Illinois Power Resources Generating, 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: Edwards Ash Pond (IEPA ID: W1438050005-01) Annual Consolidated Report**

Dear Mr. LeCrone:

In accordance with 35 IAC § 845.550, Illinois Power Resources Generating, LLC (IPRG) is submitting the annual consolidated report for the Edwards Ash Pond (IEPA ID: W1438050005-01), as enclosed.

Sincerely,

Phil Morris
Senior Environmental Director

Enclosures

Annual Consolidated Report
**Illinois Power Resources Generating, LLC**
Edwards Power Plant
Ash Pond; IEPA **ID: W1438050005-01**

In accordance with 35 IAC § 845.550, Illinois Power Resources Generating, LLC (IPRG) has prepared the annual consolidated report. The report is provided in three sections as follows:

Section 1
1) Annual CCR fugitive dust control report (Section 845.500(c))

Section 2
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.

Section 3
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

# Edwards Power Plant

***Prepared for:***

**Illinois Power Resources Generating, LLC**

**Edwards Power Plant**
**7800 South Cilco Lane**
**Bartonville, IL 61607**

October 2021

**Edwards Power Plant**
**ANNUAL CCR FUGITIVE DUST CONTROL REPORT**

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

Completed by: Kevin Long 11/12/21

Name Title

This Annual CCR Fugitive Dust Control Report has been prepared for the Edwards 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 Edwards 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 | Maintain CCR inventory levels in the CCR unit at lowest practicable height. |
| | Wet management of CCR bottom ash and CCR fly ash in the CCR surface impoundment. |
| | Water or apply chemical dust suppressant on areas of exposed CCR in or near the CCR unit, as necessary. |
| | Naturally occurring grass vegetation in areas of exposed CCR in the CCR surface impoundment. |
| Handling of CCR at the facility | Wet sluice CCR bottom ash and fly ash to CCR surface impoundment. |
| | Pneumatically convey dry CCR fly ash to storage silos in an enclosed system. |
| | CCR fly ash to be emplaced in an offsite landfill, or on site ash pond, is conditioned before loading into trucks for transport. |
| | Load CCR transport trucks from the CCR fly ash silos in a covered/contained area. |
| | Load CCR transport trucks from the CCR fly ash silos using a telescoping chute with vacuum equipment. |

| 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 dust controls on the fly ash handling system as necessary. |
| Transportation of CCR at the facility | CCR to be emplaced in an offsite landfill, or on site ash pond, is conditioned before being loaded into vehicles for transport. |
| | Cover or enclose trucks used to transport CCR fly ash offsite. |
| | Limit the speed of vehicles to no more than 15 mph on facility roads. |
| | Cover or enclose trucks used to transport CCR other than fly ash, as necessary. |
| | Sweep or rinse off the outside of the trucks transporting CCR, as necessary. |
| | Water facility roads used to transport CCR, as needed. |
| | Sweep paved roads, as needed. |
| | 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. The control measures included the use of a water truck for water application on both paved and unpaved roads. No changes to the control measures listed in the Dust Plan were needed in order to control CCR fugitive dust.

In the reporting year, no material changes to site conditions occurred that would require amending the Dust Plan.

## Section 2 Record of Citizen Complaints

No citizen complaints were received regarding CCR fugitive dust at Edwards 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<br>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:<br>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);<br>B) A visual inspection of the CCR surface impoundment to identify signs of distress or malfunction of the CCR surface impoundment and appurtenant structures;<br>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;<br>D) The annual hazard potential classification certification, if applicable (see Section 845.440);<br>E) The annual structural stability assessment certification, if applicable (see Section 845.450);<br>F) The annual safety factor assessment certification, if applicable (see Section 845.460); and<br>G) The inflow design flood control system plan certification (see Section 845.510(c)). |

| SITE INFORMATION | |
|---|---|
| Site Name / Address / Date of Inspection | Edwards Power Station<br>Peoria County, Illinois 62327<br>10/19/2021 |
| Operator Name / Address | Luminant Generation Company LLC<br>6555 Sierra Drive, Irving, TX 75039 |
| CCR unit | Ash Pond |

| INSPECTION REPORT 35 IAC § 845.540<br>Date of Inspection 10/19/2021 | |
|---|---|
| (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 I 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 3300 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 3010 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<br>Date of Inspection 10/19/2021 | |
|---|---|
| (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.


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

Site Name: Edwards Power Station

CCR Unit: Ash Pond

| 35 IAC § 845.540 (b)(2)(B) | | |
|---|---|---|
| Instrument ID # | Type | Maximum recorded reading since previous annual inspection (ft) |
| P004 | Piezometer | 439.9' |
| P004 | Piezometer | 450.0' |
| P004 | Piezometer | 439.5' |
| P005 | Piezometer | 443.7' |

| 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 | | 447 | | | 12 | |
| CCR | 433 | | 485 | 17 | | 69 |

Geosyntec consultants

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October 11, 2021

Illinois Power Resources Generating, LLC
7800 South Cilco Lane
Bartonville, Illinois, 61607

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

At the request of Illinois Power Resources Generating, LLC (IPRG), 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 |

[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,

John P. Seymour, P.E.
Senior Principal

Lucas P. Carr, P.E.
Senior Engineer

# 2021 USEPA CCR RULE PERIODIC CERTIFICATION REPORT §257.73(a)(2), (c), (d), (e) and §257.82 ASH POND Edwards Power Plant Edwards, Illinois

*Submitted to*

**Illinois Power Resources Generating, LLC**

**7800 South Cilco Lane**
**Bartonville, Illinois 61607**

*Submitted by*

Geosyntec consultants

engineers | scientists | innovators

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

October 11, 2021

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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 Edwards Power Plant (EPP)[1], also known as the Edwards Power Station (EDW), 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 originally on the Illinois Power Resource Generating LLC CCR Website; ( [2], [3], [4], [5], [6]). These documents are to be updated on a five-year basis.

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

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

Geosyntec's evaluations of the initial certification reports and updated analyses identified that the AP meets all requirements for hazard potential classification, history of construction reporting, structural stability, safety factor assessment, and inflow design flood control system planning. **Table 1** provides a summary of the initial 2016 certifications and the updated 2021 periodic certifications.

[1] The AP is also referred to as ID Number W1438050005-01, Ash Pond by the Illinois Environmental Protection Agency (IEPA); CCR unit ID 301 by IPRG; and IL50710 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 High hazard potential classification [2]. | Yes | No changes were identified that may affect this requirement. |
| **History of Construction** | | | | | | |
| 4 | §257.73(c)(1) | Compile a history of construction | Yes | A history of Construction report was prepared for the AP. [3]. | Yes | A letter listing updates to the History of Construction Report is provided in **Attachment C**. |
| **Structural Stability Assessment** | | | | | | |
| 5 | §257.73(d)(1)(i) | Stable foundations and abutments | Yes | Foundations and abutments were found to be stable [8]. | Yes | Foundations and abutments were found to be stable after performing updated slope stability analyses. |
| | §257.73(d)(1)(ii) | Adequate slope protection | Yes | Slope protection was adequate [8]. | 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 [8]. | Yes | Dike compaction was found to be sufficient after performing updated slope stability analyses. |
| | §257.73(d)(1)(iv) | Presence and condition of slope vegetation | Yes | Vegetation was present on interior and exterior slopes and is maintained [8]. | Yes | No changes were identified that may affect this requirement. |
| | §257.73(d)(1)(v)(A) and (B) | Adequacy of spillway design and management | Yes | Spillway was adequately designed and constructed and was expected to adequately manage flow during the calculated Probable Maximum Flood (PMF) [8]. | Yes | Spillways were found to e adequately design and constructed and are expected to adequately manager flow during the PMF, after performing updated hydrologic and hydraulic analyses. |
| | §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 all hydraulic structures. | Yes | An inspection was completed in 2020 and met all structural stability requirements. [8]. |
| | §257.73(d)(1)(vii) | Stability of downstream slopes inundated by water body. | Not Applicable | Inundation of exterior slopes was not expected; this requirement was not applicable [8]. | Not Applicable | No changes were identified that may affect this requirement. |
| **Safety Factor Assessment** | | | | | | |
| 6 | §257.73(e)(1)(i) | Maximum storage pool safety factor must be at least 1.50 | Yes | Safety factors were calculated to be 1.54. [5]. | Yes | Safety factors from updated slope stability analyses were calculated to be 1.54 and higher. |
| | §257.73(e)(1)(ii) | Maximum surcharge pool safety factor must be at least 1.40 | Yes | Safety factors were calculated to be 1.54 [5]. | Yes | Safety factors from updated slope stability analyses were calculated to be 1.58 and higher. |
| | §257.73(e)(1)(iii) | Seismic safety factor must be at least 1.00 | Yes | Safety factors were calculated to be 1.08 [5]. | Yes | Safety factors from updated slope stability analyses were calculated to be 1.08 and higher. |
| | §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 [5]. | Not Applicable | No changes were identified that may affect this requirement. |
| **Inflow Design Flood Control System Plan** | | | | | | |
| 7 | §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 calculated probable maximum flood (PMF) conditions [8]. | Yes | The flood control system was found to adequately manage inflow and peak discharge during the PMP, 24-hour, Inflow Design Flood, after performing updated hydrologic and hydraulic analyses. |
| | §257.82(b) | Discharge from CCR Unit | Yes | Discharge from the CCR Unit is routed through a NPDES-permitted outfall during both normal and PMP, 24-hour Inflow Design Flood conditions [6]. | Yes | Discharge from the CCR Unit is routed through a NPDES-permitted outfall during both normal and PMP, 24-hour Inflow Design Flood conditions, after performing updated hydrologic and hydraulic analyses. |

# 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 Illinois Power Resources Generating LLC (IPRG), to document the periodic certification of the Ash Pond (AP) at the Edwards Power Plant (EPP), also known as the Edwards Power Station (EDW), located at 7800 South Cilco Lane Bartonville, Illinois 61607. The location of EPP is provided in **Figure 1**, and a site plan showing the location of the AP is provided in **Figure 2**.

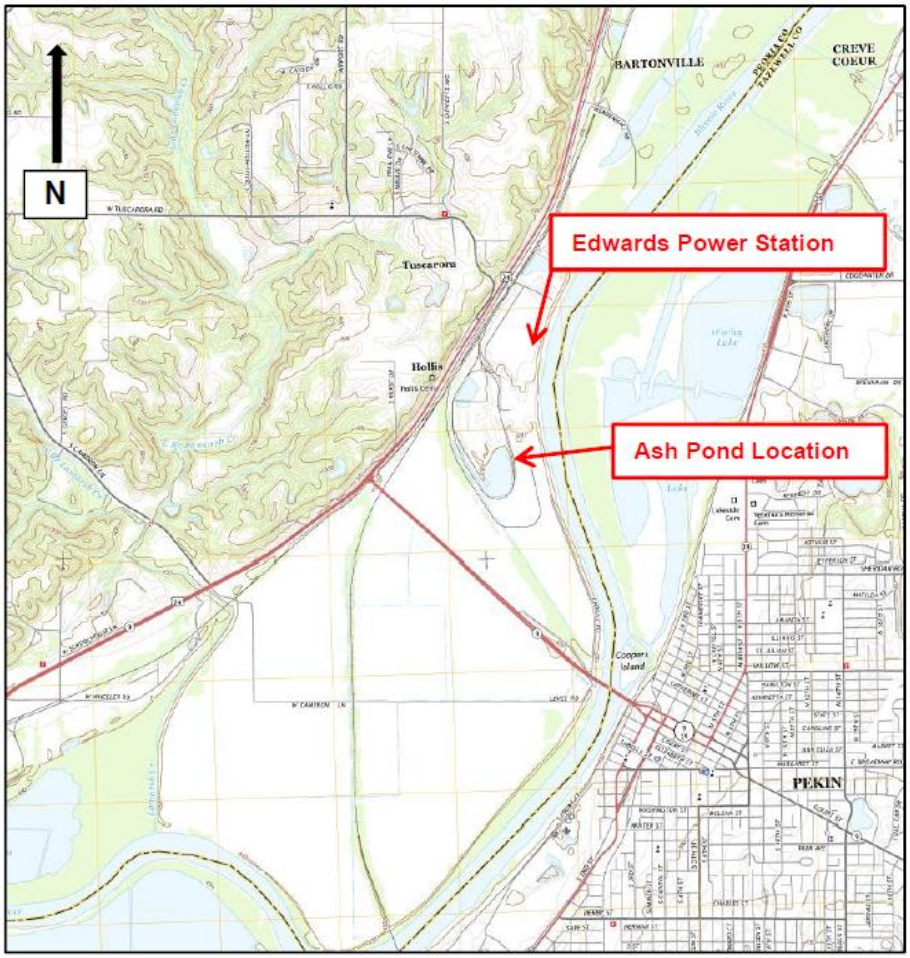



**Figure 1 – Site Location Map (from AECOM, 2016)**

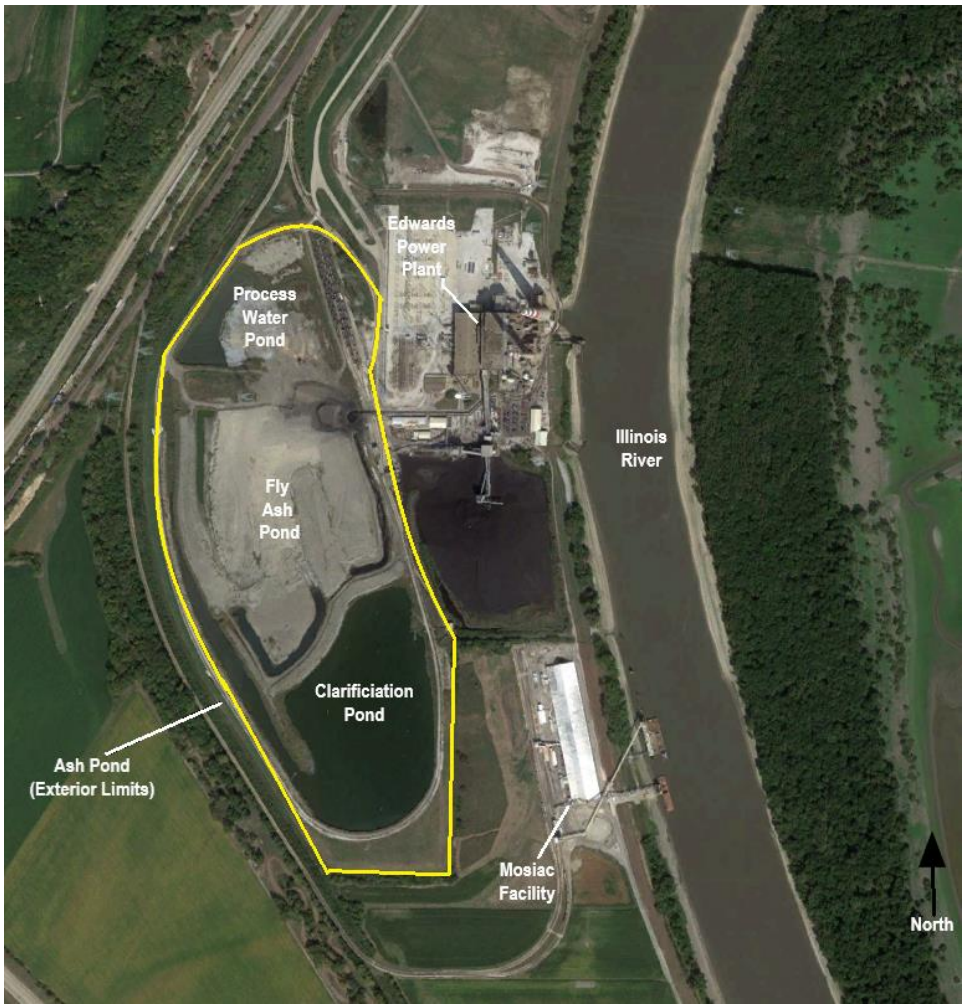



**Figure 2 – Site Plan (September 2017)**

## 1.1 AP Description

The AP receives CCR materials and plant process water from the Edwards Power Plant through sluice pipes that discharge into the eastern side of the Ash Pond, immediately west of the Edwards Power Plant. Within the AP, there are three separate sub-basins: The Process Water Pond, the Fly Ash Pond, and the Clarification Pond. The Process Water Pond is located within the northwest portions of the AP, and receives water from miscellaneous sumps, pumps, and processes at the Edwards Power Plant, as well as stormwater. The Process Water Pond transmits outflow to the Clarification Pond, which is located in the southern portion of the AP, through a 24-inch diameter corrugated metal pipe (CMP) culvert. At the time of the initial certification the Fly Ash Pond received sluiced bottom ash and fly ash from the plant and directed it into a settling channel, where ash was mechanically dipped out and stacked in windrows within the Fly Ash Pond [8].

The Fly Ash Pond discharges into the Clarification Pond through a reinforced concrete pipe (RCP) culvert. The Clarification Pond then discharges the clear water to the Illinois River through a 36-

inch diameter vertical drop inlet spillway structure (invert elevation[2] of 447.2 ft), with a skimmer/trash rack structure. Original design drawings indicate that the vertical "morning glory" spillway is a vertical CMP; however, 2004 design drawings for replacement of the skimmer/trash rack indicate that the vertical portions of the spillway may have been replaced with RCP pipe at some time. The pipe material has not been verified as it is typically submerged and high flows into the pipe have prevented inspection. Within the embankment, the spillway structure transitions to a nearly horizontal 36-inch diameter CMP that discharges to the Illinois River at the NPDES outfall. A flap gate backflow prevention device is present at the pipe's discharge [8].

A sanitary sewer force main, consisting of six-inch diameter high-density polyethylene (HDPE) pipe, crosses the Ash Pond, between the Process Water Pond and the Fly Ash Pond, and is buried at a shallow depth within the Ash Pond. However, the pipe penetrates the west dike of the Ash Pond at a depth of approximately 10 feet. The pipe was installed in 2008 and transmits sewer flow from east to west [8]. It is discharged into a sewer main along the northwest perimeter of the Edwards Power plant property.

The AP earthen embankments were constructed in the 1960s and an engineered raise of the embankment was completed in 2004 to facilitate the addition of a rail loop at the crest of the embankment. The engineered raise included increasing the dike height from its original elevation of approximately 455 feet (based on the 2015 Maurer-Stutz survey) to approximately 460 feet (Clarification Pond) and 461 feet (Process Water Pond) using fly ash as a beneficial use material. The maximum height above the exterior grade of the current embankment is approximately 29 feet. Within the southern portions of the Clarification Pond, the rail loop was constructed approximately 250 feet inside the crest of the earthen embankment out of crushed stone. This effectively cut off a portion of the AP from the Clarification Pond, creating an area which was filled with CCR and vegetated. The original embankment acts as the perimeter of the AP at the southern end of the filled and vegetated area and was also raised in 2004 to a similar elevation as the remainder of the embankment [8].

The perimeter embankment forms the exterior of the impoundment on all but the northeast side of the AP. The northeast side is bordered by the Edwards Power Plant building grounds and switch yard which are at approximately the same elevation as the top of the pond embankment. The perimeter dike was constructed to include a crest width ranging from approximately 15 to 42 feet with narrower crest widths along the northern portion of the embankment, and wider crest widths along the south, east, and west sides of the embankment. Both the rail loop and a gravel crest access road are located at the crest of the embankment.

Based on 2015 LiDAR data from the State of Illinois, the exterior slopes have orientations ranging from 2.5H:1V (southern end of AP) to 3.4H:1V (western side of AP). The interior slopes have a typical orientation of 2H:1V. Based on the 2015 Maurer-Stutz survey, minimum crest elevations range from 458.8 feet for the Process Water Pond to 459.6 feet for the Clarification Pond, although

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

the typical crest elevations are similar to the design crest elevations of 460 feet and 461 feet for each pond, respectively [8]. These elevations and slopes have not been altered since the initial certification.

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 IPRG's CCR Website ( [2], [3], [4], [5], [6]). Additional documentation for the initial certifications included a detailed operating record reports containing calculations and other information prepared for the hazard potential classification by Stantec [7] and for the structural stability assessment, safety factor assessment, and inflow design flood control system plan by AECOM [8]. These operating record reports were not required to be posted and were not posted to IPRG's CCR Website.

## 1.2 Report Objectives

These following objectives are associated with 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 to the:
    - §257.73(a)(2) Hazard Potential Classification [2];
    - §257.73(c) History of Construction [3];
    - §257.73(d) Structural Stability Assessment [4];
    - §257.73(e) Safety Factor Assessment [5], and/or
    - §257.82 Inflow Design Flood Control System Plan [6].
- Independently review the Hazard Potential Classification ( [2], [7]), Structural Stability Assessment ( [4], [8]), Safety Factor Assessment ( [5], [8]), and Inflow Design Flood Control System Plan ( [6], [8]) reports to determine if updates may be required based on technical considerations.
    - The History of Construction report [3] 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 AP CCR unit at EPP, and did not include calculations or other information used to certify performance and/or integrity of the impoundments under §257.73(a)(2), §257.73(c)-(e), or §257.82.

- Confirm whether the AP meets all of the requirements associated with §257.73(a)(2), (c), (d), (e), and §257.82, and provide recommendations for compliance with these sections of the CCR Rule [1], if necessary.

# SECTION 2

# COMPARISION OF INITIAL AND PERIODIC SITE CONDITIONS

## 2.1 Overview

This section describes the comparison of conditions at the 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 ( [9], [10], [11], [12], [13]) and were certified by a licensed professional engineer in accordance with §257.83(b). Each inspection report provided 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
- 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 AP 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

Four piezometers, P001, P002, P003 and P004, are present at the AP and were monitored monthly by IPRG between October 28, 2015 and May 13, 2021 [14]. 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 ( [8], [4], [5]) and May 13, 2021. Available piezometer readings are plotted in **Attachment A**. The location of the piezometers used for monitoring of phreatic level in AP is shown in **Figure 3**.


**Figure 3 – AP Pond Monitoring Well Locations**
**(Not to Scale, adapted from AECOM, 2015)**

In summary, only minor changes in phreatic conditions were observed in the available piezometric data. Phreatic levels varied by a maximum of 2.5 feet. These changes do not significantly differ from the phreatic levels utilized for the initial structural stability and factor of safety certifications ( [8], [4], [5]).

## 2.4 Comparison of Initial to Periodic Topographic Surveys

The initial topographic survey of the AP, conducted by Maurer-Stutz, Inc. in 2015 [15], was compared to the periodic topographic survey of the AP, conducted by IngenAE, LLC (IngenAE) in 2020 [16], 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 inflow design flood control plan hydraulic analysis [8] as required by 40 CFR §257.82. Potential changes to embankment geometry were also evaluated. This comparison is presented in side-by-side views of each survey 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)** | 444.53 |
| **Periodic Surveyed Pool Elevation (ft)** | 447.32 |
| **Initial §257.82 Starting Water Surface Elevation (SWSE) (ft)** | 447.2 |
| **Total Change in CCR Volume (CY)** | +126,383 (Fill) |
| **Change in CCR Volume Above SWSE (CY)** | +90,315 (Fill) |
| **Change in CCR Volume Below SWSE (CY)** | +36,069 (Fill) |

The comparison indicated that approximately 126,000 CY of CCR was placed in the AP between the initial and periodic surveys. The comparison also indicated a net fill of approximately 90,000 CY of CCR above the SWSE from the IDF and a fill of approximately 36,000 CY of CCR below the SWSE. The surveys also indicated that many interior channels (i.e., serpentines) were filled in, with some fill being placed below the SWSE. Therefore, the site grading has changed significantly since the initial certifications were developed. No significant changes to embankment geometry appeared to have occurred between the initial and periodic surveys.

## 2.5 Comparison of Initial to Periodic Aerial Photography

Initial aerial photographs of the AP collected by Weaver in 2015 [17] were compared to periodic aerial photographs collected by IngenAE in 2020 [16] to visually evaluate if potential site changes (i.e., changes to the embankment, outlet structures, limits of CCR, other appurtenances) may have occurred. Additionally, an aerial photograph provided by ERIS in 2019 [18] was used for additional comparisons and during the periodic site visit. A comparison of these aerial photographs is provided in **Drawing 2**, and the only change that was identified was all but one of the serpentine ponds have been filled in and do not retain water.

## 2.6 Comparison of Initial to Periodic Site Visits

An initial site visit to the AP was conducted by AECOM in 2015 and documented with a Site Visit Summary and corresponding photographs [19]. A periodic site visit was conducted by John Seymour, P.E. of Geosyntec on June 10, 2021. 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 still met. The site visit included walking the perimeter of the AP, visually observing conditions, recording field notes, and collecting photographs. The site visit is documented in a photographic log provided in **Attachment B**. A summary of significant findings from the periodic site visit is provided below:

- All but one of the serpentine ponds were filled in with ash as observed in the site walk and as shown by comparison of aerial photograph.

## 2.7 Interview with Power Plant Staff

An interview with Mark Davis, Environmental Manager of the Edwards Power Plant was conducted by Mr. John Seymour, P.E. of Geosyntec on June 10, 2021. Mr. Davis was employed at EPP between 2015 and 2021. The interview included a discussion of included a discussion of potential changes that that may have occurred at the AP since development of the initial certifications ( [2], [3], [4], [5], [6]). A summary of the interview is provided below.

- Were any construction projects completed for the AP since 2015, and, if so, are design drawings and/or details available?
  - Ash placement in the North Pond that filled in all but one serpentine pond.
- Were there any changes to the purpose of the AP since 2015?
  - In 2017, one of the two serpentine settling channels in the AP was filled in with ponded ash (dewatered/dredged). Only one channel was needed, as all conditioned fly ash was being hauled to the Duck Creek Landfill. Only bottom ash is sluiced to the pond, which is then dredged, dewatered, and stored in the AP.
  - Beginning in 2019 conditioned ash was placed in the North Pond (Process Water Pond) area. Placement of ash was in accordance with the closure design developed by Hanson and Associates.
  - Currently placing unmarketable, conditioned fly ash in the South (Fly Ash) Pond.
- Were there any changes to the to the instrumentation program and/or physical instruments for the AP since 2015?
  - No.
- Have area-capacity curves for the AP been prepared since 2015?
  - No.
- Were there any changes to spillways and/or diversion features for the AP completed since 2015?
  - No.
- Were there any changes to construction specifications, surveillance, maintenance, and repair procedures for the AP since 2015?
  - The site AP O&M Manual and Emergency Action Plan was revised in 2020.

- An internal inspection of the AP discharge tunnel was completed in 2020; records were reviewed.

- Were there any instances of dike and/or structural instability for the AP since 2015?
  - No; only minor slope erosion has occurred and were addressed as needed.

# 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], [7]), following the requirements of §257.73(a)(2). The Initial HPC included the following information:

- Performing a visual analysis to evaluate potential hazards associated with a failure of the AP perimeter dike, along the east and west embankments of the AP, as the AP is contained by natural high ground to the northeast and south.
- 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 is included within the Emergency Action Plan [20].

The volume transfer analysis indicated potential impacts to intermittently occupied structures consisting of a motocross and ATV park as well as mobile home trailers. For the motocross and ATV park, the Initial HPC concluded that neither breach would be likely to result in a probable loss of human life by federal standards, as occupancy is not constant. However, due to the probable loss of life within the trailers, the initial HPC recommended a “High” hazard potential classification for the AP [2].

## 3.2 Review of Initial HPC

Geosyntec performed a review of the Initial HPC ( [2], [7]), in terms of technical approach, input parameters, and assessment of the results. The review included the following tasks:

- Review of all report documentation and figures
- Check that correct CCR Rule guidance is referenced and adhered to
- 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

Geosyntec performed a review of the Initial HPC ( [2], [7]), in terms of technical approach, input parameters, assessment of the results, and applicable requirements of the CCR Rule [1]. No significant technical issues were noted within the technical review, although a detailed review (e.g., check) of the calculations was not performed as the Initial HPC utilized a visual assessment.

## 3.3 Summary of Site Changes Affecting the Initial HPC

No new structures, infrastructure, frequently occupied facilities/areas, or waterways were present in the probable breach area indicated in the Initial HPC [2].

## 3.4 Periodic HPC

Geosyntec recommends retaining the "High" hazard potential classification for the AP, per §257.73(a)(2), based on the lack of site changes occurring since the initial HPC was developed, as described in **Section 3.3** no updates to the Initial HPC report ( [2], [7]) are 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 [3], following the requirements of §257.73(c). The Initial HoC included the following information for each 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 and map of instrument locations,
- A statement that area-capacity curves are not available,
- Information on spillway structures,
- A statement that construction specifications are not readily available,
- Inspection and surveillance plans, and
- Information on operational and maintenance procedures.

## 4.2 Summary of Site Affecting the Initial HoC

Two significant changes were identified at the site that occurred after development of the initial HoC [3] report and are described below:

- A state identification number (ID) of W1438050005-01 was assigned to the AP by the Illinois Environmental Protection Agency (IEPA).

- Revised area-capacity curves and spillway design calculations for the AP were prepare das part of the periodic Inflow Design Flood Control System Plan, as described in **Section 6.3**.

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 ( [4], [8]), following the requirements of §257.73(d)(1), and included the following evaluations:

- Stability of dike foundations, dike abutments, 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)-(v) and (vii). A recommended CCTV inspection was completed in 2020 after the inspection could not be completed as part of the initial 2016 certification. It covered the hydraulic structures that pass through the dike of the AP, consisting of the CMP primary spillway outlet pipe and the high-density polyethylene (HDPE) sewer force main to verify that the AP meets the stability and structural integrity criteria for hydraulic outfall structures, per §257.73(d)(1)(vi). Over 750 ft of pipe were inspected after terminating when the camera became blocked by a permanent sample probe. The pipe appeared to be intact and flowing normally.

The Initial SSA referenced the results of the Initial Structural Factor Assessment (Initial SFA) ( [5] [8]) 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.

## 5.2 Review of Initial SSA

Geosyntec performed a review of the Initial SSA ( [4], [8]) in terms of technical approach, calculation input parameters and methodology, recommendations, and completeness. The review included the following tasks:

- Reviewing 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) and sufficiency of dike compaction, per §257.73(d)(1)(iii), in terms of supporting geotechnical investigation and testing data, input parameters, analysis methodology, selection of critical cross-sections, and loading conditions.

- 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.

- Completeness and technical approach of closed-circuit television (CCTV) inspections used to evaluate the stability of hydraulic structures, per §257.73(d)(1)(vi).

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

## 5.3 Summary of Site Changes Affecting the Initial SSA

Several changes at the site that occurred after development of the Initial SSA were identified. These changes will require updates to the Initial SSA. Each change and the recommended updates to the Initial SSA ( [4], [8]) are 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**.

- The Initial SSA utilized the slope stability analysis results of the Initial Safety Factor Assessment (SFA) as part of the compliance demonstration for the stability of foundations and abutments (§257.73(d)(1)(i)) and sufficiency of dike compaction (§257.73(d)(1)(iii)) as discussed in **Section 5.1**. The Initial SFA slope stability analyses were subsequently updated to develop a Periodic SFA, based on site changes, as discussed in **Section 6**.

## 5.4 Periodic SSA

The Periodic SFA (**Section 6**) indicates that foundations and abutments are stable and dike compaction is sufficient for expected ranges in loading conditions, as slope stability factors of safety were found to meet or exceed the requirements of §257.73(e)(1). Therefore, the requirements of §257.73(d)(1)(i) and §257.73(d)(1)(iii) are met for the Periodic SSA.

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

# 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 ( [5], [8]), 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 ten slope stability cross-sections for limit equilibrium stability analysis utilizing GeoStudio SLOPE/W software; and
- The analysis of all cross-sections for maximum storage pool, maximum surcharge pool, and seismic loading conditions.
    - Liquefaction loading conditions were not evaluated as liquefaction-susceptible soil layers were not identified in the either the embankments or foundation soils.

The Initial SFA concluded that the AP 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 ( [5], [8]) 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;
    - Input parameters, analysis methodology, selection of critical cross-sections, and loading conditions utilized for slope stability analyses; and
    - 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

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

- Significant amount of CCR (up to 20 ft high) were placed below and above the SWSE in the Process Water Pond, thereby potentially applying additional load to the AP dike than was present at the time of the Initial SFA.

- The Periodic IDF (**Section 7)** found that the normal pool elevation within the Process Water Pond increased from 449.5 to 450.4 ft, and within Clarification Pond increased from 447.2 to 447.3 ft. This resulted in increases of 0.9 and 0.1 ft, respectively, adding more water loading on the embankment dikes than was considered in the Initial SFA for the maximum storage pool and seismic loading conditions (§257.73(e)(1)(i) and (iii)). Peak water surface elevations during the IDF also increased from 457.8 to 458.6 ft within the Process Water Pond, and from 457.4 to 457.5 within the Clarification Pond resulting in 0.8 and 0.1 ft, respectively. This resulted in an increase of water loading on the embankment dikes than was considered in the Initial SFA for the maximum surcharge pool loading conditions (§257.73(e)(1)(i)).

## 6.4 Periodic SFA

Geosyntec revised existing slope stability analyses associated with the Initial SFA ( [5], [8]), for the ten cross-sections (A, B, C, D, E, F, G, H, I, and J) previously evaluated to account for site changes, as described in **Section 6.3**. The following approach and input data were used to revise the analyses:

- Ground surface geometry was revised for all the loading conditions in cross-section “B” using the 2021 site survey [16] to account for the changes that occurred to CCR grades.

- Water levels in the AP for the maximum storage pool, and seismic slope stability analysis loading conditions were increased to El. 450.4 and El. 447.3 ft for Process Water Pond cross-sections (i.e., A, B, and J) and Clarification Pond cross-sections (i.e., C, D, E, F, G, H, and I), respectively, based on the Periodic IDF.

- Water levels in the AP for the maximum surcharge pool slope stability analysis loading conditions were increased to El. 458.6 and El. 457.5 ft for Process Water Pond cross-

sections (i.e., A, B, and J) and Clarification Pond cross-sections (i.e., C, D, E, F, G, H, and I), respectively, based on the Periodic IDF.

- All other analysis input data and settings from the Initial SFA ( [5], [8]), were utilized, including, but not limited to, subsurface stratigraphy and soil strengths, phreatic conditions, ground surface geometry, software package and version, slip surface search routines and methods, and input data for the seismic analyses.

Factors of safety from the Periodic SFA are summarized in Table 3 and confirm that the AP meets the requirements of §257.73(e)(1). Slope stability analysis output associated with the Periodic SFA is provided in **Attachment D**.

**Table 3 – Factors of Safety from Periodic SFA**

| | **Structural Stability Assessment (§257.73(d)) and Safety Factor Assessment (§257.73(e))** | | | |
|---|---|---|---|---|
| **Cross-Section** | **Maximum Storage Pool §257.73(e)(1)(i) Minimum Required = 1.50** | **Maximum Surcharge Pool[1] §257.73(e)(1)(ii) Minimum Required = 1.40** | **Seismic §257.73(e)(1)(iii) Minimum Required = 1.00** | **Dike Liquefaction §257.73(e)(1)(iv) Minimum Required = 1.20** |
| A | 2.02 | 2.02 | 1.35 | N/A |
| B | 1.59 | 1.59 | 1.22 | N/A |
| C | 1.83 | 1.82 | 1.09 | N/A |
| D | 1.79 | 1.79 | 1.18 | N/A |
| E | 1.54* | 1.54* | 1.11 | N/A |
| F | 2.31 | 2.31 | 1.08* | N/A |
| G | 2.12 | 2.12 | 1.13 | N/A |
| H | 2.08 | 2.08 | 1.08* | N/A |
| I | 2.26 | 2.26 | 1.30 | N/A |
| J | 2.55 | 1.97 | 2.08 | N/A |

Notes:
*Indicates critical cross-section (i.e., lowest calculated factor of safety out of the ten cross-sections analyzed)
N/A – Loading condition is not applicable.

# 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 ( [6], [8]) following the requirements of §257.82. The Initial IDF included the following information:

- A hydraulic and hydrologic analysis was performed for the PMF design flood event because of the hazard potential classification of "high", which corresponded to a peak surcharge elevation of 457.8 feet in the Process Water Pond and 457.4 feet in the Fly Ash Pond and Clarification Pond.

- 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 449.5 ft for the Process Water Pond and 447.2 ft for the Fly Ash Pond and Clarification Pond.

The Initial IDF concluded that the AP met the requirements of §257.82, as the peak water surface elevation estimated by the HydroCAD model was 457.8 ft, relative to a minimum AP dike crest elevation of 458.8 ft in the Process Water Pond and 457.4 ft, relative to a minimum AP dike crest elevation of 459.6 ft in the Fly Ash Pond and Clarification Pond. Therefore, overtopping was not expected. The Initial IDF also evaluated the potential for discharge from the CCR unit and determined that discharge in violation of the existing NDPES for the AP was not expected, as all discharge from the AP during both normal and inflow design flood conditions was expected to be routed through the existing spillway and NDPES-permitted outfall.

## 7.2 Review of Initial IDF

Geosyntec performed a review of the Initial IDF ( [6], [8]) 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.

- 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 certification used the National Resource Conservation Service (NRCS) TR-60 Emergency Spillway and Freeboard (ESFB) rainfall distribution. This is a distribution NRCS utilizes in making determination and analysis of auxiliary spillway flow depth and duration. The electronic model files for the initial IDF were unavailable; therefore, the "Spillway Emergency" [21] storm type provided by HydroCAD was used for the updated IDF, which replicates the NRCS 24-hour ESFB design hydrograph rainfall distribution.
    - The ESFB rainfall distribution was found by NRCS to be an accurate representation of a 24-hour Probable Maximum Precipitation (PMP) event per a study applying different rainfall distributions to 24-hour PMP storm events for purposes of evaluating existing high-hazard dams east of the 105$^{th}$ meridian [22]. The following are excerpts from the NRCS study:
        - *"The dimensionless conversion of the ESFB distribution from a 6-hour to a 24-hour pattern has been used with PMP events in a number of states where 24-hour storms are required as a part of the State's dam safety criteria and approval process……Although the ESFB Distribution and the World Curve distribution were developed from entirely independent data sources, the distributions are similar when compared on a volume-duration basis. The world curve supports the ESFB."*
        - *"The World Curve Distribution is a valid basis for design of high hazard structures…It would seem logical to use the World Curve distribution for PMP size event"*
    - The NRCS study [22]found the NRCS ESFB is comparable to the World Curve. The World Curve is developed from worldwide maximum rainfall records and deemed by NRCS to be logical to use for a PMP size event and valid for design of high hazard structures.

## 7.3 Summary of Site Changes Affecting the Initial IDF

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

- Approximately 100,030 CY of CCR were placed above the SWSE utilized for the Initial IDF certification in the Process Water Pond, thereby altering the stage-storage curve relative to the Initial IDF. Filling in of the serpentine channel system above and below the SWSE also occurred; however, the storage capacity of the serpentine channels was

disregarded in the Initial IDF for conservatism in the model and the filling of the serpentine channels did not have to be accounted for in the updated IDF.

- In 2020, the surveyed water surface elevation (WSE) was 450.4 ft within the Process Water Pond and 447.3 ft in the Clarification Pond [16]; this is higher than the SWSE used in the Initial IDF by 0.9 ft and 0.1 ft, respectively, thereby the SWSE utilized in the Initial IDF were no longer consistent with conditions observed in 2020.

## 7.4 Periodic IDF

Geosyntec revised the HydroCAD model associated with the Initial IDF to account for the revised rainfall distribution type and additional CCR placement, as described in **Sections 7.2** and **7.3**. The following approach and input data were used for the revised analyses and are referenced in **Attachment E** as appropriate:

- The name of the "Cooling Pond" node in the model was changed to "Process Water Pond" for consistency with the text portion of the 2016 IDF Certification.

- Stage-storage (i.e., area-capacity) curves for both the Process Water Pond and Clarification Pond were updated based on the 2020 site survey [16].

    - A revised stage-volume curve for the AP was prepared based on measuring the storage volume of the AP every two-foot increment of depth from: (i) an elevation at the bottom of the Clarification Pond (434 ft) to an elevation of 460 ft, and (ii) an elevation at the bottom of the Process Water Pond (444 ft) to an elevation of 460 ft. This analysis identified an overall increase of 810 CY (0.5 ac-ft) of storage volume at the Clarification Pond and an overall decrease of 100,030 CY (62 ac-ft) of storage volume from the Cooing Pond compared to the storage volumes used in the 2016 Initial IDF Certification.

- The SWSE within the Process Water Pond was updated from 449.5 ft to 450.4 ft to reflect the 2020 site survey [16]. The discharge structure invert elevation is 449.2 ft; however, the greater elevation of the invert structure and the surveyed WSE was used as the SWSE to provide conservatism in the model.

- The SWSE within the Clarification Pond was updated from 447.2 ft to 447.3 ft to reflect the 2020 site survey [16]. The vertical spillway elevation is 447.2 ft; however, the greater elevation of the invert structure and the surveyed WSE was used as the SWSE to provide conservatism in the model.

- The rainfall distribution type was updated to the "Spillway Emergency" storm type provided by HydroCAD [21], which replicates the NRCS 24-hour ESFB distribution.

- The initial IDF assumed that the tailwater conditions in the Illinois River during the IDF was the historic high-water elevation at Peoria Lock and Dam (NOAA Gauging Station

PRAI2) of 456.7 ft; however, the NOAA gauging station shows a historic high-water elevation of 456.57 ft. Therefore, a link was added in the updated model downstream of the Clarification Pond to represent the Illinois River historic high-water elevation of 456.57 ft at Peoria Lock and Dam [23].

- Drainage area characteristics were updated based on the 2020 site survey, as follows:
    - For the Process Water Pond Watershed, the open water surface area was updated from 5.2 acres to 1.2 acres and the CCR surface was updated from 13.2 acres to 17.2 acres.
    - For the North Ash Pond Watershed, the open water surface area was updated from 4.4 acres to 0.6 acres and the CCR surface was updated from 10.3 acres to 14.1 acres.
    - For the South Ash Pond Watershed, the open water surface area was updated from 4.3 acres to 1.2 acres and the CCR surface was updated from 15.1 acres to 18.2 acres.
    - For the Clarification Pond Watershed, the open water surface area was updated from 25.1 acres to 19.7 acres and the CCR surface was updated from 10.7 acres to 16.1 acres
- Pipes
    - The following updates were made for the 24-inch corrugated metal pipe (CMP) outlet from the Process Water Pond based on the 2020 site survey:
        - The upstream invert elevation was updated from 449.5 ft to 449.15 ft and downstream invert elevation was updated from 449.5 ft to 447.93 ft.
        - The length was updated from 80 ft to 104 ft.

All other input data and settings from the Initial IDF HydroCAD model were utilized, including, but not limited to software package and version, 24-hour PMP rainfall depth, runoff method, analysis time span and analysis time step.

The results of the Updated IDF are summarized in **Table 4** and confirm that the AP meets the requirements of §257.82(a)-(b), 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 E**.

## Table 4 – Water Levels from updated Periodic IDF

| | Process Water Pond | | | Clarification Pond | | |
|---|---|---|---|---|---|---|
| **Analysis** | **Starting WSE (ft)** | **Peak WSE (ft)** | **Min. Dike Crest Elevation (ft)** | **Starting WSE (ft)** | **Peak WSE (ft)** | **Min. Dike Crest Elevation (ft)** |
| Initial IDF | 449.5 | 457.8 | 458.8 | 447.2 | 457.4 | 459.6 |
| Periodic IDF Update | 450.4 | 458.6 | 458.8 | 447.3 | 457.5 | 459.6 |
| Initial to Periodic Change[1] | +0.9 | +0.8 | - | +0.1 | +0.1 | - |

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

# SECTION 8

# CONCLUSIONS

The AP at EPP 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)),
- Safety factor assessment (§257.73(e)), and
- Inflow design flood control system planning (§257.82).
- Based on the evaluations presented herein, the referenced requirements are satisfied.

Based on the evaluations presented herein, the referenced requirements are satisfied for this CCR unit.

# SECTION 9

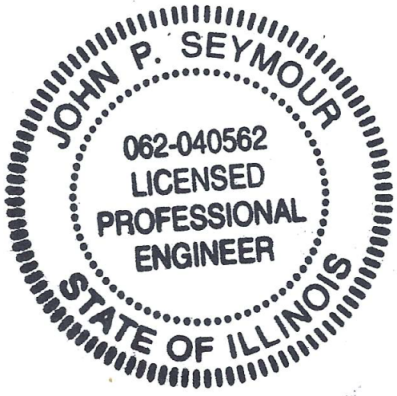
## CERTIFICATION STATEMENT

CCR Unit: Illinois Power Resources Generating, LLC, Edwards Power Plant, Ash Pond

I, John P. Seymour, 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 2021, were conducted in accordance with the requirements of 40 CFR §257.73(a)(2), (c), (d), (e), and §257.82.

*John Seymour*

10/11/2021
*Date*




Exp. 11/30/2021

# SECTION 10

# REFERENCES

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Section 3

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

Prepared for
**Illinois Power Resources Generating, LLC**

Date
**January 31, 2022**

Project No.
**1940100711-006**

# 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

## ASH POND

## EDWARDS POWER PLANT

## BARTONVILLE, ILLINOIS

RAMBOLL Bright ideas. Sustainable change.

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

| | |
|---|---|
| Project name | **Edwards Power Plant Ash Pond** |
| Project no. | **1940100711-006** |
| Recipient | **Illinois Power Resources Generating, LLC** |
| Document type | **Annual Groundwater Monitoring and Corrective Action Report** |
| Version | **FINAL** |
| Date | **January 31, 2022** |
| Prepared by | **Rachel A. Banoff, EIT** |
| Checked by | **Lauren Cook** |
| Approved by | **Brian Hennings** |
| Description | **Annual Report in Support of Part 845** |

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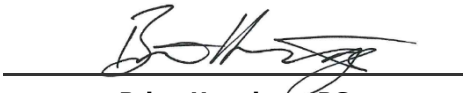

**Brian Hennings, PG**
**Senior Managing Hydrogeologist**

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## TABLES (IN TEXT)



## FIGURES



## 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 |
| EPP | Edwards Power Plant |
| GMP | Groundwater Monitoring Plan |
| GWPS | groundwater protection standard |
| HCR | Hydrogeologic Site Characterization Report |
| ID | identification |
| IEPA | Illinois Environmental Protection Agency |
| IPRG | Illinois Power Resources Generating, LLC |
| 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 |
| UCF | Upper Cahokia Formation |
| 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 Edwards Power Plant (EPP) near Bartonville, Illinois.

An operating permit application for the AP was submitted by Illinois Power Resources Generating, LLC (IPRG) 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.) 301, IEPA ID No. W1438050005-01, and National Inventory of Dams (NID) No. IL50710.

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 IPRG, to provide the information required by 35 I.A.C. § 845.610(e) for the AP located at EPP near Bartonville, 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 IPRG 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] |
|---|---|---|---|
| **AP05S** | UA | 33-38 | Background |
| **AP07S*** | UCF | 30-35 | Compliance |
| **AW-1** [2] | UCF | 28.2-37.7 | Compliance |
| **AW-05** | UA | 16-20 | Compliance |
| **AW-06** | UA | 37-41 | Compliance |
| **AW-08** | UA | 48-57 | Background |
| **AW-09** | UA | 47-52 | Compliance |
| **AW-10** | UA | 28-32 | Compliance |
| **AW-11** | UA | 24-29 | Compliance |
| **AW-14** | UA | 24-29 | Compliance |
| **AW-15** | UA | 33-38 | Compliance |
| **AW-15S*** | UCF | 8-18 | Compliance |
| **AW-16** | UA | 55-60 | Compliance |
| **AW-17** | UA | 51-56 | Compliance |
| **AW-18** | UA | 46-51 | Compliance |
| **AW-19** | UA | 35-40 | Compliance |
| **AW-21** | UA | 32-37 | Compliance |
| **XPW01A** [3] | CCR | 33-43 | WLO |
| **XPW02** [3] | CCR | 36-46 | WLO |
| **XPW03** [3] | CCR | 27-37 | WLO |
| **SG-01** [4] | Surface Water | NA | WLO |

[1] Well type refers to the role of the well in the monitoring network.
[2] At the time the operating permit application was submitted, the well construction details were unavailable. Well was installed on September 8, 2021 and the details are provided here for completeness.
[3] Location is temporary pending implementation of impoundment closure per an approved construction permit application.
[4] Surface water level measuring point.
* Well in the UCF that has been identified to monitor the potential migration pathway (PMP).
bgs = below ground surface
CCR = coal combustion residuals
NA = not applicable
TBD = to be determined
UA = uppermost aquifer
UCF = Upper Cahokia Formation
WLO = water level only

Proposed Part 845 monitoring wells were sampled for eight rounds of independent groundwater samples from February to July 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 and 3**.

**Table B. Summary of Groundwater Samples Collected**

| Sampling Dates | Parameters Collected | Monitoring Wells Sampled [1] |
|---|---|---|
| February 10 - 12, 2021 | Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4] | AP05S, AP05D, AP07S, AP07D, APW-02, APW-03, APW-04, AW-08, AW-12, AW-13, AW-14, AW-15, AW-15C, AW-15S, AW-16, AW-17, AW-18, AW-19, AW-20, AW-21, AW-22, and P002 |
| February 23, 2021 | Appendix III [5], Appendix IV [6], field parameters [4] | AP05S, AW-06, AW-08, AW-09, AW-10, and AW-11 |
| March 3 - 8, 2021 | Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4] | AP05S, AP05D, AP07S, AP07D, APW-02, APW-03, APW-04, AW-08, AW-12, AW-13, AW-14, AW-15, AW-15C, AW-15S, AW-16, AW-17, AW-18, AW-19, AW-20, AW-21, AW-22, and P002 |
| March 22 - 24, 2021 | Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4] | AP05S, AP05D, AP07S, AP07D, APW-02, APW-03, APW-04, AW-08, AW-10, AW-12, AW-13, AW-14, AW-15, AW-15C, AW-15S, AW-16, AW-17, AW-18, AW-19, AW-20, AW-21, AW-22, and P002 |
| April 12 - 26, 2021 | Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4] | AP05S, AP05D, AP07S, AP07D, APW-02, APW-03, APW-04, AW-08, AW-12, AW-13, AW-14, AW-15C, AW-15S, AW-16, AW-17, AW-18, AW-19, AW-20, AW-21, AW-22, and P002 |
| May 4 - 7, 2021 | Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4] | AP05S, AP05D, AP07S, AP07D, APW-02, APW-03, APW-04, AW-08, AW-12, AW-13, AW-14, AW-15, AW-15C, AW-15S, AW-16, AW-17, AW-18, AW-19, AW-20, AW-21, AW-22, and P002 |
| June 16 - 24, 2021 | Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4] | AP05S, AP07S, AW-05, AW-08, AW-15, AW-15S, AW-16, AW-17, AW-18, AW-19, and AW-21 |

| Sampling Dates | Parameters Collected | Monitoring Wells Sampled [1] |
|---|---|---|
| June 28 - 29, 2021 | Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4] | AP05S, AP07S, APW-01, AW-05, AW-08, AW-14, AW-15S, AW-16, AW-17, AW-18, AW-19, and AW-21 |
| July 21 - 22, 2021 | Metals [2], mercury, inorganic parameters [3], radium 226 and 228, field parameters [4] | AP05S, AP07S, AP07D, APW-01, AW-05, AW-08, AW-14, AW-15C, AW-15S, AW-16, AW-17, AW-18, AW-19, and AW-21 |

[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 AP1.

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. Edwards Power Plant, Ash Pond, Bartonville, Illinois*. Illinois Power Resources Generating, LLC. October 25, 2021.

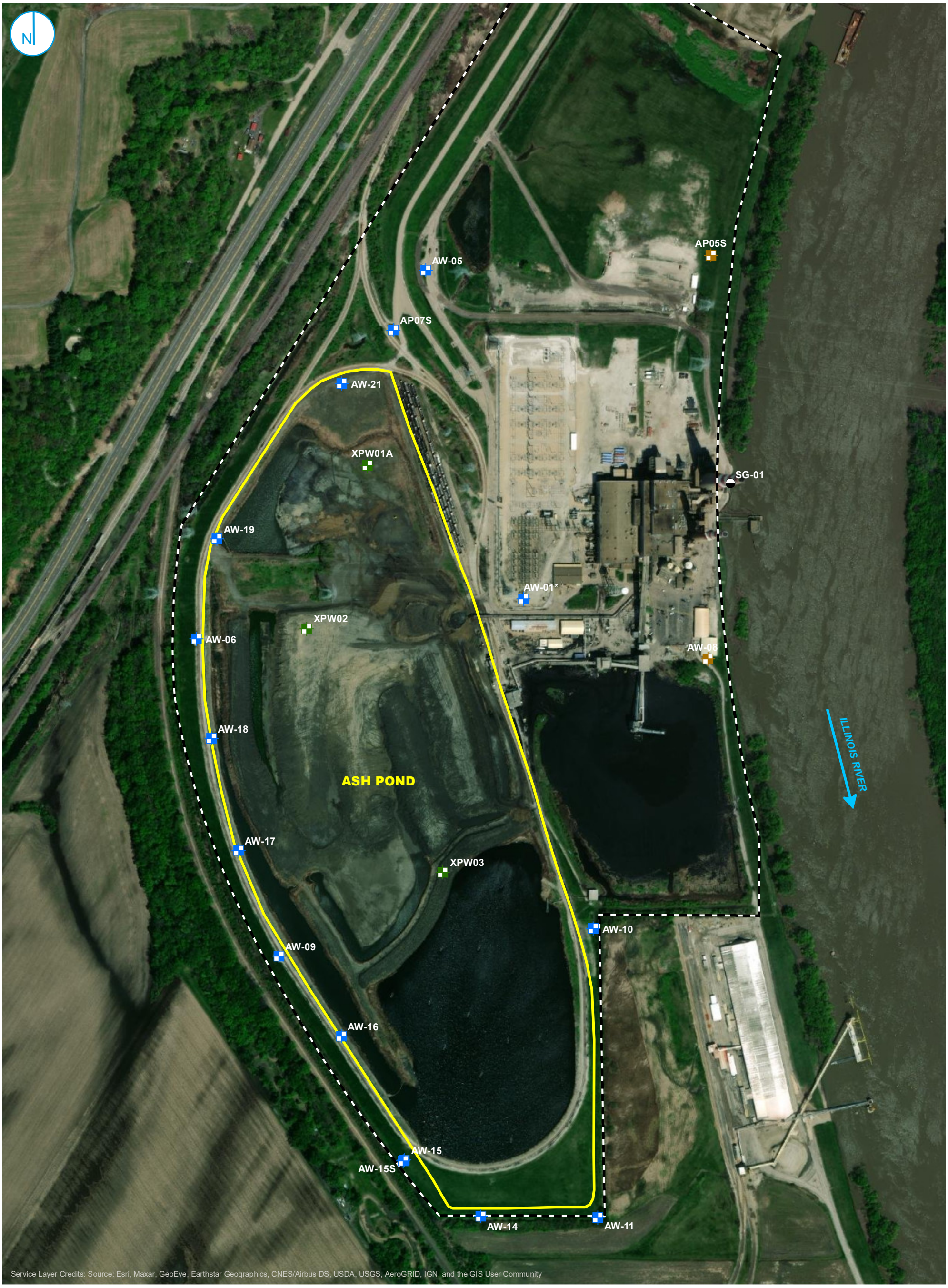
Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2021b. *Hydrogeologic Site Characterization Report. Edwards Power Plant, Ash Pond, Bartonville, Illinois*. Illinois Power Resources Generating, LLC. October 25, 2021.

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

# FIGURES

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

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




BACKGROUND WELL
COMPLIANCE WELL
SOURCE SAMPLE LOCATION
STAFF GAGE

PART 845 REGULATED UNIT (SUBJECT UNIT)
PROPERTY BOUNDARY

**NOTE**
* = APPROXIMATE LOCATION, PENDING COMPLETION OF SURVEY

0 200 400 Feet

# PROPOSED PART 845 GROUNDWATER MONITORING NETWORK

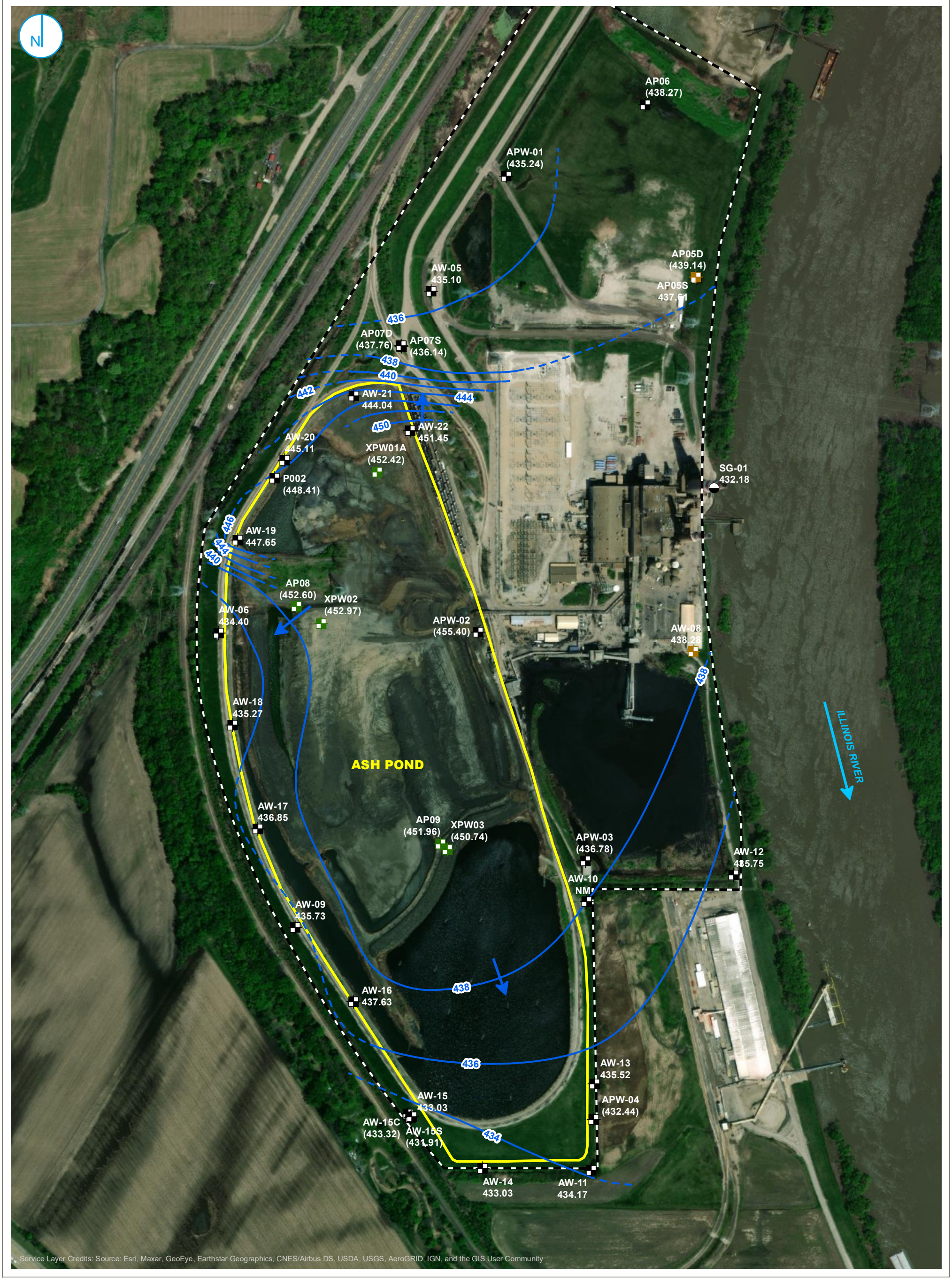
## 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ASH POND

EDWARDS POWER PLANT
BARTONVILLE, ILLINOIS

**FIGURE 1**

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL




BACKGROUND WELL
MONITORING WELL
SOURCE SAMPLE LOCATION
STAFF GAGE
PART 845 REGULATED UNIT (SUBJECT UNIT)
PROPERTY BOUNDARY

GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
INFERRED GROUNDWATER ELEVATION CONTOUR
GROUNDWATER FLOW DIRECTION

0 212.5 425 Feet

**NOTES**
1. PARENTHESIS INDICATES WELL NOT USED FOR CONTOURING
2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988

# POTENTIOMETRIC SURFACE MAP FEBRUARY 9, 2021

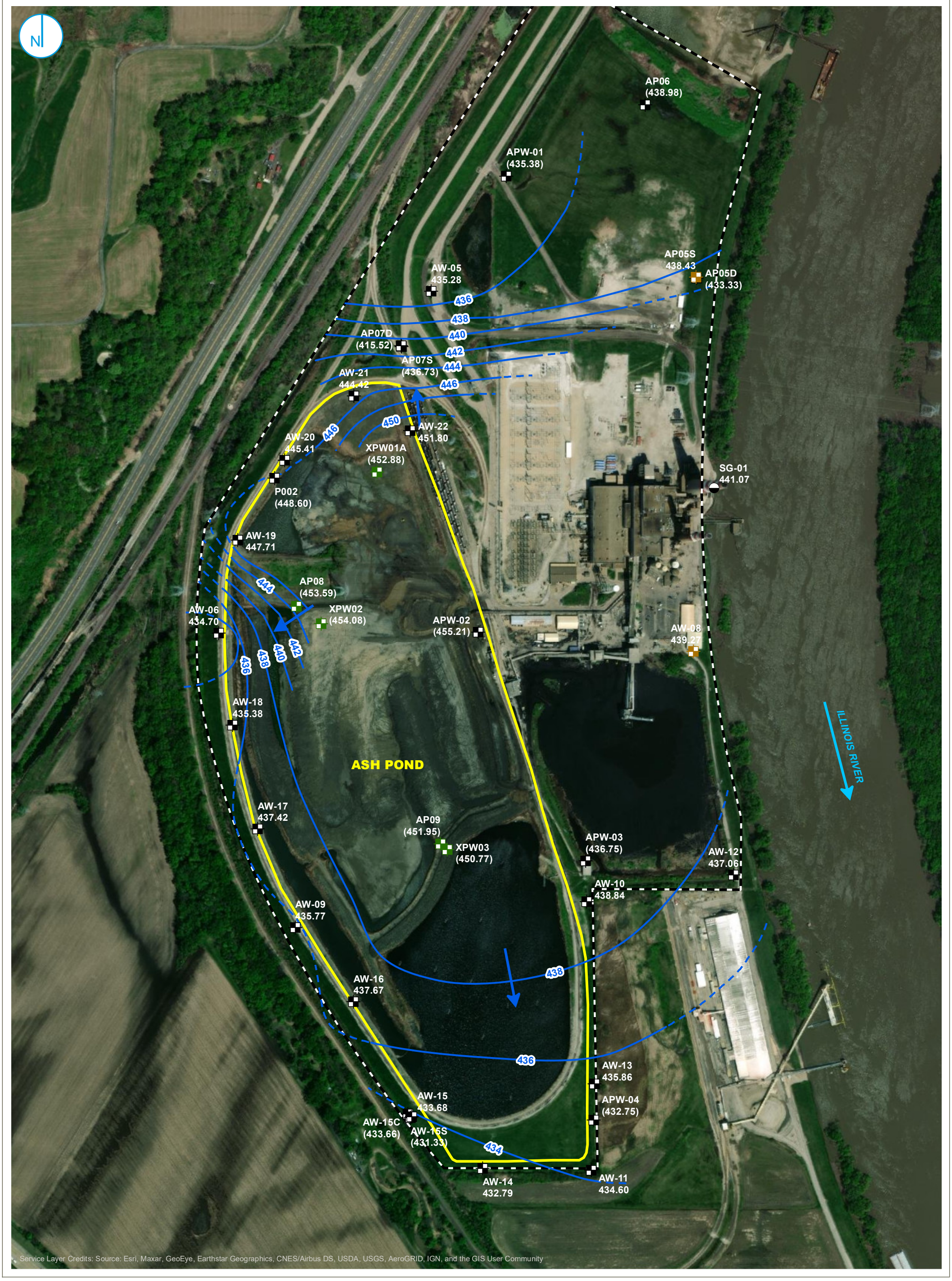
## 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ASH POND

EDWARDS POWER PLANT
BARTONVILLE, ILLINOIS

**FIGURE 2**

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL




BACKGROUND WELL
MONITORING WELL
SOURCE SAMPLE LOCATION
STAFF GAGE
PART 845 REGULATED UNIT (SUBJECT UNIT)
PROPERTY BOUNDARY

GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
INFERRED GROUNDWATER ELEVATION CONTOUR
GROUNDWATER FLOW DIRECTION

0 212.5 425 Feet

**NOTES**
1. PARENTHESIS INDICATES WELL NOT USED FOR CONTOURING
2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

# POTENTIOMETRIC SURFACE MAP MARCH 22, 2021

## 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ASH POND

EDWARDS POWER PLANT
BARTONVILLE, ILLINOIS

**FIGURE 3**

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

# APPENDICES

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

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

| Parameter | Background Concentration | 845 Limit | Groundwater Protection Standard | Unit |
|---|---|---|---|---|
| Antimony, total | 0.003 | 0.006 | 0.006 | mg/L |
| Arsenic, total | 0.03 | 0.010 | 0.030 | mg/L |
| Barium, total | 2.07 | 2.0 | 2.1 | mg/L |
| Beryllium, total | 0.0019 | 0.004 | 0.004 | mg/L |
| Boron, total | 0.535 | 2 | 2 | mg/L |
| Cadmium, total | 0.001 | 0.005 | 0.005 | mg/L |
| Chloride, total | 56 | 200 | 200 | mg/L |
| Chromium, total | 0.048 | 0.1 | 0.1 | mg/L |
| Cobalt, total | 0.028 | 0.006 | 0.028 | mg/L |
| Fluoride, total | 0.396 | 4.0 | 4.0 | mg/L |
| Lead, total | 0.033 | 0.0075 | 0.033 | mg/L |
| Lithium, total | 0.071 | 0.04 | 0.071 | mg/L |
| Mercury, total | 0.0002 | 0.002 | 0.002 | mg/L |
| Molybdenum, total | 0.0062 | 0.1 | 0.1 | mg/L |
| pH (field) | 7.1 / 6.3 | 9.0 / 6.5 | 9.0 / 6.3 | SU |
| Radium 226 and 228 combined | 9.6[1] | 5 | 9.6 | pCi/L |
| Selenium, total | 0.0032 | 0.05 | 0.05 | mg/L |
| Sulfate, total | 6 | 400 | 400 | mg/L |
| Thallium, total | 0.001 | 0.002 | 0.002 | mg/L |
| Total Dissolved Solids | 1050 | 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
[1] The background calculation method prescribed by the Statistical Analysis Plan based upon the observed distribution of the background data resulted in an elevated background value; therefore, a non-parametric calculation method was utilized, resulting in a more representative background value.

generated 10/13/2021, 3:41:32 PM CDT



RAMBOLL

# 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 Edwards Power Plant Ash Pond, Illinois Environmental Protection Agency (IEPA) ID No. W1438050005-01.

***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.*

*Background Concentrations*

*Background monitoring wells identified in the GMP include AP05S and AW-08.*

*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.*

*Corrective Action*

*No corrective actions have been taken to remediate the groundwater.*

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AP05D | BCU | 845 | Antimony, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AP05D | BCU | 845 | Arsenic, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.000187 | 0.030 | 0.030 | 0.01 | Background |
| AP05D | BCU | 845 | Barium, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.044 | 2.1 | 2.1 | 2 | Background |
| AP05D | BCU | 845 | Beryllium, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| AP05D | BCU | 845 | Boron, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.83 | 2.0 | 0.54 | 2 | Standard |
| AP05D | BCU | 845 | Cadmium, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AP05D | BCU | 845 | Chloride, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 122 | 200 | 56 | 200 | Standard |
| AP05D | BCU | 845 | Chromium, total | mg/L | 02/10/2021 - 05/07/2021 | CI around median | 0 | 0.10 | 0.048 | 0.1 | Standard |
| AP05D | BCU | 845 | Cobalt, total | mg/L | 02/10/2021 - 05/07/2021 | Future median | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AP05D | BCU | 845 | Fluoride, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.21 | 4.0 | 0.40 | 4 | Standard |
| AP05D | BCU | 845 | Lead, total | mg/L | 02/10/2021 - 05/07/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AP05D | BCU | 845 | Lithium, total | mg/L | 02/10/2021 - 05/07/2021 | Future median | 0.077 | 0.071 | 0.071 | 0.04 | Background |
| AP05D | BCU | 845 | Mercury, total | mg/L | 02/10/2021 - 05/07/2021 | CI around median | 0 | 0.002 | 0.0002 | 0.002 | Standard |
| AP05D | BCU | 845 | Molybdenum, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.000229 | 0.10 | 0.0062 | 0.1 | Standard |
| AP05D | BCU | 845 | pH (field) | SU | 02/10/2021 - 05/07/2021 | CI around mean | 7.2 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AP05D | BCU | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/10/2021 - 05/07/2021 | CI around mean | -0.0573 | 9.6 | 9.6 | 5 | Background |
| AP05D | BCU | 845 | Selenium, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AP05D | BCU | 845 | Sulfate, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | -10.9 | 400 | 6.5 | 400 | Standard |
| AP05D | BCU | 845 | Thallium, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AP05D | BCU | 845 | Total Dissolved Solids | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 420 | 1200 | 1050 | 1200 | Standard |
| AP07S | UCF | 845 | Antimony, total | mg/L | 02/10/2021 - 07/22/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AP07S | UCF | 845 | Arsenic, total | mg/L | 02/10/2021 - 07/22/2021 | All ND - Last | 0.001 | 0.030 | 0.030 | 0.01 | Background |
| AP07S | UCF | 845 | Barium, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | 0.072 | 2.1 | 2.1 | 2 | Background |
| AP07S | UCF | 845 | Beryllium, total | mg/L | 02/10/2021 - 07/22/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AP07S | UCF | 845 | Boron, total | mg/L | 02/10/2021 - 07/22/2021 | CB around linear reg | 8.0 | 2.0 | 0.54 | 2 | Standard |
| AP07S | UCF | 845 | Cadmium, total | mg/L | 02/10/2021 - 07/22/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AP07S | UCF | 845 | Chloride, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | 73 | 200 | 56 | 200 | Standard |
| AP07S | UCF | 845 | Chromium, total | mg/L | 02/10/2021 - 07/22/2021 | CI around median | 0.004 | 0.10 | 0.048 | 0.1 | Standard |
| AP07S | UCF | 845 | Cobalt, total | mg/L | 02/10/2021 - 07/22/2021 | Future median | 0.0021 | 0.028 | 0.028 | 0.006 | Background |
| AP07S | UCF | 845 | Fluoride, total | mg/L | 02/10/2021 - 07/22/2021 | CI around median | 0.25 | 4.0 | 0.40 | 4 | Standard |
| AP07S | UCF | 845 | Lead, total | mg/L | 02/10/2021 - 07/22/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AP07S | UCF | 845 | Lithium, total | mg/L | 02/10/2021 - 07/22/2021 | All ND - Last | 0.020 | 0.071 | 0.071 | 0.04 | Background |
| AP07S | UCF | 845 | Mercury, total | mg/L | 02/10/2021 - 07/22/2021 | CI around median | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AP07S | UCF | 845 | Molybdenum, total | mg/L | 02/10/2021 - 07/22/2021 | CI around median | 0.001 | 0.10 | 0.0062 | 0.1 | Standard |
| AP07S | UCF | 845 | pH (field) | SU | 02/10/2021 - 07/22/2021 | CI around mean | 6.4 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AP07S | UCF | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/10/2021 - 07/22/2021 | CI around mean | 0.27 | 9.6 | 9.6 | 5 | Background |
| AP07S | UCF | 845 | Selenium, total | mg/L | 02/10/2021 - 07/22/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AP07S | UCF | 845 | Sulfate, total | mg/L | 02/10/2021 - 07/22/2021 | CI around median | 150 | 400 | 6.5 | 400 | Standard |
| AP07S | UCF | 845 | Thallium, total | mg/L | 02/10/2021 - 07/22/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AP07S | UCF | 845 | Total Dissolved Solids | mg/L | 02/10/2021 - 07/22/2021 | CB around linear reg | 1340 | 1200 | 1050 | 1200 | Standard |
| AP07D | BCU | 845 | Antimony, total | mg/L | 02/10/2021 - 07/22/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AP07D | BCU | 845 | Arsenic, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | -0.00541 | 0.030 | 0.030 | 0.01 | Background |
| AP07D | BCU | 845 | Barium, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | -1.15 | 2.1 | 2.1 | 2 | Background |
| AP07D | BCU | 845 | Beryllium, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | -0.00218 | 0.004 | 0.0019 | 0.004 | Standard |
| AP07D | BCU | 845 | Boron, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | 1.1 | 2.0 | 0.54 | 2 | Standard |
| AP07D | BCU | 845 | Cadmium, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | 0.00026 | 0.005 | 0.001 | 0.005 | Standard |
| AP07D | BCU | 845 | Chloride, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | 498 | 200 | 56 | 200 | Standard |
| AP07D | BCU | 845 | Chromium, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | -0.0958 | 0.10 | 0.048 | 0.1 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AP07D | BCU | 845 | Cobalt, total | mg/L | 02/10/2021 - 07/22/2021 | Future median | 0.028 | 0.028 | 0.028 | 0.006 | Background |
| AP07D | BCU | 845 | Fluoride, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | 0.94 | 4.0 | 0.40 | 4 | Standard |
| AP07D | BCU | 845 | Lead, total | mg/L | 02/10/2021 - 07/22/2021 | Future median | 0.030 | 0.033 | 0.033 | 0.0075 | Background |
| AP07D | BCU | 845 | Lithium, total | mg/L | 02/10/2021 - 07/22/2021 | Future median | 0.15 | 0.071 | 0.071 | 0.04 | Background |
| AP07D | BCU | 845 | Mercury, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | 0.000111 | 0.002 | 0.0002 | 0.002 | Standard |
| AP07D | BCU | 845 | Molybdenum, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | 0.00759 | 0.10 | 0.0062 | 0.1 | Standard |
| AP07D | BCU | 845 | pH (field) | SU | 02/10/2021 - 07/22/2021 | CI around mean | 7.4 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AP07D | BCU | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/10/2021 - 07/22/2021 | CI around mean | -3.03 | 9.6 | 9.6 | 5 | Background |
| AP07D | BCU | 845 | Selenium, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | -0.000081 | 0.050 | 0.0032 | 0.05 | Standard |
| AP07D | BCU | 845 | Sulfate, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | 33 | 400 | 6.5 | 400 | Standard |
| AP07D | BCU | 845 | Thallium, total | mg/L | 02/10/2021 - 07/22/2021 | CI around median | 0 | 0.002 | 0.001 | 0.002 | Standard |
| AP07D | BCU | 845 | Total Dissolved Solids | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | 658 | 1200 | 1050 | 1200 | Standard |
| APW-01 | UCF | 845 | Antimony, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| APW-01 | UCF | 845 | Arsenic, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.018 | 0.030 | 0.030 | 0.01 | Background |
| APW-01 | UCF | 845 | Barium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.13 | 2.1 | 2.1 | 2 | Background |
| APW-01 | UCF | 845 | Beryllium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| APW-01 | UCF | 845 | Boron, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.84 | 2.0 | 0.54 | 2 | Standard |
| APW-01 | UCF | 845 | Cadmium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| APW-01 | UCF | 845 | Chloride, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 160 | 200 | 56 | 200 | Standard |
| APW-01 | UCF | 845 | Chromium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.013 | 0.10 | 0.048 | 0.1 | Standard |
| APW-01 | UCF | 845 | Cobalt, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.0065 | 0.028 | 0.028 | 0.006 | Background |
| APW-01 | UCF | 845 | Fluoride, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.25 | 4.0 | 0.40 | 4 | Standard |
| APW-01 | UCF | 845 | Lead, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.0075 | 0.033 | 0.033 | 0.0075 | Background |
| APW-01 | UCF | 845 | Lithium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.020 | 0.071 | 0.071 | 0.04 | Background |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| APW-01 | UCF | 845 | Mercury, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| APW-01 | UCF | 845 | Molybdenum, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.0024 | 0.10 | 0.0062 | 0.1 | Standard |
| APW-01 | UCF | 845 | pH (field) | SU | 06/17/2021 - 07/22/2021 | Most recent sample | 6.9 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| APW-01 | UCF | 845 | Radium-226 + Radium 228, tot | pCi/L | 06/17/2021 - 07/22/2021 | Most recent sample | 1.7 | 9.6 | 9.6 | 5 | Background |
| APW-01 | UCF | 845 | Selenium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.0011 | 0.050 | 0.0032 | 0.05 | Standard |
| APW-01 | UCF | 845 | Sulfate, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 300 | 400 | 6.5 | 400 | Standard |
| APW-01 | UCF | 845 | Thallium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| APW-01 | UCF | 845 | Total Dissolved Solids | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 1100 | 1200 | 1050 | 1200 | Standard |
| APW-02 | UCF | 845 | Antimony, total | mg/L | 02/10/2021 - 05/06/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| APW-02 | UCF | 845 | Arsenic, total | mg/L | 02/10/2021 - 05/06/2021 | CI around median | 0 | 0.030 | 0.030 | 0.01 | Background |
| APW-02 | UCF | 845 | Barium, total | mg/L | 02/10/2021 - 05/06/2021 | CI around mean | 0.14 | 2.1 | 2.1 | 2 | Background |
| APW-02 | UCF | 845 | Beryllium, total | mg/L | 02/10/2021 - 05/06/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| APW-02 | UCF | 845 | Boron, total | mg/L | 02/10/2021 - 05/06/2021 | CI around mean | 0.019 | 2.0 | 0.54 | 2 | Standard |
| APW-02 | UCF | 845 | Cadmium, total | mg/L | 02/10/2021 - 05/06/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| APW-02 | UCF | 845 | Chloride, total | mg/L | 02/10/2021 - 05/06/2021 | CI around mean | 8.9 | 200 | 56 | 200 | Standard |
| APW-02 | UCF | 845 | Chromium, total | mg/L | 02/10/2021 - 05/06/2021 | CI around geomean | 0.00177 | 0.10 | 0.048 | 0.1 | Standard |
| APW-02 | UCF | 845 | Cobalt, total | mg/L | 02/10/2021 - 05/06/2021 | Future median | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| APW-02 | UCF | 845 | Fluoride, total | mg/L | 02/10/2021 - 05/06/2021 | CI around mean | 0.21 | 4.0 | 0.40 | 4 | Standard |
| APW-02 | UCF | 845 | Lead, total | mg/L | 02/10/2021 - 05/06/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| APW-02 | UCF | 845 | Lithium, total | mg/L | 02/10/2021 - 05/06/2021 | All ND - Last | 0.020 | 0.071 | 0.071 | 0.04 | Background |
| APW-02 | UCF | 845 | Mercury, total | mg/L | 02/10/2021 - 05/06/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| APW-02 | UCF | 845 | Molybdenum, total | mg/L | 02/10/2021 - 05/06/2021 | All ND - Last | 0.001 | 0.10 | 0.0062 | 0.1 | Standard |
| APW-02 | UCF | 845 | pH (field) | SU | 02/10/2021 - 05/06/2021 | CI around mean | 6.5 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| APW-02 | UCF | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/10/2021 - 05/06/2021 | CI around mean | -0.097 | 9.6 | 9.6 | 5 | Background |

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HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| APW-02 | UCF | 845 | Selenium, total | mg/L | 02/10/2021 - 05/06/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| APW-02 | UCF | 845 | Sulfate, total | mg/L | 02/10/2021 - 05/06/2021 | CI around mean | -1.75 | 400 | 6.5 | 400 | Standard |
| APW-02 | UCF | 845 | Thallium, total | mg/L | 02/10/2021 - 05/06/2021 | CI around median | 0 | 0.002 | 0.001 | 0.002 | Standard |
| APW-02 | UCF | 845 | Total Dissolved Solids | mg/L | 02/10/2021 - 05/06/2021 | CI around mean | 367 | 1200 | 1050 | 1200 | Standard |
| APW-03 | UCF | 845 | Antimony, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| APW-03 | UCF | 845 | Arsenic, total | mg/L | 02/10/2021 - 05/07/2021 | CI around median | 0 | 0.030 | 0.030 | 0.01 | Background |
| APW-03 | UCF | 845 | Barium, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.25 | 2.1 | 2.1 | 2 | Background |
| APW-03 | UCF | 845 | Beryllium, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| APW-03 | UCF | 845 | Boron, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.12 | 2.0 | 0.54 | 2 | Standard |
| APW-03 | UCF | 845 | Cadmium, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| APW-03 | UCF | 845 | Chloride, total | mg/L | 02/10/2021 - 05/07/2021 | CI around geomean | 25 | 200 | 56 | 200 | Standard |
| APW-03 | UCF | 845 | Chromium, total | mg/L | 02/10/2021 - 05/07/2021 | CI around median | 0 | 0.10 | 0.048 | 0.1 | Standard |
| APW-03 | UCF | 845 | Cobalt, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| APW-03 | UCF | 845 | Fluoride, total | mg/L | 02/10/2021 - 05/07/2021 | CI around median | 0 | 4.0 | 0.40 | 4 | Standard |
| APW-03 | UCF | 845 | Lead, total | mg/L | 02/10/2021 - 05/07/2021 | Future median | 0.0012 | 0.033 | 0.033 | 0.0075 | Background |
| APW-03 | UCF | 845 | Lithium, total | mg/L | 02/10/2021 - 05/07/2021 | Future median | 0.020 | 0.071 | 0.071 | 0.04 | Background |
| APW-03 | UCF | 845 | Mercury, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| APW-03 | UCF | 845 | Molybdenum, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.10 | 0.0062 | 0.1 | Standard |
| APW-03 | UCF | 845 | pH (field) | SU | 02/10/2021 - 05/07/2021 | CI around mean | 6.4 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| APW-03 | UCF | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.14 | 9.6 | 9.6 | 5 | Background |
| APW-03 | UCF | 845 | Selenium, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| APW-03 | UCF | 845 | Sulfate, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | -1.09 | 400 | 6.5 | 400 | Standard |
| APW-03 | UCF | 845 | Thallium, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| APW-03 | UCF | 845 | Total Dissolved Solids | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 712 | 1200 | 1050 | 1200 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| APW-04 | UCF | 845 | Antimony, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| APW-04 | UCF | 845 | Arsenic, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.00228 | 0.030 | 0.030 | 0.01 | Background |
| APW-04 | UCF | 845 | Barium, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.26 | 2.1 | 2.1 | 2 | Background |
| APW-04 | UCF | 845 | Beryllium, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| APW-04 | UCF | 845 | Boron, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.50 | 2.0 | 0.54 | 2 | Standard |
| APW-04 | UCF | 845 | Cadmium, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| APW-04 | UCF | 845 | Chloride, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 110 | 200 | 56 | 200 | Standard |
| APW-04 | UCF | 845 | Chromium, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.000546 | 0.10 | 0.048 | 0.1 | Standard |
| APW-04 | UCF | 845 | Cobalt, total | mg/L | 02/10/2021 - 05/07/2021 | Future median | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| APW-04 | UCF | 845 | Fluoride, total | mg/L | 02/10/2021 - 05/07/2021 | CI around median | 0 | 4.0 | 0.40 | 4 | Standard |
| APW-04 | UCF | 845 | Lead, total | mg/L | 02/10/2021 - 05/07/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| APW-04 | UCF | 845 | Lithium, total | mg/L | 02/10/2021 - 05/07/2021 | Future median | 0.020 | 0.071 | 0.071 | 0.04 | Background |
| APW-04 | UCF | 845 | Mercury, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| APW-04 | UCF | 845 | Molybdenum, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 0.00038 | 0.10 | 0.0062 | 0.1 | Standard |
| APW-04 | UCF | 845 | pH (field) | SU | 02/10/2021 - 05/07/2021 | CI around mean | 6.8 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| APW-04 | UCF | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/10/2021 - 05/07/2021 | CI around geomean | 0.26 | 9.6 | 9.6 | 5 | Background |
| APW-04 | UCF | 845 | Selenium, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| APW-04 | UCF | 845 | Sulfate, total | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 15 | 400 | 6.5 | 400 | Standard |
| APW-04 | UCF | 845 | Thallium, total | mg/L | 02/10/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| APW-04 | UCF | 845 | Total Dissolved Solids | mg/L | 02/10/2021 - 05/07/2021 | CI around mean | 543 | 1200 | 1050 | 1200 | Standard |
| AW-05 | UA | 845 | Antimony, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-05 | UA | 845 | Arsenic, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.0032 | 0.030 | 0.030 | 0.01 | Background |
| AW-05 | UA | 845 | Barium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.11 | 2.1 | 2.1 | 2 | Background |
| AW-05 | UA | 845 | Beryllium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-05 | UA | 845 | Boron, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 2.9 | 2.0 | 0.54 | 2 | Standard |
| AW-05 | UA | 845 | Cadmium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-05 | UA | 845 | Chloride, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 67 | 200 | 56 | 200 | Standard |
| AW-05 | UA | 845 | Chromium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.004 | 0.10 | 0.048 | 0.1 | Standard |
| AW-05 | UA | 845 | Cobalt, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AW-05 | UA | 845 | Fluoride, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.27 | 4.0 | 0.40 | 4 | Standard |
| AW-05 | UA | 845 | Lead, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-05 | UA | 845 | Lithium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.020 | 0.071 | 0.071 | 0.04 | Background |
| AW-05 | UA | 845 | Mercury, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-05 | UA | 845 | Molybdenum, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.002 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-05 | UA | 845 | pH (field) | SU | 06/17/2021 - 07/22/2021 | Most recent sample | 7.1 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-05 | UA | 845 | Radium-226 + Radium 228, tot | pCi/L | 06/17/2021 - 07/22/2021 | Most recent sample | 3.8 | 9.6 | 9.6 | 5 | Background |
| AW-05 | UA | 845 | Selenium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-05 | UA | 845 | Sulfate, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 300 | 400 | 6.5 | 400 | Standard |
| AW-05 | UA | 845 | Thallium, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-05 | UA | 845 | Total Dissolved Solids | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 1100 | 1200 | 1050 | 1200 | Standard |
| AW-06 | UA | 257 | Antimony, total | mg/L | 11/10/2015 - 02/23/2021 | All ND - Last | 0.003 | 0.006 | 0.0041 | 0.006 | Standard |
| AW-06 | UA | 257 | Arsenic, total | mg/L | 11/10/2015 - 02/23/2021 | CI around geomean | 0.00274 | 0.019 | 0.019 | 0.01 | Background |
| AW-06 | UA | 257 | Barium, total | mg/L | 11/10/2015 - 02/23/2021 | CI around mean | 0.19 | 2.0 | 0.79 | 2 | Standard |
| AW-06 | UA | 257 | Beryllium, total | mg/L | 11/10/2015 - 02/23/2021 | Future median | 0.001 | 0.014 | 0.014 | 0.004 | Background |
| AW-06 | UA | 257 | Boron, total | mg/L | 11/10/2015 - 02/23/2021 | CB around linear reg | 0.028 | 2.0 | 0.43 | 2 | Standard |
| AW-06 | UA | 257 | Cadmium, total | mg/L | 11/10/2015 - 02/23/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-06 | UA | 257 | Chloride, total | mg/L | 11/10/2015 - 02/23/2021 | CB around linear reg | 12 | 200 | 44 | 200 | Standard |
| AW-06 | UA | 257 | Chromium, total | mg/L | 11/10/2015 - 02/23/2021 | CI around median | 0.004 | 0.10 | 0.004 | 0.1 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-06 | UA | 257 | Cobalt, total | mg/L | 11/10/2015 - 02/23/2021 | CI around median | 0.002 | 0.006 | 0.0053 | 0.006 | Standard |
| AW-06 | UA | 257 | Fluoride, total | mg/L | 11/10/2015 - 02/23/2021 | CI around mean | 0.31 | 4.0 | 0.38 | 4 | Standard |
| AW-06 | UA | 257 | Lead, total | mg/L | 11/10/2015 - 02/23/2021 | CI around mean | 0.00244 | 0.0075 | 0.001 | 0.0075 | Standard |
| AW-06 | UA | 257 | Lithium, total | mg/L | 11/10/2015 - 02/23/2021 | CI around mean | 0.019 | 0.054 | 0.054 | 0.04 | Background |
| AW-06 | UA | 257 | Mercury, total | mg/L | 11/10/2015 - 02/23/2021 | CI around median | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-06 | UA | 257 | Molybdenum, total | mg/L | 11/10/2015 - 02/23/2021 | CI around mean | 0.00469 | 0.10 | 0.023 | 0.1 | Standard |
| AW-06 | UA | 257 | pH (field) | SU | 11/10/2015 - 02/23/2021 | CI around median | 7.1 | 6.5/9.0 | 6.6/7.4 | 6.5/9 | Standard/Standard |
| AW-06 | UA | 257 | Radium-226 + Radium 228, tot | pCi/L | 11/10/2015 - 02/23/2021 | CI around mean | 0.70 | 5.0 | 2.9 | 5 | Standard |
| AW-06 | UA | 257 | Selenium, total | mg/L | 11/10/2015 - 02/23/2021 | CI around median | 0.001 | 0.050 | 0.0012 | 0.05 | Standard |
| AW-06 | UA | 257 | Sulfate, total | mg/L | 11/10/2015 - 02/23/2021 | CB around linear reg | 19 | 400 | 81 | 400 | Standard |
| AW-06 | UA | 257 | Thallium, total | mg/L | 11/10/2015 - 02/23/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-06 | UA | 257 | Total Dissolved Solids | mg/L | 11/10/2015 - 02/23/2021 | CI around mean | 486 | 1200 | 955 | 1200 | Standard |
| AW-09 | UA | 257 | Antimony, total | mg/L | 11/10/2015 - 02/23/2021 | All ND - Last | 0.003 | 0.006 | 0.0041 | 0.006 | Standard |
| AW-09 | UA | 257 | Arsenic, total | mg/L | 11/10/2015 - 02/23/2021 | CI around mean | 0.00832 | 0.019 | 0.019 | 0.01 | Background |
| AW-09 | UA | 257 | Barium, total | mg/L | 11/10/2015 - 02/23/2021 | CI around mean | 0.27 | 2.0 | 0.79 | 2 | Standard |
| AW-09 | UA | 257 | Beryllium, total | mg/L | 11/10/2015 - 02/23/2021 | CB around T-S line | -0.00359 | 0.014 | 0.014 | 0.004 | Background |
| AW-09 | UA | 257 | Boron, total | mg/L | 11/10/2015 - 02/23/2021 | CB around linear reg | -0.217 | 2.0 | 0.43 | 2 | Standard |
| AW-09 | UA | 257 | Cadmium, total | mg/L | 11/10/2015 - 02/23/2021 | CI around median | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-09 | UA | 257 | Chloride, total | mg/L | 11/10/2015 - 02/23/2021 | CB around linear reg | 13 | 200 | 44 | 200 | Standard |
| AW-09 | UA | 257 | Chromium, total | mg/L | 11/10/2015 - 02/23/2021 | CI around geomean | 0.00648 | 0.10 | 0.004 | 0.1 | Standard |
| AW-09 | UA | 257 | Cobalt, total | mg/L | 11/10/2015 - 02/23/2021 | CI around geomean | 0.00476 | 0.006 | 0.0053 | 0.006 | Standard |
| AW-09 | UA | 257 | Fluoride, total | mg/L | 11/10/2015 - 02/23/2021 | CI around median | 0.25 | 4.0 | 0.38 | 4 | Standard |
| AW-09 | UA | 257 | Lead, total | mg/L | 11/10/2015 - 02/23/2021 | CI around geomean | 0.0021 | 0.0075 | 0.001 | 0.0075 | Standard |
| AW-09 | UA | 257 | Lithium, total | mg/L | 11/10/2015 - 02/23/2021 | CI around geomean | 0.020 | 0.054 | 0.054 | 0.04 | Background |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-09 | UA | 257 | Mercury, total | mg/L | 11/10/2015 - 02/23/2021 | CI around median | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-09 | UA | 257 | Molybdenum, total | mg/L | 11/10/2015 - 02/23/2021 | CI around mean | 0.014 | 0.10 | 0.023 | 0.1 | Standard |
| AW-09 | UA | 257 | pH (field) | SU | 11/10/2015 - 02/23/2021 | CI around mean | 6.8 | 6.5/9.0 | 6.6/7.4 | 6.5/9 | Standard/Standard |
| AW-09 | UA | 257 | Radium-226 + Radium 228, tot | pCi/L | 11/10/2015 - 02/23/2021 | CI around median | 0.47 | 5.0 | 2.9 | 5 | Standard |
| AW-09 | UA | 257 | Selenium, total | mg/L | 11/10/2015 - 02/23/2021 | CI around median | 0.001 | 0.050 | 0.0012 | 0.05 | Standard |
| AW-09 | UA | 257 | Sulfate, total | mg/L | 11/10/2015 - 02/23/2021 | CB around linear reg | -17 | 400 | 81 | 400 | Standard |
| AW-09 | UA | 257 | Thallium, total | mg/L | 11/10/2015 - 02/23/2021 | CI around median | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-09 | UA | 257 | Total Dissolved Solids | mg/L | 11/10/2015 - 02/23/2021 | CI around median | 670 | 1200 | 955 | 1200 | Standard |
| AW-10 | UA | 257 | Antimony, total | mg/L | 11/09/2015 - 03/23/2021 | All ND - Last | 0.003 | 0.006 | 0.0041 | 0.006 | Standard |
| AW-10 | UA | 257 | Arsenic, total | mg/L | 11/09/2015 - 03/23/2021 | CI around geomean | 0.00663 | 0.019 | 0.019 | 0.01 | Background |
| AW-10 | UA | 257 | Barium, total | mg/L | 11/09/2015 - 03/23/2021 | CI around median | 0.88 | 2.0 | 0.79 | 2 | Standard |
| AW-10 | UA | 257 | Beryllium, total | mg/L | 11/09/2015 - 03/23/2021 | Future median | 0.001 | 0.014 | 0.014 | 0.004 | Background |
| AW-10 | UA | 257 | Boron, total | mg/L | 11/09/2015 - 03/23/2021 | CI around mean | 0.46 | 2.0 | 0.43 | 2 | Standard |
| AW-10 | UA | 257 | Cadmium, total | mg/L | 11/09/2015 - 03/23/2021 | CI around median | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-10 | UA | 257 | Chloride, total | mg/L | 11/09/2015 - 03/23/2021 | CI around mean | 86 | 200 | 44 | 200 | Standard |
| AW-10 | UA | 257 | Chromium, total | mg/L | 11/09/2015 - 03/23/2021 | CI around geomean | 0.00576 | 0.10 | 0.004 | 0.1 | Standard |
| AW-10 | UA | 257 | Cobalt, total | mg/L | 11/09/2015 - 03/23/2021 | CI around geomean | 0.0038 | 0.006 | 0.0053 | 0.006 | Standard |
| AW-10 | UA | 257 | Fluoride, total | mg/L | 11/09/2015 - 03/23/2021 | CI around median | 0.25 | 4.0 | 0.38 | 4 | Standard |
| AW-10 | UA | 257 | Lead, total | mg/L | 11/09/2015 - 03/23/2021 | CI around geomean | 0.00179 | 0.0075 | 0.001 | 0.0075 | Standard |
| AW-10 | UA | 257 | Lithium, total | mg/L | 11/09/2015 - 03/23/2021 | CB around T-S line | -0.121 | 0.054 | 0.054 | 0.04 | Background |
| AW-10 | UA | 257 | Mercury, total | mg/L | 11/09/2015 - 03/23/2021 | CI around median | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-10 | UA | 257 | Molybdenum, total | mg/L | 11/09/2015 - 03/23/2021 | CI around geomean | 0.00143 | 0.10 | 0.023 | 0.1 | Standard |
| AW-10 | UA | 257 | pH (field) | SU | 11/09/2015 - 03/23/2021 | CI around mean | 6.9 | 6.5/9.0 | 6.6/7.4 | 6.5/9 | Standard/Standard |
| AW-10 | UA | 257 | Radium-226 + Radium 228, tot | pCi/L | 11/09/2015 - 03/23/2021 | CI around mean | 2.1 | 5.0 | 2.9 | 5 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-10 | UA | 257 | Selenium, total | mg/L | 11/09/2015 - 03/23/2021 | CI around median | 0.001 | 0.050 | 0.0012 | 0.05 | Standard |
| AW-10 | UA | 257 | Sulfate, total | mg/L | 11/09/2015 - 03/23/2021 | CI around median | 1.0 | 400 | 81 | 400 | Standard |
| AW-10 | UA | 257 | Thallium, total | mg/L | 11/09/2015 - 03/23/2021 | CI around median | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-10 | UA | 257 | Total Dissolved Solids | mg/L | 11/09/2015 - 03/23/2021 | CI around median | 1000 | 1200 | 955 | 1200 | Standard |
| AW-11 | UA | 257 | Antimony, total | mg/L | 11/09/2015 - 02/23/2021 | All ND - Last | 0.003 | 0.006 | 0.0041 | 0.006 | Standard |
| AW-11 | UA | 257 | Arsenic, total | mg/L | 11/09/2015 - 02/23/2021 | CI around mean | 0.00896 | 0.019 | 0.019 | 0.01 | Background |
| AW-11 | UA | 257 | Barium, total | mg/L | 11/09/2015 - 02/23/2021 | CI around mean | 0.81 | 2.0 | 0.79 | 2 | Standard |
| AW-11 | UA | 257 | Beryllium, total | mg/L | 11/09/2015 - 02/23/2021 | Future median | 0.001 | 0.014 | 0.014 | 0.004 | Background |
| AW-11 | UA | 257 | Boron, total | mg/L | 11/09/2015 - 02/23/2021 | CI around mean | 0.21 | 2.0 | 0.43 | 2 | Standard |
| AW-11 | UA | 257 | Cadmium, total | mg/L | 11/09/2015 - 02/23/2021 | CI around median | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-11 | UA | 257 | Chloride, total | mg/L | 11/09/2015 - 02/23/2021 | CB around linear reg | 26 | 200 | 44 | 200 | Standard |
| AW-11 | UA | 257 | Chromium, total | mg/L | 11/09/2015 - 02/23/2021 | CI around median | 0.004 | 0.10 | 0.004 | 0.1 | Standard |
| AW-11 | UA | 257 | Cobalt, total | mg/L | 11/09/2015 - 02/23/2021 | CI around geomean | 0.00346 | 0.006 | 0.0053 | 0.006 | Standard |
| AW-11 | UA | 257 | Fluoride, total | mg/L | 11/09/2015 - 02/23/2021 | CI around median | 0.25 | 4.0 | 0.38 | 4 | Standard |
| AW-11 | UA | 257 | Lead, total | mg/L | 11/09/2015 - 02/23/2021 | CI around geomean | 0.00173 | 0.0075 | 0.001 | 0.0075 | Standard |
| AW-11 | UA | 257 | Lithium, total | mg/L | 11/09/2015 - 02/23/2021 | CI around geomean | 0.028 | 0.054 | 0.054 | 0.04 | Background |
| AW-11 | UA | 257 | Mercury, total | mg/L | 11/09/2015 - 02/23/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-11 | UA | 257 | Molybdenum, total | mg/L | 11/09/2015 - 02/23/2021 | CI around mean | 0.00403 | 0.10 | 0.023 | 0.1 | Standard |
| AW-11 | UA | 257 | pH (field) | SU | 11/09/2015 - 02/23/2021 | CI around median | 6.9 | 6.5/9.0 | 6.6/7.4 | 6.5/9 | Standard/Standard |
| AW-11 | UA | 257 | Radium-226 + Radium 228, tot | pCi/L | 11/09/2015 - 02/23/2021 | CI around mean | 1.6 | 5.0 | 2.9 | 5 | Standard |
| AW-11 | UA | 257 | Selenium, total | mg/L | 11/09/2015 - 02/23/2021 | CI around median | 0.001 | 0.050 | 0.0012 | 0.05 | Standard |
| AW-11 | UA | 257 | Sulfate, total | mg/L | 11/09/2015 - 02/23/2021 | CI around median | 1.0 | 400 | 81 | 400 | Standard |
| AW-11 | UA | 257 | Thallium, total | mg/L | 11/09/2015 - 02/23/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-11 | UA | 257 | Total Dissolved Solids | mg/L | 11/09/2015 - 02/23/2021 | CI around median | 880 | 1200 | 955 | 1200 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-12 | UA | 845 | Antimony, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-12 | UA | 845 | Arsenic, total | mg/L | 02/11/2021 - 05/07/2021 | CI around mean | 0.000344 | 0.030 | 0.030 | 0.01 | Background |
| AW-12 | UA | 845 | Barium, total | mg/L | 02/11/2021 - 05/07/2021 | CI around median | 0 | 2.1 | 2.1 | 2 | Background |
| AW-12 | UA | 845 | Beryllium, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| AW-12 | UA | 845 | Boron, total | mg/L | 02/11/2021 - 05/07/2021 | CI around mean | 0.20 | 2.0 | 0.54 | 2 | Standard |
| AW-12 | UA | 845 | Cadmium, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-12 | UA | 845 | Chloride, total | mg/L | 02/11/2021 - 05/07/2021 | CI around mean | 33 | 200 | 56 | 200 | Standard |
| AW-12 | UA | 845 | Chromium, total | mg/L | 02/11/2021 - 05/07/2021 | CI around median | 0 | 0.10 | 0.048 | 0.1 | Standard |
| AW-12 | UA | 845 | Cobalt, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AW-12 | UA | 845 | Fluoride, total | mg/L | 02/11/2021 - 05/07/2021 | CI around mean | -0.419 | 4.0 | 0.40 | 4 | Standard |
| AW-12 | UA | 845 | Lead, total | mg/L | 02/11/2021 - 05/07/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-12 | UA | 845 | Lithium, total | mg/L | 02/11/2021 - 05/07/2021 | Future median | 0.026 | 0.071 | 0.071 | 0.04 | Background |
| AW-12 | UA | 845 | Mercury, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-12 | UA | 845 | Molybdenum, total | mg/L | 02/11/2021 - 05/07/2021 | CI around median | 0 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-12 | UA | 845 | pH (field) | SU | 02/11/2021 - 05/07/2021 | CI around mean | 6.4 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-12 | UA | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/11/2021 - 05/07/2021 | CI around mean | 0.50 | 9.6 | 9.6 | 5 | Background |
| AW-12 | UA | 845 | Selenium, total | mg/L | 02/11/2021 - 05/07/2021 | CI around median | 0 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-12 | UA | 845 | Sulfate, total | mg/L | 02/11/2021 - 05/07/2021 | CI around median | 0 | 400 | 6.5 | 400 | Standard |
| AW-12 | UA | 845 | Thallium, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-12 | UA | 845 | Total Dissolved Solids | mg/L | 02/11/2021 - 05/07/2021 | CI around mean | 755 | 1200 | 1050 | 1200 | Standard |
| AW-13 | UA | 845 | Antimony, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-13 | UA | 845 | Arsenic, total | mg/L | 02/11/2021 - 05/07/2021 | CI around mean | 0.00962 | 0.030 | 0.030 | 0.01 | Background |
| AW-13 | UA | 845 | Barium, total | mg/L | 02/11/2021 - 05/07/2021 | CI around mean | 1.1 | 2.1 | 2.1 | 2 | Background |
| AW-13 | UA | 845 | Beryllium, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-13 | UA | 845 | Boron, total | mg/L | 02/11/2021 - 05/07/2021 | CI around mean | 0.27 | 2.0 | 0.54 | 2 | Standard |
| AW-13 | UA | 845 | Cadmium, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-13 | UA | 845 | Chloride, total | mg/L | 02/11/2021 - 05/07/2021 | CI around mean | 72 | 200 | 56 | 200 | Standard |
| AW-13 | UA | 845 | Chromium, total | mg/L | 02/11/2021 - 05/07/2021 | CI around median | 0 | 0.10 | 0.048 | 0.1 | Standard |
| AW-13 | UA | 845 | Cobalt, total | mg/L | 02/11/2021 - 05/07/2021 | Future median | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AW-13 | UA | 845 | Fluoride, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.25 | 4.0 | 0.40 | 4 | Standard |
| AW-13 | UA | 845 | Lead, total | mg/L | 02/11/2021 - 05/07/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-13 | UA | 845 | Lithium, total | mg/L | 02/11/2021 - 05/07/2021 | Future median | 0.030 | 0.071 | 0.071 | 0.04 | Background |
| AW-13 | UA | 845 | Mercury, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-13 | UA | 845 | Molybdenum, total | mg/L | 02/11/2021 - 05/07/2021 | CI around mean | 0.0003 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-13 | UA | 845 | pH (field) | SU | 02/11/2021 - 05/07/2021 | CI around mean | 6.7 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-13 | UA | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/11/2021 - 05/07/2021 | CI around median | 0 | 9.6 | 9.6 | 5 | Background |
| AW-13 | UA | 845 | Selenium, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-13 | UA | 845 | Sulfate, total | mg/L | 02/11/2021 - 05/07/2021 | CI around mean | 0.17 | 400 | 6.5 | 400 | Standard |
| AW-13 | UA | 845 | Thallium, total | mg/L | 02/11/2021 - 05/07/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-13 | UA | 845 | Total Dissolved Solids | mg/L | 02/11/2021 - 05/07/2021 | CI around mean | 897 | 1200 | 1050 | 1200 | Standard |
| AW-14 | UA | 845 | Antimony, total | mg/L | 02/11/2021 - 07/21/2021 | CI around median | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-14 | UA | 845 | Arsenic, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.00745 | 0.030 | 0.030 | 0.01 | Background |
| AW-14 | UA | 845 | Barium, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.60 | 2.1 | 2.1 | 2 | Background |
| AW-14 | UA | 845 | Beryllium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| AW-14 | UA | 845 | Boron, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.16 | 2.0 | 0.54 | 2 | Standard |
| AW-14 | UA | 845 | Cadmium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-14 | UA | 845 | Chloride, total | mg/L | 02/11/2021 - 07/21/2021 | CI around geomean | 23 | 200 | 56 | 200 | Standard |
| AW-14 | UA | 845 | Chromium, total | mg/L | 02/11/2021 - 07/21/2021 | CI around median | 0.004 | 0.10 | 0.048 | 0.1 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-14 | UA | 845 | Cobalt, total | mg/L | 02/11/2021 - 07/21/2021 | Future median | 0.0029 | 0.028 | 0.028 | 0.006 | Background |
| AW-14 | UA | 845 | Fluoride, total | mg/L | 02/11/2021 - 07/21/2021 | CI around median | 0.25 | 4.0 | 0.40 | 4 | Standard |
| AW-14 | UA | 845 | Lead, total | mg/L | 02/11/2021 - 07/21/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-14 | UA | 845 | Lithium, total | mg/L | 02/11/2021 - 07/21/2021 | Future median | 0.020 | 0.071 | 0.071 | 0.04 | Background |
| AW-14 | UA | 845 | Mercury, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-14 | UA | 845 | Molybdenum, total | mg/L | 02/11/2021 - 07/21/2021 | CI around geomean | 0.000625 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-14 | UA | 845 | pH (field) | SU | 02/11/2021 - 07/21/2021 | CI around mean | 6.7 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-14 | UA | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/11/2021 - 07/21/2021 | CI around mean | 1.8 | 9.6 | 9.6 | 5 | Background |
| AW-14 | UA | 845 | Selenium, total | mg/L | 02/11/2021 - 07/21/2021 | CI around median | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-14 | UA | 845 | Sulfate, total | mg/L | 02/11/2021 - 07/21/2021 | CI around geomean | 0.73 | 400 | 6.5 | 400 | Standard |
| AW-14 | UA | 845 | Thallium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-14 | UA | 845 | Total Dissolved Solids | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 845 | 1200 | 1050 | 1200 | Standard |
| AW-15 | UA | 845 | Antimony, total | mg/L | 02/12/2021 - 06/17/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-15 | UA | 845 | Arsenic, total | mg/L | 02/12/2021 - 06/17/2021 | CI around mean | 0.00172 | 0.030 | 0.030 | 0.01 | Background |
| AW-15 | UA | 845 | Barium, total | mg/L | 02/12/2021 - 06/17/2021 | CI around mean | 1.3 | 2.1 | 2.1 | 2 | Background |
| AW-15 | UA | 845 | Beryllium, total | mg/L | 02/12/2021 - 06/17/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| AW-15 | UA | 845 | Boron, total | mg/L | 02/12/2021 - 06/17/2021 | CI around mean | 0.28 | 2.0 | 0.54 | 2 | Standard |
| AW-15 | UA | 845 | Cadmium, total | mg/L | 02/12/2021 - 06/17/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-15 | UA | 845 | Chloride, total | mg/L | 02/12/2021 - 06/17/2021 | CI around mean | 35 | 200 | 56 | 200 | Standard |
| AW-15 | UA | 845 | Chromium, total | mg/L | 02/12/2021 - 06/17/2021 | All ND - Last | 0.004 | 0.10 | 0.048 | 0.1 | Standard |
| AW-15 | UA | 845 | Cobalt, total | mg/L | 02/12/2021 - 06/17/2021 | Future median | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AW-15 | UA | 845 | Fluoride, total | mg/L | 02/12/2021 - 06/17/2021 | CI around mean | -0.0421 | 4.0 | 0.40 | 4 | Standard |
| AW-15 | UA | 845 | Lead, total | mg/L | 02/12/2021 - 06/17/2021 | All ND - Last | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-15 | UA | 845 | Lithium, total | mg/L | 02/12/2021 - 06/17/2021 | Future median | 0.039 | 0.071 | 0.071 | 0.04 | Background |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-15 | UA | 845 | Mercury, total | mg/L | 02/12/2021 - 06/17/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-15 | UA | 845 | Molybdenum, total | mg/L | 02/12/2021 - 06/17/2021 | CI around median | 0 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-15 | UA | 845 | pH (field) | SU | 02/12/2021 - 05/06/2021 | CI around mean | 6.5 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-15 | UA | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/12/2021 - 06/17/2021 | CI around mean | 0.67 | 9.6 | 9.6 | 5 | Background |
| AW-15 | UA | 845 | Selenium, total | mg/L | 02/12/2021 - 06/17/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-15 | UA | 845 | Sulfate, total | mg/L | 02/12/2021 - 06/17/2021 | Most recent sample | 1.0 | 400 | 6.5 | 400 | Standard |
| AW-15 | UA | 845 | Thallium, total | mg/L | 02/12/2021 - 06/17/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-15 | UA | 845 | Total Dissolved Solids | mg/L | 02/12/2021 - 06/17/2021 | CI around mean | 775 | 1200 | 1050 | 1200 | Standard |
| AW-15C | BCU | 845 | Antimony, total | mg/L | 02/12/2021 - 07/21/2021 | CI around median | 0 | 0.006 | 0.003 | 0.006 | Standard |
| AW-15C | BCU | 845 | Arsenic, total | mg/L | 02/12/2021 - 07/21/2021 | CI around mean | 0.00233 | 0.030 | 0.030 | 0.01 | Background |
| AW-15C | BCU | 845 | Barium, total | mg/L | 02/12/2021 - 07/21/2021 | CI around mean | 2.9 | 2.1 | 2.1 | 2 | Background |
| AW-15C | BCU | 845 | Beryllium, total | mg/L | 02/12/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| AW-15C | BCU | 845 | Boron, total | mg/L | 02/12/2021 - 07/21/2021 | CI around mean | 0.59 | 2.0 | 0.54 | 2 | Standard |
| AW-15C | BCU | 845 | Cadmium, total | mg/L | 02/12/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-15C | BCU | 845 | Chloride, total | mg/L | 02/12/2021 - 07/21/2021 | CI around mean | 46 | 200 | 56 | 200 | Standard |
| AW-15C | BCU | 845 | Chromium, total | mg/L | 02/12/2021 - 07/21/2021 | CI around median | 0 | 0.10 | 0.048 | 0.1 | Standard |
| AW-15C | BCU | 845 | Cobalt, total | mg/L | 02/12/2021 - 07/21/2021 | Future median | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AW-15C | BCU | 845 | Fluoride, total | mg/L | 02/12/2021 - 07/21/2021 | CI around median | 0 | 4.0 | 0.40 | 4 | Standard |
| AW-15C | BCU | 845 | Lead, total | mg/L | 02/12/2021 - 07/21/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-15C | BCU | 845 | Lithium, total | mg/L | 02/12/2021 - 07/21/2021 | Future median | 0.047 | 0.071 | 0.071 | 0.04 | Background |
| AW-15C | BCU | 845 | Mercury, total | mg/L | 02/12/2021 - 07/21/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-15C | BCU | 845 | Molybdenum, total | mg/L | 02/12/2021 - 07/21/2021 | CI around mean | -0.000404 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-15C | BCU | 845 | pH (field) | SU | 02/12/2021 - 07/21/2021 | CI around mean | 6.7 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-15C | BCU | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/12/2021 - 07/21/2021 | CI around mean | 3.9 | 9.6 | 9.6 | 5 | Background |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-15C | BCU | 845 | Selenium, total | mg/L | 02/12/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-15C | BCU | 845 | Sulfate, total | mg/L | 02/12/2021 - 07/21/2021 | CI around median | 0 | 400 | 6.5 | 400 | Standard |
| AW-15C | BCU | 845 | Thallium, total | mg/L | 02/12/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-15C | BCU | 845 | Total Dissolved Solids | mg/L | 02/12/2021 - 07/21/2021 | CI around mean | 876 | 1200 | 1050 | 1200 | Standard |
| AW-15S | UCF | 845 | Antimony, total | mg/L | 02/12/2021 - 07/21/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-15S | UCF | 845 | Arsenic, total | mg/L | 02/12/2021 - 07/21/2021 | CI around median | 0.001 | 0.030 | 0.030 | 0.01 | Background |
| AW-15S | UCF | 845 | Barium, total | mg/L | 02/12/2021 - 07/21/2021 | CI around median | 0.093 | 2.1 | 2.1 | 2 | Background |
| AW-15S | UCF | 845 | Beryllium, total | mg/L | 02/12/2021 - 07/21/2021 | CI around median | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| AW-15S | UCF | 845 | Boron, total | mg/L | 02/12/2021 - 07/21/2021 | CI around mean | 5.3 | 2.0 | 0.54 | 2 | Standard |
| AW-15S | UCF | 845 | Cadmium, total | mg/L | 02/12/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-15S | UCF | 845 | Chloride, total | mg/L | 02/12/2021 - 07/21/2021 | CB around linear reg | 31 | 200 | 56 | 200 | Standard |
| AW-15S | UCF | 845 | Chromium, total | mg/L | 02/12/2021 - 07/21/2021 | CI around median | 0.004 | 0.10 | 0.048 | 0.1 | Standard |
| AW-15S | UCF | 845 | Cobalt, total | mg/L | 02/12/2021 - 07/21/2021 | Future median | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AW-15S | UCF | 845 | Fluoride, total | mg/L | 02/12/2021 - 07/21/2021 | CI around median | 0.25 | 4.0 | 0.40 | 4 | Standard |
| AW-15S | UCF | 845 | Lead, total | mg/L | 02/12/2021 - 07/21/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-15S | UCF | 845 | Lithium, total | mg/L | 02/12/2021 - 07/21/2021 | Future median | 0.020 | 0.071 | 0.071 | 0.04 | Background |
| AW-15S | UCF | 845 | Mercury, total | mg/L | 02/12/2021 - 07/21/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-15S | UCF | 845 | Molybdenum, total | mg/L | 02/12/2021 - 07/21/2021 | CI around mean | 0.00299 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-15S | UCF | 845 | pH (field) | SU | 02/12/2021 - 07/21/2021 | CI around mean | 6.7 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-15S | UCF | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/12/2021 - 07/21/2021 | CI around mean | 0.22 | 9.6 | 9.6 | 5 | Background |
| AW-15S | UCF | 845 | Selenium, total | mg/L | 02/12/2021 - 07/21/2021 | CB around linear reg | 0.00012 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-15S | UCF | 845 | Sulfate, total | mg/L | 02/12/2021 - 07/21/2021 | CB around linear reg | 548 | 400 | 6.5 | 400 | Standard |
| AW-15S | UCF | 845 | Thallium, total | mg/L | 02/12/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-15S | UCF | 845 | Total Dissolved Solids | mg/L | 02/12/2021 - 07/21/2021 | CI around mean | 1220 | 1200 | 1050 | 1200 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-16 | UA | 845 | Antimony, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-16 | UA | 845 | Arsenic, total | mg/L | 02/11/2021 - 07/21/2021 | CB around T-S line | 0.00163 | 0.030 | 0.030 | 0.01 | Background |
| AW-16 | UA | 845 | Barium, total | mg/L | 02/11/2021 - 07/21/2021 | CB around linear reg | 1.0 | 2.1 | 2.1 | 2 | Background |
| AW-16 | UA | 845 | Beryllium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| AW-16 | UA | 845 | Boron, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.48 | 2.0 | 0.54 | 2 | Standard |
| AW-16 | UA | 845 | Cadmium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-16 | UA | 845 | Chloride, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 51 | 200 | 56 | 200 | Standard |
| AW-16 | UA | 845 | Chromium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.004 | 0.10 | 0.048 | 0.1 | Standard |
| AW-16 | UA | 845 | Cobalt, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AW-16 | UA | 845 | Fluoride, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.25 | 4.0 | 0.40 | 4 | Standard |
| AW-16 | UA | 845 | Lead, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-16 | UA | 845 | Lithium, total | mg/L | 02/11/2021 - 07/21/2021 | Future median | 0.043 | 0.071 | 0.071 | 0.04 | Background |
| AW-16 | UA | 845 | Mercury, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-16 | UA | 845 | Molybdenum, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-16 | UA | 845 | pH (field) | SU | 02/11/2021 - 07/21/2021 | CI around median | 6.4 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-16 | UA | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/11/2021 - 07/21/2021 | CI around mean | 4.5 | 9.6 | 9.6 | 5 | Background |
| AW-16 | UA | 845 | Selenium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-16 | UA | 845 | Sulfate, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 1.0 | 400 | 6.5 | 400 | Standard |
| AW-16 | UA | 845 | Thallium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-16 | UA | 845 | Total Dissolved Solids | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 1020 | 1200 | 1050 | 1200 | Standard |
| AW-17 | UA | 845 | Antimony, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-17 | UA | 845 | Arsenic, total | mg/L | 02/11/2021 - 07/21/2021 | CI around geomean | 0.00489 | 0.030 | 0.030 | 0.01 | Background |
| AW-17 | UA | 845 | Barium, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 1.0 | 2.1 | 2.1 | 2 | Background |
| AW-17 | UA | 845 | Beryllium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-17 | UA | 845 | Boron, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.42 | 2.0 | 0.54 | 2 | Standard |
| AW-17 | UA | 845 | Cadmium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-17 | UA | 845 | Chloride, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 54 | 200 | 56 | 200 | Standard |
| AW-17 | UA | 845 | Chromium, total | mg/L | 02/11/2021 - 07/21/2021 | CI around median | 0.004 | 0.10 | 0.048 | 0.1 | Standard |
| AW-17 | UA | 845 | Cobalt, total | mg/L | 02/11/2021 - 07/21/2021 | Future median | 0.0023 | 0.028 | 0.028 | 0.006 | Background |
| AW-17 | UA | 845 | Fluoride, total | mg/L | 02/11/2021 - 07/21/2021 | CI around median | 0.25 | 4.0 | 0.40 | 4 | Standard |
| AW-17 | UA | 845 | Lead, total | mg/L | 02/11/2021 - 07/21/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-17 | UA | 845 | Lithium, total | mg/L | 02/11/2021 - 07/21/2021 | Future median | 0.064 | 0.071 | 0.071 | 0.04 | Background |
| AW-17 | UA | 845 | Mercury, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-17 | UA | 845 | Molybdenum, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.000861 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-17 | UA | 845 | pH (field) | SU | 02/11/2021 - 07/21/2021 | CI around mean | 6.5 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-17 | UA | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/11/2021 - 07/21/2021 | CI around mean | 2.5 | 9.6 | 9.6 | 5 | Background |
| AW-17 | UA | 845 | Selenium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-17 | UA | 845 | Sulfate, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 1.0 | 400 | 6.5 | 400 | Standard |
| AW-17 | UA | 845 | Thallium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-17 | UA | 845 | Total Dissolved Solids | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 754 | 1200 | 1050 | 1200 | Standard |
| AW-18 | UA | 845 | Antimony, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-18 | UA | 845 | Arsenic, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.00297 | 0.030 | 0.030 | 0.01 | Background |
| AW-18 | UA | 845 | Barium, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.66 | 2.1 | 2.1 | 2 | Background |
| AW-18 | UA | 845 | Beryllium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| AW-18 | UA | 845 | Boron, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.58 | 2.0 | 0.54 | 2 | Standard |
| AW-18 | UA | 845 | Cadmium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-18 | UA | 845 | Chloride, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 68 | 200 | 56 | 200 | Standard |
| AW-18 | UA | 845 | Chromium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.004 | 0.10 | 0.048 | 0.1 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-18 | UA | 845 | Cobalt, total | mg/L | 02/11/2021 - 07/21/2021 | Future median | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AW-18 | UA | 845 | Fluoride, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | -0.927 | 4.0 | 0.40 | 4 | Standard |
| AW-18 | UA | 845 | Lead, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-18 | UA | 845 | Lithium, total | mg/L | 02/11/2021 - 07/21/2021 | Future median | 0.070 | 0.071 | 0.071 | 0.04 | Background |
| AW-18 | UA | 845 | Mercury, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-18 | UA | 845 | Molybdenum, total | mg/L | 02/11/2021 - 07/21/2021 | CB around linear reg | -0.00959 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-18 | UA | 845 | pH (field) | SU | 02/11/2021 - 07/21/2021 | CI around median | 6.4 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-18 | UA | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/11/2021 - 07/21/2021 | CI around mean | 1.8 | 9.6 | 9.6 | 5 | Background |
| AW-18 | UA | 845 | Selenium, total | mg/L | 02/11/2021 - 07/21/2021 | CI around median | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-18 | UA | 845 | Sulfate, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 1.8 | 400 | 6.5 | 400 | Standard |
| AW-18 | UA | 845 | Thallium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-18 | UA | 845 | Total Dissolved Solids | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 742 | 1200 | 1050 | 1200 | Standard |
| AW-19 | UA | 845 | Antimony, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-19 | UA | 845 | Arsenic, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.00994 | 0.030 | 0.030 | 0.01 | Background |
| AW-19 | UA | 845 | Barium, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.17 | 2.1 | 2.1 | 2 | Background |
| AW-19 | UA | 845 | Beryllium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| AW-19 | UA | 845 | Boron, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 2.5 | 2.0 | 0.54 | 2 | Standard |
| AW-19 | UA | 845 | Cadmium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-19 | UA | 845 | Chloride, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 79 | 200 | 56 | 200 | Standard |
| AW-19 | UA | 845 | Chromium, total | mg/L | 02/11/2021 - 07/21/2021 | CI around median | 0.004 | 0.10 | 0.048 | 0.1 | Standard |
| AW-19 | UA | 845 | Cobalt, total | mg/L | 02/11/2021 - 07/21/2021 | Future median | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AW-19 | UA | 845 | Fluoride, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.28 | 4.0 | 0.40 | 4 | Standard |
| AW-19 | UA | 845 | Lead, total | mg/L | 02/11/2021 - 07/21/2021 | CB around linear reg | -0.00183 | 0.033 | 0.033 | 0.0075 | Background |
| AW-19 | UA | 845 | Lithium, total | mg/L | 02/11/2021 - 07/21/2021 | Future median | 0.021 | 0.071 | 0.071 | 0.04 | Background |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-19 | UA | 845 | Mercury, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-19 | UA | 845 | Molybdenum, total | mg/L | 02/11/2021 - 07/21/2021 | CI around geomean | 0.00296 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-19 | UA | 845 | pH (field) | SU | 02/11/2021 - 07/21/2021 | CI around mean | 6.7 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-19 | UA | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.11 | 9.6 | 9.6 | 5 | Background |
| AW-19 | UA | 845 | Selenium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-19 | UA | 845 | Sulfate, total | mg/L | 02/11/2021 - 07/21/2021 | CB around linear reg | 35 | 400 | 6.5 | 400 | Standard |
| AW-19 | UA | 845 | Thallium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-19 | UA | 845 | Total Dissolved Solids | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 523 | 1200 | 1050 | 1200 | Standard |
| AW-20 | UA | 845 | Antimony, total | mg/L | 02/11/2021 - 05/05/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-20 | UA | 845 | Arsenic, total | mg/L | 02/11/2021 - 05/05/2021 | CI around mean | 0.011 | 0.030 | 0.030 | 0.01 | Background |
| AW-20 | UA | 845 | Barium, total | mg/L | 02/11/2021 - 05/05/2021 | CI around mean | 0.12 | 2.1 | 2.1 | 2 | Background |
| AW-20 | UA | 845 | Beryllium, total | mg/L | 02/11/2021 - 05/05/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| AW-20 | UA | 845 | Boron, total | mg/L | 02/11/2021 - 05/05/2021 | CI around mean | 2.1 | 2.0 | 0.54 | 2 | Standard |
| AW-20 | UA | 845 | Cadmium, total | mg/L | 02/11/2021 - 05/05/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-20 | UA | 845 | Chloride, total | mg/L | 02/11/2021 - 05/05/2021 | CI around mean | 86 | 200 | 56 | 200 | Standard |
| AW-20 | UA | 845 | Chromium, total | mg/L | 02/11/2021 - 05/05/2021 | CI around median | 0 | 0.10 | 0.048 | 0.1 | Standard |
| AW-20 | UA | 845 | Cobalt, total | mg/L | 02/11/2021 - 05/05/2021 | Future median | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AW-20 | UA | 845 | Fluoride, total | mg/L | 02/11/2021 - 05/05/2021 | CI around mean | 0.24 | 4.0 | 0.40 | 4 | Standard |
| AW-20 | UA | 845 | Lead, total | mg/L | 02/11/2021 - 05/05/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-20 | UA | 845 | Lithium, total | mg/L | 02/11/2021 - 05/05/2021 | Future median | 0.020 | 0.071 | 0.071 | 0.04 | Background |
| AW-20 | UA | 845 | Mercury, total | mg/L | 02/11/2021 - 05/05/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-20 | UA | 845 | Molybdenum, total | mg/L | 02/11/2021 - 05/05/2021 | CI around mean | 0.00216 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-20 | UA | 845 | pH (field) | SU | 02/11/2021 - 05/05/2021 | CI around mean | 6.5 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-20 | UA | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/11/2021 - 05/05/2021 | CI around mean | 0.12 | 9.6 | 9.6 | 5 | Background |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-20 | UA | 845 | Selenium, total | mg/L | 02/11/2021 - 05/05/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-20 | UA | 845 | Sulfate, total | mg/L | 02/11/2021 - 05/05/2021 | CI around mean | 37 | 400 | 6.5 | 400 | Standard |
| AW-20 | UA | 845 | Thallium, total | mg/L | 02/11/2021 - 05/05/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-20 | UA | 845 | Total Dissolved Solids | mg/L | 02/11/2021 - 05/05/2021 | CI around mean | 701 | 1200 | 1050 | 1200 | Standard |
| AW-21 | UA | 845 | Antimony, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-21 | UA | 845 | Arsenic, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.000778 | 0.030 | 0.030 | 0.01 | Background |
| AW-21 | UA | 845 | Barium, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.064 | 2.1 | 2.1 | 2 | Background |
| AW-21 | UA | 845 | Beryllium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| AW-21 | UA | 845 | Boron, total | mg/L | 02/11/2021 - 07/21/2021 | CI around median | 11 | 2.0 | 0.54 | 2 | Standard |
| AW-21 | UA | 845 | Cadmium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-21 | UA | 845 | Chloride, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 94 | 200 | 56 | 200 | Standard |
| AW-21 | UA | 845 | Chromium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.004 | 0.10 | 0.048 | 0.1 | Standard |
| AW-21 | UA | 845 | Cobalt, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AW-21 | UA | 845 | Fluoride, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.32 | 4.0 | 0.40 | 4 | Standard |
| AW-21 | UA | 845 | Lead, total | mg/L | 02/11/2021 - 07/21/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-21 | UA | 845 | Lithium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.020 | 0.071 | 0.071 | 0.04 | Background |
| AW-21 | UA | 845 | Mercury, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-21 | UA | 845 | Molybdenum, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.015 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-21 | UA | 845 | pH (field) | SU | 02/11/2021 - 07/21/2021 | CI around median | 6.7 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-21 | UA | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/11/2021 - 07/21/2021 | CI around mean | 0.30 | 9.6 | 9.6 | 5 | Background |
| AW-21 | UA | 845 | Selenium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-21 | UA | 845 | Sulfate, total | mg/L | 02/11/2021 - 07/21/2021 | CI around median | 41 | 400 | 6.5 | 400 | Standard |
| AW-21 | UA | 845 | Thallium, total | mg/L | 02/11/2021 - 07/21/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-21 | UA | 845 | Total Dissolved Solids | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 627 | 1200 | 1050 | 1200 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW-22 | UA | 845 | Antimony, total | mg/L | 02/12/2021 - 05/05/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| AW-22 | UA | 845 | Arsenic, total | mg/L | 02/12/2021 - 05/05/2021 | CI around mean | 0.000857 | 0.030 | 0.030 | 0.01 | Background |
| AW-22 | UA | 845 | Barium, total | mg/L | 02/12/2021 - 05/05/2021 | CI around mean | 0.65 | 2.1 | 2.1 | 2 | Background |
| AW-22 | UA | 845 | Beryllium, total | mg/L | 02/12/2021 - 05/05/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |
| AW-22 | UA | 845 | Boron, total | mg/L | 02/12/2021 - 05/05/2021 | CI around mean | 0.19 | 2.0 | 0.54 | 2 | Standard |
| AW-22 | UA | 845 | Cadmium, total | mg/L | 02/12/2021 - 05/05/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| AW-22 | UA | 845 | Chloride, total | mg/L | 02/12/2021 - 05/05/2021 | CI around mean | 38 | 200 | 56 | 200 | Standard |
| AW-22 | UA | 845 | Chromium, total | mg/L | 02/12/2021 - 05/05/2021 | CI around median | 0 | 0.10 | 0.048 | 0.1 | Standard |
| AW-22 | UA | 845 | Cobalt, total | mg/L | 02/12/2021 - 05/05/2021 | All ND - Last | 0.002 | 0.028 | 0.028 | 0.006 | Background |
| AW-22 | UA | 845 | Fluoride, total | mg/L | 02/12/2021 - 05/05/2021 | CI around median | 0 | 4.0 | 0.40 | 4 | Standard |
| AW-22 | UA | 845 | Lead, total | mg/L | 02/12/2021 - 05/05/2021 | Future median | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| AW-22 | UA | 845 | Lithium, total | mg/L | 02/12/2021 - 05/05/2021 | Future median | 0.020 | 0.071 | 0.071 | 0.04 | Background |
| AW-22 | UA | 845 | Mercury, total | mg/L | 02/12/2021 - 05/05/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| AW-22 | UA | 845 | Molybdenum, total | mg/L | 02/12/2021 - 05/05/2021 | CI around mean | 0.000825 | 0.10 | 0.0062 | 0.1 | Standard |
| AW-22 | UA | 845 | pH (field) | SU | 02/12/2021 - 05/05/2021 | CI around mean | 6.5 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| AW-22 | UA | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/12/2021 - 05/05/2021 | CI around mean | 0.62 | 9.6 | 9.6 | 5 | Background |
| AW-22 | UA | 845 | Selenium, total | mg/L | 02/12/2021 - 05/05/2021 | CI around median | 0 | 0.050 | 0.0032 | 0.05 | Standard |
| AW-22 | UA | 845 | Sulfate, total | mg/L | 02/12/2021 - 05/05/2021 | All ND - Last | 1.0 | 400 | 6.5 | 400 | Standard |
| AW-22 | UA | 845 | Thallium, total | mg/L | 02/12/2021 - 05/05/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| AW-22 | UA | 845 | Total Dissolved Solids | mg/L | 02/12/2021 - 05/05/2021 | CI around mean | 494 | 1200 | 1050 | 1200 | Standard |
| P002 | UCF | 845 | Antimony, total | mg/L | 02/12/2021 - 05/04/2021 | All ND - Last | 0.003 | 0.006 | 0.003 | 0.006 | Standard |
| P002 | UCF | 845 | Arsenic, total | mg/L | 02/12/2021 - 05/04/2021 | CI around mean | 0.00432 | 0.030 | 0.030 | 0.01 | Background |
| P002 | UCF | 845 | Barium, total | mg/L | 02/12/2021 - 05/04/2021 | CI around mean | 0.091 | 2.1 | 2.1 | 2 | Background |
| P002 | UCF | 845 | Beryllium, total | mg/L | 02/12/2021 - 05/04/2021 | All ND - Last | 0.001 | 0.004 | 0.0019 | 0.004 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P002 | UCF | 845 | Boron, total | mg/L | 02/12/2021 - 05/04/2021 | CI around mean | 1.0 | 2.0 | 0.54 | 2 | Standard |
| P002 | UCF | 845 | Cadmium, total | mg/L | 02/12/2021 - 05/04/2021 | All ND - Last | 0.001 | 0.005 | 0.001 | 0.005 | Standard |
| P002 | UCF | 845 | Chloride, total | mg/L | 02/12/2021 - 05/04/2021 | CI around mean | 66 | 200 | 56 | 200 | Standard |
| P002 | UCF | 845 | Chromium, total | mg/L | 02/12/2021 - 05/04/2021 | All ND - Last | 0.004 | 0.10 | 0.048 | 0.1 | Standard |
| P002 | UCF | 845 | Cobalt, total | mg/L | 02/12/2021 - 05/04/2021 | Future median | 0.0044 | 0.028 | 0.028 | 0.006 | Background |
| P002 | UCF | 845 | Fluoride, total | mg/L | 02/12/2021 - 05/04/2021 | CI around mean | 0.29 | 4.0 | 0.40 | 4 | Standard |
| P002 | UCF | 845 | Lead, total | mg/L | 02/12/2021 - 05/04/2021 | All ND - Last | 0.001 | 0.033 | 0.033 | 0.0075 | Background |
| P002 | UCF | 845 | Lithium, total | mg/L | 02/12/2021 - 05/04/2021 | All ND - Last | 0.020 | 0.071 | 0.071 | 0.04 | Background |
| P002 | UCF | 845 | Mercury, total | mg/L | 02/12/2021 - 05/04/2021 | All ND - Last | 0.0002 | 0.002 | 0.0002 | 0.002 | Standard |
| P002 | UCF | 845 | Molybdenum, total | mg/L | 02/12/2021 - 05/04/2021 | CI around mean | 0.00149 | 0.10 | 0.0062 | 0.1 | Standard |
| P002 | UCF | 845 | pH (field) | SU | 02/12/2021 - 05/04/2021 | CI around mean | 6.3 | 6.3/9.0 | 6.3/7.1 | 6.5/9 | Background/Standard |
| P002 | UCF | 845 | Radium-226 + Radium 228, tot | pCi/L | 02/12/2021 - 05/04/2021 | CI around mean | -0.0361 | 9.6 | 9.6 | 5 | Background |
| P002 | UCF | 845 | Selenium, total | mg/L | 02/12/2021 - 05/04/2021 | All ND - Last | 0.001 | 0.050 | 0.0032 | 0.05 | Standard |
| P002 | UCF | 845 | Sulfate, total | mg/L | 02/12/2021 - 05/04/2021 | CI around mean | 0.93 | 400 | 6.5 | 400 | Standard |
| P002 | UCF | 845 | Thallium, total | mg/L | 02/12/2021 - 05/04/2021 | All ND - Last | 0.001 | 0.002 | 0.001 | 0.002 | Standard |
| P002 | UCF | 845 | Total Dissolved Solids | mg/L | 02/12/2021 - 05/04/2021 | CI around mean | 722 | 1200 | 1050 | 1200 | Standard |

**TABLE 1. DETERMINATION OF POTENTIAL EXCEEDANCES**
HISTORY OF POTENTIAL EXCEEDANCES
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

**Notes:**
Potential exceedance of GWPS
HSU = hydrostratigraphic unit:
  BCU = Bedrock Confining Unit
  UA = Uppermost Aquifer
  UCF = Upper Cahokia Formation
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
  Future median = Median of the three most recent samples
  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
EDWARDS POWER PLANT
ASH POND
BARTONVILLE, ILLINOIS

| Sample Location | HSU | Program | Constituent | Result Unit | Sample Date Range | Statistical Calculation | Statistical Result | GWPS | Background | Part 845 Standard | GWPS Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AP05D | BCU | 845 | Lithium, total | mg/L | 02/10/2021 - 05/07/2021 | Future median | 0.077 | 0.071 | 0.071 | 0.04 | Background |
| AP07S | UCF | 845 | Boron, total | mg/L | 02/10/2021 - 07/22/2021 | CB around linear reg | 8.0 | 2.0 | 0.54 | 2 | Standard |
| AP07S | UCF | 845 | Total Dissolved Solids | mg/L | 02/10/2021 - 07/22/2021 | CB around linear reg | 1340 | 1200 | 1050 | 1200 | Standard |
| AP07D | BCU | 845 | Chloride, total | mg/L | 02/10/2021 - 07/22/2021 | CI around mean | 498 | 200 | 56 | 200 | Standard |
| AP07D | BCU | 845 | Lithium, total | mg/L | 02/10/2021 - 07/22/2021 | Future median | 0.15 | 0.071 | 0.071 | 0.04 | Background |
| AW-05 | UA | 845 | Boron, total | mg/L | 06/17/2021 - 07/22/2021 | Most recent sample | 2.9 | 2.0 | 0.54 | 2 | Standard |
| AW-15C | BCU | 845 | Barium, total | mg/L | 02/12/2021 - 07/21/2021 | CI around mean | 2.9 | 2.1 | 2.1 | 2 | Background |
| AW-15S | UCF | 845 | Boron, total | mg/L | 02/12/2021 - 07/21/2021 | CI around mean | 5.3 | 2.0 | 0.54 | 2 | Standard |
| AW-15S | UCF | 845 | Sulfate, total | mg/L | 02/12/2021 - 07/21/2021 | CB around linear reg | 548 | 400 | 6.5 | 400 | Standard |
| AW-15S | UCF | 845 | Total Dissolved Solids | mg/L | 02/12/2021 - 07/21/2021 | CI around mean | 1220 | 1200 | 1050 | 1200 | Standard |
| AW-19 | UA | 845 | Boron, total | mg/L | 02/11/2021 - 07/21/2021 | CI around mean | 2.5 | 2.0 | 0.54 | 2 | Standard |
| AW-20 | UA | 845 | Boron, total | mg/L | 02/11/2021 - 05/05/2021 | CI around mean | 2.1 | 2.0 | 0.54 | 2 | Standard |
| AW-21 | UA | 845 | Boron, total | mg/L | 02/11/2021 - 07/21/2021 | CI around median | 11 | 2.0 | 0.54 | 2 | Standard |

**Notes:**
HSU = hydrostratigraphic unit:
  BCU = Bedrock Confining Unit
  UA = Uppermost Aquifer
  UCF = Upper Cahokia Formation
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:
  CB around linear reg = Confidence band around linear regression
  CI around mean = Confidence interval around the mean
  CI around median = Confidence interval around the median
  Future median = Median of the three most recent samples
  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)