SIERRA CLUB

October 10, 2016

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Re: Docket No. 16-035-36 Questions for Third Technical Conference – Rocky Mountain Power's Proposed Clean Coal Technology Program

1. In PacifiCorp's June 2012 submittal to the Utah Division of Air Quality (UDAQ) of its analysis of best available retrofit technology (BART) for Huntington Unit 2, PacifiCorp considered a neural net operating system as part of its NOx BART analysis, but decided against it because "...the potential for significant and consistent NOx reduction is minimal." PacifiCorp's June 2012 BART Analysis for Huntington Unit 2 at 10.

Given these statements made in 2012, what is different about the neural net controls proposed for Huntington 2 than what was considered in the 2012 BART analyses that would allow the controls to achieve the key performance indicator for success ("KPI") of NOx less than 0.15 lb/MMBtu?[1]

2. According to Rocky Mountain Power's STEP application at ¶38, the benefit of the neural net controls "will be targeted NO_x emissions and *potentially* heat rate reductions" [emphasis added]. According to the information in Appendix F of Rocky Mountain Power's STEP Application, a key performance indicator for the project is a 0.75% reduction in net heat rate.[2] Is there a tradeoff between low NOx rates and a reduction in heat rate (i.e., that the neural net controls can achieve one but not both)? What other factors may be impacting the potential heat rate reductions achievable with the neural net controls?

3. According to Rocky Mountain Power's STEP Application, Taber International/Griffin Open Systems was selected as the provided of the artificial neural network software. Please identify the other vendors of neural net controls that were considered, and explain the basis for the selection of Taber International/Griffin? Also, please provide details on the experience of the University of Utah team in implementing neural net controls to minimize NOx emissions.

[1] As referenced in Appendix F of Rocky Mountain Power's STEP Application, Advanced Neural Net Controls University of Utah, at 8-9.
[2] As referenced in Appendix F of Rocky Mountain Power's STEP Application, Advanced Neural Net Controls University of Utah, at 8-9.

4. Is the neural network software compatible with the installation and operation of selective catalytic reduction (SCR) technology? If so, can the neural network software in conjunction with SCR and existing combustion controls reduce NOx emission rates below what is feasible for SCR and combustion controls alone?

5. Will the neural net controls allow the Huntington Unit 2 to operate more hours per year at higher capacities due to the ability to ramp up more quickly? Does Rocky Mountain Power anticipate that the neural net controls will reduce forced outages, derates, and/or the length of planned outages? Is hourly generating capacity expected to increase with the neural net controls?

6. Does Rocky Mountain Power have any NOx emission rate guarantees with the vendor of the neural net controls? If so, what is the guarantee?

7. What is Rocky Mountain Power's share, if any, of the project costs for the neural network controls each year over the next five years?

8. Please provide more details on the advanced combustion controls, the selective non-catalytic reductions and low cost catalysts, and the novel chemical conversion processes being investigated and the expected NOx emission rates? As part of this, please elaborate on the likelihood that these pollution control technologies can consistently achieve the NOx emission limits set by the EPA in its Regional Haze Federal Plan of 0.07 lb/MMBtu.

9. Paragraph 38 of the STEP Application describes a request for proposals "to achieve economic reductions in NOx emissions" in 2017. According to the project budget in Table 1, project expenditures are expected over four years, 2017-2020. What are the primary components of those expenditures? What is Rocky Mountain Power's share, if any, of the project costs by year?

10. The direct testimony of Dr. Andrews states at p.3 that the project will involve "[i]mplementation of a utility scale demonstration of one or more alternative technologies that may result in decreases in NOx emissions without the use of Selective Catalytic Reduction ("SCR")," and at p. 5 that it may "[f]acilitate future potential targeted NOx emissions reductions solutions that may be more economical than installing selective catalytic reduction system."

Please state whether the goal of this project component is to investigate potential cost-savings for Rocky Mountain Power.

11. Will Rocky Mountain Power delay engineering, procurement, and installation of SCRs for the Hunter and Huntington plants until it determines whether alternative NOx-reduction technology is available?

12. Can Rocky Mountain Power meet its deadline for meeting NOx emissions reductions from Hunter Units 1 and 2 and Huntington Units 1 and 2 by 2021 as required by the Utah Regional Haze Plan if it delays engineering, procurement, and installation of SCRs?

Sincerely,

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