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December 16, 2009

Ms. Cheryl Bradley
Oklahoma Department of Environmental Quality
Air Quality Division,
P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677

Reference: American Electric Power/Public Service Company of Oklahoma (AEP/PSO) comments to the Oklahoma Department of Environmental Quality (ODEQ) proposed Draft Regional Haze Rule (RHR) State Implementation Plan (SIP) dated November 13, 2009

Dear Ms. Bradley:

AEP/PSO is pleased to offer the comments below in response to the ODEQ's November 13, 2009 Draft RHR SIP. Please allow us to note that the draft SIP is very well organized and easy to comprehend. It aided our efforts in making an expedient review.

AEP/PSO operates gas- and coal-fired Electric Generating Units (EGU) in Oklahoma. These EGUs will be subject to the Best Available Retrofit Technology (BART) provisions of the RHR addressed in the proposed ODEQ SIP.

At the very outset, AEP/PSO would note that depending on the final disposition of certain requirements in the ODEQ proposed RHR SIP, we would be adversely affected financially and the operating viability of our EGUs could be put in jeopardy. More importantly, in these dire economic times, customers in the state could face untenable cost increases, unless the proposed SIP is modified as suggested herein, and ODEQ takes full advantage of the opportunities for flexibility in its implementation.

AEP/PSO submitted a five-factor analysis at ODEQ's request, which demonstrated that installation of dry FGD to achieve a presumptive BART limit of 0.15 lbs/mmBtu SO₂ at Northeastern Units 3 and 4 is not cost-effective, based on the range of values set forth in the RHR. We further evaluated the basis of our annual average SO₂ rate that was used in the five-factor analysis and determined that a realistic depiction of our historical SO₂ emission rate is 0.55 lbs/mmBtu. This is based on an EPA, July 5, 2005 guidance document that stated: "The baseline emissions rate should represent a realistic depiction of anticipated annual emissions for the source. In general, for existing sources subject to BART, you will estimate the anticipated annual emissions based upon actual emissions from a baseline period." The cost effectiveness based upon the 0.55 lbs/mmBtu is \$6,077 / Ton which further clarifies that the dry FGD is not cost effective.

AEP/PSO is committed to returning to the 0.55 lbs/mmBtu coal as expeditiously as practical at a reasonable cost. The reduced sulfur coal will make significant contributions to visibility improvement in the target Class I areas. Within this same time period, additional reductions will be made at other facilities, and additional information will become available concerning EPA's review of ambient air quality standards and development of replacement rules for the Clean Air Interstate Rule and the Clean Air Mercury Rule. All of these developments should be considered in determining if and how further reductions in SO₂ emissions could be accomplished at Northeastern Units 3 and 4. Therefore, as a contribution to ODEQ's continuing development of plans to implement the reasonable progress goals, AEP/PSO would commit to complete an evaluation of measures that would allow Northeastern Units 3 and 4 to achieve further reductions in SO₂ emissions, up to the presumptive BART limit of 0.15 lbs/mmBtu, and present the results of that evaluation to ODEQ within five years of submittal or seven years after approval of the SIP, whichever is later. The evaluation will include FGD controls if no other alternative measures have been identified that would achieve equivalent reductions. Cost-effective measures that provide needed reductions for target Class I areas and that are identified during ODEQ's review of AEP/PSO's submittal would be implemented on a phased basis after the evaluation is completed based on ODEQ's recommendations.

Recognizing that the RHR implementation is a state driven program, the ODEQ has the authority to determine what is best for its sources, in line with the standards of reasonableness and the other factors required to be considered in the RHR. AEP/PSO addresses these issues below. Our comments are broken down along the lines of general and Draft SIP-content specific considerations.

Background

The proposed SIP is intended to develop air emissions reduction plans to help mitigate aesthetic impacts at Federal Class 1 areas in accordance with the provisions in the Federal RHR. The RHR is premised on a "goal" towards restoration of Federal Class 1 areas to their natural background visibility conditions over a 60-year glide path.

The RHR can be broadly broken down into two regulatory tracks - the BART component and the Reasonable Further Progress goal (RFP). Each has its obligatory requirements as distilled below:

BART Component

- BART applies to a subset of eligible EGUs (those that were in operation and "existed" in a window between 1962 to 1977) in a given state and is based on an EGU specific assessment

- These EGUs, on a one time basis, have to reduce emissions that impair visibility in Class I areas through the application of the best system of continuous emission reduction for each pollutant which is emitted by...[the BART-eligible EGU]...taking into consideration...the costs of compliance” along with four other statutory factors
- BART assessment is a site specific determination and is not based solely on the level of visibility improvement achieved after its one time application
- The State has the prerogative and latitude to determine what is construed to be the “best system” for this one time BART determination, following “the statutory five factor analysis”
- The critical factor in the BART assessment, the cost of compliance, is represented in terms of a “cost effectiveness” metric, benchmarked against cost effectiveness factors in the RHR
- BART compliance is generally required to be no later than five (5) years after the United States Environmental Protection Administration’s (USEPA) approval of the RHR SIP

RFP Component

- The RFP goal of the RHR is a Class 1 area specific visibility-based assessment over a 60-year timeline (not an EGU specific one time BART assessment)
- It is keyed towards attaining incremental progress towards the ultimate goal of reaching background visibility levels in 60 years, at a given Class 1 area (within or outside of a State)
- The RFP goal is to be monitored in ten year increments over the 60-year timeline (six, ten-year periods) with adjustments made to the visibility milestone goals as appropriate, at the end of each assessment period
- Central to meeting the RFP goals at any Class 1 area are the cumulative emission reductions over time, from different sources, source types, States and even international emissions and the associated improvements in visibility
- EGU BART emission reductions deemed “cost effective” in a given state, are evaluated for their contribution to improved visibility as part of the overall RPG process, for different Class 1 areas
- Thus, a BART eligible unit’s obligations towards the RFP goal at any Class 1 is incidental to the RFP process, with the control approach and attendant reductions dictated by a onetime assessment keyed to the statutory five-factor analysis
- States have the authority to establish what is “reasonable” by way of any EGU’s reduction obligation towards meeting RFP milestones and seek changes to the RPG requirements, if outcomes are beyond its control
- The RHR give a state with a Class I area the flexibility to tailor the RFP goal for that area. These include: extension to the glide path beyond the 60-year point based on the state's demonstration, applying the reasonable progress factors (including cost of compliance and the time necessary for compliance) to show that

the 60-year period is not reasonable and that the longer period selected by the state is reasonable

General comments to utilize in the SIP offering to the USEPA

Against the above backdrop of pertinent and applicable RHR provisions and AEP/PSO's review of the ODEQ' Draft SIP, we offer these comments and suggestions for consideration and inclusion in the State's SIP submittal to the USEPA:

- The "cost effectiveness" consideration, which is paramount to the BART adjudication is missing from this Draft RHR SIP – AEP/PSO requests that the state review the information presented from the five-factor analyses in light the continued economic recession and the need for greater certainty associated with EGU-specific rulemakings underway at EPA
- ODEQ should make its own determination as to cost-effectiveness based on all of these factors
- The cost-effectiveness numbers developed by EPA for the RHR are the appropriate benchmark for evaluating BART obligations
- As a point of reference, the RHR cites the EPA RACT/BACT/LAER Clearinghouse for Dry FGD for SO₂ control ranging from \$393/Ton to \$2132/Ton, with an average cost effectiveness of \$792/Ton
- AEP/PSO's original cost effectiveness number of \$3266lbs/mmBtu and the \$6077/Ton as revised based upon a historical 0.55 lbs/mmBtu SO₂ emission rate both exceed the high end of EPA's range, allowing for consideration of more cost-effective alternatives
- Even if the RHR USEPA "average cost" was escalated to \$1174/Ton (2008 dollars at 5% escalation), the AEP/PSO site specific number for Northeastern 3 and 4 is not cost-effective
- Given that Dry FGD as BART is not "cost effective" for the NE 3 & 4, the uncertainties with evolving regulatory programs and the ODEQ's goal to issue a RHR SIP, AEP/PSO is willing to offer up an alternative SO₂ reduction approach (with demonstrable visibility improvements at the four Class 1 areas of interest to the ODEQ), on an expedited basis for inclusion in the SIP offering to the USEPA
- AEP/PSO offers to return to, and maintain the lower S fuel with potential SO₂ control efficiency of 43% and visibility improvements approximating to 41%, from the baseline modeling conditions at each of the four class 1 areas
- It is being offered as part of a package of steps to make continuing visibility improvements at a reasonable cost for Oklahoma utility customers
- As for the RPG obligations in the SIP, recognizing that a Class 1 area is impacted by a broad suite of sources within and outside of the state and is accomplished over a 60-year glide path, it would be imprudent and contrary to the BART

- determination to penalize an EGU within the state to meet aggressive reduction requirements by disregarding cost effectiveness criteria
- The RHR is intended to be a state driven program and the state should take into consideration the current acute economic climate and customer impacts, in placing requirements on its EGU sources to satisfy BART in response to the SIP
 - AEP/PSO also offers to complete an evaluation of measures that would allow Northeastern Units 3 and 4 to achieve further reductions in SO₂ emissions, up to the presumptive BART limit of 0.15 lbs/mmBtu, and present the results of that evaluation to ODEQ within five years of submittal or seven years after approval of the SIP, whichever is later. The evaluation will include FGD controls if no other alternative measures have been identified that would achieve equivalent reductions. Cost-effective measures that provide needed reductions for target Class I areas and that are identified during ODEQ's review of AEP/PSO's submittal would be implemented on a phased basis after the evaluation is completed based on ODEQ's recommendations.

Draft SIP Content Specific Comments

These comments are provided to speak to specific items in the Draft SIP (outside of the comments enunciated above in the General Comments section) with a view to:

- reinforce and offer our concurrence on certain Draft SIP limitations identified by the ODEQ that can have implementation consequences for EGU sources
- share our understanding of the intent of specific RHR requirements and contrast those with what is espoused in the Draft SIP
- correct some misstatements about AEP/PSO's BART offerings cataloged in the Draft SIP

Section II A, Monitoring Strategy

- ❖ The Draft SIP language suggests that the continued operation of IMROVE monitors (that track important visibility performance information and maintained by other entities) at the Wichita Mountains Class 1 area (and presumably other Class 1 areas) will be subject to availability of funding. Additionally, there is a statement that reads "DEQ cannot assess the achievement of reasonable progress at Wichita Mountain without continuation of this monitoring."
- ❖ AEP/PSO shares the ODEQ's concerns in these matters, especially when EGUs and other sources are expected to commit billions of dollars to protect visibility and help restore Class I areas to their natural background visibility conditions over a 60-year timeline

- ❖ It seems counter to the RPG process and illogical that emission controls will be required without a feedback mechanism to understand the efficacy of the reduction needed and benefits to be derived from near term and future costly actions taken. AEP/PSO joins the ODEQ in expressing our apprehension over the uncertainty and lack of an accountability mechanism for costly investments made (by EGUs and other sources) and benefits derived

Section II B, Monitoring Operation

- ❖ This section addresses deficiencies in the IMPROVE monitoring protocol, especially the lack of Ammonium measurement with "its significant contribution to visibility impairment"
- ❖ AEP/PSO shares the ODEQ's concerns in this matter. The "complementary role" that the Cation Ammonium plays in visibility impairing Ammonium Sulfate and Ammonium Nitrate particulate formation and the needed reduction of its precursor Ammonia (even if an air shed is Sulfate or Nitrate limited) cannot be neglected
- ❖ Recognizing that it takes an Anion and a Cation to form a compound (particulate), the EPA should be asked to address the lack of proper guidance to a balanced approach to visibility reduction and redress the deficiency, before requiring additional and burdensome SO₂ and NO_x control

Section II C, Calculating Light Extinction From Particulate Concentrations

- ❖ AEP/PSO applauds the ODEQ's use of the latest science based New IMPROVE equation in its planning process, in estimating daily light extinctions. AEP/PSO was at the front end of pushing for the revisions to the legacy IMPROVE equation (advocated by the USEPA and the FLMs) that was based on outdated science
- ❖ AEP/PSO agrees with the ODEQ's assessment that to make the New IMPROVE equation more robust for future use, EPA should be required to fund and augment the monitors at Wichita Mountains (and other Class 1 areas) to include the measurement of light-absorbing Nitrogen dioxide (NO₂) gas, so that this component can be factored into the light extinction calculations. The Electric Power Research Institute (EPRI) has underscored NO₂ measurements as a needed enhancement for use in the IMPROVE equation

Section II D, Deciview Haze Index

- ❖ The ODEQ addresses the algorithm used in the Haze Index calculation and the role of the relative humidity component. The ODEQ has correctly identified the need for factoring in hourly relative humidity variations as compared to monthly average numbers currently used and recommended by the EPA and the FLMs.
- ❖ AEP/PSO concurs that an hourly type number would better represent scattering variances and help screen out bad data (high numbers) due to other influences such as fog/rain. It would be important to select impairment days, using the Haze index that could be truly attributable to pollutant impacts
- ❖ EPRI has identified the importance of hourly considerations and has ongoing efforts to better characterize and inform the process. Future assessments to gauge RPG assessments should include the needed refinements to the algorithm

Section II E, Monitoring Data and Light Extinction Calculations

- ❖ This section catalogs various visibility-impacting particulate species for years 2000 through 2007. The common theme from the information presented is that transport from far reaches account for impacts at the Wichita Mountains (and presumably other Class 1 areas)
- ❖ AEP/PSO would encourage the ODEQ to avoid aggressive and immediate EGU SO₂ and NO_x reductions to satisfy RPG recognizing that several regulatory programs are in the pipeline and until there is further clarity on a holistic (and not a piecemeal) approach to regulatory actions

Section III, Natural Conditions,

- ❖ This section offers an excellent treatise on components that affect the all important natural condition estimation. The current estimate of natural conditions is indicated to be based on the use of default Trijonis method. EPRI has identified shortcomings with the Trijonis methodology which is indicated to result in erroneous depiction of true natural conditions and thereby calling for more emissions reductions to satisfy the uniform rate of progress
- ❖ AEP/PSO shares the ODEQ's concerns about "the extremely general character of the (Trijonis) estimate and their inherent assumptions" that "may only apply to broad regional averages, not necessarily specific points" and "include large error, usually a factor of two without any quantified confidence"

- ❖ AEP/PSO joins the ODEQ in strongly echoing the need to address the uncertainties identified and in questioning the merits to using the default Trijonis estimate. From an affected sources perspective, this could be punitive in terms of control obligations to meeting unfettered RPG obligations

Section VI Best Available Retrofit Technology,

- ❖ In Section VI A., BART-eligible Sources in Oklahoma, the ODEQ indicates that “because of the limiting role of NO_x and SO₂ on PM_{2.5} and the uncertainties in assessing the effect of ammonia reductions on visibility, Oklahoma does not consider ammonia among visibility-impairing pollutants”
- ❖ AEP/PSO respectfully disagrees with the ODEQ in this matter. The role of Ammonia in Ammonium Sulfate and Ammonium Nitrate particulate formation cannot be discounted in the near term or into the future. A strategy focused singly on aggressive SO₂ and NO_x control in the near future, without considering Ammonia reduction, would impede attainment of visibility goals
- ❖ The emissions inventory provided in Section IV bears testimony to our argument - the Tons of Ammonia in the state inventory for 2002 exceeds the Total SO₂ Tons. Assuming that aggressive controls on SO₂ and NO_x are contemplated at the state level, uncontrolled Ammonia in the air shed would still linger to react with transported SO₂ and NO_x leading to continued visibility causing particulate formation
- ❖ Two considerations emerge from the above discussions: 1). The importance of the role of Ammonia and planning for its controls and 2). Recognition that aggressive (“non-cost effective”) state level SO₂ and NO_x control as BART to possibly address RFP goal would be ill advised and unjustified until other regulatory programs that address transport issues (currently being considered) are fully resolved
- ❖ In Table VI-1, Facilities with BART-eligible Units in Oklahoma, the accurate number of such units at the Northeastern Power Station are 3 (instead of 2 as listed)
- ❖ In Section VI B., Determination of Sources Required to Install BART, a statement is made to effect that the ODEQ “will require any BART-eligible source determined to cause or contribute to visibility impairment at the Wichita Mountains or any other Class 1 area to install BART”

- ❖ AEP/PSO would submit that the ODEQ has the discretion and flexibility to determine what is best for its BART-eligible sources, in line with the reasonableness and statutory-factor considerations allowed in the RHR.
- ❖ AEP/PSO concurs with ODEQ's interpretation of the option afforded it in the RHR to exercise its discretion to set a maximum "contribution threshold below 0.5 deciview" and to exempt BART-eligible sources from having to install controls through a dispersion modeling demonstration
- ❖ AEP/PSO supports ODEQ's decision to exempt AEP/PSO's Riverside Power Station based on its (low) source level contribution below the defined threshold, using modeled demonstration
- ❖ Table VI-4, in Section VI B correctly identifies the AEP/PSO BART-eligible sources that will be subject to BART based on "cause or contribute" modeling analysis and the pollutants evaluated
- ❖ AEP/PSO would note that there is a double listing for the Northeastern Power Station Unit 2 in Table VI-4. It is a gas-fired unit and its listing (as part of the coal units) in row 6 under the Facility Name should be deleted
- ❖ AEP/PSO agrees with ODEQ's assertion that "the negligible SO₂ and PM emissions from natural gas-fired steam electric plants do not significantly contribute to visibility impairment and therefore not further evaluated". This assertion is supported by the RHR which limits BART considerations for gas-fired units to NO_x
- ❖ In Section VI C. Determination of BART Requirements for Subject Sources, AEP/PSO agrees with the ODEQ interpretation that "BART is an emission limit for each pollutant based on the degree of reduction achievable through the application of the best system of continuous emission reduction"
- ❖ AEP/PSO notes that the ODEQ has correctly identified the statutory factors to be considered in deciding on the optimum approach to meet an emission limit. This affords the source the needed flexibility to use the best system of reduction, without restricting to use of control equipment
- ❖ Table VI-5 catalogs such limits for several AEP/PSO units
- ❖ AEP/PSO agrees with the BART NO_x emission factors expressed in lb/mmBtu reflected in Table VI-5 for AEP/PSO Gas-fired EGUs at Southwestern Power Station 3, Northeastern Power Station 2 and Comanche Power Station 1 & 2

- ❖ AEP/PSO would add that these limits reflect the performance capability, based on use of site specific cost effective “current combustion control technology” (as prescribed in the RHR)
- ❖ AEP/PSO may, if feasible, subsequent to the installation and fine tuning of the ‘current combustion technology’ and following a few years of operation, voluntarily offer to permit these units at a lower limit,
- ❖ Table VI-5, indicates SO₂ limits of 0.15 lbs/mmBtu and NO_x limits of 0.15 lbs/mmBtu for the Northeastern Power Station Units 3 & 4. AEP/PSO would note that these are keyed to “presumptive limits” established by the EPA in the RHR, for specific fuel and boiler type, typical of these units. These limits correspond to “cost effectiveness” determination made by the EPA and recommended for use by states as BART.
- ❖ AEP/PSO will meet the 0.15 lb/mmBtu limit for NO_x, per the RHR
- ❖ As discussed earlier in the general section of the comments, AEP/PSO wishes to revise its SO₂ offerings to satisfy a 0.55 lb/mmBtu BART limit. This revision is based on subsequent BART statutory five-factor analyses performed at ODEQ’s request and benchmarking the cost effectiveness determination against EPA’s average cost effectiveness criteria suggested in the RHR
- ❖ AEP/PSO requests the ODEQ to reflect the 0.55 lb/mmBtu SO₂ limit in Table VI-5 as BART emissions factor for the Northeastern Power Station, Units 3 & 4, in lieu of the 0.15 lb/mmBtu value
- ❖ AEP/PSO would note that incidental to meeting the 0.55 lb/mmBtu limit is the potential to meet a SO₂ control efficiency of 43% and visibility benefits at 4-Class 1 areas approximating to 41%, from modeling baseline conditions in the RHR
- ❖ As previously discussed, the ODEQ has the authority and it’s within its purview to establish BART limits, based on cost effectiveness considerations. After assessing future regulatory outcomes and in support of RPG efforts, the ODEQ could always revisit imposition of newer SO₂ limits, subject to consideration of reasonable progress factors (that includes incremental cost of compliance and the time necessary for compliance) for these units
- ❖ AEP/PSO supports the flexibility in BART limit compliance timeline espoused in this Draft SIP which reads “ (BART) Subject sources must achieve the BART emission standards referenced above.....within seven

(7) years from the date of submission of the Oklahoma Regional Haze SIP or within five (5) years of EPA's approval of the SIP, whichever is longer.

- ❖ AEP/PSO would note that the state BART rule "requires each source subject to BART to install and operate BART no later than 5 years after EPA approves this implementation plan revision" To avoid conflicting timeline language, AEP/PSO would recommend that the state rule OAC 252-100-8-75(e), be amended to be consistent with the Draft SIP language
- ❖ Table VI-6 lists Controls to be used to comply with BART
- ❖ AEP/PSO concurs with the LNB/OFA listing for NO_x control at the gas-fired EGUs at Northeastern Power Station Unit 2 and the Southwestern Power Station Unit 3
- ❖ At the gas-fired Comanche Power Station Units 1 & 2, NO_x control should be corrected to read DLNB, in lieu of LNB
- ❖ The SO₂ controls for Northeastern Power Station Units 3 & 4 should be changed to reflect Low Sulfur use, which has been determined to be cost effective and provides visibility benefits at Class 1 areas of interest to the ODEQ
- ❖ AEP/PSO concurs with LNB/OFA listing for NO_x control at the Northeastern Power Station, Units 3 & 4. This has been established by the EPA in the RHR as the "cost effective" approach for the fuel and boiler type, with significant visibility improvements. The RHR has provided detailed justification for not requiring post-combustion NO_x control to comply with BART
- ❖ AEP/PSO concurs with the existing ESP for PM control as reflected in the Table VI-6
- ❖ Table VI-7 portrays SO₂ BART-level Emissions Reductions from the 2002 Baseline. AEP/PSO would ask that the Total Reduction for the Northeastern Power Station, Unit 3 & 4 be corrected to reflect the Tons corresponding to BART limit of 0.55 lbs/mmBtu of 12,413 tons
- ❖ Table VI-11 portrays Visibility Improvement in the 98th Percentile with BART SO₂ controls from Modeled Baseline conditions. AEP/PSO requests that the Visibility Improvement at Wichita Mountains, Caney Creek, Upper Buffalo and Hercules Glades be changed to the following to reflect the improvements attributable to Low Sulfur fuel (0.55 lb/mmBtu) use:

Wichita Mountains	–	0.50 delta dV
Caney Creek	–	0.51 delta dV
Upper Buffalo	–	0.38 delta dV
Hercules Glade	–	0.42 delta dV

Section VII. Long-term Strategy with Emission Reduction

- ❖ AEP/PSO agrees with the ODEQ statement that “because emissions from Oklahoma only insignificantly impair visibility at all other Class 1 areas, this long term strategy for achievement of reasonable progress goals in other Class 1 areas requires no further rules or actions from the DEQ”.
- ❖ AEP/PSO applauds ODEQ’s recognition that reduction in emissions inventories resulting from unit retirements, other regulatory activities, fuel switching etc, will have a direct bearing and positive impact on the RHR program implementation, especially as pertaining to the RPG needs in Class 1 areas. In that vein, AEP/PSO would request the State to guard against unjustified call for large and immediate emissions reductions (from in-state BART-eligible sources) to address RPG requirements as part of BART
- ❖ For consistency reasons, in Section VII- 3. Enforceability, the language in the last paragraph which reads” each BART-eligible source subject to BART shall install and operate BART no later than five years after EPA approves the Oklahoma Regional Haze SIP” should be modified to be consistent with the language in Section VI-C, Determination of BART Requirements for Subject sources.
- ❖ AEP/PSO requests the state rule OAC 252:100-8-75(e) be amended to reflect the language in Section VI-C

Section VIII. Modeling of Regional Haze in 2018

- ❖ Table VIII-2 projects an annual TPY increase of 32.86% in the state’s Ammonia emissions inventory from the 2002 year. As previously stated, AEP/PSO requests the ODEQ to consider the complementary role of Ammonia in visibility impairing particulate formation. AEP/PSO sees the need for the ODEQ to address Ammonia control (in the near term) as also to cap Ammonia emissions for meaningful visibility reduction in the near term and into the future
- ❖ Section VIII B 2 Electric Generating Unit Projections, (based on IPM 2.1.9 to generate 2018 estimates to model future RPG goals), are probably

outdated and thus the use of past projections may understate the RPG predictions. AEP/PSO would encourage the ODEQ to not lose perspective of future expected lower levels of SO₂ and NO_x and not be pressured into requiring very aggressive BART limits in the very near term. BART limits should be based on the five-factor analysis

Section IX. Reasonable Further Progress Goal

- ❖ AEP/PSO concurs with the ODEQ representation in this section that the RFP goal is to show progress towards milestones goals that are “reasonable” and within its control
- ❖ AEP/PSO would note that the RHR gives a state with a Class 1 area, the flexibility in determining the RFP goal for that area. These include, extension to the glide path (beyond the 60-year point) based on the state’s demonstration, applying reasonable progress factors that considers cost of compliance and the time necessary for compliance to show that the 60-year period is not reasonable and that the longer period selected by the state is reasonable.
- ❖ In support of its analysis, the ODEQ has provided a good discourse on its reasonableness determination and inability to meet the Uniform Rate of Progress established for its Class 1 area, even with the elimination of all anthropogenic sources within Oklahoma.
- ❖ Section IX A is optimistic about achieving its RFP goal derived from modeling results with estimated emissions for 2018. AEP/PSO would tend to agree with this ODEQ optimism, recognizing that the modeling was performed in the 2004/05 period when future emission projections were based on business-as-usual and overstated. AEP/PSO would however caution the ODEQ against being pressured into having its BART-eligible sources to submit to extreme levels of reduction too soon, by interpreting statutory factors differently
- ❖ Section IX B, Reductions Required to Meet the Uniform Rate of Progress correctly interprets the RHR language which does not require the ODEQ to compensate for the lack of control in Texas, other states and foreign countries. AEP/PSO agrees that it would be inappropriate and unreasonable to require additional controls of its state sources (as part of BART), beyond what is determined to be cost effective
- ❖ Section IX C. Control Simulations, addresses “control-sensitivity evaluation of the effect of reducing point-source emissions of NO_x and SO₂ only with existing emissions-control technology” in support of

meeting the Uniform Rate of Progress. AEP/PSO was actively involved in these deliberations as part of CENRAP and was not supportive of the process, especially with regard to the cost effectiveness determinations and agrees with the ODEQ sentiments that the cost-effectiveness calculations were not predicated on true retrofit costs

- ❖ Section IX D. Factors for Consideration correctly identifies the key components in the “reasonableness determination in support of meeting reasonable progress goal targets”. AEP/PSO concurs with the ODEQ (on the lack of merit in requiring controls beyond what is required to meet “cost effective” BART limits) and “compelling facilities to expend large amounts of capital on pollution reduction technology likely would cause some facilities to cease operation and further compound unemployment and other economic problems in the communities”.

Comments to the Applicable Contents in Appendices

Appendix 6-1, Oklahoma’s BART Rule and Administrative Materials

- ❖ AEP/PSO would request the following amendments be made:
 - 252:100-8-75(a)(1) be amended to read: “The determination of BART must be based on an analysis of the best system of continuous emission reduction achievable for each BART-eligible source that is subject to BART, based on a five-factor analysis”
 - 252:100-8-75(a)(2) be amended to read: BART would be an emission limit based on the determination in (a)(1) above
 - 252:100-8-75(a)(3)(e) be amended to read: The owner or operator of each BART-eligible source subject to BART shall meet applicable emission standards determined in (a)(2) above within (7) years from date of submission of the Oklahoma Regional Haze SIP or within five (5) years of EPA’s approval of the SIP, whichever is longer
 - 252:100-8-76, Permit requirements be amended to read: The BART requirements for any BART-eligible source that is subject to BART shall be submitted to the Director in an application for a permit modification pursuant to OAC 252:100-8-7-2 no later than 3 months after the EPA approval of the ODEQ SIP

Appendix 6-4, BART analysis for each facility required to install BART

BART Application Analysis for AEP/PSO Comanche Power Station

- ❖ Page XV, Section IV. Best Available Retrofit Technology (BART), Table 2, Proposed BART Control and Limits
 - The BART Technology column for Comanche Unit 1 and Comanche Unit 2 should read DLNB, instead of Low NOx Burners
 - AEP/PSO agrees with ODEQ's findings that the installation and operation of the BART determined NOx control, new DLNB, meets the statutory requirements of BART
 - AEP/PSO agrees with the stipulation on Page XXVIII that "with installation of the BART controls, the duct burners will no longer be authorized to operate
 - Page XXVIII, Section VI. Operating Permit:
 - Item 1. Need to delete reference to duct burners
 - Item 1.b. should be modified to read "Each existing affected facility shall meet applicable emission standards determined within (7) years from date of submission of the Oklahoma Regional Haze SIP or within five (5) years of EPA's approval of the SIP, whichever is longer

BART Application Analysis for AEP/PSO Northeastern Power Station

- ❖ Page LXXII, Table 1: Northeastern Power Plant Operating Parameters for BART Evaluation
 - The Baseline Actual Emissions listing for SO₂ for Northeastern Unit 3 and Northeastern Unit 4 should be corrected to read 0.55 lb/mmBtu and the corresponding Lb/Hr should be 2865 and 2865 respectively
 - Page LXXIV, Table 2 BART Control and Limits
 - The column for SO₂ BART Emission Limit for Northeastern Unit 3 and Unit 4 each should reflect 0.55 lbs/mmBtu (30-day rolling average)
 - The column BART Technology for Northeastern Unit 3 and Unit 4 each should reflect Low S fuel
 - AEP/PSO will provide the BART assessment report in support of the BART limit offered and the visibility report separately

- Page CII - AEP/PSO agrees with the ODEQ's finding that the installation and operation of New LNB/OFA for Northeastern Units 2, 3 and 4 meets the statutory BART for NOx with limits of 0.28 lb/mmBtu for Unit 2 and 0.15 lb/mmBtu for each of Units 3 & 4, on a 30-day rolling average
- The language inadvertently refers Units 3 & 4 as Units 1 & 2 and need to be corrected. AEP/PSO agrees with the ODEQ's findings that LNB/OFA plus SCR is not determined to be BART for NOx control for Units 3 and 4
- AEP/PSO would add that post combustion control for NOx was not deemed BART by the RHR based on "cost-effective" analysis by the EPA. AEP/PSO performed SCR analysis at the ODEQ's request
- Page CIII – SO2 – AEP/PSO will supplement its analysis which would demonstrate that a New Dry FGD is not cost effective and will provide information in support of meeting a 0.55 lb/mmBtu on a rolling average using low S fuel
- AEP/PSO would request that the ODEQ make modification to its Draft SIP subsequent to the submittal of a report which would justify SO2 emission limit of 0.55 lb/mmBtu as BART for Northeastern Units 3 & 4
- Page CIV, Table 17, Unit-by-unit BART determinations needs to be corrected as follows:
 - Unit 3 and Unit 4 SO2 control should reflect Low S fuel, instead of Dry FGD with SDA
 - Emission rate in lb/mmBtu (for SO2) should be changed to 0.55 lb/mmBtu in lieu of 0.15 lb/mmBtu
 - Emission Rate in lbs/hr (for SO2) should be changed to 2865 in lieu of 716 lbs/hr
 - Emission Rate in TPY (for SO2) should be changed to 12552 in lieu of 3,137 TPY
- Page CVL, Item s. should be modified to read "Each existing affected facility shall meet applicable emission standards determined within (7) years from date of submission of the Oklahoma Regional Haze SIP or within five (5) years of EPA's approval of the SIP, whichever is longer"
- Item v. should be modified to read "Units 3 and 4, affected facilities, shall meet the BART emissions limits as shown below"
- Item w. should be modified to read "the permittee shall maintain the controls (Low-NOx burners, overfire) and establish procedures to ensure the controls are properly operated"

- Page CVII, Table for EU ID# 3 and 4, the columns for SO2 Emission Limit should indicate 0.55 lb/mmBtu

BART Application Analysis for Southwestern Power Station, Unit 3

- ❖ AEP/PSO agrees with ODEQ's findings that the installation and operation of the BART determined NOx control, new LNB/OFA meets the statutory requirements of BART
 - Page CLXXXIX, Sentence before Section V. Construction permit needs to be corrected to drop reference to FGR. It should read: "The Division considers the installation and operation of the BART determined NOx controls, new LNB with OFA, to meet the statutory requirements of BART.
 - Page CXC Section VI. Operating Permit, Item 1.uu. Should be modified to read "Each existing affected facility shall meet applicable emission standards determined within (7) years from date of submission of the Oklahoma Regional Haze SIP or within five (5) years of EPA's approval of the SIP, whichever is longer

We look forward to further discussions concerning our comments.

Sincerely,



Howard L. Ground
Manager Governmental & Environmental Affairs

Cc: S.Solomon
J.McManus
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D.Dharma