Charles R. Lowman Power Plant
Leroy, AL

CCR Impoundment Inspection Report

October 2021

CDG Engineers and Associates, Inc.
1840 East Three Notch St.
Andalusia, AL 36421
| cdge.com

Engineer's Certification

I hereby certify that it is my professional understanding that the inspections conducted and resulting CCR Annual Inspection Report presented herein meet the requirements of Section 257.83 (b) of Title 40 of the Code of Federal Regulations as amended upon the date of this certification.

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The Charles R. Lowman Power Plant campus in Leroy, AL includes three impoundments for the storage of coal combustion residual (CCR) material. These are noted as shown in Figure 1.

Figure 1
Identification of Ponds

The field inspections outlined herein were completed on September 14, 2021. The inspection staff consisted of staff from CDG Engineers and Associates, Inc. (CDG) and PowerSouth Energy Cooperative (PowerSouth) as indicated below.

Company	Name / Title
CDG	Scott W. Trott, P.E. / Project Manager
CDG	Carmen Chosie, P.E. / Project Engineer
PowerSouth	John Goldman
PowerSouth	Justin McDaniel
PowerSouth	Dustin Kilcrease

Inspection procedures were completed in accordance with §257.83(b)(1)(i)-(iii). Documentation including pertinent previous report documents and documents within the facility's operating record have been reviewed as part of the inspection efforts. The visual inspections examined the overall condition of each structure to identify any potential signs of distress or malfunction. Piping and related, active hydraulic structures associated with each impoundment were also visually inspected to address the condition and ability of each to meet intended design purposes.

Findings have been generated by CDG's inspection and are found in Tables 1 – 3 contained herein.

Table 1
Summary for Unit 1 Bottom Ash Pond Inspection

Unit 1 Bottom Ash Pond		
Item	**Reference**	**Comment**
Changes in Geometry	§ 257.83(b)(2): (i)	• No changes to impoundment footprint
Existing Instrumentation	§ 257.83(b)(2): (ii)	• Two pumps with hour meters • Pumps currently offline • Pump suction removed from pond
Minimum Water Depth and Elevation	§ 257.83(b)(2): (iii)	• 0'-0" • 10.00' MSL
Maximum Water Depth and Elevation	§ 257.83(b)(2): (iii)	• 18'-0" • 28.00' MSL
Present Water Depth and Elevation	§ 257.83(b)(2): (iii)	• Varying depth, not continuous surface • Average water depth estimated at 0.5' • 10.50' MSL
Minimum CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• Minimum CCR depth possible 0'-0" • Minimum CCR elevation 10'-0" MSL
Maximum CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• Maximum CCR depth possible estimated at 18'-0" • Maximum CCR elevation is 28'-0"
Present CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• CCR not present
Storage Capacity	§ 257.83(b)(2): (iv)	• 408,000 yd^3
Volume of Impounded Water	§ 257.83(b)(2): (v)	• Impounded water volume estimated at 15,327 yd^3
Volume of Impounded CCR	§ 257.83(b)(2): (v)	• Impounded CCR estimated at 0 yd^3
Observed Actual or Potential Structural Weakness	§ 257.83(b)(2): (vi)	• None observed
Observations of Changes Impacting Stability or Operation	§ 257.83(b)(2): (vii)	• None observed

Table 2
Summary for Unit 2/3 Bottom Ash Pond Inspection

Unit 2/3 Bottom Ash Pond		
Item	**Reference**	**Comment**
Changes in Geometry	§ 257.83(b)(2): (i)	• None observed
Existing Instrumentation	§ 257.83(b)(2): (ii)	• Flow totalizer on pumping units • Visual water level indicator at northwest corner
Minimum Water Depth and Elevation	§ 257.83(b)(2): (iii)	• 1'-0" per visual level indicator • 40.00'MSL
Maximum Water Depth and Elevation	§ 257.83(b)(2): (iii)	• 6'-0" per visual level indicator • 45.00' MSL
Present Water Depth and Elevation	§ 257.83(b)(2): (iii)	• 2'-0" per visual level indicator • 41.00' MSL
Minimum CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• Minimum CCR depth estimated at 2'-0" • Minimum CCR elevation 26.00' MSL
Maximum CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• Maximum CCR depth estimated at 19'-0" • Maximum CCR elevation is 43.00' MSL
Present CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• CCR depth not uniform across impoundment • Average CCR depth estimated at 16'-0" • Average CCR elevation estimated at 40.00' MSL
Storage Capacity	§ 257.83(b)(2): (iv)	• 1,206,760 yd^3
Volume of Impounded Water	§ 257.83(b)(2): (v)	• Impounded water volume estimated at 33,428 yd^3
Volume of Impounded CCR	§ 257.83(b)(2): (v)	• Impounded CCR volume estimated at 1,206,760 yd^3
Observed Actual or Potential Structural Weakness	§ 257.83(b)(2): (vi)	• None observed
Observations of Changes Impacting Stability or Operation	§ 257.83(b)(2): (vii)	• None observed

Table 3
Summary for FGD Waste Pond Inspection

FGD Waste Pond		
Item	**Reference**	**Comment**
Changes in Geometry	§ 257.83(b)(2): (i)	• None observed
Existing Instrumentation	§ 257.83(b)(2): (ii)	• Two pumps with hour meters • Visual water level indicator at southwest corner
Minimum Water Depth and Elevation	§ 257.83(b)(2): (iii)	• 2'-6" per visual level indicator • 40.50' MSL
Maximum Water Depth and Elevation	§ 257.83(b)(2): (iii)	• 5'-6" per visual level indicator • 43.50' MSL
Present Water Depth and Elevation	§ 257.83(b)(2): (iii)	• 5'-0" per visual level indicator • 43.00' MSL
Minimum CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• Minimum CCR depth estimated at 1'-0" • Minimum CCR elevation 26.00' MSL
Maximum CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• Maximum CCR depth estimated at 18'-0" • Maximum CCR elevation is 43.00' MSL
Present CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• CCR depth not uniform across impoundment • Average CCR depth estimated at 18'-0" • Average CCR elevation estimated at 43.00' MSL
Storage Capacity	§ 257.83(b)(2): (iv)	• 1,298,047 yd^3
Volume of Impounded Free Water	§ 257.83(b)(2): (v)	• Impounded water volume estimated at 119,387 yd^3
Volume of Impounded CCR	§ 257.83(b)(2): (v)	• Impounded CCR volume estimated at 1,298,047 yd^3
Observed Actual or Potential Structural Weakness	§ 257.83(b)(2): (vi)	• None observed
Observations of Changes Impacting Stability or Operation	§ 257.83(b)(2): (vii)	• None observed