Tucson Electric Power
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Tucson, AZ 85701-1720

Submitted via electronic mail

January 18, 2021

Daniel Czecholinski
Director, Air Quality Division
Arizona Department of Environmental Quality
1110 W. Washington St.
Phoenix, AZ 85007

RE: Supplement to TEP's *Irvington Generating Station Four Factor Analysis Report*

Dear Mr. Czecholinski:

As you know, Tucson Electric Power Company (TEP) in March 2020 submitted the *Irvington Generating Station Four-Factor Analysis Report* for the second planning period of the Regional Haze program (the "TEP Report"). Included in that report, at Section 4.1, was an analysis of the costs and cost effectiveness of combustion controls as a candidate NO_X emissions control measure for Irvington Generating Station (IGS) Unit 3. That analysis assumes a 51.7 percent reduction in NO_X emissions, or average annual reductions of 130 tons per year over a 20-year project life, consistent with ADEQ and U.S. EPA guidance. The results of the analysis indicate the combustion controls would result in average annualized costs of $0.36 million and cost effectiveness of approximately $2,800 per ton of NO_X emissions reduced.

In October 2020, TEP submitted a report detailing the results of a photochemical grid modeling analysis showing combustion controls at IGS Unit 3 would yield a predicted visibility improvement of 0.0097 deciviews on the most anthropogenically impaired days at Saguaro Wilderness Area and lesser improvements at other Class I areas.

As we indicated when submitting the modeling report, it is TEP's position that it is not reasonable for ADEQ to require NO_X emission reductions at IGS Unit 3 because, at approximately $2,800 per ton of NO_X emissions reduced and $370 million per deciview of visibility improvement at Saguaro Wilderness Area, these reductions are not cost effective.

It is our understanding that ADEQ staff have preliminarily concluded that, based on the cost effectiveness values above and other considerations outlined in the TEP Report, it would be reasonable to require NO_X emissions reductions at IGS Unit 3 consistent with implementation of combustion controls. A significant factor leading to this preliminary conclusion is the assumption that combustion controls at IGS Unit 3 will achieve 2,600 tons of NO_X emissions reduction over a 20-year period. ADEQ's default

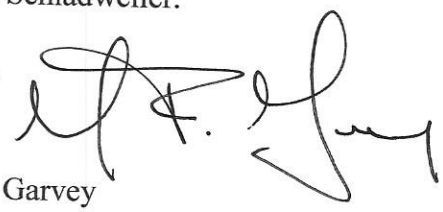
assumption of emissions reduction outlined above will not be realized because it exceeds TEP's forecasted operation. Accordingly, TEP herein proposes to accept enforceable operational restrictions at IGS Unit 3, in the form of a cumulative NO_X emissions cap and associated monitoring and recordkeeping requirements. Specifically, TEP proposes a limit of 2,400 tons of NO_X emissions, on a cumulative total basis, beginning three years after the effective date of U.S. EPA approval of the Arizona Regional Haze SIP and ending with the permanent shutdown of the unit.

Taking into account the proposed operational limit, the NO_X emission reduction achievable with combustion controls – assuming 51.7 percent as in the original analysis – is 1,242 tons, or average annual reductions of 62.1 tons per year over the assumed 20-year project life. There is no change to the cost calculations as a result of the proposed operational limit; the average annualized cost value to be used in the cost effectiveness calculations remains $0.36 million. The resulting cost effectiveness is $5,600 per ton of NO_X emissions reduced and demonstrates that combustion controls are not cost effective.

It is appropriate for ADEQ to base its determination regarding reasonableness of NO_X emission reductions at IGS Unit 3 on these revised calculations, as the initial calculations are not representative of either the future operations of the unit or the NO_X emission reductions achievable with combustion controls. There is substantial precedent for similar determinations in the Regional Haze program, including where the final determination reflects an operational limit proposed by the source owner after the proposed rule was noticed by the Regional Haze implementing authority for public comment. See, for example, U.S. EPA's proposal to establish a NO_X emission limit of 0.07 lb/MMBtu for Dave Johnston Unit 3 (78 *Fed. Reg.* 34738 at p. 34778 (June 10, 2013)) and final rule establishing a NO_X emission limit of 0.28 lb/MMBtu for this unit (79 *Fed. Reg.* 5032 at p. 5049 (Jan. 30, 2014)) based on a revised cost effectiveness analysis; see, also, U.S. EPA memo to the docket indicating the Agency's revised cost effectiveness calculations are based on an operational limit proposed by the source owner in a meeting with U.S. EPA Region 8 staff in October 2013 (https://downloads.regulations.gov/EPA-R08-OAR-2012-0026-0233/content.pdf).

If you have any questions regarding these submittals, please feel free to contact me or Catherine Schladweiler.

Sincerely,



Megan E. Garvey
Director, Environmental Services and Sustainability

cc: Rupesh Patel, Pima County Department of Environmental Quality
Catherine Schladweiler, TEP