



**Charles R. Lowman Power Plant
Leroy, AL**

CCR Impoundment Inspection Report

January 2016



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 December 9, 2015. The inspection staff consisted of staff from CDG Engineers and Associates, Inc. (CDG) and PowerSouth as indicated below. PowerSouth staff was utilized solely to provide access needed to complete the inspections.

Company	Name / Title
CDG	Scott W. Trott, P.E. / Senior Project Manager
CDG	Carmen Chosie / Project Engineer
PowerSouth	Wesley Pearce / Environmental Engineer
PowerSouth	Dustin Kilcrease / Environmental Engineer

Findings have been generated by CDG's inspection team 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)	• N/A – initial inspection
Existing Instrumentation	§ 257.83(b)(2): (ii)	• Two pumps with hour meters • Out of service at time of inspection
Minimum Water Depth and Elevation	§ 257.83(b)(2): (iii)	• N/A – initial inspection
Maximum Water Depth and Elevation	§ 257.83(b)(2): (iii)	• N/A – initial inspection
Present Water Depth and Elevation	§ 257.83(b)(2): (iii)	• Water only present in lowest end of impoundment • Water depth, where present, is 7" • Water Surface Elevation 10.58'
Minimum CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• N/A – initial inspection
Maximum CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• N/A – initial inspection
Present CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• CCR depth not uniform across impoundment • Depth 0' in cleaned areas • Average depth across impoundment area estimated at 2'-0" • Average top of CCR Elevation estimated at 2'
Design Storage Capacity	§ 257.83(b)(2): (iv)	• 714,533 yd ³
Volume of Impounded Free Water	§ 257.83(b)(2): (v)	• 264 yd ³
Volume of Impounded CCR	§ 257.83(b)(2): (v)	• 194,000 yd ³
Observed Actual or Potential Structural Weakness	§ 257.83(b)(2): (vi)	• Minor signs of erosion on interior embankment
Observations of Changes Impacting Stability or Operation	§ 257.83(b)(2): (vii)	• N/A – initial inspection

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)	• N/A – initial inspection
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)	• N/A – initial inspection
Maximum Water Depth and Elevation	§ 257.83(b)(2): (iii)	• N/A – initial inspection
Present Water Depth and Elevation	§ 257.83(b)(2): (iii)	• Water depth 2'-8" at stage board visual level indicator • Level indicator represents depth from normal pool of 0' • Average water surface elevation estimated at 39'
Minimum CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• N/A – initial inspection
Maximum CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• N/A – initial inspection
Present CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• CCR depth not uniform across impoundment • Average CCR depth estimated at 17' • Average CCR elevation estimated at 37.7'
Design Storage Capacity	§ 257.83(b)(2): (iv)	• 1,065,000 yd ³
Volume of Impounded Free Water	§ 257.83(b)(2): (v)	• Water coverage over approximately 42% of total impoundment surface area • Impounded water volume estimated at 56,036 yd ³
Volume of Impounded CCR	§ 257.83(b)(2): (v)	• 851,669 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)	• N/A – initial inspection

Table 3
Summary for FGD Waste Pond Inspection

FGD Waste Pond		
Item	Reference	Comment
Changes in Geometry	§ 257.83(b)(2): (i)	• N/A – initial inspection
Existing Instrumentation	§ 257.83(b)(2): (ii)	<ul style="list-style-type: none"> • Two pumps with hour meters • Visual water level indicator at southwest corner
Minimum Water Depth and Elevation	§ 257.83(b)(2): (iii)	• N/A – initial inspection
Maximum Water Depth and Elevation	§ 257.83(b)(2): (iii)	• N/A – initial inspection
Present Water Depth and Elevation	§ 257.83(b)(2): (iii)	<ul style="list-style-type: none"> • Water depth 4'-3" at stage board visual level indicator • Level indicator represents depth from normal pool of 0' • Average water surface elevation estimated at 39'
Minimum CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• N/A – initial inspection
Maximum CCR Depth and Elevation	§ 257.83(b)(2): (iii)	• N/A – initial inspection
Present CCR Depth and Elevation	§ 257.83(b)(2): (iii)	<ul style="list-style-type: none"> • CCR depth not uniform across impoundment • Average CCR depth estimated at 18.1' • Average CCR elevation estimated at 38.6'
Design Storage Capacity	§ 257.83(b)(2): (iv)	• 1,281,450 yd ³
Volume of Impounded Free Water	§ 257.83(b)(2): (v)	<ul style="list-style-type: none"> • Water coverage over approximately 58% of total impoundment surface area • Impounded water volume estimated at 147,447 yd³
Volume of Impounded CCR	§ 257.83(b)(2): (v)	• 1,081,323 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)	• N/A – initial inspection