

# AES INDIANA EAGLE VALLEY GENERATING STATION

## Corrective Measures Assessment for Ponds A, B, and C

May 8, 2024



### Background

Federal regulations lay out a prescriptive, phased process for monitoring groundwater and using corrective action, when required, to address any potential impacts to groundwater associated with “constituents” found to be above standards set by EPA to protect people and the environment. These standards are called groundwater protection standards. Haley & Aldrich, experts retained by AES Indiana, has updated a 2019 Corrective Measures Assessment for groundwater at Eagle Valley Generating Station’s Ponds A, B, and C. This update to the Corrective Measures Assessment was completed in compliance with the EPA’s Coal Combustion Residual (CCR) Rule<sup>1</sup> and has been prepared to account for supplemental information collected since 2019.

### What is a Corrective Measures Assessment?

When levels of constituents in groundwater are found to be above the groundwater protection standards, the CCR Rule calls for corrective measures to be evaluated. The Corrective Measures Assessment report evaluates potential corrective measures that can be pursued to remediate groundwater for the constituents that are above the groundwater protection standards.

### What do the groundwater results show?

Groundwater monitoring results for Eagle Valley Generating Station’s Ash Pond System, which includes Ponds A, B, and C and Former Ponds D and E, identified arsenic, lithium, and molybdenum at levels that require corrective action. Groundwater monitoring activities performed at the site resulted in an enhanced understanding of the nature and extent of affected groundwater, which encompasses the footprint of the Ash Pond System to the west and southwest, covering approximately 360 acres. The vertical extent of affected groundwater is limited by relatively impermeable shale bedrock, approximately 90 feet below the ground surface.

### What is a CCR “constituent”?

The burning of coal for electricity generation produces coal combustion residuals (CCR), also referred to as coal ash, which contains trace elements. These trace elements are called CCR constituents.

### What do the groundwater monitoring results mean? Is drinking water affected?

Although three metals were identified in groundwater at levels above the groundwater protection standards and will require corrective action, risk evaluations demonstrate that there are **no adverse impacts on human health or the environment** resulting from CCR management practices at the site’s Ash Pond System. The Groundwater Risk Evaluation report, which is included as an appendix to the Corrective Measures Assessment report, describes the risk evaluations completed for groundwater and discharge water at the site and the results of those evaluations.

### What Corrective Measures are AES Indiana evaluating?

Haley & Aldrich identified **two source control measures** and **four groundwater measures** in its Corrective Measures Assessment to address the three constituents found at levels requiring corrective action. These measures are outlined in the table below:

Source Control Measures	Groundwater Measures
1. Hybrid Closure in Place	1. Hydraulic Containment through Groundwater Pumping
2. Closure by Removal	2. Hydraulic Containment through Groundwater Pumping with Ex-Situ Treatment
	3. Monitored Natural Attenuation
	4. In-Situ Treatment

**Corrective measures identified in the Corrective Measures Assessment**

<sup>1</sup> For more details on EPA’s CCR Rule, see the Code of Federal Regulations at <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-I/part-257/subpart-D>

The two potential source control measures and four potential groundwater measures described in the report were developed based on consideration of an array of potential measures available to address impacted groundwater. Additionally, four potential remedial alternatives (combinations of source control and groundwater measures) were identified and evaluated within the updated Corrective Measures Assessment.

### How are the Corrective Measures evaluated?

All potential remedies must meet initial screening requirements, referred to as “threshold criteria” to make sure the potential remedies protect people and the environment and address groundwater impacts. Those remedies that pass the threshold criteria are then measured against three groups of additional requirements, referred to as “balancing criteria,” to evaluate specific aspects of effectiveness, protectiveness, and implementation of each proposed remedy.

### How will a Corrective Measures decision be made?

AES Indiana will continue to evaluate the information from the Corrective Measures Assessment, work with technical consultants, consider feedback received from the Corrective Measures Assessment public meeting, and gather any additional data and information in the coming months. Each of these factors will be assessed and will inform the final remedy selection.

### Key Acronyms:

Acronym	Meaning
AOI	Area of Interest
APS	Ash Pond System
CBR	Closure by Removal
CCGT	Combined Cycle Gas Turbine
CCR	Coal Combustion Residuals
CMA	Corrective Measures Assessment
EVGS	Eagle Valley Generating Station
GW	Groundwater
GWPS	Groundwater Protection Standards
HCIP	Hybrid Closure in Place
N&E	Nature and Extent

### About Haley & Aldrich

Haley & Aldrich is an environmental consulting and engineering firm that has extensive experience with coal combustion residuals. Haley & Aldrich experts were retained by AES Indiana to update the Corrective Measures Assessment for groundwater associated with Eagle Valley Generating Station’s Ponds A, B, and C, in accordance with the EPA CCR Rule.

### Summary

Haley & Aldrich completed an updated Corrective Measures Assessment, in accordance with the EPA CCR Rule for groundwater associated with Ponds A, B, and C, that accounts for supplemental information collected since 2019. The aim of the report was to assess ways to address three CCR constituents that were identified during monitoring of groundwater at the Eagle Valley Generating Station and found to be above the groundwater protection standards. The Corrective Measures Assessment report outlines actions that may be taken to remediate these constituents. Haley and Aldrich completed a Risk Evaluation which confirmed that there are **no adverse impacts on human health or the environment** resulting from CCR management practices at the site’s Ash Pond System

**Two source control measures and four groundwater measures** have been proposed for consideration. These have been evaluated against Corrective Measures Assessment Criteria specified in the CCR Rule and identified by developing unique combinations of the potential source control measures and the potential groundwater measures. Four remedial alternatives were identified that meet the requirements in the CCR Rule.

AES Indiana is seeking input from the community regarding these potential corrective measures, in accordance with CCR Rule criteria. Input and comments from the public meeting will be considered in the final remedy selection. AES Indiana will accept comments from May 8<sup>th</sup> through June 10, 2024.

