APPENDIX I

SWEPCO Flint Creek Four-Factor Documentation

Division of Environmental Quality

Office of Air Quality

Contents

APPENDIX I-1

SWEPCO Flint Creek Information Collection Request

Division of Environmental Quality

Office of Air Quality

January 8, 2020

Brian Bond
Vice President, External Affairs
Southwestern Electric Power Company (SWEPCO)

Sent Via Electronic Mail

RE: Regional Haze Four-Factor Analysis; Information Collection Request;

Dear Mr. Bond:

The Arkansas Department of Energy and Environment, Division of Environmental Quality (DEQ) hereby requests that SWEPCO submit the information described in Section II no later than 90 days from the date of this letter.

I. BACKGROUND

DEQ must develop a Regional Haze Program state implementation plan (SIP) that demonstrates reasonable progress toward achieving natural visibility conditions in Arkansas Class I areas during the period between 2018 and 2028, which is referred to as Planning Period II. The SIP must also address emissions from within the state that may impair visibility in Class I areas in other states. The Regional Haze Program uses an iterative planning process lead by the states with the ultimate goal of remedying existing and preventing future visibility impairment from anthropogenic sources of air pollution by 2064.

For the Planning Period II SIP, DEQ must develop a long-term strategy for reducing emissions of key pollutants and sources impacting visibility at Class I areas to make "reasonable" progress toward the goal of no anthropogenic visibility impairment by 2064. The Regional Haze Rule provides four factors by which a state must consider potential control measures for the long-term strategy. The factors are the cost of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of existing sources that contribute to visibility impairment.

The key pollutants from anthropogenic sources impairing visibility at Arkansas Class I areas are ammonium sulfate and ammonium nitrate.[1] Ammonium sulfate is formed by chemical reactions between ammonia and sulfur dioxide (SO_2) in the atmosphere. Ammonium nitrate is formed by chemical reactions between ammonia and nitrogen oxides (NOx) in the atmosphere. EPA modeling projects that these two pollutants will continue to be the key pollutants contributing to visibility impairment at Arkansas Class I areas in 2028.[2]

The states in the Central States Air Resources Agencies (CENSARA) organization, which includes Arkansas, contracted with Ramboll US Corporation (Ramboll) to produce a study examining the impact of stationary sources of NOx and SO_2 on each Class I area in the central region of the United States. For each Class I area, the study took into account light extinction-weighted wind trajectory residence times, 2016 sulfur dioxide and nitrogen oxides facility emissions projections, and distance from sources of nitrogen oxides and sulfur dioxide to Class I Areas. The study produced an area of influence (AOI) for each Class I area, which shows the geographic areas with a high probability of contributing to anthropogenic visibility impairment.

Based on the results of the AOI study, DEQ has identified Flint Creek Power Plant as a source of visibility impacting pollutant emissions that DEQ should evaluate for potential emission reduction measures during Planning Period II. DEQ has identified the following existing controls on Flint Creek's main boiler (SN:01):

- Dry flue gas desulfurization (emission limit of 0.06 lb SO_2/MMBTU on a thirty-day rolling average)
- Low NOx burners with over-fire air (emission rate of 0.23 lb/MMBTU)

EPA's guidance instructs states that it is unlikely that an analysis of control measures would conclude that an even more stringent control is necessary to make reasonable progress for:

1) A coal-fired power plant already equipped with a scrubber and meeting an emission limit less than 0.3 lb SO_2/MMBTU; and
2) A combustion source equipped with SCR that operates on a year-round basis with an overall effectiveness of at least ninety percent.[3]

Because SN-01 is under a more stringent SO_2 limit than the limit specified in EPA's guidance, DEQ requires no additional information concerning possible SO_2 controls for planning period II. Therefore, this information request focuses solely on potential NOx emission control strategies.

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[1] http://vista.cira.colostate.edu/Improve/improve-data/
[2] https://www.epa.gov/visibility/visibility-guidance-documents
[3] https://www.epa.gov/visibility/guidance-regional-haze-state-implementation-plans-second-implementation-period

II. INFORMATION REQUESTED FOR POTENTIAL EMISSION REDUCTION STRATEGIES

DEQ requests that SWEPCO provide information about potential emission reduction strategies for NOx from the Flint Creek Power Plant. At a minimum, SWEPCO should include the following potential strategies for the emission unit that emits the majority of NOx from Flint Creek, identified by DEQ as SN-01 Boiler

- NOx (ranked from typical highest control efficiency to lowest) [4]
    - Selective Catalytic Reduction (Typical NOx control efficiency for utility coal-fired boilers ≈ 90%)
    - Selective Non-Catalytic Reduction (Typical NOx control efficiency for utility coal-fired boilers ≈ 35–50%)

The list above may not be comprehensive. SWEPCO may provide information about strategies in addition to those listed above. In addition, SWEPCO may include updates to information provided in previous assessments during Planning Period 1.

For each technically feasible emission reduction strategy, please provide the following information:

- Control effectiveness (Percentage NOx feasible to reduce reduced) estimates specific to the emission unit in terms of actual emissions
- Emission reductions that would be achieved by implementation of the strategy:
    - Baseline actual emission rate in lb/hr or lb/MMBTU (maximum monthly value in the period between June 1, 2018–December 31, 2019)[5]
    - Control rate in lb/hr or lb/MMBTU (units should match baseline actual emission rate)
    - Resulting annual emission reductions (tons/year)
- Time necessary to implement the strategy with an explanation justifying the time needed
- Remaining useful life
    - Remaining useful life of an emission unit should be based on an enforceable shutdown date. Otherwise, the remaining useful life should be the full period of the useful life for the control technology evaluated
    - The EPA Pollution Control Cost Manual[6] provides guidance on typical values for the useful life of various emission control systems
- Energy and non-air quality environmental impacts
    - Specify any energy and non-air environmental impacts such as the generation of wastes for disposal, impacts on other environmental media, etc.

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[4] From EPA Menu of Control Measures < https://www.epa.gov/sites/production/files/2016-02/menuofcontrolmeasures.xlsx>

[5] A shorter baseline period is warranted for Flint Creek because construction of low NOx burners with separated over fire air was completed on May 18, 2018, which reduced NOx emissions from SN-01.

[6] https://www.epa.gov/sites/production/files/2017-12/documents/epaccmcostestimationmethodchapter_7thedition_2017.pdf

- Factor any costs associated with energy and non-air environmental impacts into the cost of implementing the strategy, including without limitation:
  - Permitting costs if other regulatory requirements are triggered by the strategy
  - Costs associated with compliance with any other regulatory requirements triggered by the strategy
  - Cost of waste disposal for wastes generated by proposed control systems

- Cost of implementing the strategy
  - Use the EPA Pollution Control Cost Manual[7] overnight methodology to quantify the following cost metrics:
    - Capital costs
    - Annual operating and maintenance costs
    - Annualized costs
  - The amortization period should be based on the time between when the strategy could reasonably be in place and the remaining useful life of the emission unit or emission control system, whichever is less.[8]

III. CONCLUSION

Thank you for your timely response to this information request. This information is necessary for DEQ to prepare a technically and legally robust state implementation plan consistent with the Regional Haze Rule. Please respond with the requested information by April 7, 2020. If you have any questions, please contact Tricia Treece (treecep@adeq.state.ar.us) of my staff.

Sincerely,

William K. Montgomery
Interim Associate Director
Office of Air Quality
Division of Environmental Quality
Arkansas Department of Energy and Environment

[7] https://www.epa.gov/sites/production/files/2017-12/documents/epaccmcostestimationmethodchapter_7thedition_2017.pdf

[8] Amortization start date is equal to the time necessary for compliance for the strategy added to January 31, 2023 (Deadline for timely EPA action on a SIP submitted on July 31, 2021).

APPENDIX I-2

SWEPCO Flint Creek ICR Response

Division of Environmental Quality

Office of Air Quality

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SOUTHWESTERN ELECTRIC POWER COMPANY
An AEP Company
BOUNDLESS ENERGY

VIA U.S. Mail and E-mail (*Montgomery@adeq.state.ar.us*)

March 25, 2020

Mr. William K. Montgomery
Interim Associate Director
Arkansas Department of Energy and Environment
Division of Environmental Quality, Office of Air Quality
5301 Northshore Drive
North Little Rock, AR 72118

Re: Response to January 8, 2020 Regional Haze Four-Factor Analysis Information Collection Request
Southwestern Electric Power Company - Flint Creek Power Plant

Dear Mr. Montgomery:

This letter is provided by American Electric Power Service Company (AEP) on behalf of Southwestern Electric Power Company (SWEPCO) in response to your January 8, 2020 information collection request ("the ICR") addressed to Mr. Brian Bond. The ICR specifically asks for technical and economic information related to two potential post-combustion nitrogen oxide (NO_X) reduction strategies for the Main Boiler, source number 01 (SN-01), at the Flint Creek Power Plant (Flint Creek): Selective Catalytic Reduction (SCR) and Selective Non-Catalytic Reduction (SNCR).

As stated in the ICR, SN-01 is already equipped with low-NO_X burners and over-fire air (LNB+OFA), which constitute the most cost-effective combustion controls for NO_X. Thus, the employment of SCR and/or SNCR would be for only incrementally more NO_X emissions reduction than is already being achieved. The requested information for each of these two control options is provided below in a slightly different order/format than outlined in the ICR.

In addition to the information requested by the ICR, AEP/SWEPCO is providing, in Attachment 1, a summary of the current visibility conditions at each of the two Arkansas and two Missouri Class I areas. AEP/SWEPCO feels that it is important to bear in mind the ultimate goal of the regional haze rule and the fact that visibility conditions in all four potentially impacted Class I areas are better than what is required by the uniform rate of progress or glidepath for each area. This is true for both current monitored visibility and modeled projections for visibility. Therefore, the obligation to make reasonable progress toward the 2064 visibility goal is satisfied and further reductions are not necessary during this planning period.

Baseline Emission Rate

Per the ICR, the maximum monthly emission rate, in pounds per hour (lb/hr) or pounds per million British thermal units (lb/MMBtu), from the period between June 1, 2018 and December 31, 2019 (baseline period) is taken as the baseline emission rate. Based on monthly data in the U.S. Environmental Protection

Agency's (EPA's) Air Markets Program Data (AMPD), [1] this value is 0.20 lb/MMBtu for November 2018. November 2018 also represents the maximum monthly heat input for SN-01 for the baseline period: 4,678.4 MMBtu per hour (MMBtu/hr).

The average monthly emission rate and heat input rate during the baseline period are much less: 0.186 lb/MMBtu and 3,856.8 MMBtu/hr, respectively.

Additionally, for the purpose calculating the control cost estimates presented later in this letter, the maximum monthly total emissions value during the baseline period is 345.06 tons per month for December 2018. This value annualizes to 4,140.72 tons per year (tpy).

Control Effectiveness

The ICR lists "typical control efficiency" values for SCR and SNCR of 90% and 35-50%, respectively. These control efficiencies are possible only for boilers that do not already have low emission rates, unlike SN-01, which, as mentioned above, is already equipped with LNB+OFA.

AEP's September 2013 Best Available Retrofit Technology (BART) Five Factor Analysis (the AEP 2013 BART report) presented a vendor-estimated emission rate for SCR of 0.067 lb/MMBtu and an emissions estimate range for SNCR (with LNB+OFA) of 0.18 to 0.23 lb/MMBtu. EPA's August 2016 Federal Implementation Plan (FIP) Response to Comments (RTC) document (the EPA 2016 FIP RTC)[2] used 0.055 lb/MMBtu rather than 0.067 lb/MMBtu for SCR, and it used 0.20 lb/MMBtu for SNCR.

For the purposes of this ICR response, 0.055 lb/MMBtu is used as the controlled emission rate for SCR. Comparing this controlled emission rate to the baseline emission rate of 0.20 lb/MMBtu, the control efficiency possible for SCR is 72.5%. AEP/SWEPCO agrees that 0.20 lb/MMBtu is the appropriate emission rate for SNCR at Flint Creek. This rate is equal to the baseline emission rate; therefore, the SNCR control efficiency is zero (0). AEP's engineering department is in agreement with this result – since the NOx emission rate is already reduced to this lower emission rate range by the installed LNB/OFA, implementing SNCR at Flint Creek would provide for no additional emissions reductions.

Emissions Reductions

Based on the control efficiencies presented above and the baseline period annualized maximum monthly total emissions value, 4,140.72 tpy, the potential emissions reductions for SCR and SNCR are 3,002 tpy and zero (0) tpy, respectively.

Time Necessary to Implement

Were SCR or SNCR to be required for SN-01, AEP/SWEPCO would need at least three (3) years for engineering design, procurement, construction, and shakedown.

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[1] https://ampd.epa.gov/ampd/, queried on March 2, 2020.

[2] Response to Comments for the Federal Register Notice for the State of Arkansas; Regional Haze and Interstate Visibility Transport Federal Implementation Plan, Docket No. EPA-R06-OAR-2015-0189, August 31, 2016. See page 211.

Remaining Useful Life

There are no effective limitations on the remaining useful life (RUL) of SN-01; therefore, the default useful life values for SCR and SNCR from the EPA's Air Pollution Control Cost Manual (CCM),[3] 30 years and 20 years, respectively, are used for the control cost estimates presented later in this letter.

Energy and Non-Air Quality Environmental Impacts

From the AEP 2013 BART report:

> *SCR systems require electricity to operate the ancillary equipment. The need for electricity to help power some of the ancillary equipment creates a demand for energy that currently does not exist.*
>
> *SCR and SNCR can potentially cause significant environmental impacts related to the storage of ammonia. The storage of aqueous ammonia above 10,000 lbs is regulated by a risk management program (RMP), since the accidental release of ammonia has the potential to cause serious injury and death to persons in the vicinity of the release. SCR and SNCR will likely also cause the release of unreacted ammonia to the atmosphere. This is referred to as ammonia slip. Ammonia slip from SCR and SNCR systems occurs either from ammonia injection at temperatures too low for effective reaction with NO_X, leading to an excess of unreacted ammonia, or from over-injection of reagent leading to uneven distribution, which also leads to an excess of unreacted ammonia. Ammonia released from SCR and SNCR systems will react with sulfates and nitrates in the atmosphere to form ammonium sulfate and ammonium nitrate. Together, ammonium sulfate and ammonium nitrate are the predominant sources of regional haze.*

Costs to Implement

Table 1 summarizes the capital, annualized capital, and annual operations and maintenance (O&M) costs for SCR and SNCR as presented in the AEP 2013 BART report and alternative values for SNCR as presented in the EPA 2016 FIP RTC. As discussed in the EPA 2016 FIP RTC, the EPA's alternative values for SNCR include adjustments to the useful life and baseline/uncontrolled emission rate.

Table 1. Controls Costs

Control Option	Capital Cost ($)	Annualized Capital Cost ($/yr)	Annual O&M Cost ($/yr)	Total Annual Cost ($/yr)
SCR	121,440,000	9,786,413	5,260,000	15,046,413 (2016 Basis) 13,769,599 (2013 Basis)
SNCR - AEP [4]	7,124,235	672,477	2,050,684	2,723,162 (2011 Basis)
SNCR - EPA	5,683,091	457,980	325,551	783,531 (2011 Basis)

Table 2 presents cost effectiveness, in dollars per ton of NO_X reduced, based on the total annual costs in Table 1 and the emissions reductions values presented above. As noted in Table 1 above, the SCR costs were calculated in the AEP 2013 BART report using a 2016 basis, and the total was then de-escalated to a

[3] https://www.epa.gov/economic-and-cost-analysis-air-pollution-regulations/cost-reports-and-guidance-air-pollution#cost reports, accessed on March 2, 2020.

[4] The SNCR values are adjusted to remove the costs associated with LNB+OFA; they were presented together in the AEP 2013 BART report.

2013 basis. Additionally, the SNCR costs were calculated and presented using a 2011 basis. These values are escalated to a 2018 basis[5] for the purpose of calculating updated cost effectiveness values.

Table 2 – Controls Cost Effectiveness

Control Option	Total Annual Cost ($/yr) (2018 Basis)	Emissions Reduction (tpy)	Cost Effectiveness ($/ton)
SCR	15,962,740	3,002	5,317
SNCR - AEP	3,349,146	0	Not applicable
SNCR - EPA	963,644	0	Not applicable

Conclusion

Based on the updated emissions and controls cost information presented by AEP (and accepted by the EPA) and information published independently by the EPA in the BART determinations, post-combustion NO_X controls (i.e., SCR and SNCR) remain infeasible for SN-01.

This response is submitted on behalf of Southwestern Electric Power Company, a wholly owned subsidiary of American Electric Power, Inc. (AEP). Please contact me at (214) 777-1155 or kmhughes@aep.com if you have any questions regarding this submittal. Due to the COVID-19 pandemic situation and limited access to print, scan and postal mail abilities, please accept my electronic signature below.

Sincerely,

Kimberly Hughes

Kimberly Hughes
Environmental Engineering Supervisor
American Electric Power

ec: Jeremy Jewell, Trinity Consultants

Brian Bond/Elizabeth Gunter/Ashley Roundtree, AEP

File: FLC.10.90.50.10.2020

[5] Escalation is based on 3 % per year increased costs.

Attachment 1

Visibility Conditions in the Arkansas and Missouri Class I Areas

The following pages show plots for each of the Arkansas and Missouri Class I Areas – Caney Creek (CACR), Hercules Glades (HEGL), Mingo (MING), and Upper Buffalo (UPBU) – from EPA's September 19, 2019 memorandum *Availability of Modeling Data and Associated Technical Support Document for the EPA's Updated 2028 Visibility Air Quality Modeling*. In each plot, the "Current Avg" line represents the current visibility conditions based on the average of the 20 percent most impaired days for the years 2014 through 2017 from the Interagency Monitoring of Protected Visual Environments (IMPROVE) data, the hatched bars ("MOD2016" and "MOD2028") show the results of EPA's modeling, and the "Adj Glidepath" line shows EPA's expected new uniform rate of progress (URP) based on the 20 most impaired days (rather than the 20 percent worst days, which was used for the original URP/Glidepath). The shaded area shows EPA's expectations for the minimum and maximum adjusted glidepath – to be established with the approval of the regional haze second planning period state implementation plan (SIP). Thus, as plotted, if the "Current Avg" is below the "Adj Glidepath" and especially if it is even the lower than the shaded area, then the current Class I area visibility conditions are better than necessary to achieve the goal of the regional haze program. Moreover, if the 2028 modeling results are lower than the "Adj Glidepath" and shaded areas, then predicted visibility conditions are better than necessary. Both of these are true of all four Class I areas under consideration in the Arkansas SIP.

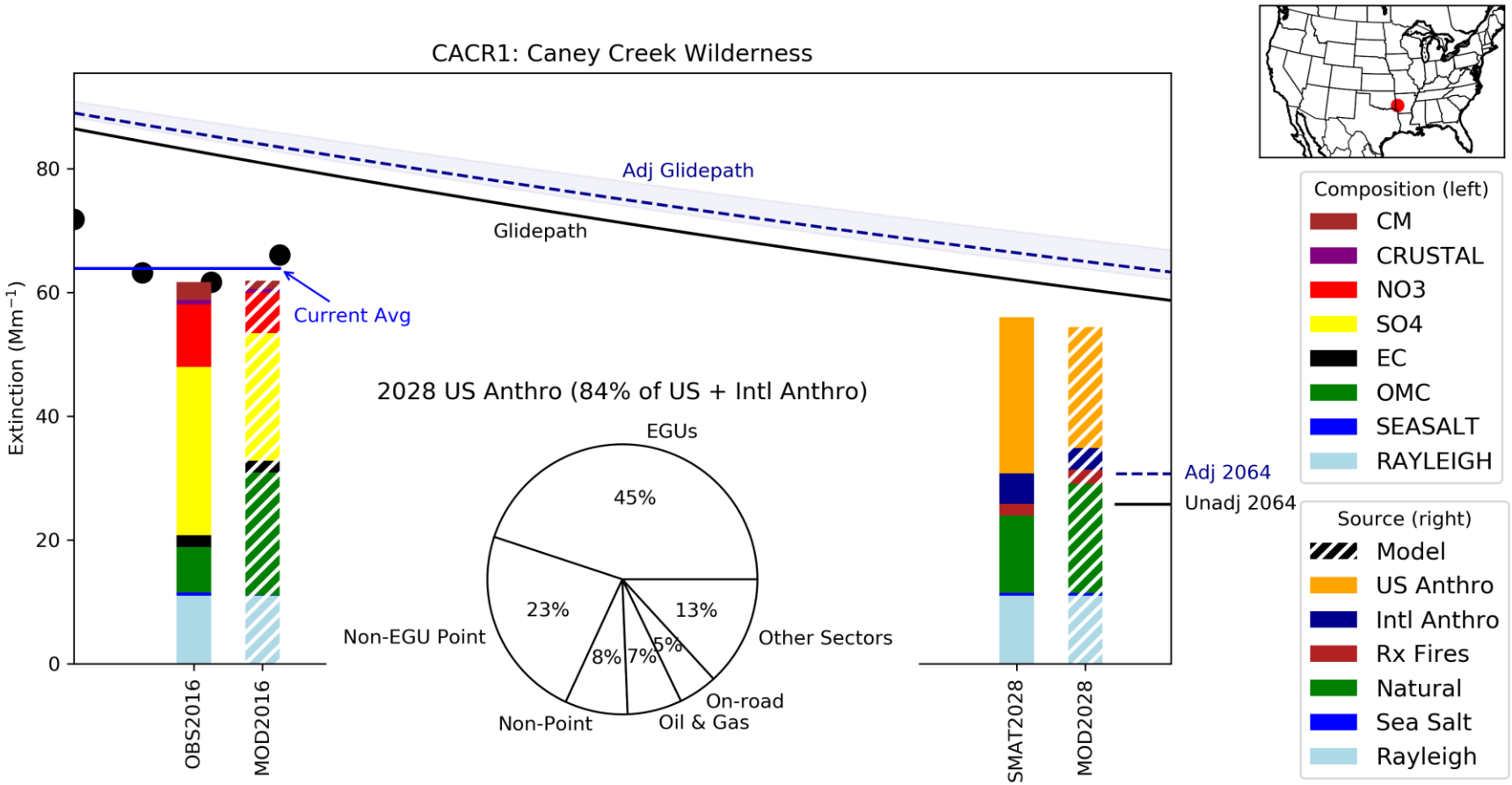

Figure 16: 2014-2017 IMPROVE observations, 2016 CAMx model predictions, 2028 modeled projection, and 2028 sector contributions at CACR1. Used for Class I areas: Caney Creek Wilderness.

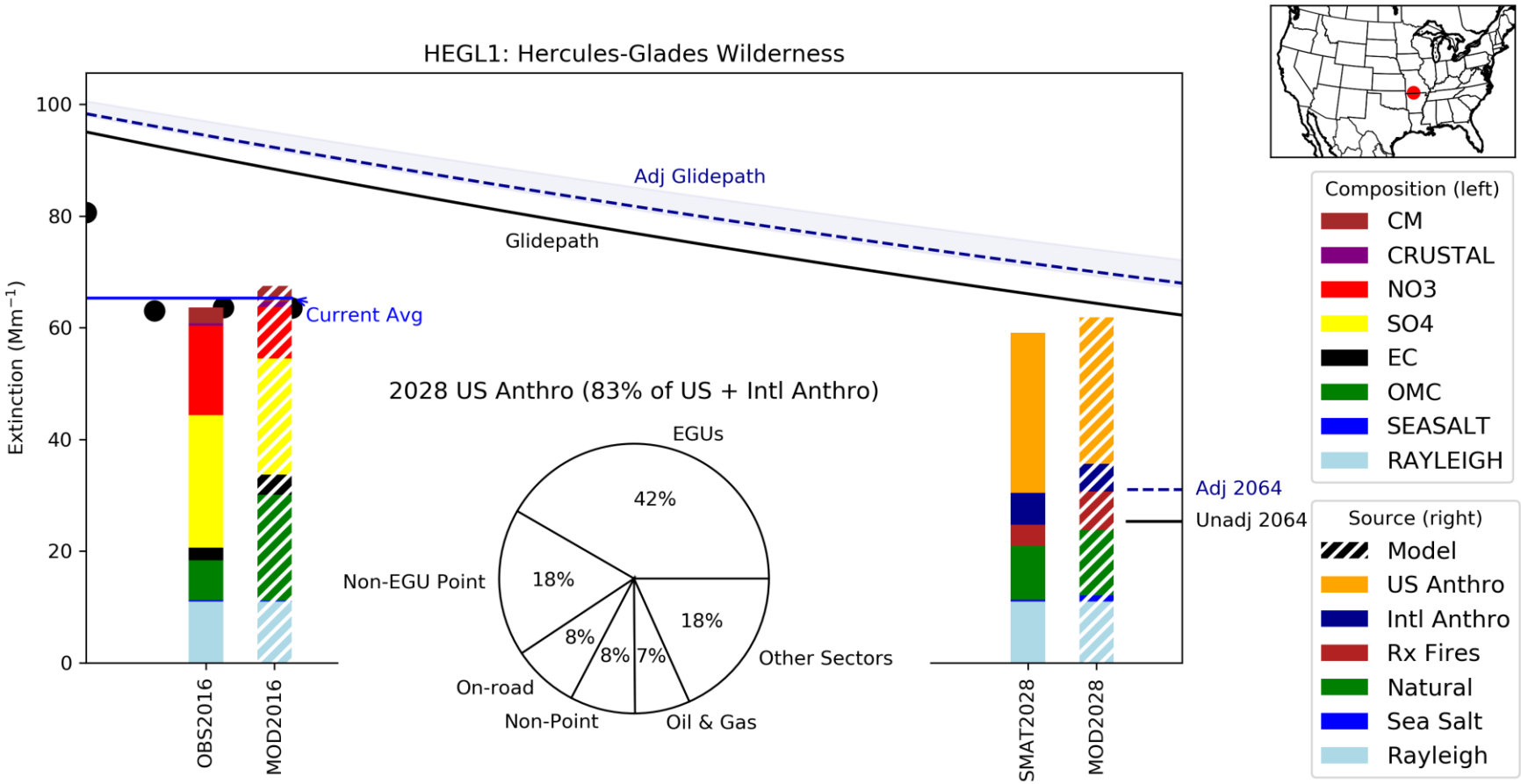

Figure 36: 2014-2017 IMPROVE observations, 2016 CAMx model predictions, 2028 modeled projection, and 2028 sector contributions at HEGL1. Used for Class I areas: Hercules-Glades Wilderness.

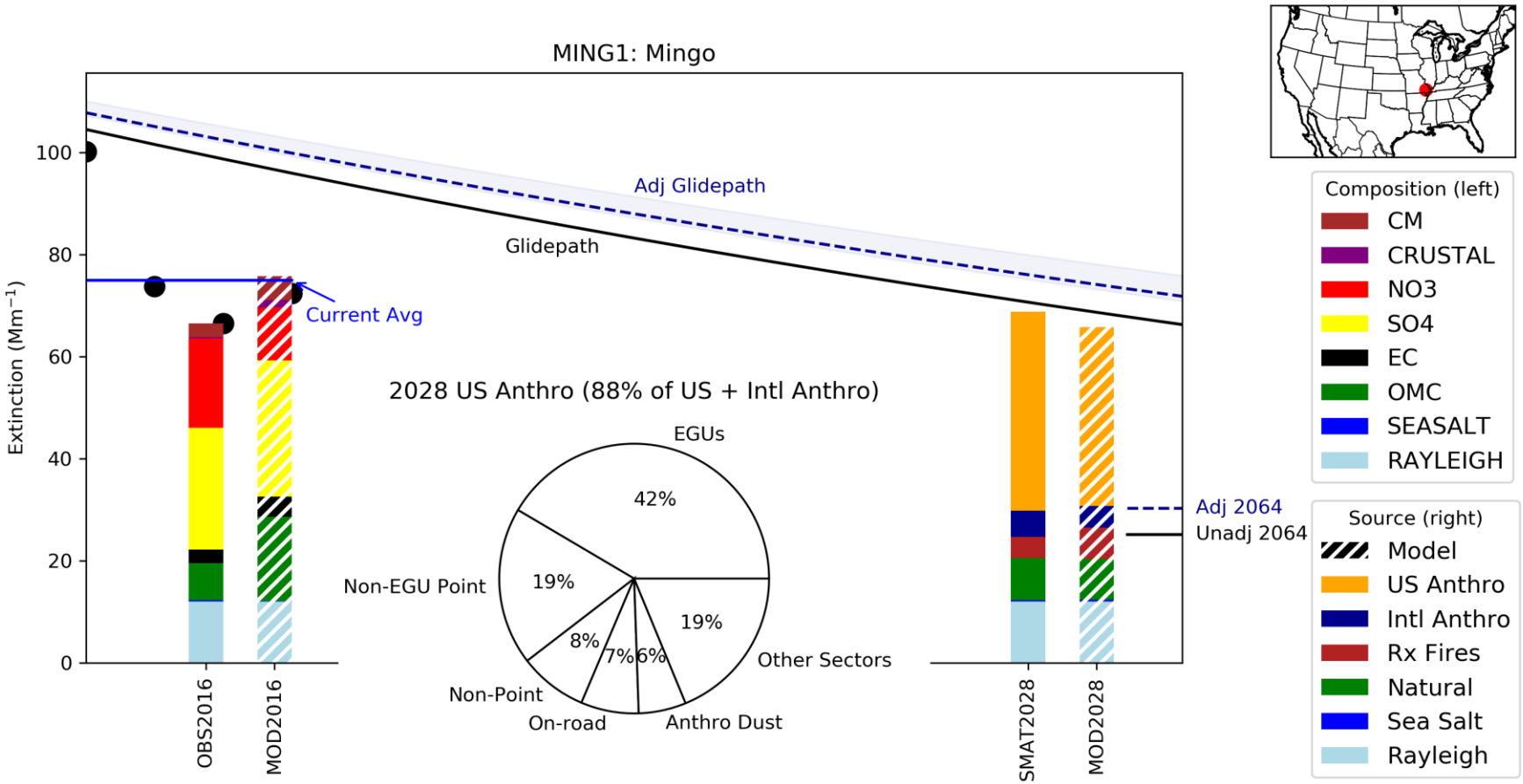

Figure 53: 2014-2017 IMPROVE observations, 2016 CAMx model predictions, 2028 modeled projection, and 2028 sector contributions at MING1. Used for Class I areas: Mingo.

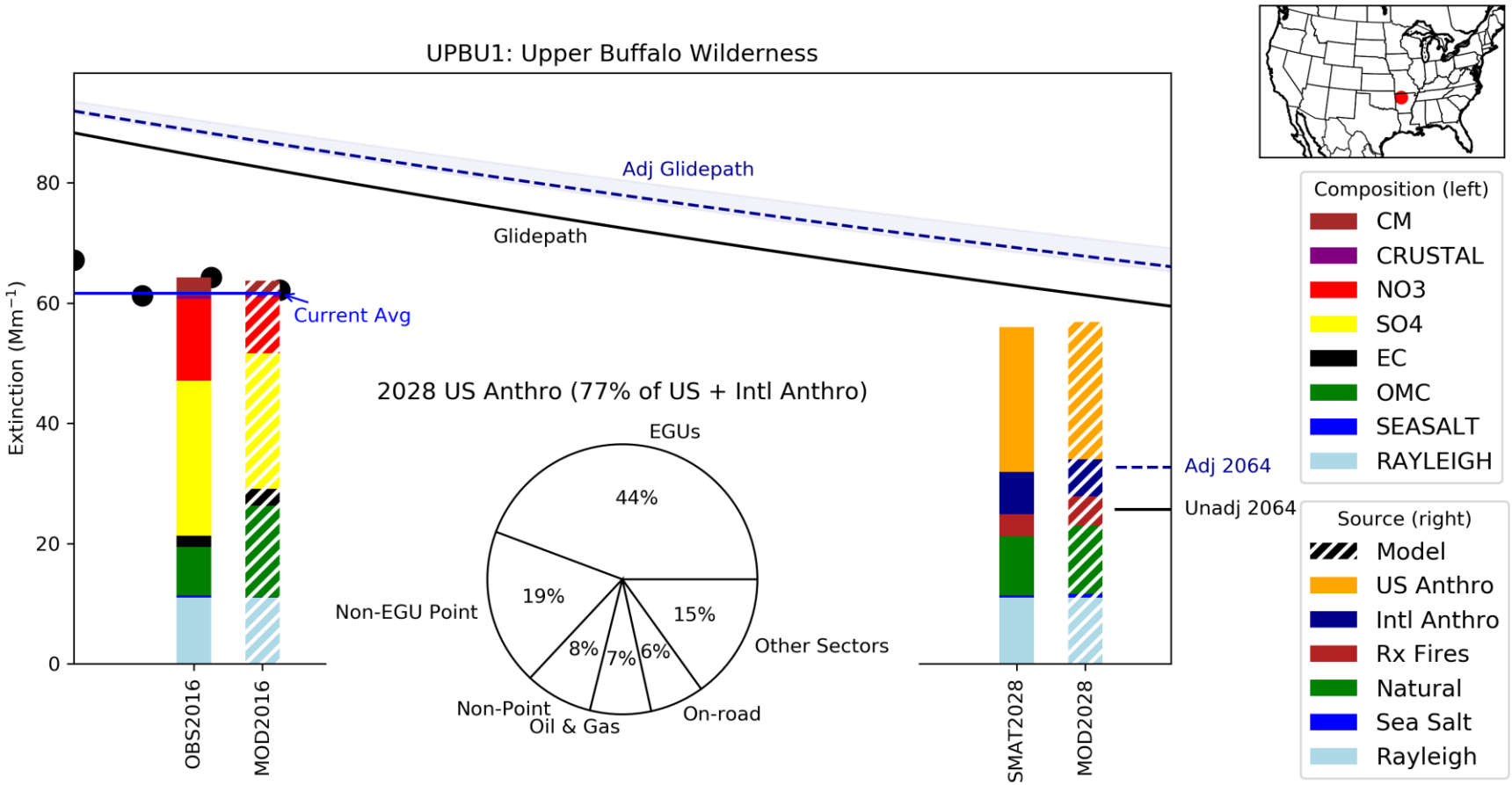

Figure 93: 2014-2017 IMPROVE observations, 2016 CAMx model predictions, 2028 modeled projection, and 2028 sector contributions at UPBU1. Used for Class I areas: Upper Buffalo Wilderness.

APPENDIX I-3

SWEPCO Flint Creek Revised Calculations

(see spreadsheet of the same name)

Division of Environmental Quality

Office of Air Quality

APPENDIX I-4

Follow-up Consultation: SWEPCO Flint Creek Revised Cost and Cost-Effectiveness

Division of Environmental Quality

Office of Air Quality

Treece, Tricia

From: Ashley N Roundtree <anullstrom@aep.com>
Sent: Thursday, July 23, 2020 4:13 PM
To: Treece, Tricia
Cc: JJewell@trinityconsultants.com; Brian Bond; Elizabeth Gunter; Kimberly M Hughes
Subject: RE: SWEPCO Flint Creek Regional Haze Evaluation Follow-Up

Ms. Treece,

Thank you for the opportunity to review the ADEQ's revised cost calculations. We have the following concerns based on our review thus far.

1. All costs should be escalated to $2019 now that the 2019 CEPCI has been finalized at 607.5 (approximately 0.73 % higher than the 2018 value of 603.1).

2. We believe it is inappropriate to use the bank prime rate for our capital recovery calculations. All long term investments (capital assets, including any retrofit to comply with environmental regulation) are financed by the utility with a mixture of debt and equity to reduce costs to customers by minimizing financing costs. The cost/benefit analysis has to be based on the regulatory compact, which means the utility has the opportunity to recover its cost to serve along with the authorized return, both debt and equity. If the utility is required to make an investment to comply with environmental regulations, the cost/benefit analysis needs to be based on traditional cost of service regulation. As such, the cost analyses in our ICR response report follow Office of Management and Budget (OMB) guidance by using an interest rate of 7 % for evaluating the cost of capital recovery, as discussed below.

   The EPA Control Cost Manual (CCM or Manual) states that "when performing cost analysis, it is important to ensure that the correct interest rate is being used. Because this Manual is concerned with estimating private costs, the correct interest rate to use is the nominal interest rate, which is the rate firms actually face."[1] For our analyses, which evaluate equipment costs that may take place several years into the future, it is important to ensure that the selected interest rate represents a longer-term view of corporate borrowing rates. The CCM cites the bank prime rate as one indicator of the cost of borrowing as an option for use when the specific nominal interest rate is not available. Over the past 20 years, the annual average prime rate has varied from 3.25 % to 9.23 %, with an overall average of 4.86 % over the 20-year period.[2] But the CCM also adds the caution that the "base rates used by banks do not reflect entity and project specific characteristics and risks including the length of the project, and credit risks of the borrowers."[3] For this reason, the prime rate should be considered the low end of the range for estimating capital cost recovery.

   Actual borrowing costs are typically much higher than prime rates. For economic evaluations of the impact of federal regulations, the OMB uses an interest rate of 7 %. "As a default position, OMB Circular A-94 states that a real discount rate of 7 percent should be used as a base-case for regulatory analysis. The 7 percent rate is an estimate of the average before-tax rate of return to private capital in the U.S. economy. It is a broad measure that reflects the returns to real estate and small business capital as well as corporate capital. It approximates the opportunity cost of capital, and it is the appropriate discount rate whenever the main effect of a regulation is to displace or alter the use of capital in the private sector."[4]

[1] Sorrels, J. and Walton, T. "Cost Estimation: Concepts and Methodology," *EPA Air Pollution Control Cost Manual*, Section 1, Chapter 2, p. 15. U.S. EPA Air Economics Group, November 2017. https://www.epa.gov/sites/production/files/2017-12/documents/epaccmcostestimationmethodchapter_7thedition_2017.pdf

[2] Board of Governors of the Federal Reserve System Data Download Program, "H.15 Selected Interest Rates," accessed April 16, 2020. https://www.federalreserve.gov/datadownload/Download.aspx?rel=H15&series=8193c94824192497563a23e3787878ec&filetype=spreadsheetml&label=include&layout=seriescolumn&from=01/01/2000&to=12/31/2020

[3] Sorrels, J. and Walton, T. "Cost Estimation: Concepts and Methodology," *EPA Air Pollution Control Cost Manual*, Section 1, Chapter 2, p. 16. U.S. EPA Air Economics Group, November 2017. https://www.epa.gov/sites/production/files/2017-12/documents/epaccmcostestimationmethodchapter_7thedition_2017.pdf

[4] OMB Circular A-4, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A4/a-4.pdf - "

3. We are concerned with the use of the 0.18 lb/MMBtu emission rate to represent SNCR. AEP's engineering manager has advised that adding SNCR to the existing LNB/OFA controls would require modeling and testing to ascertain if any further NOx reduction is even possible below the maximum monthly emission rate (0.20 lb/MMBtu) or the average monthly emission rate (0.186 lb/MMBtu).

   Having said that, we recognize that the ADEQ's calculations (based on 0.18 lb/MMBtu) result in cost effectiveness values that should be deemed economically infeasible. As such, and in consideration of the time available for responding, AEP assumes that the modeling and testing is not needed to justify a four-factor analysis conclusion of *no additional controls*.

Please let us know if you have any questions.

Thank You,

AMERICAN ELECTRIC POWER
BOUNDLESS ENERGY

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From: Treece, Tricia <treecep@adeq.state.ar.us>
Sent: Monday, July 20, 2020 4:27 PM
To: Kimberly M Hughes <kmhughes@aep.com>
Cc: JJewell@trinityconsultants.com; Brian Bond <tbbond@aep.com>; Elizabeth Gunter <legunter@aep.com>; Ashley N Roundtree <anullstrom@aep.com>
Subject: [EXTERNAL] SWEPCO Flint Creek Regional Haze Evaluation Follow-Up

Kimberly,
We have now completed a thorough review of the cost information provided in the "Response to January 8, 2020 Regional Haze Four-Factor Analysis Information Collection Request Southwestern Electric Power Company – Flint Creek Power Plant." Based on our review, each of the cost analyses require revision to ensure consistency with EPA guidance. DEQ has calculated, based on the information provided and EPA guidance, revised cost and cost-effectiveness values. See attached spreadsheet for an explanation of changes and DEQ's calculations. We are providing you the opportunity to review these calculation revisions and provide us additional information if site-specific considerations warrant changes to the control-cost methodology assumptions.

Tricia Treece | SIP/Planning Supervisor
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