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Green CCR Surface Impoundment

Disposal of Coal Combustion Residuals (CCR) from Electric Utilities Final Rule Structural Integrity Criteria for Existing CCR Surface Impoundments

This Emergency Action Plan is written in accordance with 40 CFR Part 257.74(a)(3)(i)(A) through (E) and (a)(3)(iv)

February 28 2020

Statement of Qualifications and Limitations

The attached Report (the “Report”) has been prepared by AECOM Canada Ltd. (“AECOM”) for the benefit of the Client (“Client”) in accordance with the agreement between AECOM and Client, including the scope of work detailed therein (the “Agreement”).

The information, data, recommendations and conclusions contained in the Report (collectively, the “Information”):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the “Limitations”);
- represents AECOM’s professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to AECOM which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
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AECOM: 2015-04-13

Prepared for:

Big Rivers
Sebree Generating Station
9000 Highway 2096
Robards, Kentucky 42452

Prepared by:

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Revision History

Revision	Revision date	Details
0	1/4/2017	• Initial Plan by Associated Engineering, Inc.
1	2/21/2018	• Revised by Associated Engineering, Inc.
2	2/28/2020	• Update of **Figure 1:** Aerial Photo Map of Big Rivers Electric Corporation Sebree Generating Station and CCR Surface Impoundments, **Figure 2:** Aerial Photo Map of Reid/HMP&L CCR Surface Impoundment, and **Figure 3:** Affected Downstream Area of Reid/HMP&L CCR Surface Impoundment to replace prior aerial photos provided by Associated Engineering • Update of **Table 1:** Reid/HMP&L CCR Surface Impoundment EAP Notification List • Entry of new data values from Associated Engineering's September 2019 survey regarding depths of impounded water and CCR, total storage capacity, and total volume of impounded water and CCR • Replacement of Associated Engineering company contact information and references • Transference of Associated Engineering's original Emergency Action Plan into new document format

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Table 2: Resident/Business Notification List

1. CCR Surface Impoundment Emergency Action Plan Introduction

The final rule for the Disposal of Coal Combustion Residuals From Electric Utilities was published in the Federal Register on April 17, 2015. The new rule establishes technical requirements for CCR landfills and surface impoundments under subtitle D of the Resource Conservation and Recovery Act. Per 40 CFR Part 257.74(a)(3)(i) any surface impoundment that has been listed as having a significant hazard potential must have an emergency action plan. The purpose of the "Surface Impoundment Emergency Action Plan (EAP)" is to develop an EAP that will allow the facility and staff to be prepared for a surface impoundment failure event.

Big Rivers Electric Corporation is developing and implementing an EAP (or plan) in the event a dam failure occurs at their Sebree Generating Station Green CCR Surface Impoundment (see Figures 1 and 2). In addition, this plan is written in accordance, and to comply, with 40 CFR Part 257.74(a)(3)(i). This EAP provides step by step instructions to those individuals at the plant level on how to respond to an emergency action situation. The plan includes notification lists, maps of the CCR surface impoundment, and response procedures. The main goal of the EAP is to offer a quick and effective reference for the staff at the facility in the case such an emergency should occur.

2. CCR Surface Impoundment Physical Description and Structural Integrity Hazard Potential Classification

2.1 Physical Description

The Green CCR Surface Impoundment has been in place for 40 plus years. The CCR surface impoundment operator has general maintenance and repair procedures in place as determined necessary. There are no known occurrences of structural instability of the CCR surface impoundment.

The CCR surface impoundment is used for the placement of coal combustion residual material; currently slurried bottom ash. The immediate watershed that drains to the CCR surface impoundment, and in which the CCR surface impoundment is considered to be located, is unnamed and 54.13 acres in size. The unnamed watershed discharges from the CCR impoundment and is routed to the Green River.

The CCR surface impoundment is a combined incised/earthen embankment structure. Embankments form the west, south and east sides of the impoundment and the north side is incised. The original terrain on which the impoundment was constructed consisted of small stream valleys draining eastward to the Green River. Most of the central portion of the south dike was constructed on a subdued ridge and the toe of the outboard slope intersected a lower drainage area. The Green River is located approximately 400 feet east of the structure. The

west dike is generally less than five feet in height and the south dike reaches a maximum height of 19.5 feet. The east dike reaches a maximum height of approximately eight feet and is buttressed with a secondary parallel embankment that serves as a 40-foot wide roadway. Underlying preconstruction soils consisted of Loring-Grenada, Loring-Zanesville-Wellston (Henderson County) and Loring-Wellston-Zanesville (Webster County) soil associations which are generally characterized as well drained to moderately well-drained soils on nearly level to sloping uplands. Bottom ash has been placed above the normal pool along the inboard side, essentially creating reclaimed land.

Depths of impounded water and CCR are 19.8 feet and 56.8 feet (at respective locations of maximum impounded water and CCR depths). Corresponding elevations of impounded water and CCR are 392.0 feet and 419.3 feet, respectively, above mean sea level.

The total storage capacity of the Green Surface Impoundment at the time of the September 2019 survey was estimated to be 976,165 cubic yards. This volume was based on the assumption CCR can be placed up to the spillway elevation of 393.8 ft above MSL. The storage capacity is provided by Associated Engineers, Inc. and the estimated capacity is based on the available measured water surface elevations, the September 2019 flight derived topographic contours and bathymetric survey data, and the as-built design data for the impoundment prior to placement of CCR material, prepared by Burns and Roe, Inc. Engineering and Consultants, dated June 30, 1978, provided by BREC.The above depths, elevations, storage capacity and volumes are based on: 1) available measured water surface elevations gathered by Associated Engineering, 2) 2019 Associated Engineering flight derived topographic contours and bathymetric survey data, and 3) best available as-built design data for the impoundment prior to placement of CCR material (i.e. the Burns and Roe, Inc. Engineering and Consultants June 30, 1978 design plans provided by Big Rivers Electric Corporation).

The total volume of CCR material contained in the Green CCR Surface Impoundment at the time of the September 2019 survey was estimated to be 882,093 cubic yards which includes CCR material above the impoundment pool elevation. The total volume of impounded water was estimated at 165,762 cubic yards.

The volumes are based on the survey completed by Associated Engineers, Inc. in September of 2019. The estimated volumes are based on the September 2019 flight derived topographic contours and bathymetric survey data and the as-built design data for the impoundment prior to placement of CCR material, prepared by Burns and Roe, Inc. Engineering and Consultants, dated June 30, 1978, provided by BREC.

The impoundment discharge consists of two corrugated steel pipes, each 30 inches in diameter. The pipe intakes are through a concrete common headwall collection structure.

2.2 Hazard Potential Classification

Based on the criteria of 40 CFR Part 257.74 Structural integrity criteria for existing CCR surface impoundments, the determination has been made that the Green CCR Surface Impoundment meets the classification of a Significant hazard potential CCR surface impoundment (defined as a diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns). The determination is based on the high probability that failure of the embankment could result in environmental damage extending beyond the boundaries of the Big Rivers Electric Corporation Sebree Generating Station (see Figure 3).

3. Safety Emergency Recognition and Prevention

3.1 Emergency Definitions and CCR Surface Impoundment Potential Risk

Imminent/Actual Failure - Description: Impending or actual sudden release of water and/or bottom and fly ash caused by an accident to, or failure of, CCR surface impoundment structures.

Examples: (1) Failure of a segment of the perimeter dam by seepage and/or slope instability, or (2) Failure of a segment of the perimeter dam by erosion or overtopping

Potential Hazard - Description: Potential for sudden release of water and/or bottom and fly ash caused by an accident to or failure of CCR surface impoundment structures. Actions taken during such potentially hazardous events may prevent or mitigate failure. Even if failure is inevitable, in potential situations more time generally is available than in the imminent/actual failure emergency situation to issue warnings and/or take mitigative actions.

If the dam were to break on the south side, the material in the impoundment would flow into a drainage ditch that reports directly to the Green river. If the dam were to break on any of the remaining sides of the CCR surface impoundment, then the majority of the material would most likely only affect the facility itself. The CCR surface impoundment is located adjacent to the Green CCR Landfill access road and a failure of the dam would be quickly noticed due to its location. Preventative measures to avoid a dam failure include visual inspections as detailed below.

3.2 Site and Dam Condition Surveillance

The Green CCR Surface Impoundment has oversight by facility personnel including the performance environmental specialist, the chemical engineer and the laboratory technicians. The performance environmental specialist, chemical engineer and/or their designee check the CCR Surface Impoundment dam at a maximum interval of seven days per 40 CFR Part 257.83(a)(i). The dam is inspected for erosion, wash outs, the presence of water around the dam, and other indicators of potential dam failure. In addition to these checks, a wildlife trapper has been retained to conduct inspections of the dam for animal burrows. Repairs are made if animal burrows are noted.

3.3 Detection and Monitoring Devices

Piezometers are installed on the Green CCR Surface Impoundment dam and are checked monthly. Groundwater monitoring wells have also been installed around the perimeter of the CCR Surface Impoundment and are being monitored in accordance with 40 CFR Part 257.90. A pool stage staff gauge is installed in the impoundment and water surface elevation is measured monthly.Notification Procedures

4. Notification Sequence

Notification lists are provided as Tables 1 and 2 at the end of this plan. Table 1 provides contact information for the environmental coordinators and outside emergency response agencies. Table 2 provides contact information for residents/businesses. The tables apply to both emergency conditions; “Imminent Failure” and “Potential Hazard,” as previously defined. Appropriate parties will be notified based on the nature and severity of the incident as determined by the incident commander/designee. In the event of a failure at the Green CCR Surface Impoundment the main concern would be the impoundment spilling into the drainage ditch which flows into the Green river. If failure is imminent or has occurred, notification and mitigation procedures are a top priority particularly for a potentially hazardous situation. The incident commander/designee, in conjunction with the environmental department, is responsible for this determination. If the chain of notification is altered, participants are encouraged to reestablish the order to ensure that every party is notified as needed.

4.1 Modes of Communication with Responsible Persons

The primary modes of communication with responsible persons are land-line telephones and cell phones. If someone cannot be contacted for any reason, then an alternate person performing the position will be contacted by telephone/cell phone. If telephones or cell phones are out of order, an alternate mode of communication listed below will be used:

- Use two-way radios
- Use Gaitronics Systems
- Use Paging System
- Deliver in person

Big Rivers Electric Corporation uses cell phones for routine communication purposes. If needed, other parties have equipment and personnel available to aid with communication with the local police/sheriff and county emergency management personnel.

4.2 Notification of Potentially Affected Residents and Businesses

The incident commander/designee at the Sebree Station will determine who to notify, including any affected residents and/or businesses, in the case of an imminent or actual CCR surface impoundment dam failure.

4.3 Notification Responsibilities

The incident commander/designee will ensure proper notifications are made. Calling 911will allow the dispatcher to send out all appropriate emergency response personnel as requested and/or needed for the particular incident. The Henderson County Emergency Management Service has a notification phone call system in place called Hyper-Reach. The Henderson County Emergency Management Director can initiate the Hyper-Reach phone call system for the facility. The contact number for the Henderson County Emergency Management Director is (270) 831-1235. The system can be utilized to assist with any necessary notifications and appropriate responses including evacuations.

Appropriate contractors will be utilized to assist the incident commander/designee with any mitigative actions being taken. The objectives of the mitigative actions are to minimize the impact of any event that has occurred. Big Rivers Electric Corporation personnel can contact Summit Environmental Services, LLC and AECOM to assist with emergency events.

5. Emergency Operations and Repair

The objective of the emergency operations and repair is to prevent or reduce the impact of an impending sudden release of water and/or bottom and fly ash. It should be anticipated that this work may need to be performed during adverse conditions and will require various supplies and resources. The primary methods of mitigating potential impact are: regulating the flow, minimizing flooding potential and coordinating emergency repairs.

5.1 Response During Adverse Conditions

Requests for assistance can be made to the county and state emergency offices and/or environmental response contractors/consultants including Summit Environmental Services, LLC and AECOM. (contact information provided below) to assist with the incident and make recommendations to Big Rivers Electric Corporation concerning the equipment and materials needed to mitigate the incident.

Company	Address	Phone Number
Summit Environmental Services	2125 Glenview Drive Evansville, IN 47720	1 (877) 421-1744
AECOM	1500 W Jefferson St, Suite 1600 Louisville, KY 40202	1 (502) 569-2301

6. Annual Face to Face Meeting with Local Emergency Responders

An annual face to face meeting will be held with local emergency responders per 40 CFR Part 257.74 (a)(3)(E). The meeting will be held whether or not an incident occurred the previous year. If an incident did occur, the annual meeting date may be moved to discuss the incident soon after it occurs. If no incidents have occurred, an annual meeting will be held to inform the local emergency responders about the CCR surface impoundment EAP and the role they would play in assisting the facility. In addition, the meeting will cover general information about the CCR surface impoundment. The potential risks the CCR surface impoundment may pose will be explained, as well as, the preventative measures the plant is taking to avoid these potential issues. Documentation of the annual face to face meeting will be recorded and placed in the operating record for the Green CCR Surface Impoundment.

Table 1: Green CCR Surface Impoundment EAP Notification List

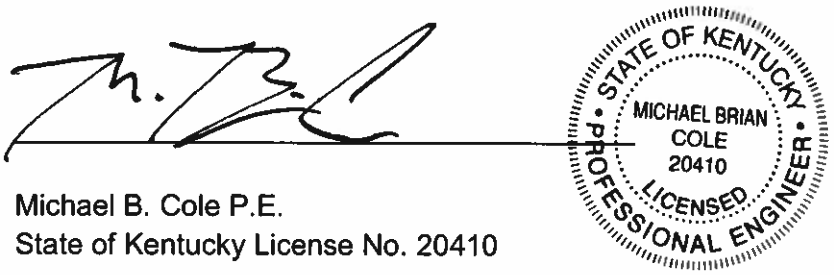
Emergency Coordinators	Phone Number
Environmental Coordinators	
Primary Environmental Coordinator:	
Manager, Environmental Services: Mark Bertram	Office Phone: (270) 844-5708
	Cell Phone: (270) 869-7815
Secondary Environmental Coordinator:	
Landfill Manager, Environmental Services: Phil Hill	Office Phone: (270) 844-5565
	Cell Phone: (270) 832-8025
Emergency Response Agencies	
Henderson County Emergency Management System	911 or (270) 831-1235
Henderson County Fire Department	(270) 831-1270
Henderson City/County Rescue Squad	(270) 826-2168
Henderson County Sheriff's Department	(270) 826-2713
Ambulance City County Emergency Medical Service	(270) 826-6558
Methodist Hospital	(270) 827-7700
Deaconess Hospital	(812) 450-5000
Webster County Emergency Management System	911 or (270) 639-8000
Sebree Fire Department	(270) 835-7501
Webster County Sheriff's Department	(270) 639-5067
National Response Center (NRC)	1 (800) 424-8802
Kentucky Emergency Response Commission	1 (800) 564-7815
Kentucky Department of Fish and Wildlife	1 (800) 25-ALERT (25378)
U.S. Coast Guard - Owensboro, KY	(502) 582-6474 or (270) 685-0650
U.S. Army Corps of Engineers - Newburgh, IN	(812) 853-0472

Table 2: Resident/Business Notification List

Resident/Business	Phone Number
Century Aluminum	(270) 521-7811
AMG Aluminum	(270) 521-6681
Tyson Foods Feed Mill	(270) 835-7654
Tyson Foods Production	(270) 521-4000
Columbia Sportswear	(270) 521-8000

Professional Engineer Certification [Per 40 CFR Part 257.74]
Green CCR Surface Impoundment Emergency Action Plan

I, Michael B. Cole, being a Registered Professional Engineer in good standing in the Commonwealth of Kentucky, do hereby certify, to the best of my knowledge, information, and belief, that, in accordance with the requirements of 40 CFR § 257.74(a)(3), the preparation of the Emergency Action Plan, as included in Revision 2 of the Emergency Action Plan for Existing CCR Surface Impoundment, dated February 28, 2020 meets the requirements of 40 CFR § 257.74. This Certification is specific to the details of Revision 2.



Michael B. Cole P.E.
State of Kentucky License No. 20410

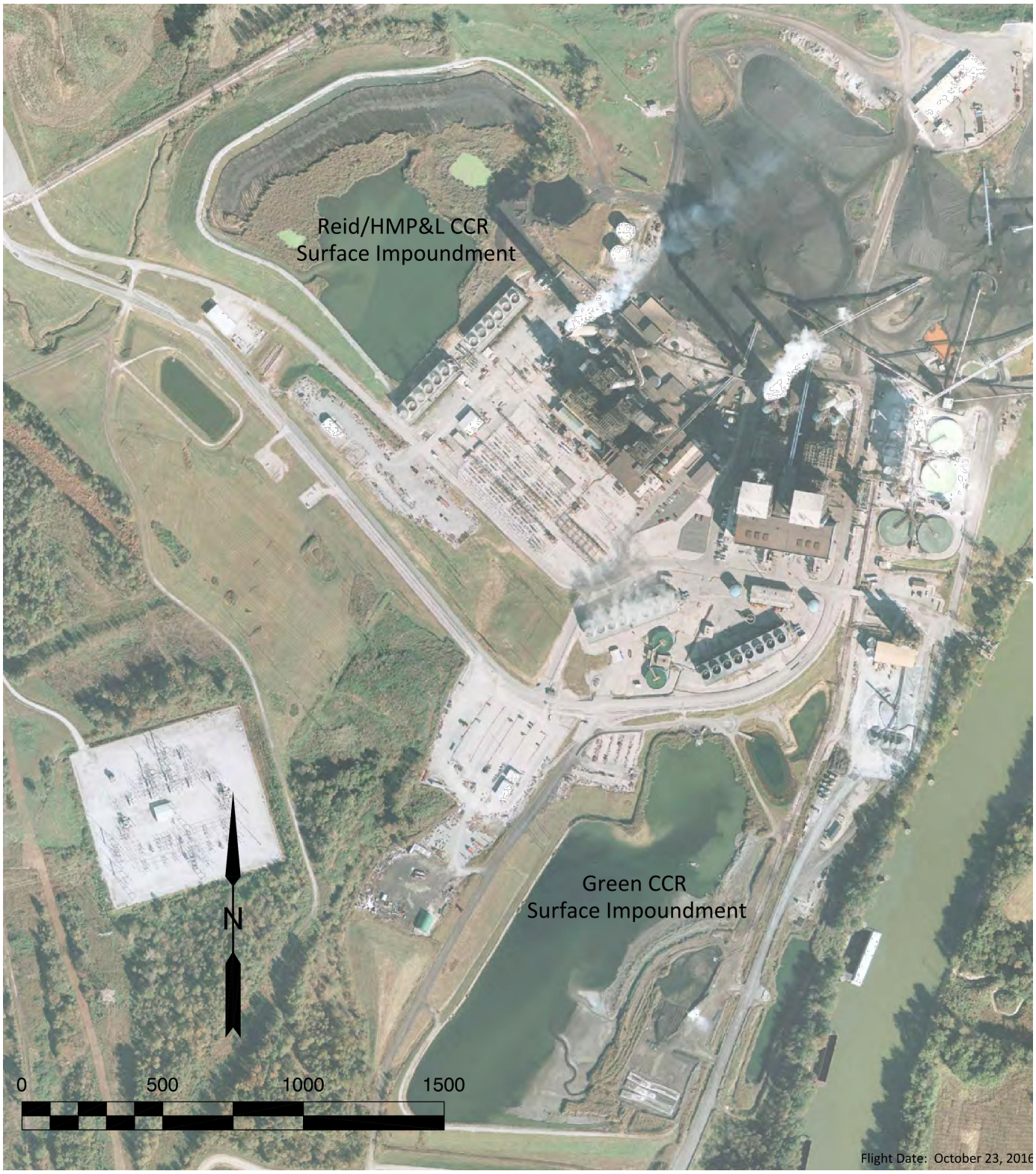
2/28/2020

Professional Engineer Certification [Per 40 CFR Part 257.73]
Green CCR Surface Impoundment Emergency Action Plan

I hereby certify that myself or an agent under my review has prepared this Emergency Action Plan (Plan), and being familiar with the provisions of the final rule to regulate the disposal of coal combustion residuals (CCR) as solid waste under subtitle D of the Resource Conservation and Recovery Act (RCRA), attest that this Plan has been prepared in accordance with good engineering practices and meets the intent of 40 CFR Part 257.73. To the best of my knowledge and belief, the information contained in this Plan is true, complete, and accurate.

David A. Lamb P.E.
State of Kentucky License No. 17822

Date: 2-23-18



FIGURED BASED ON DATA FROM ASSOCIATED ENGINEERS INC
DRAWING TITLED: 9-24-19 GREEN IMPOUNDMENT AND LANDFILL

AECOM

S.C. ENGINEERING LICENSE NO. 33516

SEAL

TITLE: FIGURE 1 - AERIAL PHOTO MAP OF BIG RIVERS ELECTIC CORPORATION SEBREE GENERATING STATION AND CCR SURFACE IMPOUNDMENTS

BIG RIVERS
GREEN SURFACE IMPOUNDMENT EMERGENCY ACTION PLAN
OHIO COUNTY, KENTUCKY

FOR: GREEN IMPOUNDMENT AT SEBREE GENERATING STATION

Big Rivers ELECTRIC CORPORATION

SCALE: AS SHOWN		DES:
DWG TYPE: .DWG		DFTR: DAS
JOB NO: 60620645		CHKD: MSK
DATE: 02/14/2020		ENGR: MSK
FILENAME:		APPD: MBC
DWG SIZE: Arch A 8.5"x11.0"	DRAWING NO.	REVISION: A

0 100 200 Feet

N

FIGURED BASED ON DATA FROM ASSOCIATED ENGINEERS INC
DRAWING TITLED: 9-24-19 GREEN IMPOUNDMENT AND LANDFILL

AECOM

S.C. ENGINEERING LICENSE NO. 33516

SEAL

TITLE: FIGURE 2 - AERIAL PHOTO MAP OF GREEN CCR SURFACE IMPOUNDMENT

BIG RIVERS
GREEN SURFACE IMPOUNDMENT EMERGENCY ACTION PLAN
OHIO COUNTY, KENTUCKY

FOR: GREEN IMPOUNDMENT AT SEBREE GENERATING STATION

Big Rivers Electric Corporation

SCALE: AS SHOWN		DES: EG3
DWG TYPE: .DWG		DFTR: DAS
JOB NO: 60620645		CHKD: MSK
DATE: 02/14/2020		ENGR: MSK
FILENAME:		APPD: MBC
DWG SIZE	DRAWING NO.	REVISION
Arch A 8.5"x11.0"		A

0 100 200 Feet

N

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DRAWING TITLED: 9-24-19 GREEN IMPOUNDMENT AND LANDFILL

AECOM

S.C. ENGINEERING LICENSE NO. 33516

SEAL

TITLE FIGURE 3 - AFFECTED DOWNSTREAM AREA OF GREEN CCR SURFACE IMPOUNDMENT

BIG RIVERS
GREEN SURFACE IMPOUNDMENT EMERGENCY ACTION PLAN
OHIO COUNTY, KENTUCKY

FOR GREEN IMPOUNDMENT AT SEBREE GENERATING STATION

Big Rivers Electric Corporation

SCALE: AS SHOWN		DES: EG3
DWG TYPE: .DWG		DFTR: DAS
JOB NO: 60620645		CHKD: MSK
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FILENAME:		APPD: MBC
DWG SIZE	DRAWING NO.	REVISION
Arch A 8.5"x11.0"		A

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Reid/HMP&L CCR Surface Impoundment

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Prepared for:

Big Rivers
Sebree Generating Station
9000 Highway 2096
Robards, Kentucky 42452

Prepared by:

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1500 W Jefferson St
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1. CCR Surface Impoundment Emergency Action Plan Introduction

The final rule for the Disposal of Coal Combustion Residuals from Electric Utilities was published in the Federal Register on April 17, 2015. The new rule establishes technical requirements for CCR landfills and surface impoundments under subtitle D of the Resource Conservation and Recovery Act. Per 40 CFR Part 257.74(a)(3)(i) any surface impoundment that has been listed as having a significant hazard potential must have an emergency action plan. The purpose of the "Surface Impoundment Emergency Action Plan (EAP)" is to develop an EAP that will allow the facility and staff to be prepared for a surface impoundment failure event.

Big Rivers Electric Corporation is developing and implementing an EAP (or plan) in the event a dam failure occurs at their Sebree Generating Station Reid/HMP&L CCR Surface Impoundment (see Figures 1 and 2). In addition, this plan is written in accordance, and to comply, with 40 CFR Part 257.74(a)(3)(i). This EAP provides step by step instructions to those individuals at the plant level on how to respond to an emergency action situation. The plan includes notification lists, maps of the CCR surface impoundment, and response procedures. The main goal of the EAP is to offer a quick and effective reference for the staff at the facility in the case such an emergency should occur.

2. CCR Surface Impoundment Physical Description and Structural Integrity Hazard Potential Classification

2.1 Physical Description

The Reid/HMP&L CCR Surface Impoundment has been in place for 40 plus years. The CCR surface impoundment operator has general maintenance and repair procedures in place as determined necessary. There are no known occurrences of structural instability of the CCR surface impoundment.

The CCR surface impoundment is used for the placement of coal combustion residual material; currently slurried bottom ash. The immediate watershed that drains to the CCR surface impoundment, and in which the CCR surface impoundment is considered to be located, is unnamed and 25.45 acres in size. The unnamed watershed discharges from the CCR impoundment and is routed to the Green River.

The CCR surface impoundment is a combined incised/earthen embankment structure. Embankments form the north, west, south and southeast sides of the impoundment. The northeast side is incised. The original terrain on which the impoundment was constructed generally sloped toward the west. The Green River is located approximately 2,500 feet east of the structure. The embankment reaches its greatest relief of approximately 42 feet on the west

side. Underlying preconstruction soils consisted of Loring-Grenada, Loring-Zanesville-Wellston (Henderson County) and Loring-Wellston-Zanesville (Webster County) soil associations which are generally characterized as well drained to moderately well-drained soils on nearly level to sloping uplands. The impoundment originally received fly ash and bottom ash, but stopped receiving fly ash in approximately 1985 when the Boothe system was placed in operation.

Depths of impounded water and CCR are 14.8 feet and 40.7 feet (at respective locations of maximum impounded water and CCR depths). Corresponding elevations of impounded water and CCR are 423.7 feet and 428.7 feet, respectively, above mean sea level.

The total storage capacity of the Reid/HMP&L CCR Surface Impoundment at the time of the September 2019 survey was estimated to be 758,873 cubic yards cubic yards. This volume was based on the assumption CCR can be placed up to the spillway elevation of 425.8 ft above MSL. The storage capacity is provided by Associated Engineers, Inc. and the estimated capacity is based on the available measured water surface elevations, the September 2019 flight derived topographic contours and bathymetric survey data, and the best available as-built design data for the impoundment prior to placement of CCR material, provided by BREC.

The total volume of CCR material contained in the Reid/HMP&L CCR Surface Impoundment at the time of the September 2019 survey was estimated to be 720,688 cubic yards, which includes CCR material above the impoundment pool elevation. The total volume of impounded water was estimated at 66,934 cubic yards.

The impoundment discharge consists of a rectangular concrete drop structure with a variable height steel debris skimmer. The pool elevation can be controlled by adding or removing stop logs. The discharge structure connects to a 24-inch diameter smooth walled metal pipe underground conveyance,

2.2 Hazard Potential Classification

Based on the criteria of 40 CFR Part 257.74 Structural integrity criteria for existing CCR surface impoundments, the determination has been made that the Reid/HMP&L CCR Surface Impoundment meets the classification of a Significant hazard potential CCR surface impoundment (defined as a diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns). The determination is based on the high probability that failure of the embankment could result in environmental damage extending beyond the boundaries of the Big Rivers Electric Corporation Sebree Generating Station (see Figure 3).

3. Safety Emergency Recognition and Prevention

3.1 Emergency Definitions and CCR Surface Impoundment Potential Risk

Imminent/Actual Failure - Description: Impending or actual sudden release of water and/or bottom and fly ash caused by an accident to, or failure of, CCR surface impoundment structures.

Examples: (1) Failure of a segment of the perimeter dam by seepage and/or slope instability, or (2) Failure of a segment of the perimeter dam by erosion or overtopping

Potential Hazard - Description: Potential for sudden release of water and/or bottom and fly ash caused by an accident to or failure of CCR surface impoundment structures. Actions taken during such potentially hazardous events may prevent or mitigate failure. Even if failure is inevitable, in potential situations more time generally is available than in the imminent/actual failure emergency situation to issue warnings and/or take mitigative actions.

If the dam were to break on the north or west sides; the material in the impoundment would flow downhill and potentially onto Kentucky State Highway 2096. If the dam were to break on any of the remaining sides of the CCR surface impoundment, then the majority of the material would most likely only affect the facility itself. The CCR surface impoundment is located adjacent to the Sebree Generating Station entrance road and a failure of the dam would be quickly noticed due to its location. Preventative measures to avoid a dam failure include visual inspections as detailed below.

3.2 Site and Dam Condition Surveillance

The Reid/HMP&L CCR Surface Impoundment has oversight by facility personnel including the performance environmental specialist, the chemical engineer and the laboratory technicians. The performance environmental specialist, chemical engineer and/or their designee check the CCR Surface Impoundment dam at a maximum interval of seven days per 40 CFR Part 257.83(a)(i). The dam is inspected for erosion, wash outs, the presence of water around the dam, and other indicators of potential dam failure. In addition to these checks, a wildlife trapper has been retained to conduct inspections of the dam for animal burrows. Repairs are made if animal burrows are noted.

3.3 Detection and Monitoring Devices

Piezometers are installed on the Reid/HMP&L CCR Surface Impoundment dam and are checked monthly. Groundwater monitoring wells have also been installed around the perimeter of the CCR Surface Impoundment and are being monitored in accordance with 40 CFR Part 257.90. A pool stage staff gauge is installed in the impoundment and water surface elevation is measured monthly.

4. Notification Procedures

4.1 Notification Sequence

Notification lists are provided as Tables 1 and 2 at the end of this plan. Table 1 provides contact information for the environmental coordinators and outside emergency response agencies. Table 2 provides contact information for residents/businesses. The tables apply to both emergency conditions; “Imminent Failure” and “Potential Hazard,” as previously defined. Appropriate parties will be notified based on the nature and severity of the incident as determined by the incident commander/designee. Reid/HMP&L CCR Surface Impoundment the main concern would be the impoundment spilling onto Kentucky State Highway 2096. If failure is imminent or has occurred, notification and mitigation procedures are a top priority particularly for a potentially hazardous situation. The incident commander/designee, in conjunction with the environmental department, is responsible for this determination. If the chain of notification is

altered, participants are encouraged to reestablish the order to ensure that every party is notified as needed.

4.2 Modes of Communication with Responsible Persons

The primary modes of communication with responsible persons are land-line telephones and cell phones. If someone cannot be contacted for any reason, then an alternate person performing the position will be contacted by telephone/cell phone. If telephones or cell phones are out of order, an alternate mode of communication listed below will be used:

- Use two-way radios
- Use Gaitronics Systems
- Use Paging System
- Deliver in person

Big Rivers Electric Corporation uses cell phones for routine communication purposes. If needed, other parties have equipment and personnel available to aid with communication with the local police/sheriff and county emergency management personnel.

4.3 Notification of Potentially Affected Residents and Businesses

The incident commander/designee at the Sebree Station will determine who to notify, including any affected residents and/or businesses, in the case of an imminent or actual CCR surface impoundment dam failure.

4.4 Notification Responsibilities

The incident commander/designee will ensure proper notifications are made. Calling 911will allow the dispatcher to send out all appropriate emergency response personnel as requested and/or needed for the particular incident. The Henderson County Emergency Management Service has a notification phone call system in place called Hyper-Reach. The Henderson County Emergency Management Director can initiate the Hyper-Reach phone call system for the facility. The contact number for the Henderson County Emergency Management Director is (270) 831-1235. The system can be utilized to assist with any necessary notifications and appropriate responses including evacuations.

Appropriate contractors will be utilized to assist the incident commander/designee with any mitigative actions being taken. The objectives of the mitigative actions are to minimize the impact of any event that has occurred. Big Rivers Electric Corporation personnel can contact Summit Environmental Services, LLC and AECOM to assist with emergency events.

5. Emergency Operations and Repair

The objective of the emergency operations and repair is to prevent or reduce the impact of an impending sudden release of water and/or bottom and fly ash. It should be anticipated that this work may need to be performed during adverse conditions and will require various supplies and

resources. The primary methods of mitigating potential impact are: regulating the flow, minimizing flooding potential and coordinating emergency repairs.

5.1 Response During Adverse Conditions

Requests for assistance can be made to the county and state emergency offices and/or environmental response contractors/consultants including Summit Environmental Services, LLC and AECOM. (contact information provided below) to assist with the incident and make recommendations to Big Rivers Electric Corporation concerning the equipment and materials needed to mitigate the incident.

Company	Address	Phone Number
Summit Environmental Services	2125 Glenview Drive Evansville, IN 47720	1 (877) 421-1744
AECOM	1500 W Jefferson St, Suite 1600 Louisville, KY 40202	1 (502) 569-2301

6. Annual Face to Face Meeting with Local Emergency Responders

An annual face to face meeting will be held with local emergency responders per 40 CFR Part 257.74 (a)(3). The meeting will be held whether or not an incident occurred the previous year. If an incident did occur, the annual meeting date may be moved to discuss the incident soon after it occurs. If no incidents have occurred, an annual meeting will be held to inform the local emergency responders about the CCR surface impoundment EAP and the role they would play in assisting the facility. In addition, the meeting will cover general information about the CCR surface impoundment. The potential risks the CCR surface impoundment may pose will be explained, as well as, the preventative measures the plant is taking to avoid these potential issues. Documentation of the annual face to face meeting will be recorded and placed in the operating record for the Reid/HMP&L CCR Surface Impoundment.

Table 1: Reid/HMP&L CCR Surface Impoundment EAP Notification List

Emergency Coordinators	Phone Number
Environmental Coordinators	
Primary Environmental Coordinator:	
Manager, Environmental Services: Mark Bertram	Office Phone: (270) 844-5708
	Cell Phone: (270) 869-7815
Secondary Environmental Coordinator:	
Landfill Manager, Environmental Services: Phil Hill	Office Phone: (270) 844-5565
	Cell Phone: (270) 832-8025

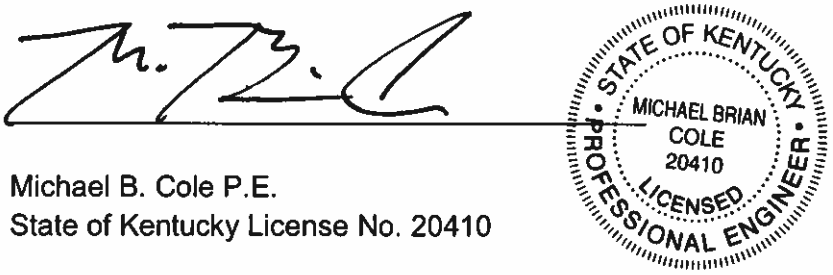
Emergency Response Agencies	
Henderson County Emergency Management System	911 or (270) 831-1235
Henderson County Fire Department	(270) 831-1270
Henderson City/County Rescue Squad	(270) 826-2168
Henderson County Sheriff's Department	(270) 826-2713
Ambulance City County Emergency Medical Service	(270) 826-6558
Methodist Hospital	(270) 827-7700
Deaconess Hospital	(812) 450-5000
Webster County Emergency Management System	911 or (270) 639-8000
Sebree Fire Department	(270) 835-7501
Webster County Sheriff's Department	(270) 639-5067
National Response Center (NRC)	1 (800) 424-8802
Kentucky Emergency Response Commission	1 (800) 564-7815
Kentucky Department of Fish and Wildlife	1 (800) 25-ALERT (25378)
U.S. Coast Guard - Owensboro, KY	(502) 582-6474 or (270) 685-0650
U.S. Army Corps of Engineers - Newburgh, IN	(812) 853-0472

Table 2: Resident/Business Notification List

Resident/Business	Phone Number
Century Aluminum	(270) 521-7811
AMG Aluminum	(270) 521-6681
Tyson Foods Feed Mill	(270) 835-7654
Tyson Foods Production	(270) 521-4000
Columbia Sportswear	(270) 521-8000

Professional Engineer Certification [Per 40 CFR Part 257.74]
Reid/HMP&L CCR Surface Impoundment Emergency Action Plan

I, Michael B. Cole, being a Registered Professional Engineer in good standing in the Commonwealth of Kentucky, do hereby certify, to the best of my knowledge, information, and belief, that, in accordance with the requirements of 40 CFR § 257.74(a)(3), the preparation of the Emergency Action Plan, as included in Revision 2 of the Emergency Action Plan for Existing CCR Surface Impoundment, dated February 28, 2020 meets the requirements of 40 CFR § 257.74. This Certification is specific to the details of Revision 2.

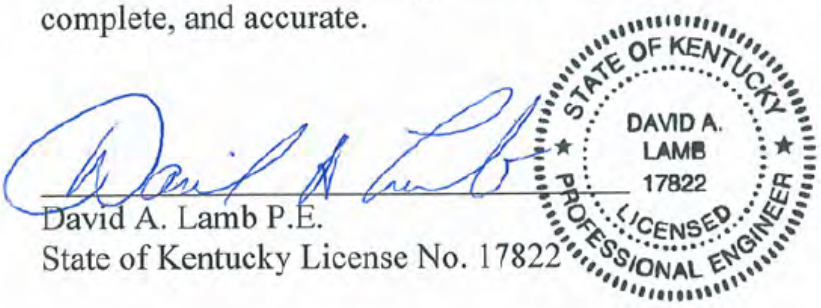


Michael B. Cole P.E.
State of Kentucky License No. 20410

2/28/2020

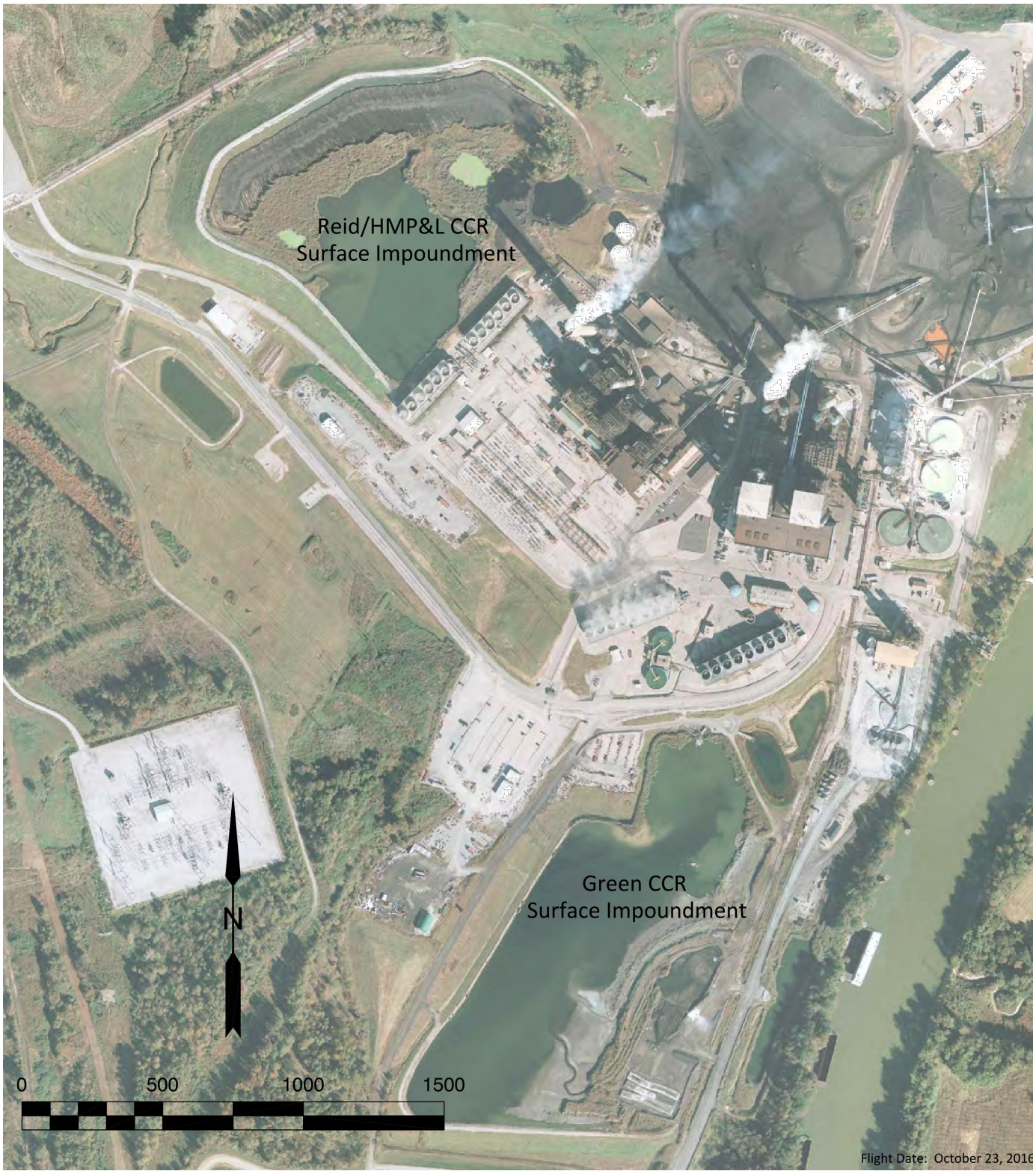
Professional Engineer Certification [Per 40 CFR Part 257.73]
Reid/HMPL CCR Surface Impoundment Emergency Action Plan

I hereby certify that myself or an agent under my review has prepared this Emergency Action Plan (Plan), and being familiar with the provisions of the final rule to regulate the disposal of coal combustion residuals (CCR) as solid waste under subtitle D of the Resource Conservation and Recovery Act (RCRA), attest that this Plan has been prepared in accordance with good engineering practices and meets the intent of 40 CFR Part 257.73. To the best of my knowledge and belief, the information contained in this Plan is true, complete, and accurate.



David A. Lamb P.E.
State of Kentucky License No. 17822

Date: 2-23-18



FIGURED BASED ON DATA FROM ASSOCIATED ENGINEERS INC
DRAWING TITLED: 9-24-19 REID IMPOUNDMENT AND LANDFILL

AECOM

S.C. ENGINEERING LICENSE NO. 33516

SEAL

TITLE: FIGURE 1 - AERIAL PHOTO MAP OF BIG RIVERS ELECTIC CORPORATION SEBREE GENERATING STATION AND CCR SURFACE IMPOUNDMENTS

BIG RIVERS
REID SURFACE IMPOUNDMENT EMERGENCY ACTION PLAN
OHIO COUNTY, KENTUCKY

FOR: REID IMPOUNDMENT AT SEBREE GENERATING STATION

Big Rivers Electric Corporation

SCALE: AS SHOWN	DES: EG3
DWG TYPE: .DWG	DFTR: DAS
JOB NO: 60620645	CHKD: MSK
DATE: 02/14/2020	ENGR: MSK
FILENAME:	APPD: MBC

DWG SIZE	DRAWING NO.	REVISION
Arch A 8.5"x11.0"		A

0 200 400 Feet

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FIGURED BASED ON DATA FROM ASSOCIATED ENGINEERS INC
DRAWING TITLED: 9-24-19 REID IMPOUNDMENT AND LANDFILL

AECOM

S.C. ENGINEERING LICENSE NO. 33516

SEAL

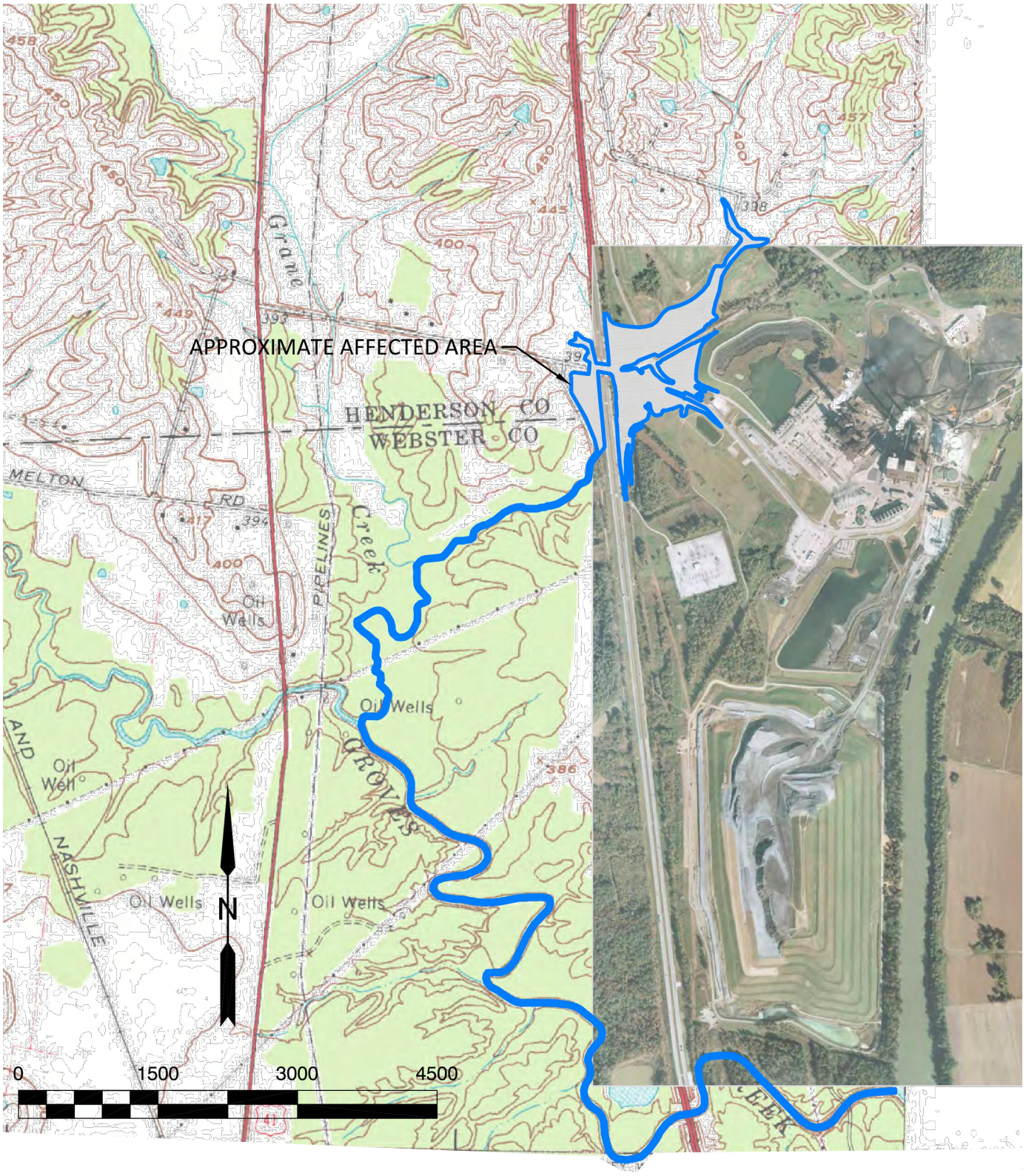
TITLE
FIGURE 2 - AERIAL PHOTO MAP OF REID CCR SURFACE IMPOUNDMENT

BIG RIVERS
REID SURFACE IMPOUNDMENT EMERGENCY ACTION PLAN
OHIO COUNTY, KENTUCKY

FOR **REID IMPOUNDMENT AT SEBREE GENERATING STATION**

Big Rivers ELECTRIC CORPORATION

SCALE: AS SHOWN	DES: EG3
DWG TYPE: .DWG	DFTR: DAS
JOB NO: 60620645	CHKD: MSK
DATE: 02/14/2020	ENGR: MSK
FILENAME:	APPD: MBC
DWG SIZE: Arch A 8.5"x11.0"	DRAWING NO.	REVISION: A



FIGURED BASED ON DATA FROM ASSOCIATED ENGINEERS INC
DRAWING TITLED: 9-24-19 REID IMPOUNDMENT AND LANDFILL

AECOM

S.C. ENGINEERING LICENSE NO. 33516

SEAL

TITLE: FIGURE 3 - AFFECTED DOWNSTREAM AREA OF REID/HMP&L CCR SURFACE IMPOUDMENT

BIG RIVERS
REID SURFACE IMPOUNDMENT EMERGENCY ACTION PLAN
OHIO COUNTY, KENTUCKY

FOR: REID IMPOUNDMENT AT SEBREE GENERATING STATION

Big Rivers Electric Corporation

SCALE: AS SHOWN	DES: EG3
DWG TYPE: .DWG	DFTR: DAS
JOB NO: 60620645	CHKD: MSK
DATE: 02/14/2020	ENGR: MSK
FILENAME:	APPD: MBC

DWG SIZE	DRAWING NO.	REVISION
Arch A 8.5"x11.0"		A