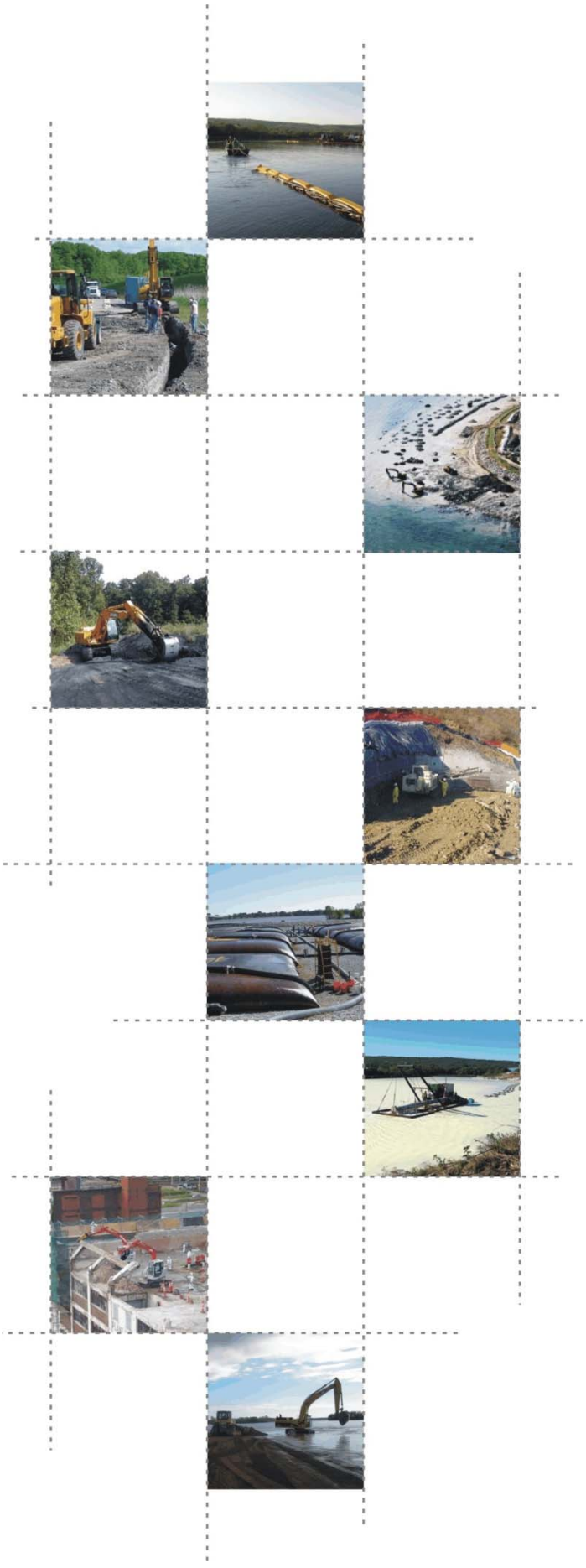
ALLIANT ENERGY
WISCONSIN POWER AND LIGHT
EDGEWATER GENERATING STATION

CCR SURFACE IMPOUNDMENT

ANNUAL INSPECTION REPORT

January 15, 2016



HARD HAT SERVICES™
Engineering, Construction and Management Solutions

EXECUTIVE SUMMARY

This annual inspection report has been prepared in accordance with the requirements of the United States Environmental Protection Agency (USEPA) 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 the CCR Rule) published on April 17, 2015 and effective October 19, 2015.

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

TABLE OF CONTENTS

1.0 INTRODUCTION

This annual inspection report has been prepared in accordance with the requirements of §257.83(b) of the CCR Rule.

1.1 CCR Rule Applicability

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

1.2 Annual Inspection Applicability to the Edgewater Generating Station

The Wisconsin Power and Light Company (WPL), Edgewater Generating Station (EDG) in Sheboygan, Wisconsin has four existing CCR surface impoundments, identified as follows:

- EDG Slag Pond
- EDG North A-Pond
- EDG South A-Pond
- EDG B-Pond

All four of the existing CCR surface impoundments identified at EDG meet the requirements of §257.73(b)(1) and/or §257.73(b)(2) of the CCR Rule.

The EDG North A-Pond and EDG South A-Pond meet the requirements of §257.73(b)(1) and §257.73(b)(2), as each of the existing CCR surface impoundments have a storage height greater than 20 feet and a storage volume greater than 20 acre-feet. The EDG Slag Pond and EDG B-Pond meet the requirements of §257.73(b)(2), as each of the existing CCR surface impoundments have a storage height greater than 20 feet.

As each of the four existing CCR surface impoundments meet the requirements of §257.73(b)(1) and/or §257.73(b)(2), they are subject to the periodic structural stability assessment requirements of §257.73(d) of the CCR Rule. Therefore, the four existing CCR surface impoundments at EDG are required to be inspected by a qualified PE on a periodic basis per §257.83(b) of the CCR Rule.

The initial annual inspection of the existing CCR surface impoundments at EDG was completed by a qualified PE on October 21, 2015 and was completed to ensure that the design, construction, operation, and maintenance of the existing CCR surface impoundments at EDG is consistent with recognized and generally accepted good engineering standards.

The initial annual inspection of the existing CCR surface impoundments at EDG included a review of available information regarding the status and condition of the existing CCR surface impoundments. The information reviewed included all relevant files available in the operating record at the time of the initial annual inspection. These files for the existing CCR surface impoundments at EDG included the 7-day inspection forms and 30-day instrumentation monitoring forms.

The initial annual inspection also included a visual inspection of the existing CCR surface impoundments in order to identify signs of distress or malfunction of the existing CCR surface impoundments and appurtenant structures. Additionally, the visual inspection included any hydraulic structures underlying the base of the existing CCR surface impoundments or passing through the dikes of the existing CCR surface impoundments for structural integrity and continued safe and reliable operation.

2.0 DESCRIPTION OF EXISTING CCR SURFACE IMPOUNDMENTS AT EDG

The following sub-section provides a summary description of the existing CCR surface impoundments located at EDG.

2.1 EDG Slag Pond

The EDG Slag Pond is located southwest of the generating plant and north of the EDG North A-Pond. The EDG Slag Pond receives influent flow from the generating plant via the Unit 4 boiler slag tanks, as well as the surge tank pumps. The water-slag slurry discharges into the southwest portion of the EDG Slag Pond. The slag is dredged out of the EDG Slag Pond and stockpiled adjacent to the existing CCR surface impoundment for dewatering. The slag is then screened to separate the coarsely graded material from the finely graded material prior to being transported off-site for beneficial reuse. The water in the EDG Slag Pond flows to the southwest where it gravity flows through a four feet wide concrete overflow into a 48-inch diameter corrugated metal pipe. The water from the EDG Slag Pond, which combines with flows from the EDG North A-Pond and EDG South A-Pond in the 48-inch diameter corrugated metal pipe, flows to the south into the northwest corner of the EDG B-Pond.

2.2 EDG North A-Pond

The EDG North A-Pond is located southwest of the generating plant and south of the EDG Slag Pond. Previously, bottom ash was sluiced from the generating plant to the EDG North A-Pond. The EDG North A-Pond no longer receives sluiced bottom ash from the generating plant as the bottom ash is collected in hydrobins.

Additionally, the EDG North A-Pond previously received water pumped from a surge tank. Water in the surge tank includes leaked water from the Unit 5 hyrdobin, steam water treatment reject water, and water from the facility floor drains. The water was pumped from the surge tank to the EDG North A-Pond via a 10-inch diameter steel pipe. The steel pipe, at a location northeast of the EDG North A-Pond, splits into two separate 10-inch diameter pipes. Each pipe then discharged into the northeast corner of both the EDG North A-Pond and EDG South A-Pond. The EDG North A-Pond no longer receives any operational process flows from the generating plant.

Previously, water within the EDG North A-Pond flowed to the west. The EDG North A-Pond consists of an 18-inch diameter corrugated plastic pipe located in the southwest corner of the existing CCR surface impoundment. The water would flow through the corrugated plastic pipe to the west into a concrete sluice box. The water within the sluice box flows through a parshall flume prior to discharging into a 48-inch diameter corrugated metal pipe, which also receives influent flow from the EDG Slag Pond and EDG South A-Pond, prior to gravity flowing to the south into the northwest corner of the EDG B-Pond. Presently, no water within the EDG North A-Pond discharges through the 18-inch diameter corrugated plastic pipe as the pipe has been plugged.

2.3 EDG South A-Pond

The EDG South A-Pond is located southwest of the generating plant and south of the EDG North A-Pond. Previously, bottom ash was sluiced from the generating plant to the EDG South A-Pond. The EDG South A-Pond no longer receives sluiced bottom ash from the generating plant as the bottom ash is collected in hydrobins. As currently configured, the EDG South A-Pond receives water pumped from a surge tank. Water in the surge tank includes leaked water from the Unit 5 hyrdobin, steam water treatment reject water, and water from the facility floor drains. The water is pumped from the surge tank to the EDG South A-Pond via a 10-inch diameter steel pipe. The steel pipe, at a location northeast of the EDG North A-Pond, splits into two separate 10-inch diameter pipes. Each pipe then discharges into the northeast corner of both the EDG North A-Pond and EDG South A-Pond. Note, the EDG North A-Pond no longer receives operational process flows from the generating plant.

The water within the EDG South A-Pond flows to the west. The EDG South A-Pond consists of an 18-inch diameter corrugated plastic pipe located in the northwest corner of the existing CCR surface impoundment. The water flows through the corrugated plastic pipe to the west into a concrete sluice box. The water within the sluice box flows through a parshall flume prior to discharging into a 48-inch diameter corrugated metal pipe, which also receives influent flow from the EDG Slag Pond, prior to gravity flowing to the south into the northwest corner of the EDG B-Pond.

2.4 EDG B-Pond

The EDG B-Pond is located southwest of the generating plant and south of the EDG South A-Pond. The EDG B-Pond receives influent flow via a 48-inch diameter corrugated metal pipe from the EDG Slag Pond and EDG South A-Pond. Additionally, the EDG B-Pond

receives storm water drainage from the closed ash landfill located west of the EDG B-Pond. The storm water from the closed ash landfill discharges into the west side of the EDG B-Pond via a small corrugated plastic pipe.

The water in the EDG B-Pond flows to the east through a weir structure. The water gravity flows to the east through a 24-inch diameter corrugated metal pipe where it discharges into the west side of the EDG C-Pond. The water in the EDG C-Pond gravity flows a significant length to the east into the EDG F-Pond. The water in the EDG F-Pond flows through the facility's Wisconsin Pollution Discharge Elimination System (WPDES) Outfall 004 and discharges into Lake Michigan.

3.0 ANNUAL INSPECTION REPORTING CRITERIA

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

3.1 EDG Slag Pond

3.1.1 Changes in Geometry (§257.83(b)(2)(i))

After review of available information provided by EDG pertaining to the status and condition of the existing CCR surface impoundment, as well as discussions with EDG facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundment, there have been no identified changes in the geometry of the impounding structure that would warrant additional investigation or remedial activities.

Additionally, review of historical annual inspections completed in 2011 through 2014, prior to this initial CCR Rule annual inspection, has shown there have been no previously identified changes in the geometry of the EDG Slag Pond.

3.1.2 Existing Instrumentation (§257.83(b)(2)(ii))

The EDG Slag Pond, at the time of this initial CCR Rule annual inspection, does not have instrumentation that supports the operation of the existing CCR surface impoundment.

3.1.3 Depth and Elevation of Impounded CCR and Water (§257.83(b)(2)(iii))

As this is the initial CCR Rule annual inspection, there is no historical record of available information regarding the approximate minimum, maximum, and present depths and elevations of the impounded CCR and water in the EDG Slag Pond from a previous annual inspection that was available for review.

However, historical information was previously provided from WPL staff, including an ash pond evaluation prepared for EDG by Miller Engineers & Scientists (2011), which included the most recent topographic survey of the EDG Slag Pond, as well as soil boring data. Reviewing the information provided within the above mentioned document, the following depths and elevations were approximated for the impounded CCR and water:

- From the 2011 ash pond evaluation, the normal water surface elevation of the EDG Slag Pond was surveyed to be approximately 605.7. The invert elevation of the hydraulic structure was surveyed to be approximately 605.17.

- From the 2011 ash pond evaluation, the lowest contour elevation surveyed along the top of the impounding structure was approximately 609.
- From the 2011 ash pond evaluation, a soil boring installed along the south embankment of the EDG Slag Pond encountered CCR from the ground surface to a bottom elevation of approximately 589. Therefore, the original design bottom elevation of the existing CCR surface impoundment was estimated to be approximately 589, which is 16.7 feet below the surveyed normal water surface elevation.

3.1.4 Storage Capacity of Impounding Structure (§257.83(b)(2)(iv))

The storage capacity (water volume) of the EDG Slag Pond at the time of the initial annual inspection was not readily available.

Historical information previously provided from WPL staff included a 2011 ash pond evaluation, which included the most recent topographic survey of the EDG Slag Pond, as well as soil boring data. Reviewing the information provided within the above mentioned documents, bathymetric survey data of the EDG Slag Pond was not available and therefore the average water depth of the EDG Slag Pond could not be confirmed. However, based on historical knowledge of the operations of the EDG Slag Pond, the average depth of water observed within the EDG Slag Pond was approximately 2 feet. The total surface area of the EDG Slag Pond was approximately 1.75 acres. Thus, the total storage capacity within the EDG Slag Pond was calculated to be approximately 5,500 cubic yards.

3.1.5 Volume of Impounded CCR and Water (§257.83(b)(2)(v))

The volume of impounded CCR and water (total volume) within the EDG Slag Pond at the time of the initial annual inspection was not readily available.

However, historical information was previously provided from WPL staff, including a 2011 ash pond evaluation, which included the most recent topographic survey of the EDG Slag Pond, as well as soil boring data. Reviewing the information provided within the above mentioned documents, the approximate volume of impounded CCR and water in the EDG Slag Pond was calculated.

From the 2011 ash pond evaluation, a soil boring installed along the south embankment of the EDG Slag Pond encountered CCR from the ground surface to a bottom elevation of approximately 589. From the 2011 ash pond evaluation, the normal water surface

elevation of the EDG Slag Pond was surveyed to be approximately 605.7. Thus, the total interior storage height of the impounded CCR and water was approximately 16.7 feet.

The total surface area of the EDG Slag Pond was approximately 1.75 acres. Thus, the total volume of impounded CCR and water within the EDG Slag Pond was approximately 47,000 cubic yards.

3.1.6 Structural Weaknesses and Disruptive Conditions (§257.83(b)(2)(vi))

After review of available information provided by EDG pertaining to the status and condition of the existing CCR surface impoundment, discussions with EDG facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundment, as well as conducting the on-site visual inspection of the existing CCR surface impoundment, there have been no identified appearances of an actual or potential structural weakness of the existing CCR surface impoundment that would warrant additional investigation or remedial activities. Additionally, there were no identified issues with the structural integrity of the hydraulic structures (four feet wide concrete overflow and 48-inch diameter corrugated metal pipe) associated with the EDG Slag Pond.

Regarding the existing conditions of the EDG Slag 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 existing CCR surface impoundment.

3.1.7 Other Changes Affecting Stability or Operation of Impounding Structure (§257.83(b)(2)(vii))

After review of available information provided by EDG pertaining to the status and condition of the existing CCR surface impoundment, as well as discussions with EDG facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundment, there have been no other identified changes that have affected the stability or operation of the EDG Slag Pond.

Additionally, review of historical annual inspections completed in 2011 through 2014, prior to this initial CCR Rule annual inspection, has shown there have been no previously identified changes that have affected the stability or operation of the EDG Slag Pond.

3.2 EDG North A-Pond

3.2.1 Changes in Geometry (§257.83(b)(2)(i))

After review of available information provided by EDG pertaining to the status and condition of the existing CCR surface impoundment, as well as discussions with EDG facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundment, there have been no identified changes in the geometry of the impounding structure that would warrant additional investigation or remedial activities.

Additionally, review of historical annual inspections completed in 2011 through 2014, prior to this initial CCR Rule annual inspection, has shown there have been no previously identified changes in the geometry of the EDG North A-Pond.

3.2.2 Existing Instrumentation (§257.83(b)(2)(ii))

Instrumentation that supports the operation of the EDG North A-Pond includes a parshall flume discharge structure and equipment to measure the flow of the combined discharged water of the EDG North A-Pond and EDG South A-Pond. The instrumentation is located west of the EDG North A-Pond and EDG South A-Pond. The instrumentation is not associated with any WPDES Outfall at EDG.

As this is the initial CCR Rule annual inspection, there is no historical record of available information regarding the maximum recorded readings of each instrument from a previous annual inspection that was available for review. However, flow data associated with the EDG North A-Pond and EDG South A-Pond (e.g. daily maximum flow) was provided by WPL staff for 2015 (January 01, 2015 through October 31, 2015). Reviewing the provided flow data, the maximum daily flow recorded was approximately 3.32 million gallons (February 2015).

3.2.3 Depth and Elevation of Impounded CCR and Water (§257.83(b)(2)(iii))

As this is the initial CCR Rule annual inspection, there is no historical record of available information regarding the approximate minimum, maximum, and present depths and elevations of the impounded CCR and water in the EDG North A-Pond from a previous annual inspection that was available for review.

However, historical information was previously provided from WPL staff, including a 2011 ash pond evaluation, which included the most recent topographic survey of the EDG

North A-Pond, as well as soil boring data. Reviewing the information provided within the above mentioned document, the following depths and elevations were approximated for the impounded CCR and water:

- From the 2011 ash pond evaluation, the normal water surface elevation of the EDG North A-Pond was surveyed to be approximately 608.7.
- From the 2011 ash pond evaluation, the invert elevation of the hydraulic structure was surveyed to be approximately 608.17.
- From the 2011 ash pond evaluation, the lowest contour elevation surveyed along the top of the impounding structure was approximately 610.
- From the 2011 ash pond evaluation, soil borings installed along the north, west, and south embankments of the EDG North A-Pond encountered CCR from the ground surface to an average bottom elevation of approximately 588. Therefore, the original design bottom elevation of the existing CCR surface impoundment was estimated to be approximately 588, which is 20.7 feet below the surveyed normal water surface elevation.

3.2.4 Storage Capacity of Impounding Structure (§257.83(b)(2)(iv))

The storage capacity (water volume) of the EDG North A-Pond at the time of the initial annual inspection was not readily available.

However, historical information was previously provided from WPL staff, including a 2011 ash pond evaluation, which included the most recent topographic survey of the EDG North A-Pond and EDG South A-Pond, as well as soil boring data. Additionally, a coal pile runoff pond study by Burns & McDonnell (2015) included the most recent bathymetric survey data of the EDG South A-Pond. Reviewing the topographic data from the 2011 ash pond evaluation the design, construction, and operational capabilities of the EDG North A-Pond are similar to EDG South A-Pond. Therefore, without additional bathymetric survey data of the EDG North A-Pond, the storage capacity of the EDG North A-Pond was determined to be similar to that of the EDG South A-Pond. See Section 3.3.4 of this annual inspection report for the calculated storage capacity of the EDG South A-Pond.

3.2.5 Volume of Impounded CCR and Water (§257.83(b)(2)(v))

The volume of impounded CCR and water (total volume) within the EDG North A-Pond at the time of the initial annual inspection was not readily available.

However, historical information was previously provided from WPL staff, including a 2011 ash pond evaluation, which included the most recent topographic survey of the EDG North A-Pond, as well as soil boring data. Reviewing the information provided within the above mentioned documents, the approximate volume of impounded CCR and water in the EDG North A-Pond was calculated.

From the 2011 ash pond evaluation, soil borings installed along the north, west, and south embankments of the EDG North A-Pond encountered CCR from the ground surface to an average bottom elevation of approximately 588. From the 2011 ash pond evaluation, the normal water surface elevation of the EDG North A-Pond was surveyed to be approximately 608.7. Thus, the total interior storage height of the impounded CCR and water was approximately 20.7 feet.

The total surface area of the EDG North A-Pond was approximately 2.2 acres. Thus, the total volume of impounded CCR and water within the EDG North A-Pond was approximately 73,000 cubic yards.

3.2.6 Structural Weaknesses and Disruptive Conditions (§257.83(b)(2)(vi))

After review of available information provided by EDG pertaining to the status and condition of the existing CCR surface impoundment, discussions with EDG facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundment, as well as conducting the on-site visual inspection of the existing CCR surface impoundment, there have been no identified appearances of an actual or potential structural weakness of the existing CCR surface impoundment that would warrant additional investigation or remedial activities. Additionally, there were no identified issues with the structural integrity of the hydraulic structures (18-inch diameter corrugated plastic pipe) associated with the EDG North A-Pond.

Regarding the existing conditions of the EDG North A-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 existing CCR surface impoundment.

3.2.7 Other Changes Affecting Stability or Operation of Impounding Structure (§257.83(b)(2)(vii))

After review of available information provided by EDG pertaining to the status and condition of the existing CCR surface impoundment, as well as discussions with EDG facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundment, there have been no other identified changes that have affected the stability or operation of the EDG North A-Pond.

Additionally, review of historical annual inspections completed in 2011 through 2014, prior to this initial CCR Rule annual inspection, has shown there have been no previously identified changes that have affected the stability or operation of the EDG North A-Pond.

3.3 EDG South A-Pond

3.3.1 Changes in Geometry (§257.83(b)(2)(i))

After review of available information provided by EDG pertaining to the status and condition of the existing CCR surface impoundment, as well as discussions with EDG facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundment, there have been no identified changes in the geometry of the impounding structure that would warrant additional investigation or remedial activities.

Additionally, review of historical annual inspections completed in 2011 through 2014, prior to this initial CCR Rule annual inspection, has shown there have been no previously identified changes in the geometry of the EDG South A-Pond.

3.3.2 Existing Instrumentation (§257.83(b)(2)(ii))

Instrumentation that supports the operation of the EDG South A-Pond includes a parshall flume discharge structure and equipment to measure the flow of the combined discharged water of the EDG North A-Pond and EDG South A-Pond. The instrumentation is located west of the EDG North A-Pond and EDG South A-Pond. The instrumentation is not associated with any WPDES Outfall at EDG.

As this is the initial CCR Rule annual inspection, there is no historical record of available information regarding the maximum recorded readings of each instrument from a previous annual inspection that was available for review. However, flow data associated with the EDG North A-Pond and EDG South A-Pond (e.g. daily maximum flow) was

provided by WPL staff for 2015 (January 01, 2015 through October 31, 2015). Reviewing the provided flow data, the maximum daily flow recorded was approximately 3.32 million gallons (February 2015).

3.3.3 Depth and Elevation of Impounded CCR and Water (§257.83(b)(2)(iii))

As this is the initial CCR Rule annual inspection, there is no historical record of available information regarding the approximate minimum, maximum, and present depths and elevations of the impounded CCR and water in the EDG South A-Pond from a previous annual inspection that was available for review.

However, historical information was previously provided from WPL staff, including a 2011 ash pond evaluation, which included the most recent topographic survey of the EDG South A-Pond, as well as soil boring data. Additionally, a coal pile runoff pond study by Burns & McDonnell (2015) included the most recent bathymetric survey data of the EDG South A-Pond. Reviewing the information provided within the above mentioned documents, the following depths and elevations were approximated for the impounded CCR and water:

- From the 2011 ash pond evaluation, the normal water surface elevation of the EDG South A-Pond was surveyed to be approximately 609.2. However, the bathymetric survey data provided in the 2015 coal pile runoff pond study showed a normal water surface elevation of 610.5. *Note: For the purpose of this annual inspection report, the higher surveyed water elevation shall be used for calculating storage volumes.*
- From the 2011 ash pond evaluation, the invert elevation of the hydraulic structure was surveyed to be approximately 608.18.
- From the 2011 ash pond evaluation, soil borings installed along the north, west, and south embankments of the EDG South A-Pond encountered CCR from the ground surface to an average bottom elevation of approximately 585. Therefore, the original design bottom elevation of the existing CCR surface impoundment was estimated to be approximately 585, which is 25.5 feet below the 2015 coal pile runoff pond study surveyed normal water surface elevation.
- From the 2015 coal pile runoff pond study bathymetric survey data, the surveyed bottom contour elevation varied between 601 and 610, with an average bottom contour elevation of approximately 604.5.

3.3.4 Storage Capacity of Impounding Structure (§257.83(b)(2)(iv))

The storage capacity (water volume) of the EDG South A-Pond at the time of the initial annual inspection was not readily available.

However, historical information was previously provided from WPL staff including a 2011 ash pond evaluation, which included the most recent topographic survey of the EDG South A-Pond, as well as soil boring data. Additionally, a 2015 coal pile runoff pond study included the most recent bathymetric survey data of the EDG South A-Pond. Reviewing the information provided within the above mentioned documents, the approximate storage capacity of the EDG South A-Pond was calculated.

From the 2015 coal pile runoff pond study bathymetric survey data, the normal water surface elevation was surveyed to be 610.5. The average bottom contour elevation that was surveyed was approximately 604.5. Thus, the total average water depth at the time of the bathymetric survey was calculated to be approximately 6 feet. The total surface area of the EDG B-Pond was approximately 2.2 acres. Thus, the total storage capacity within the EDG B-Pond was calculated to be approximately 21,000 cubic yards.

3.3.5 Volume of Impounded CCR and Water (§257.83(b)(2)(v))

The volume of impounded CCR and water (total volume) within the EDG South A-Pond at the time of the initial annual inspection was not readily available.

However, historical information was previously provided from WPL staff, including a 2011 ash pond evaluation, which included the most recent topographic survey of the EDG South A-Pond, as well as soil boring data. Additionally, a 2015 coal pile runoff pond study included the most recent bathymetric survey data of the EDG South A-Pond. Reviewing the information provided within the above mentioned documents, the approximate volume of impounded CCR and water in the EDG South A-Pond was calculated.

From the 2011 ash pond evaluation, soil borings installed along the north, west, and south embankments of the EDG South A-Pond encountered CCR from the ground surface to an average bottom elevation of approximately 585. From the 2015 coal pile runoff pond study, the normal water surface elevation of the EDG South A-Pond was surveyed to be approximately 610.5. Thus, the total interior storage height of the impounded CCR and water was approximately 25.5 feet.

The total surface area of the EDG South A-Pond was approximately 2.2 acres. Thus, the total volume of impounded CCR and water within the EDG South A-Pond was calculated to be approximately 90,500 cubic yards.

3.3.6 Structural Weaknesses and Disruptive Conditions (§257.83(b)(2)(vi))

After review of available information provided by EDG pertaining to the status and condition of the existing CCR surface impoundment, discussions with EDG facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundment, as well as conducting the on-site visual inspection of the existing CCR surface impoundment, there have been no identified appearances of an actual or potential structural weakness of the existing CCR surface impoundment that would warrant additional investigation or remedial activities. Additionally, there were no identified issues with the structural integrity of the hydraulic structures (18-inch diameter corrugated plastic pipe) associated with the EDG South A-Pond.

Regarding the existing conditions of the EDG South A-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 existing CCR surface impoundment.

3.3.7 Other Changes Affecting Stability or Operation of Impounding Structure (§257.83(b)(2)(vii))

After review of available information provided by EDG pertaining to the status and condition of the existing CCR surface impoundment, as well as discussions with EDG facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundment, there have been no other identified changes that have affected the stability or operation of the EDG South A-Pond.

Additionally, review of historical annual inspections completed in 2011 through 2014, prior to this initial CCR Rule annual inspection, has shown there have been no previously identified changes that have affected the stability or operation of the EDG South A-Pond.

3.4 EDG B-Pond

3.4.1 Changes in Geometry (§257.83(b)(2)(i))

After review of available information provided by EDG pertaining to the status and condition of the existing CCR surface impoundment, as well as discussions with EDG facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundment, there have been no identified

changes in the geometry of the impounding structure that would warrant additional investigation or remedial activities.

Additionally, review of historical annual inspections completed in 2011 through 2014, prior to this initial CCR Rule annual inspection, has shown there have been no previously identified changes in the geometry of the EDG B-Pond.

3.4.2 Existing Instrumentation (§257.83(b)(2)(ii))

The EDG B-Pond, at the time of this initial CCR Rule annual inspection, does not have instrumentation that supports the operation of the existing CCR surface impoundment.

3.4.3 Depth and Elevation of Impounded CCR and Water (§257.83(b)(2)(iii))

As this is the initial CCR Rule annual inspection, there is no historical record of available information regarding the approximate minimum, maximum, and present depths and elevations of the impounded CCR and water in the EDG B-Pond from a previous annual inspection that was available for review.

However, historical information was previously provided from WPL staff, including a 2011 ash pond evaluation, which included the most recent topographic survey of the EDG B-Pond, as well as soil boring data. Additionally, a 2015 coal pile runoff pond study included the most recent bathymetric survey data of the EDG B-Pond. Reviewing the information provided within the above mentioned documents, the following depths and elevations were approximated for the impounded CCR and water:

- From the 2011 ash pond evaluation, the normal water surface elevation of the EDG B-Pond was surveyed to be approximately 597.3. However, the bathymetric survey data provided in the 2015 coal pile runoff pond study showed a normal water surface elevation of 598.2. *Note: For the purpose of this annual inspection report, the higher surveyed water elevation shall be used for calculating storage volumes.*
- From the 2011 ash pond evaluation, the invert elevation of the hydraulic structure was surveyed to be approximately 594.76.
- From the 2011 ash pond evaluation, soil borings installed along the north and west embankments of the EDG B-Pond encountered CCR from the ground surface to an average bottom elevation of approximately 583. Therefore, the original design bottom elevation of the existing CCR surface impoundment was estimated to be approximately 583, which is 15.3 feet below the 2015 coal pile runoff pond study surveyed normal water surface elevation.

- From the 2015 coal pile runoff pond study bathymetric survey data, the surveyed bottom contour elevation varied between 592 and 598, with an average bottom contour elevation of approximately 595.

Note, original construction drawings were not provided from WPL staff to confirm the existing depths and elevations of the impounded CCR in the EDG B-Pond.

3.4.4 Storage Capacity of Impounding Structure (§257.83(b)(2)(iv))

The storage capacity (water volume) of the EDG B-Pond at the time of the initial annual inspection was not readily available. However, historical information was previously provided from WPL staff including a 2011 ash pond evaluation, which included the most recent topographic survey of the EDG B-Pond, as well as soil boring data. Additionally, a 2015 coal pile runoff pond study included the most recent bathymetric survey data of the EDG B-Pond. Reviewing the information provided within the above mentioned documents, the approximate storage capacity of the EDG B-Pond was calculated.

From the 2015 coal pile runoff pond study bathymetric survey data, the normal water surface elevation was surveyed to be 598.2. The average bottom contour elevation that was surveyed was approximately 595. Thus, the total average water depth at the time of the bathymetric survey was calculated to be approximately 3.2 feet. The total surface area of the EDG B-Pond was approximately 1.9 acres. Thus, the total storage capacity within the EDG B-Pond was calculated to be approximately 9,900 cubic yards.

3.4.5 Volume of Impounded CCR and Water (§257.83(b)(2)(v))

The volume of impounded CCR and water (total volume) within the EDG B-Pond at the time of the initial annual inspection was not readily available.

However, historical information was previously provided from WPL staff, including a 2011 ash pond evaluation, which included the most recent topographic survey of the EDG B-Pond, as well as soil boring data. Additionally, a 2015 coal pile runoff pond study included the most recent bathymetric survey data of the EDG B-Pond. Reviewing the information provided within the above mentioned documents, the approximate volume of impounded CCR and water in the EDG B-Pond was calculated.

From the 2011 ash pond evaluation, soil borings installed along the north and west embankments of the EDG B-Pond encountered CCR from the ground surface to an average bottom elevation of approximately 583. From the 2015 coal pile runoff pond study bathymetric survey, the normal water surface elevation of the EDG B-Pond was

surveyed to be approximately 598.2. Thus, the total interior storage height of the impounded CCR and water was approximately 15.2 feet.

The total surface area of the EDG B-Pond was approximately 1.9 acres. Thus, the total volume of impounded CCR and water within the EDG B-Pond was approximately 46,500 cubic yards.

3.4.6 Structural Weaknesses and Disruptive Conditions (§257.83(b)(2)(vi))

After review of available information provided by EDG pertaining to the status and condition of the existing CCR surface impoundment, discussions with EDG facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundment, as well as conducting the on-site visual inspection of the existing CCR surface impoundment, there have been no identified appearances of an actual or potential structural weakness of the existing CCR surface impoundment that would warrant additional investigation or remedial activities. Additionally, there were no identified issues with the structural integrity of the hydraulic structures (24-inch diameter corrugated metal pipe) associated with the EDG B-Pond.

Regarding the existing conditions of the EDG B-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 existing CCR surface impoundment.

3.4.7 Other Changes Affecting Stability or Operation of Impounding Structure (§257.83(b)(2)(vii))

After review of available information provided by EDG pertaining to the status and condition of the existing CCR surface impoundment, as well as discussions with EDG facility personnel who oversee and maintain the operation, maintenance, and inspection activities of the existing CCR surface impoundment, there have been no other identified changes that have affected the stability or operation of the EDG B-Pond.

Additionally, review of historical annual inspections completed in 2011 through 2014, prior to this initial CCR Rule annual inspection, has shown there have been no previously identified changes that have affected the stability or operation of the EDG B-Pond.

4.0 CERTIFICATION

To meet the requirements of 40 CFR 257.83(b), I Mark W. Loerop hereby certify that I am a licensed professional engineer in the State of Wisconsin; 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).

By: _____

Name: Mark Loerop

Date: JAN 15, 2016