/2021 - 05/21/2021	CI around mean	0.021	2.0	0.15	2	Standard
MW-26	UA	845	Beryllium, total	mg/L	02/25/2021 - 05/21/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-26	UA	845	Boron, total	mg/L	02/25/2021 - 05/21/2021	CI around mean	0.88	2.0	0.30	2	Standard
MW-26	UA	845	Cadmium, total	mg/L	02/25/2021 - 05/21/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-26	UA	845	Chloride, total	mg/L	02/25/2021 - 05/21/2021	CI around median	0	200	18	200	Standard
MW-26	UA	845	Chromium, total	mg/L	02/25/2021 - 05/21/2021	CI around mean	-0.00563	0.10	0.0095	0.1	Standard
MW-26	UA	845	Cobalt, total	mg/L	02/25/2021 - 05/21/2021	CI around mean	0.000679	0.006	0.0039	0.006	Standard
MW-26	UA	845	Fluoride, total	mg/L	02/25/2021 - 05/21/2021	CI around mean	0.20	4.0	0.51	4	Standard
MW-26	UA	845	Lead, total	mg/L	02/25/2021 - 05/21/2021	CI around mean	-0.00253	0.0075	0.0051	0.0075	Standard
MW-26	UA	845	Lithium, total	mg/L	02/25/2021 - 05/21/2021	CI around mean	0.000161	0.040	0.012	0.04	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-26	UA	845	Mercury, total	mg/L	02/25/2021 - 05/21/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-26	UA	845	Molybdenum, total	mg/L	02/25/2021 - 05/21/2021	CI around mean	0.000888	0.10	0.0062	0.1	Standard
MW-26	UA	845	pH (field)	SU	02/25/2021 - 05/21/2021	CI around mean	6.2	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-26	UA	845	Radium-226 + Radium 228, tot	pCi/L	02/25/2021 - 05/21/2021	CI around mean	-1.2	5.0	1.0	5	Standard
MW-26	UA	845	Selenium, total	mg/L	02/25/2021 - 05/21/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-26	UA	845	Sulfate, total	mg/L	02/25/2021 - 05/21/2021	CI around mean	162	400	151	400	Standard
MW-26	UA	845	Thallium, total	mg/L	02/25/2021 - 05/21/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-26	UA	845	Total Dissolved Solids	mg/L	02/25/2021 - 05/21/2021	CI around mean	637	1200	494	1200	Standard
MW-27	USCU	845	Antimony, total	mg/L	02/24/2021 - 08/11/2021	Most recent sample	0.001	0.006	0.001	0.006	Standard
MW-27	USCU	845	Arsenic, total	mg/L	02/24/2021 - 08/11/2021	CI around geomean	0.00322	0.010	0.0048	0.01	Standard
MW-27	USCU	845	Barium, total	mg/L	02/24/2021 - 08/11/2021	CI around geomean	0.083	2.0	0.15	2	Standard
MW-27	USCU	845	Beryllium, total	mg/L	02/24/2021 - 08/11/2021	CI around median	0.001	0.004	0.001	0.004	Standard
MW-27	USCU	845	Boron, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	0.91	2.0	0.30	2	Standard
MW-27	USCU	845	Cadmium, total	mg/L	02/24/2021 - 08/11/2021	CI around median	0.001	0.005	0.001	0.005	Standard
MW-27	USCU	845	Chloride, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	14	200	18	200	Standard
MW-27	USCU	845	Chromium, total	mg/L	02/24/2021 - 08/11/2021	CI around geomean	0.00306	0.10	0.0095	0.1	Standard
MW-27	USCU	845	Cobalt, total	mg/L	02/24/2021 - 08/11/2021	CI around geomean	0.00187	0.006	0.0039	0.006	Standard
MW-27	USCU	845	Fluoride, total	mg/L	02/24/2021 - 08/11/2021	CI around median	0.17	4.0	0.51	4	Standard
MW-27	USCU	845	Lead, total	mg/L	02/24/2021 - 08/11/2021	CI around geomean	0.00141	0.0075	0.0051	0.0075	Standard
MW-27	USCU	845	Lithium, total	mg/L	02/24/2021 - 08/11/2021	CI around geomean	0.00246	0.040	0.012	0.04	Standard
MW-27	USCU	845	Mercury, total	mg/L	02/24/2021 - 08/11/2021	CI around median	0.0002	0.002	0.0002	0.002	Standard
MW-27	USCU	845	Molybdenum, total	mg/L	02/24/2021 - 08/11/2021	CI around geomean	0.00152	0.10	0.0062	0.1	Standard
MW-27	USCU	845	pH (field)	SU	02/24/2021 - 08/11/2021	CI around mean	6.5	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-27	USCU	845	Radium-226 + Radium 228, tot	pCi/L	02/24/2021 - 08/11/2021	CI around geomean	0.26	5.0	1.0	5	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-27	USCU	845	Selenium, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-27	USCU	845	Sulfate, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	248	400	151	400	Standard
MW-27	USCU	845	Thallium, total	mg/L	02/24/2021 - 08/11/2021	CI around median	0.002	0.002	0.002	0.002	Standard
MW-27	USCU	845	Total Dissolved Solids	mg/L	02/24/2021 - 08/11/2021	CI around median	344	1200	494	1200	Standard
MW-28	UA	845	Antimony, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-28	UA	845	Arsenic, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.001	0.010	0.0048	0.01	Standard
MW-28	UA	845	Barium, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	0.020	2.0	0.15	2	Standard
MW-28	UA	845	Beryllium, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-28	UA	845	Boron, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	8.7	2.0	0.30	2	Standard
MW-28	UA	845	Cadmium, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-28	UA	845	Chloride, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	12	200	18	200	Standard
MW-28	UA	845	Chromium, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.0015	0.10	0.0095	0.1	Standard
MW-28	UA	845	Cobalt, total	mg/L	02/24/2021 - 08/11/2021	CI around median	0.001	0.006	0.0039	0.006	Standard
MW-28	UA	845	Fluoride, total	mg/L	02/24/2021 - 08/11/2021	CI around median	0.12	4.0	0.51	4	Standard
MW-28	UA	845	Lead, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-28	UA	845	Lithium, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	0.00605	0.040	0.012	0.04	Standard
MW-28	UA	845	Mercury, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-28	UA	845	Molybdenum, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.0015	0.10	0.0062	0.1	Standard
MW-28	UA	845	pH (field)	SU	02/24/2021 - 08/11/2021	CI around mean	6.5	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-28	UA	845	Radium-226 + Radium 228, tot	pCi/L	02/24/2021 - 08/11/2021	CI around mean	0.00393	5.0	1.0	5	Standard
MW-28	UA	845	Selenium, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-28	UA	845	Sulfate, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	799	400	151	400	Standard
MW-28	UA	845	Thallium, total	mg/L	02/24/2021 - 08/11/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-28	UA	845	Total Dissolved Solids	mg/L	02/24/2021 - 08/11/2021	CI around mean	1580	1200	494	1200	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-29	UA	845	Antimony, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-29	UA	845	Arsenic, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.010	0.0048	0.01	Standard
MW-29	UA	845	Barium, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.080	2.0	0.15	2	Standard
MW-29	UA	845	Beryllium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-29	UA	845	Boron, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	1.6	2.0	0.30	2	Standard
MW-29	UA	845	Cadmium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-29	UA	845	Chloride, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	46	200	18	200	Standard
MW-29	UA	845	Chromium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.0015	0.10	0.0095	0.1	Standard
MW-29	UA	845	Cobalt, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.006	0.0039	0.006	Standard
MW-29	UA	845	Fluoride, total	mg/L	02/25/2021 - 08/11/2021	CI around median	0.11	4.0	0.51	4	Standard
MW-29	UA	845	Lead, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-29	UA	845	Lithium, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.00796	0.040	0.012	0.04	Standard
MW-29	UA	845	Mercury, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-29	UA	845	Molybdenum, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.0015	0.10	0.0062	0.1	Standard
MW-29	UA	845	pH (field)	SU	02/25/2021 - 08/11/2021	CI around mean	6.4	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-29	UA	845	Radium-226 + Radium 228, tot	pCi/L	02/25/2021 - 08/11/2021	CI around mean	0.050	5.0	1.0	5	Standard
MW-29	UA	845	Selenium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-29	UA	845	Sulfate, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	147	400	151	400	Standard
MW-29	UA	845	Thallium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-29	UA	845	Total Dissolved Solids	mg/L	02/25/2021 - 08/11/2021	CI around mean	759	1200	494	1200	Standard
MW-30	UA	845	Antimony, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-30	UA	845	Arsenic, total	mg/L	02/25/2021 - 08/10/2021	CB around linear reg	0.0033	0.010	0.0048	0.01	Standard
MW-30	UA	845	Barium, total	mg/L	02/25/2021 - 08/10/2021	CI around mean	0.15	2.0	0.15	2	Standard
MW-30	UA	845	Beryllium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-30	UA	845	Boron, total	mg/L	02/25/2021 - 08/10/2021	CI around mean	1.0	2.0	0.30	2	Standard
MW-30	UA	845	Cadmium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-30	UA	845	Chloride, total	mg/L	02/25/2021 - 08/10/2021	CI around mean	50	200	18	200	Standard
MW-30	UA	845	Chromium, total	mg/L	02/25/2021 - 08/10/2021	CI around median	0.0015	0.10	0.0095	0.1	Standard
MW-30	UA	845	Cobalt, total	mg/L	02/25/2021 - 08/10/2021	CI around mean	0.00195	0.006	0.0039	0.006	Standard
MW-30	UA	845	Fluoride, total	mg/L	02/25/2021 - 08/10/2021	CI around mean	0.22	4.0	0.51	4	Standard
MW-30	UA	845	Lead, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-30	UA	845	Lithium, total	mg/L	02/25/2021 - 08/10/2021	CB around linear reg	0.00157	0.040	0.012	0.04	Standard
MW-30	UA	845	Mercury, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-30	UA	845	Molybdenum, total	mg/L	02/25/2021 - 08/10/2021	CB around linear reg	-0.0000855	0.10	0.0062	0.1	Standard
MW-30	UA	845	pH (field)	SU	02/25/2021 - 08/10/2021	CI around mean	6.3	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-30	UA	845	Radium-226 + Radium 228, tot	pCi/L	02/25/2021 - 08/10/2021	CI around geomean	0.50	5.0	1.0	5	Standard
MW-30	UA	845	Selenium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-30	UA	845	Sulfate, total	mg/L	02/25/2021 - 08/10/2021	CB around linear reg	-22.3	400	151	400	Standard
MW-30	UA	845	Thallium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-30	UA	845	Total Dissolved Solids	mg/L	02/25/2021 - 08/10/2021	CI around mean	676	1200	494	1200	Standard
MW-31	UA	845	Antimony, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-31	UA	845	Arsenic, total	mg/L	02/24/2021 - 08/10/2021	CI around mean	0.00252	0.010	0.0048	0.01	Standard
MW-31	UA	845	Barium, total	mg/L	02/24/2021 - 08/10/2021	CI around mean	0.22	2.0	0.15	2	Standard
MW-31	UA	845	Beryllium, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-31	UA	845	Boron, total	mg/L	02/24/2021 - 08/10/2021	CI around mean	0.24	2.0	0.30	2	Standard
MW-31	UA	845	Cadmium, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-31	UA	845	Chloride, total	mg/L	02/24/2021 - 08/10/2021	CI around mean	48	200	18	200	Standard
MW-31	UA	845	Chromium, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	0.0015	0.10	0.0095	0.1	Standard

RAMBOLL

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-31	UA	845	Cobalt, total	mg/L	02/24/2021 - 08/10/2021	CI around median	0.001	0.006	0.0039	0.006	Standard
MW-31	UA	845	Fluoride, total	mg/L	02/24/2021 - 08/10/2021	CI around mean	0.17	4.0	0.51	4	Standard
MW-31	UA	845	Lead, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-31	UA	845	Lithium, total	mg/L	02/24/2021 - 08/10/2021	CI around mean	0.00489	0.040	0.012	0.04	Standard
MW-31	UA	845	Mercury, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-31	UA	845	Molybdenum, total	mg/L	02/24/2021 - 08/10/2021	CB around linear reg	0.000828	0.10	0.0062	0.1	Standard
MW-31	UA	845	pH (field)	SU	02/24/2021 - 08/10/2021	CI around mean	6.4	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-31	UA	845	Radium-226 + Radium 228, tot	pCi/L	02/24/2021 - 08/10/2021	CI around mean	0.38	5.0	1.0	5	Standard
MW-31	UA	845	Selenium, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-31	UA	845	Sulfate, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	10	400	151	400	Standard
MW-31	UA	845	Thallium, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-31	UA	845	Total Dissolved Solids	mg/L	02/24/2021 - 08/10/2021	CI around mean	567	1200	494	1200	Standard
MW-31S	USCU	845	Antimony, total	mg/L	02/24/2021 - 08/10/2021	CI around median	0.001	0.006	0.001	0.006	Standard
MW-31S	USCU	845	Arsenic, total	mg/L	02/24/2021 - 08/10/2021	CI around mean	0.00316	0.010	0.0048	0.01	Standard
MW-31S	USCU	845	Barium, total	mg/L	02/24/2021 - 08/10/2021	CI around geomean	0.20	2.0	0.15	2	Standard
MW-31S	USCU	845	Beryllium, total	mg/L	02/24/2021 - 08/10/2021	CI around median	0.001	0.004	0.001	0.004	Standard
MW-31S	USCU	845	Boron, total	mg/L	02/24/2021 - 08/10/2021	CI around mean	0.048	2.0	0.30	2	Standard
MW-31S	USCU	845	Cadmium, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-31S	USCU	845	Chloride, total	mg/L	02/24/2021 - 08/10/2021	CI around mean	14	200	18	200	Standard
MW-31S	USCU	845	Chromium, total	mg/L	02/24/2021 - 08/10/2021	CI around mean	-0.00343	0.10	0.0095	0.1	Standard
MW-31S	USCU	845	Cobalt, total	mg/L	02/24/2021 - 08/10/2021	CI around geomean	0.00292	0.006	0.0039	0.006	Standard
MW-31S	USCU	845	Fluoride, total	mg/L	02/24/2021 - 08/10/2021	CI around mean	0.22	4.0	0.51	4	Standard
MW-31S	USCU	845	Lead, total	mg/L	02/24/2021 - 08/10/2021	CI around geomean	0.001	0.0075	0.0051	0.0075	Standard
MW-31S	USCU	845	Lithium, total	mg/L	02/24/2021 - 08/10/2021	CI around geomean	0.00256	0.040	0.012	0.04	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-31S	USCU	845	Mercury, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-31S	USCU	845	Molybdenum, total	mg/L	02/24/2021 - 08/10/2021	CI around mean	0.00299	0.10	0.0062	0.1	Standard
MW-31S	USCU	845	pH (field)	SU	02/24/2021 - 08/10/2021	CI around mean	6.4	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-31S	USCU	845	Radium-226 + Radium 228, tot	pCi/L	02/24/2021 - 08/11/2021	CI around mean	1.0	5.0	1.0	5	Standard
MW-31S	USCU	845	Selenium, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-31S	USCU	845	Sulfate, total	mg/L	02/24/2021 - 08/10/2021	CB around linear reg	29	400	151	400	Standard
MW-31S	USCU	845	Thallium, total	mg/L	02/24/2021 - 08/10/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-31S	USCU	845	Total Dissolved Solids	mg/L	02/24/2021 - 08/10/2021	CI around mean	770	1200	494	1200	Standard
MW-32	UA	845	Antimony, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
MW-32	UA	845	Arsenic, total	mg/L	02/25/2021 - 08/10/2021	CI around median	0.001	0.010	0.0048	0.01	Standard
MW-32	UA	845	Barium, total	mg/L	02/25/2021 - 08/10/2021	CI around mean	0.079	2.0	0.15	2	Standard
MW-32	UA	845	Beryllium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
MW-32	UA	845	Boron, total	mg/L	02/25/2021 - 08/10/2021	CI around mean	1.5	2.0	0.30	2	Standard
MW-32	UA	845	Cadmium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
MW-32	UA	845	Chloride, total	mg/L	02/25/2021 - 08/10/2021	CI around median	13	200	18	200	Standard
MW-32	UA	845	Chromium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.0015	0.10	0.0095	0.1	Standard
MW-32	UA	845	Cobalt, total	mg/L	02/25/2021 - 08/10/2021	CI around median	0.001	0.006	0.0039	0.006	Standard
MW-32	UA	845	Fluoride, total	mg/L	02/25/2021 - 08/10/2021	CI around median	0.16	4.0	0.51	4	Standard
MW-32	UA	845	Lead, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.0075	0.0051	0.0075	Standard
MW-32	UA	845	Lithium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.003	0.040	0.012	0.04	Standard
MW-32	UA	845	Mercury, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
MW-32	UA	845	Molybdenum, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.0015	0.10	0.0062	0.1	Standard
MW-32	UA	845	pH (field)	SU	02/25/2021 - 08/10/2021	CI around mean	6.2	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
MW-32	UA	845	Radium-226 + Radium 228, tot	pCi/L	02/25/2021 - 08/10/2021	CI around mean	-0.0551	5.0	1.0	5	Standard

TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-32	UA	845	Selenium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
MW-32	UA	845	Sulfate, total	mg/L	02/25/2021 - 08/10/2021	CI around mean	440	400	151	400	Standard
MW-32	UA	845	Thallium, total	mg/L	02/25/2021 - 08/10/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
MW-32	UA	845	Total Dissolved Solids	mg/L	02/25/2021 - 08/10/2021	CI around median	1150	1200	494	1200	Standard
PZ-4C	UA	845	Antimony, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.006	0.001	0.006	Standard
PZ-4C	UA	845	Arsenic, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.000521	0.010	0.0048	0.01	Standard
PZ-4C	UA	845	Barium, total	mg/L	02/25/2021 - 08/11/2021	CB around linear reg	0.28	2.0	0.15	2	Standard
PZ-4C	UA	845	Beryllium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.004	0.001	0.004	Standard
PZ-4C	UA	845	Boron, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	1.4	2.0	0.30	2	Standard
PZ-4C	UA	845	Cadmium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.005	0.001	0.005	Standard
PZ-4C	UA	845	Chloride, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	37	200	18	200	Standard
PZ-4C	UA	845	Chromium, total	mg/L	02/25/2021 - 08/11/2021	CI around median	0.0015	0.10	0.0095	0.1	Standard
PZ-4C	UA	845	Cobalt, total	mg/L	02/25/2021 - 08/11/2021	CI around median	0.001	0.006	0.0039	0.006	Standard
PZ-4C	UA	845	Fluoride, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.39	4.0	0.51	4	Standard
PZ-4C	UA	845	Lead, total	mg/L	02/25/2021 - 08/11/2021	CI around median	0.001	0.0075	0.0051	0.0075	Standard
PZ-4C	UA	845	Lithium, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	0.00635	0.040	0.012	0.04	Standard
PZ-4C	UA	845	Mercury, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.0002	0.002	0.0002	0.002	Standard
PZ-4C	UA	845	Molybdenum, total	mg/L	02/25/2021 - 08/11/2021	CI around median	0.0015	0.10	0.0062	0.1	Standard
PZ-4C	UA	845	pH (field)	SU	02/25/2021 - 08/11/2021	CI around mean	6.4	5.6/9.0	5.6/7.6	6.5/9	Background/Standard
PZ-4C	UA	845	Radium-226 + Radium 228, tot	pCi/L	02/25/2021 - 08/11/2021	CI around mean	0.34	5.0	1.0	5	Standard
PZ-4C	UA	845	Selenium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.001	0.050	0.0018	0.05	Standard
PZ-4C	UA	845	Sulfate, total	mg/L	02/25/2021 - 08/11/2021	CI around mean	65	400	151	400	Standard
PZ-4C	UA	845	Thallium, total	mg/L	02/25/2021 - 08/11/2021	All ND - Last	0.002	0.002	0.002	0.002	Standard
PZ-4C	UA	845	Total Dissolved Solids	mg/L	02/25/2021 - 08/11/2021	CI around mean	561	1200	494	1200	Standard

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TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Notes:
Potential exceedance of GWPS
HSU = hydrostratigraphic unit:
BCU = Bedrock Confining Unit
UA = Uppermost Aquifer
USCU = Upper Semi-Confining Unit
Program = regulatory program data were collected under:
257 = 40 C.F.R. Part 257 Subpart D (Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments)
845 = 35 I.A.C. Part 845 (Sampling events completed to assess well locations for inclusion in the Part 845 monitoring well network)
mg/L = milligrams per liter
pCi/L = picoCuries per liter
SU = standard units
Sample Count = number of samples from Sampled Date Range used to calculate the Statistical Result
Statistical Calculation = method used to calculate the statistical result:
All ND - Last = All results were below the reporting limit, and the last determined reporting limit is shown
CB around linear reg = Confidence band around linear regression
CB around T-S line = Confidence band around Thiel-Sen line
CI around geomean = Confidence interval around the geometric mean
CI around mean = Confidence interval around the mean
CI around median = Confidence interval around the median
Most recent sample = Result for the most recently collected sample used due to insufficient data
Statistical Result = calculated in accordance with Statistical Analysis Plan using constituent concentrations observed at monitoring well during all sampling events within the specified date range
For pH, the values presented are the lower / upper limits
GWPS = Groundwater Protection Standard
GWPS Source:
Standard = standard specified in 35 I.A.C. § 845.600(a)(1)
Background = background concentration (see cover page for additional information)

TABLE 2. SUMMARY OF POTENTIAL EXCEEDANCES
HISTORY OF POTENTIAL EXCEEDANCES
KINCAID POWER PLANT
ASH POND
KINCAID, ILLINOIS

Sample Location	HSU	Program	Constituent	Result Unit	Sample Date Range	Statistical Calculation	Statistical Result	GWPS	Background	Part 845 Standard	GWPS Source
MW-7S	USCU	845	Boron, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	3.5	2.0	0.30	2	Standard
MW-12	UA	257	Boron, total	mg/L	12/15/2015 - 09/01/2021	CI around mean	2.5	2.0	0.27	2	Standard
MW-28	UA	845	Boron, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	8.7	2.0	0.30	2	Standard
MW-28	UA	845	Sulfate, total	mg/L	02/24/2021 - 08/11/2021	CI around mean	799	400	151	400	Standard
MW-28	UA	845	Total Dissolved Solids	mg/L	02/24/2021 - 08/11/2021	CI around mean	1580	1200	494	1200	Standard
MW-32	UA	845	Sulfate, total	mg/L	02/25/2021 - 08/10/2021	CI around mean	440	400	151	400	Standard

Notes:
HSU = hydrostratigraphic unit:
UA = Uppermost Aquifer
USCU = Upper Semi-Confining Unit
Program = regulatory program data were collected under:
257 = 40 C.F.R. Part 257 Subpart D (Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments)
845 = 35 I.A.C. Part 845 (Sampling events completed to assess well locations for inclusion in the Part 845 monitoring well network)
mg/L = milligrams per liter
pCi/L = picoCuries per liter
SU = standard units
Sample Count = number of samples from Sampled Date Range used to calculate the Statistical Result
Statistical Calculation = method used to calculate the statistical result:
CI around mean = Confidence interval around the mean
Statistical Result = calculated in accordance with Statistical Analysis Plan using constituent concentrations observed at monitoring well during all sampling events within the specified date range
For pH, the values presented are the lower / upper limits
GWPS = Groundwater Protection Standard
GWPS Source:
Standard = standard specified in 35 I.A.C. § 845.600(a)(1)
Background = background concentration (see cover page for additional information)

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