

October 4, 2006

Mr. Mike Bates
Deputy Director
Arkansas Department of
Environmental Quality
Post Office Box 8913
Little Rock, AR 72219-8913

RE: Entergy Services, Inc.
Entergy Arkansas, Inc. Independence Steam Electric Station (Independence Station)
Entergy Arkansas, Inc. White Bluff Steam Electric Station (White Bluff Station)
Request for Determination of Prevention of Significant Deterioration Applicability for
Lignite Combustion

Dear Mr. Bates:

This communication is in response to a letter dated June 20, 2006, from Entergy Services, Inc. (Entergy) to David Garcia, Air Enforcement Section, Environmental Protection Agency (EPA) Region 6. Entergy is requesting a determination regarding the applicability of Prevention of Significant Deterioration (PSD) and New Source Performance Standards (NSPS) for their proposal to combust lignite coal in a blend in their existing steam boilers at their above named facilities in Arkansas. We provide the following general information concerning applicability of PSD and NSPS requirements to the proposed changes to facilitate Arkansas Department of Environmental Quality (ADEQ) final review. Our comments are based on the preliminary information provided in the letter from Entergy. Further information is required to make a final determination.

The steam boilers at both electric generating facilities have historically combusted low sulfur sub-bituminous coal as their primary fuel and fuel oil as their start-up fuel. Both units are subject to NSPS Subpart D. The Independence Station is subject to a PSD permit, PSD-AR-48 issued by EPA on March 30, 1978. The PSD permit for Independence Station contains a condition requiring the use of coal with a heat content of 8700 British thermal unit (Btu)/pound(lb) and a maximum sulfur and ash content of 0.45% and 8%, respectively.

I. PSD Applicability

The Arkansas State Implementation Plan (SIP) defines a PSD major modification as 1) a physical or operational change that 2) results in a significant net emissions increase. EPA policy and guidance documents interpreting PSD statutory and regulatory requirements clarify that fuel switching, including coal blending, is a change in the method of operation.¹ If the operational change results in a significant net emission increase, the change is subject to PSD review. The Arkansas PSD SIP incorporates by reference 40 Code of Federal Regulations (CFR) 52.21(b)(2)(iii)(e)(1) which provides an exemption from the definition of physical change or change in the method of operation for use of an alternative fuel or raw material by a stationary source which:

1. The source was capable of accommodating before January 6, 1975,
2. Unless such change would be prohibited under any Federal enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Subpart I or 40 CFR 51.166.

Therefore, in order for Entergy's proposed fuel switch to be exempt from PSD permitting, the source must have been designed and constructed to accommodate the lignite fuel prior to January 6, 1975, and the source must have been continuously capable of accommodating the alternative fuel since before January 6, 1975. Also, in order for Entergy's fuel switch to be exempt from PSD permitting, the switch to lignite fuel must not be barred by a federally enforceable limit.² The ADEQ is required to determine if any term or condition of Entergy's existing PSD or minor NSR permits exclude lignite as a possible fuel. Specifically, ADEQ should determine whether Entergy can comply with the PSD permit condition requiring the use of coal with a heat content of 8700 Btu/lb and a maximum sulfur and ash content of 0.45% and

¹ See Hawaiian Electric Company, Inc. V. EPA, 723 F.2d 1440 (9th Cir.1984) (holding that a fuel switch from 0.5% to 2.0% sulfur fuel oil was an operational change and was also a major PSD modification because the change was prohibited by an enforceable permit condition established after January 6, 1975). See also Letter from Jeanne M. Gettle, EPA Region 4, to Susan Jenkins, Georgia Environmental Protection Division, February 21, 2003.

² See Preamble to 1980 PSD regulations at 45 Federal Register 52.676, 52704, "any switch to another fuel or raw material that would distort a prior assessment of a source's air quality impact should have to undergo [PSD] scrutiny." See also, PSD applicability determinations such as Letter from Edward E. Reich, EPA Enforcement, to John Chandler dated February 11, 1981, Letter from David Kee, EPA Region 5 to Dennis Drake, Michigan Department of Natural Resources, dated April 6, 1993, Letter to Anita Frankel, EPA Region 10 from Bruce C. Buckheit, EPA Office of Enforcement and Compliance Assurance dated December 18, 1996, Letter from R. Douglas Neeley, EPA Region 4 to Ronald W. Gore, Alabama Department of Environmental Management, dated July 25, 2001. See other PSD applicability determinations at <http://www.epa.gov/Region7/programs/artd/air/nsr/nsrpg.htm>

8%, respectively, after the proposed change. The ADEQ will also review and determine whether any other federally enforceable SIP requirement would preclude the Entergy proposed fuel switch.

Please note that emission increases under the alternative fuel exemption must be reviewed for increment consumption.

If the proposed changes at the Entergy facilities do not qualify for the voluntary alternative fuel exemption from the definition of change in the method of operation, ADEQ must then determine whether the change will result in a net emission increase of actual emissions. Entergy states that no “increase in the permitted emission rates will be required.” However, the Arkansas PSD SIP definition of significant net emission increase requires a proposed physical or operational change which results in an increase in actual emissions to be considered a modification and therefore subject to PSD.³ Therefore, ADEQ must determine whether the proposed operational change results in a significant net increase in actual emissions.

II. NSPS Applicability

Both facilities are subject to NSPS Subpart D. Part 60 provides an exemption from the definition of modification for emission increases due to a voluntary fuel switch. Under 60.14(e)(4), a modification does not include “use of an alternative fuel ... if, prior to the date any standard under this part becomes applicable to that source type, as provided by Section 60.1, the existing facility was designed to accommodate that alternative use.” The ADEQ should determine whether the facilities could have accommodated the handling and use of lignite coal prior to the applicable date. If not, ADEQ will determine whether the proposed change will result in an increase in the emission rate to the atmosphere of any pollutant to which the standard applies

III. Source-specific considerations

The White Bluff Station was constructed prior to the promulgation of PSD regulations; however, it is subject to NSPS Subpart D. As indicated in NSPS Subpart A at 40 CFR 60.14(a), a modification is any physical or operational change to an existing facility which results in an increase in the emission rate of any pollutant to which a standard applies. Under 60.14(e)(4), a modification does not include “Use of an alternative fuel ... if, prior to the date any standard under this part becomes applicable to that source type, as provided by Section 60.1, the existing facility was designed to accommodate that alternative use.” Entergy has not provided documentation that the facility could accommodate the handling and use of lignite coal that is being proposed. In addition, any emissions rate increases over those contained in a federally enforceable SIP issued permit or Part 70 permit requires that an amended permit must be obtained. It is not clear if White Bluff Station had a nitrogen oxide (NOx), sulfur dioxide (SO₂) or particulate matter (PM)/particulate matter nominally 10 microns and less (PM₁₀) limit that may have been relaxed by a subsequent permitting action. The ADEQ must determine if this facility still meets the “grandfathered” status due to the changes as described in their SIP and Title V permits.

³ See New York v. EPA, 413 F.3d 3, (D.C. Cir. 2005).

The Independence Station obtained a PSD construction permit, PSD-AR-48, from EPA on March 30, 1978, and is also subject to NSPS Subpart D. The PSD permit included maximum emissions of Total Suspended Particulates (now PM/PM10) and SO₂ of “0.04 and 0.93 lbs/MMBtu, respectively.” It is represented in the letter to Region 6 that no “increase in the permitted emission rates will be required”. However, the NSR regulatory provisions require that if a proposed physical or operational change results in an increase in actual emissions, the change is to be considered a modification and therefore subject to PSD. See, e.g., 40 CFR 52.21(b)(2)(i). For this facility, Entergy has not provided any quantified documentation whether any significant net emissions increases will occur as a result of this proposal. 40 CFR 52.21 (b)(3)(i).

In addition, the maximum emission rates in permit PSD-AR-48 are “based on the use of coal with a heat content of 8700 Btu/lb and a maximum sulfur and ash content of 0.45 % and 8%, respectively.” Our understanding regarding the inherent qualities of various coal types is that lignite coal contains not only a much lower heat value than 8700 Btu/lb, but also higher sulfur and ash content. For both the Independence Station and the White Bluff Station, Entergy has not provided any quantified documentation regarding the inherent qualities, or percentages, of the lignite proposed to be combusted.

Regarding NSPS Subpart D and the Independence station, as indicated in NSPS Subpart A at 40 CFR 60.14(a), a modification is any physical or operational change to an existing facility which results in an increase in the emission rate of any pollutant to which a standard applies. Under 60.14(e)(4), a modification does not include “Use of an alternative fuel ... if, prior to the date any standard under this part becomes applicable to that source type, as provided by Section 60.1, the existing facility was designed to accommodate that alternative use.” Entergy has not provided documentation that the facility could accommodate the handling and use of lignite coal that is being proposed. In addition, any emissions rate increases over those contained in a federally enforceable SIP issued permit or Part 70 permit requires that an amended permit must be obtained. It is not clear if Independence Station had a NO_x, SO₂ or PM/PM10 limit that may have been relaxed by a subsequent permitting action.

The proposed fuel switch at either station could conceivably affect emissions of other pollutants. For example, any likely increases in carbon monoxide emissions and emissions of pollutants that derive from the trace chemical constituents in lignite coal. Examples of pollutants in the latter pollutant category would include lead, mercury, fluorine, and chlorine.

Regarding both of the above named facilities, there must be documentation showing that any revisions would not cause or contribute to a violation of any National Ambient Air Quality Standards, any applicable PSD increments or visibility limitation. 40 CFR 51.166(d)(1) and (2).

As ADEQ is the permitting authority, you must ultimately decide whether the combusting of lignite coal in a blend should be considered the use of an alternative fuel or considered as a change in the method of operation for PSD applicability. Considering the information provided to us, EPA Region 6 believes that the source needs to provide sufficient documentation regarding the above discussion prior to any determination.

Our response provides guidance on this matter; however, it does not represent final Agency action. Instead, this guidance is intended to assist in the decision-making process that the State must go through in its role as the PSD permitting authority. We trust that our response to your request is helpful, and should you have any questions or require further assistance on this matter, please contact me at (214) 665-7250, or Rick Barrett of my staff at (214) 665-7227.

Sincerely yours,

David Neleigh
Chief
Air Permits Section

cc: Mr. David Garcia
Air Enforcement Branch (6EN-A)
Mr. Mark C. Bowles
Manager
Arkansas Environmental Support
Entergy Services, Inc.