



water resources / environmental consultants

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October 13, 2016

G. Tracy Johnson, Manager  
Arkansas Environmental Support  
Entergy Services, Inc.  
425 West Capitol Avenue  
TCBY-22D  
Little Rock, AR 72203

**RE: Run-on / Run-off Control Plan  
EPA Final CCR Rule (§ 257.81)  
Entergy Arkansas, Inc. - White Bluff Plant Class 3N CCR Landfill  
Redfield, Arkansas**

Dear Mr. Johnson:

FTN Associates, Ltd. has been retained by Entergy Arkansas, Inc. to prepare the following assessment of the EPA's requirements under the HAZARDOUS AND SOLID WASTE MANAGEMENT SYSTEM; DISPOSAL OF COAL COMBUSTION RESIDUALS FROM ELECTRIC UTILITIES (EPA Final CCR Rule) associated with the Stormwater Run-on and Run-off Controls for the CCR Landfill at Entergy's White Bluff Plant near Redfield, Arkansas. Presented below is the project background, summary of findings, limitations, and certification.

## **1.0 BACKGROUND**

As required by §257.81 of the EPA Final CCR Rule, by October 17, 2016, documentation is required to show that the facility's stormwater run-on and run-off control systems have been designed and constructed to meet the 25-year, 24-hour design storm event.

## **2.0 SUMMARY OF FINDINGS**

Based on the results in Tables 1 and 2 below, FTN has determined that the White Bluff Plant CCR Landfill meets the requirements of the EPA Final CCR Rule §257.81 for prevention of stormwater run-on. In addition to the perimeter clay berms which surround the landfill, the facility includes a perimeter stormwater system which routes stormwater around and away from the landfill. The following table presents the calculated peak flow rates and stormwater channel

capacities for the site. To determine peak capacity for each channel, it was assumed that a minimum of 6 to 12 inches of freeboard will be maintained in the channel.

**Table 1: Landfill Stormwater Channel Assessment**

<b>Channel Reach</b>	<b>Peak Storm Discharge, cfs (a)</b>	<b>Ditch Capacity, cfs (b)</b>	<b>Additional Ditch Capacity, cfs (b-a)</b>
1	4.8	20.4	15.6
2	4.8	42.3	37.5
4	12.4	59.8	47.4
5	24.3	139.9	115.6

**Table 2: Landfill Stormwater Culvert Assessment**

<b>Culvert</b>	<b>Peak Storm Discharge, cfs (a)</b>	<b>Culvert Capacity, cfs (b)</b>	<b>Additional Culvert Capacity, cfs (b-a)</b>
1	4.8	22.5	17.7
2	4.8	30.7	25.9
3	35.4	61.4	26.0
4	24.3	41.7	17.4

Based on the results in the Table 3 below, FTN has determined that the White Bluff Plant CCR Landfill meets the requirements of EPA Final CCR Rule §257.81 for run-off flows.

**Table 3: Landfill Run-off Conveyance Assessment**

<b>Channel Reach</b>	<b>Peak Storm Discharge, cfs (a)</b>	<b>Ditch Capacity, cfs (b)</b>	<b>Additional Ditch Capacity, cfs (b-a)</b>
3	35.4	85.1	49.7

The resulting combined stormwater from run-on and run-off at the landfill flows to the facility Surge Pond. The Surge Pond was designed and is operated to handle all stormwater at the plant. The Surge Pond is operated under an NDPES discharge permit (Permit No. ARR000930).



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### 3.0 LIMITATIONS

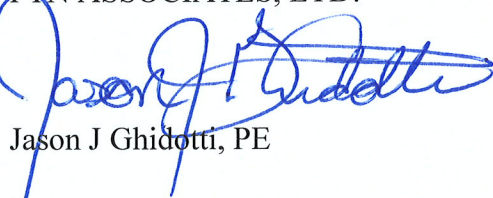
The signature of FTN's authorized representative on this document represents that to the best of his knowledge, information and belief in the exercise of its professional judgment, it is his professional opinion that the aforementioned information is accurate as of the date of such signature. Any recommendation, opinion, or decisions by him are made on the basis of his experience, qualifications and professional judgment and are not to be construed as warranties or guaranties. In addition, opinions relating to environmental, geologic, and geotechnical conditions or other estimates are based on available data and actual conditions may vary from those encountered at the times and locations where data are obtained, despite the use of due care.

### 4.0 CERTIFICATION

I, Jason J Ghidotti, PE, being an Arkansas Registered Professional Engineer, do hereby certify to the best of my knowledge, information and belief, that the information contained in this report is true and correct and has been prepared in accordance with the accepted practice of engineering.

We appreciate the opportunity to work with you on this project. If you have questions or comments regarding this project, please do not hesitate to call me or Paul Crawford, PE, PG at (501) 225-7779.

Respectfully submitted,  
FTN ASSOCIATES, LTD.



Jason J Ghidotti, PE

JJG/

CC: Trip Gentry, Entergy Arkansas, Inc.

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