

September 11, 2014

Joseph Hurt  
Arkansas Department of  
Environmental Quality  
5301 Northshore Drive  
North Little Rock, AR 72118-5317

Dear Mr. Hurt:

Please find below information in response to your letter of July 9, 2014 requesting information concerning possible heat rate efficiency improvements at Entergy's Arkansas coal units, the costs for those projects, and the potential heat rate improvement from those projects. Note that this information is of a preliminary nature. Entergy has not undertaken the level of assessment necessary to provide a detailed cost estimate or heat rate improvement prediction for all of these projects and has not analyzed a situation in which a unit may decide to perform some projects but not others. Such an assessment likely would require Entergy to perform more detailed internal analysis and to solicit bids and performance guarantees from vendors for the completion of the projects. At this time, Entergy provides the following information as a general indication of the cost of potential heat rate improvement projects included in the 2009 Sargent & Lundy report, to which EPA refers in its proposed greenhouse gas standards for existing electric generating units under Section 111(d) of the Clean Air Act.

EPA's proposed rule sets State-level goals for CO<sub>2</sub> emissions reductions by developing an interim and a final emission rate goal, expressed as lbs CO<sub>2</sub>/MWh. The proposal uses four "building blocks" to develop these goals, the first of which is an assumption that coal units, as a national average, can achieve a 6% heat rate improvement through the implementation of best practices and capital improvements. Although this heat rate reduction is used by EPA in setting Arkansas's interim and final emission rate goals, the proposed rule does not require that any coal unit take any specific action to comply with the rule. That decision is left to the State in its 111(d) compliance planning process. Entergy Arkansas has not undertaken specific studies to determine the cost of engineering and operational feasibility of heat rate reductions in response to EPA's proposal, but certain hypothetical heat rate reductions and generalized costs are discussed below.

EPA discusses its development of this 6% average at 79 Fed. Reg. 34859-61 and in its GHG Abatement Measures Technical Support Document. Its analysis is based in part on a 2009 study by the Sargent & Lundy engineering firm, but Entergy does not know at this time whether Sargent & Lundy's work is used by EPA in a manner that Sargent & Lundy would support and whether EPA's estimated efficiency improvement, as based on the Sargent & Lundy report, is reasonable. It is unknown at this time what actions, if any, Entergy's units would be required to take or would find it feasible to take.



Entergy estimates preliminarily that if all actions discussed in the Sargent & Lundy study that potentially are applicable to the Independence and White Bluff units could be implemented successfully (a conclusion which Entergy has not reached), the capital cost and expected heat rate improvement would be as shown in Table 1, below.

**Table 1**

Site	Investment Estimate Range (Millions)	Potential Heat Rate Improvement
ISES 1	\$67 - 81	Up to 4%
ISES 2	\$57 - 69	Up to 2%
White Bluff	\$133 - 163	Up to 4%
<b>Total</b>	<b>\$257 - 313</b>	

Additionally, you asked for data regarding each facility's carbon dioxide emissions for 2012 and 2013. Please find this information below, as shown on the EPA Clean Air Markets Division website.

Facility Name	Unit ID	Year	CO2 (short tons)
Independence	1	2012	5,804,743
Independence	1	2013	4,795,695
Independence	2	2012	5,996,078
Independence	2	2013	6,160,584
White Bluff	1	2012	5,314,862
White Bluff	1	2013	6,308,388
White Bluff	2	2012	5,897,951
White Bluff	2	2013	6,218,310

Sincerely,



Chuck D. Barlow  
Vice President, Environmental Strategy & Policy

Cc: Stuart Spencer