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**Interstate Power and Light Company**

Ottumwa Generation Station

CCR Surface Impoundment Annual Inspection Report

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## Executive Summary

This annual inspection report has been prepared in accordance with the requirements of the United States Environmental Protection Agency published Final Rule for Hazardous and Solid Waste Management System – Disposal of Coal Combustion Residual (CCR) from Electric Utilities (40 CFR Parts 257 and 261, also known as CCR Rule) and Extension of Compliance Deadlines for Certain Inactive Surface Impoundments.

This annual inspection report has been prepared to assess the condition of existing and inactive CCR surface impoundments. Primarily, the annual inspection report is focused on the structural stability of the CCR surface impoundments and to ensure that the operation and maintenance of the CCR surface impoundments is in accordance with recognized and generally accepted good engineering standards.

On July 19, 2023, the OGS Ash Pond Closure Completion was certified, which removed the impoundment from Annual Inspection requirements. The OGS Zero Liquid Discharge Pond status is inactive, as a result, the impoundment was inspected even though the closure construction work has been completed. After conducting the annual inspection, as well as review of available information pertaining to the status and condition of the existing CCR surface impoundments, discussions with facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundments, there are no operating deficiencies and there have been no changes that have affected the stability or operation of the CCR surface impoundments since the previous annual inspection.

## Table of Contents

1. INTRODUCTION.....	1
1.1 CCR Rule Applicability.....	1
1.2 Annual Inspection Applicability.....	1
2. ANNUAL INSPECTION REPORTING CRITERIA.....	4
2.1 OGS Zero Liquid Discharge Pond.....	4
2.1.1 Changes in Geometry (§257.83(b)(2)(i) and §257.100(a)).....	4
2.1.2 Existing Instrumentation (§257.83(b)(2)(ii) and §257.100(a)).....	4
2.1.3 Depth and Elevation of Impounded CCR and Water (§257.83(b)(2)(iii) and §257.100(a)).....	4
2.1.4 Storage Capacity of Impounding Structure (§257.83(b)(2)(iv) and §257.100(a)).....	5
2.1.5 Volume of Impounded CCR and Water (§257.83(b)(2)(v) and §257.100(a)).....	5
2.1.6 Structural Weaknesses and Disruptive Conditions (§257.83(b)(2)(vi) and §257.100(a)).....	5
2.1.7 Other Changes Affecting Stability or Operation of Impounding Structure (§257.83(b)(2)(vii) and §257.100(a)).....	6
3. CERTIFICATION.....	7

## 1. INTRODUCTION

This annual inspection report has been prepared in accordance with the requirements of §257.83(b) and §257.100(a) of the United States Environmental Protection Agency (USEPA) published Final Rule for Hazardous and Solid Waste Management System – Disposal of Coal Combustion Residual (CCR), herein referenced as the CCR Rule.

### 1.1 CCR Rule Applicability

The CCR Rule requires annual inspections by a qualified professional engineer (PE) for both existing and inactive CCR surface impoundments with a height of 5 feet or more and a storage volume of 20 acre-feet or more or the CCR surface impoundment has a height of 20 feet or more (40 CFR §§ 257.73(b), 257.73(d), 257.83(b) and 257.100(a)).

### 1.2 Annual Inspection Applicability

The Interstate Power and Light Company (IPL), Ottumwa Generating Station (OGS) in Ottumwa, Iowa has one inactive CCR surface impoundment, the OGS Zero Liquid Discharge (ZLD) Pond. The OGS ZLD Pond meets the requirements of Section 1.1. The OGS ZLD Pond has been assigned a state identification number by the Iowa Department of Natural Resources (IDNR), which is 90-UDP-01-15.

The OGS Ash Pond has been issued a Closure Permit by IDNR with the permit number 90-SDP-16-15C. The OGS Main Ash Pond Closure Completion was certified on July 19, 2023.

In 2021, the OGS Low Volume Wastewater Treatment (LVWT) Pond was constructed within the footprint of the former OGS ZLD Pond. This work included the removal of all CCR materials from the impoundment and the rerouting of the Solids Contact Unit blowdown, stormwater runoff

and facility floor drains into the impoundment. The interior slopes of the impoundment were enhanced with rip-rap materials, while the external slopes remained unchanged. The overall height of the embankment has not changed. The new discharge weir box directs effluent water through Outfall 007 where it combines with other facility process water and is discharged into the Des Moines River through Outfall 008. Because the former OGS ZLD Pond is not officially closed due to ongoing groundwater assessment, this Report assesses the embankment and continues to reference the impoundment as the former OGS ZLD Pond.

The annual inspection of the CCR surface impoundments at OGS was completed by a qualified PE on May 15, 2024. The annual inspection was completed to ensure that the design, construction, operation, and maintenance of the CCR surface impoundment at OGS are consistent with recognized and generally accepted good engineering standards.

The annual inspection of the CCR surface impoundment at OGS included a review of available information regarding the status and condition of the CCR surface impoundment. The information reviewed included relevant files available in the operating record at the time of the annual inspection, as well as the Alliant Energy CCR Rule Compliance Data and Information website entries for OGS ([ccr.alliantenergy.com](http://ccr.alliantenergy.com)). These files for the CCR surface impoundment at OGS included, but is not limited to, CCR surface impoundment design and construction information (history of construction), hazard potential classification, structural stability assessment, safety factor assessment, hydrologic and hydraulic capacities (inflow flood control plan), results of 7-day inspections and instrumentation monitoring by a qualified person, and results of previous annual inspections.

This annual inspection also included a visual inspection of the CCR surface impoundment to identify signs of distress or malfunction of the CCR surface impoundment and appurtenant structures. Additionally, the visual inspection included hydraulic structures underlying the base of the CCR surface impoundment or passing through the dikes of the CCR surface impoundment for structural integrity and continued safe and reliable operation.

## 2. ANNUAL INSPECTION REPORTING CRITERIA

The following sub-sections address the annual inspection reporting criteria per §257.83(b)(2) and §257.100(a) of the CCR Rule for the CCR surface impoundments located at OGS.

### 2.1 OGS Zero Liquid Discharge Pond

#### 2.1.1 Changes in Geometry (§257.83(b)(2)(i) and §257.100(a))

After conducting the annual inspection, as well as review of available information provided by OGS pertaining to the status and condition of the inactive surface impoundment, and discussions with OGS facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the inactive surface impoundment, the former OGS ZLD Pond has been excavated and replaced with a new lined pond. The embankment height, internal and external slopes and overall area have not significantly changed.

#### 2.1.2 Existing Instrumentation (§257.83(b)(2)(ii) and §257.100(a))

Instrumentation that supports the operation of the former OGS ZLD Pond has been removed during the material excavation. There were no recordable water level measurements recorded from May 1, 2023, to April 30, 2024, because the former OGS ZLD Pond closure construction activities had been completed prior to this timeframe. The construction of the LVWT Pond has an ultrasonic level indicator and data recorder which monitors flow from the discharge of the Pond.

#### 2.1.3 Depth and Elevation of Impounded CCR and Water (§257.83(b)(2)(iii) and §257.100(a))

The approximate minimum, maximum, and present depths and elevations of the impounded CCR and water in the former OGS ZLD Pond since the previous annual inspection were not determined as the impoundment closure construction activities had been completed and replaced with a new

lined LVWT Pond. The discharge flows from May 1, 2023, to April 30, 2024 from the LVWT Pond ranged from zero to 2.152 million gallons per day (MGD) with an average daily discharge of 0.532 MGD.

#### **2.1.4 Storage Capacity of Impounding Structure (§257.83(b)(2)(iv) and §257.100(a))**

The storage capacity (i.e. water volume) of the CCR surface impoundment at the time of the annual inspection was not determined as the impoundment has been excavated and replaced with a new lined LVWT Pond.

#### **2.1.5 Volume of Impounded CCR and Water (§257.83(b)(2)(v) and §257.100(a))**

The volume of impounded CCR and water (i.e. total volume) within the former OGS ZLD Pond at the time of the annual inspection was not determined as the impoundment has been excavated and replaced with a new lined LVWT Pond.

#### **2.1.6 Structural Weaknesses and Disruptive Conditions (§257.83(b)(2)(vi) and §257.100(a))**

After review of available information provided by OGS pertaining to the status and condition of the inactive surface impoundment, discussions with OGS facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the inactive, surface impoundment, as well as conducting the on-site visual inspection of the inactive surface impoundment, there have been no identified appearances of an actual or potential structural weakness of the inactive surface impoundment.

Regarding the existing conditions of the former OGS ZLD Pond, there were no existing conditions identified along the upstream and downstream slopes of the embankments that were disrupting or have the potential to disrupt the operation and safety of the inactive surface impoundment.




At the time of the annual inspection, the upstream and downstream slopes of the embankments of the CCR surface impoundment were well maintained.

#### **2.1.7 Other Changes Affecting Stability or Operation of Impounding Structure (§257.83(b)(2)(vii) and §257.100(a))**

After review of available information provided by OGS pertaining to the status and condition of the inactive surface impoundment, as well as discussions with OGS facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the inactive surface impoundment, there have been no other identified changes that have affected the stability or operation of the former OGS ZLD Pond since the previous annual inspection.

### 3. CERTIFICATION

To meet the requirements of 40 CFR §§ 257.83(b) and 257.100(a), I Mark W. Loerop hereby certify that I am a licensed professional engineer in the State of Iowa; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in 40 CFR §§ 257.83(b) and 257.100(a).

By:   
Name: MARK LOEROP  
Date: 6/18/2024

