

# **Annual Inspection Report**

## **Intermountain Power Bottom Ash Basin (UT00463) CCR Surface Impoundment**

**January 18, 2017**

## **Table of Contents**

- 1.0 Introduction**
- 2.0 Annual Inspection**
  - 2.1 Requirements for Annual Inspection**
  - 2.2 Findings of Annual Inspection**
    - 2.2.1 Review of Operating Record (Weekly Inspections)**
    - 2.2.2 Review of Operation Record (30-Day Monitoring Instrumentation Inspection)**
    - 2.2.3 Review of Previous Annual Inspections**
    - 2.2.4 Visual Inspection**
- 3.0 Annual Inspection Report**
  - 3.1 Requirements for Annual Inspection Report**
  - 3.2 Annual Inspection Report**
    - 3.2.1 Changes in Geometry of Structure since Previous Annual Inspection**
    - 3.2.2 Instrumentation and Maximum Readings since Previous Annual Inspection**
    - 3.3.3 Elevation of Water and CCR since Previous Annual Inspection**
    - 3.3.4 Storage Capacity at Time of Inspection**
    - 3.3.5 Volume of Water and CCR at Time of Inspection**
    - 3.3.6 Appearances of Structural Weakness with Potential to disrupt Operation/Safety**
    - 3.3.7 Changes which may have affected CCR Unit since Previous Annual Inspection**
- 4.0 Qualified Professional Engineer**
- 5.0 Attachment - Checklist for Annual Inspection**

## **1.0 Introduction**

On April 17, 2015 the EPA published its final rule in the Federal Register to regulate disposal of coal combustion residuals (CCR) as a solid waste under subtitle D of the Resource Conservation and Recovery Act (RCRA). The effective date of this final rule was October 19, 2015. This final rule established several requirements for existing and new CCR landfills and existing and new CCR surface impoundments. Among them was the requirement to have a qualified professional engineer conduct annual inspections and prepare annual reports on each of the CCR units, with the initial annual inspection and report due no later than January 18, 2016. The requirements for the annual inspections and reports for CCR surface impoundments are outlined in §257.83(b).

The Intermountain Power Project (IPP) is located in Millard County Utah. The IPP is owned by Intermountain Power Agency (IPA) and operated locally by Intermountain Power Service Corporation (IPSC). IPP has two CCR surface impoundments. This annual inspection report is for one of these CCR surface impoundments, namely "Intermountain Power Bottom Ash Basin (UT00463)".

The purpose of this report is to document the annual inspection and annual report on the Intermountain Power Bottom Ash Basin (UT00463) surface impoundment. This is the second annual report done on this CCR surface impoundment since the rule went into effect on October 19, 2015. This report covers the period of time from January 18, 2016 until the date of this report.

## **2.0 Requirements for Annual Inspection**

### **2.1 Requirements for the Annual Inspection**

In accordance with §257.83(b)(1), the annual inspection must include a review of available information regarding the status and condition of the CCR unit, including but not limited to, files available in the operating record such as the results or findings of inspections by a qualified person, the results or findings of previous annual inspections, and a visual inspection of the CCR unit and appurtenant structures to identify signs of distress or malfunction.

### **2.2 Findings of Annual Inspection**

This annual inspection on this CCR surface impoundment was performed by Hyrum Blaine Ipson who is a licensed professional engineer in the State of Utah. A copy of the inspection checklist used for the inspection is included as an attachment to this report. The annual inspection also included a review of the operating record for weekly

inspections and the monitoring instrumentation inspections, a review of previous annual inspections, and a visual inspection of this CCR unit.

### **2.2.1 Review of Operating Record (Weekly Inspections)**

The rule requires that inspections be done on CCR units by a “qualified person” at intervals not to exceed seven days, and that the results of these inspections be put into the operating record. For the purposes of this annual inspection report, these inspections will be called “weekly inspections”. These weekly inspections must look for any appearances of actual or potential structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit. This would include inspecting for (1) excessive, turbid, or sediment-laden seepage; (2) signs of piping and other internal erosion; (3) transverse, longitudinal, and desiccation cracking; (4) slides, bulges, boils, sloughs, scarps, sinkholes, or depressions; (5) abnormally high or low pool levels; (6) animal burrows; (7) excessive or lacking vegetative cover; (8) slope erosion; and (9) debris; (10) abnormal discoloration, flow, or discharge of debris or sediment at outlets; (11) dust controlled.

A review was done on all of the weekly inspections found in the operating record which have been conducted since the previous annual report (January 18, 2016) to the date of the current annual report. During this time period, weekly inspections have been done on this CCR unit at intervals not exceeding seven days since then to the present. Each of the weekly inspections was done by a “qualified person” and addressed the eleven things outlined above. No items or issues of concern were identified or noted in any of these weekly inspections. These weekly inspections did not show any appearances of actual or potential structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of this CCR unit.

### **2.2.2 Review of Operating Record (30-Day Monitoring Instrumentation Inspections)**

The rule requires that the monitoring instrumentation for this CCR unit be inspected at intervals not exceeding 30 days by a “qualified person” and that the results of this monitoring be recorded in the operating record. For the purposes of this report, these inspections will be called “30-day instrumentation inspections”. This CCR surface impoundment is only equipped with basic monitoring instrumentation devices. It has eleven perched wells, and a staff gauge to measure the water surface pool elevation.

A review was done on all of the 30-day instrumentation inspections found in the operating record that have been conducted since the date of the previous annual inspection (January 18, 2016) to the present. Each of these 30-day instrumentation inspections was done by a “qualified person”. No items or issues of concern were identified or noted in any of these inspections.

### **2.2.3 Review of Previous Annual Inspections**

A review of the previous annual inspection was done. No action was needed from the previous annual inspection.

### **2.2.4 Visual Inspection**

A visual inspection of this CCR surface impoundment was conducted by the professional engineer on January 4, 2017. This visual inspection looked for signs of actual or potential structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit including the hydraulic structures. The visual inspection did not identify any conditions that are disrupting or have the potential to disrupt the operation and safety of this CCR unit.

## **3.0 Requirements for Annual Inspection Report**

### **3.1 Requirements for the Annual Inspection Report**

In accordance with §257.83(b)(2), the annual inspection report must address each of the following (in addition to the findings of the annual inspection discussed above):

- (i) Any changes in geometry of the impounding structure since the previous annual inspection;
- (ii) The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection;
- (iii) The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection;
- (iv) The storage capacity of the impounding structure at the time of the inspection;
- (v) The approximate volume of the impounded water and CCR at the time of the inspection;
- (vi) 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 and appurtenant structures; and
- (vii) Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.

### **3.2 Annual Inspection Report**

#### **3.2.1 Changes in Geometry of Impounding Structure since Previous Annual Inspection**

This is the second annual inspection. There have not been any changes in the geometry of this impounding structure since the previous annual inspection.

#### **3.2.2 Location/Type of Instrumentation & Readings since Previous Annual Inspection**

The monitoring instrumentation for this CCR surface impoundment consists of eleven perched wells spaced around its perimeter and a staff gauge on the outlet structure to measure the water surface elevation. There have not been any changes in the location and type of instrumentation since the previous annual inspection.

#### **3.3.3 Minimum, Maximum, and Present Elevation of Water and CCR since Previous Annual Inspection**

Since the last inspection, the maximum elevation of water was 4673.1 feet, the minimum elevation of water was 4644.5 feet, and the present elevation of water at the time of inspection was 4673.1 feet.

#### **3.2.4 Storage Capacity at Time of Inspection**

This CCR surface impoundment has a storage capacity of approximately 3420 acre-feet.

#### **3.2.5 Volume of Water and CCR at Time of Inspection**

The combined volume of water and CCR in this CCR unit at the time of inspection was approximately 2254 acre-feet.

#### **3.2.6 Appearances of Structural Weakness with Potential to Disrupt Operation/Safety**

During the visual inspection and review of available information as discussed above in Section 2.2, no appearances of an actual or potential structural weakness of this CCR unit or any existing conditions were found that are disrupting or have the potential to disrupt the operation and safety of this CCR unit.

#### **3.2.7 Changes which may have Affected Unit since Previous Annual Inspection**

There have not been any changes which may have affected this CCR unit since the previous annual inspection.

#### 4.0 Qualified Professional Engineer

The rule requires that an annual inspection be done the corresponding annual inspection report be prepared by a qualified professional engineer. This annual inspection and corresponding annual inspection report were done by Hyrum Blaine Ipson who is a qualified professional engineer. He is a registered professional engineer and has been conducting inspections on surface water storage impoundment embankments for over 33 years and inspections on landfills for over 27 years.

I certify that I conducted this annual inspection and prepared the corresponding annual inspection report, and that the information contained herein is true and correct to the best of my knowledge.

Hyrum Blaine Ipson  
Hyrum Blaine Ipson

Jan. 18, 2017  
Date



### Checklist for Annual Inspections of CCR Surface Impoundments

Annual inspections shall be conducted to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. This checklist is intended to provide general guidance to comply with the minimum requirements for the annual inspection and report of CCR surface impoundments as outlined in §257.83(b). The annual inspection and report must be completed and certified by a qualified professional engineer (i.e., an individual who is licensed by the state where the CCR Unit is located as a professional engineer to practice one or more disciplines of engineering and who is qualified by education, technical knowledge and experience to make the specific technical certifications required under this subpart). The following checklist items for the inspection and report should be addressed:

1. Review of Operational Records (as applicable) including:

- ☒ Design and Construction Information
- ☒ Previous Periodic Structural Stability Assessments
- ☒ Results of Weekly Inspection by A Qualified Person
- ☒ Results of Monthly Inspections/Monitoring by A Qualified Person
- ☒ Results of Previous Annual Inspections
- ☒ Other Documents: \_\_\_\_\_

Comments: Reviewed all records, no problems.

2. Conducted a visual inspection of the CCR unit to identify signs of distress or malfunction of the unit and appurtenant structures.

☒ Yes    ☐ No    Comments: Visual on Jan. 4, 2017. No signs of distress or malfunction.

3. Conducted a visual inspection of hydraulic structures underlying the base of the CCR unit or passing through the dike of the unit (applicable to surface impoundments only) for structural integrity and continued safe and reliable operation.

☒ Yes    ☐ No    Comments: No observable problems.

4. After the inspection, an inspection report addressing items one (1) through three (3) above must be compiled. This report must also include:

- ☒ Changes in geometry of the impounding structure since the previous annual inspection.
- ☒ Location and type of existing instrumentation.

- ☒ Maximum recorded readings for each instrument since the previous annual inspection.
- ☒ Approximate minimum, maximum, and present depth and elevation of impounded water since the previous annual inspection.
- ☒ Approximate minimum, maximum, and present depth and elevation of impounded CCR since the previous annual inspection.
- ☒ Storage capacity of the impounding structure at the time of the inspection.
- ☒ Approximate volume of impounded water at the time of the inspection.
- ☒ Approximate volume of impounded CCR at the time of the inspection.
- ☒ Any appearances of actual or potential structural weakness of the CCR unit.
- ☒ Any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures.
- ☒ Any other changes which may have affected the stability or operation of the impounding structure since the previous annual inspection.

Comments: The above info is or will be included in annual report.

Name of Qualified Professional Engineer: Hyrum Blaine Ipson

License Number: 168299-2202

Date of Inspection/Report: 01/04/2017

Signature: Hyrum Blaine Ipson