

From: [King, Kirsten](#)
To: [Rupesh Patel](#)
Subject: Tucson Electric Power
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Dear Rupesh,

The National Park Service (NPS) appreciates having the opportunity to review and provide comments on the Tucson Electric Power (TEP) draft permit to shut down two older boilers and replace them with 10 natural gas fired Reciprocating Internal Combustion Engines (RICE) to better meet electric power needs associated with renewable energy sources, once these sources are added to the grid. The facility being modified is approximately 9.6 miles (15.5 km) from Saguaro East and 11.8 miles (19.1 km) from Saguaro West.

We commend TEP for its commitment in providing and supporting clean power. The addition of SCR on the ten new engines is especially welcome.

We very much appreciate the work done by TEP on the visibility modeling. NPS used TEP's PLUVUE files to run the worst case emissions for the existing units 1&2 to compare to the new, well-controlled RICE. With the significant reduction in NOx for the worst hour, there was an improvement.

VISCREEN modeling results

	Existing TEP Units 1 & 2	New TEP 10 RICE Engines
SO2 (ton per day)	0.07	0.04
Nox (ton per day)	4.31	1.33
PM (ton per day)	0.43	0.36
Delta E	10.64	9.144(startup) 7.331(normal operation)

PLUVUE modeling results

In the PLUVUE modeling, NPS worked with AECOM to determine a number of sight paths within both the east and west units of Saguaro National Park. AECOM then ran PLUVUE for both units and all the sight paths. Because the park could be traversed by an infinite number of sight paths, NPS determined that for any given hour, only the highest impact for any sight path within a unit would be used to indicate a visual impact to that unit.

The PLUVUE model indicated that there would be visibility impacts at Saguaro east and west. Saguaro east would see 13 hours per year with the highest Delta E of 4.658 and a Cp of 0.184. Saguaro west will see 48 hours per year with the highest Delta E of 9.612 and a Cp of 0.413.

Based on the PLUVUE model, out of a total of 4380 daylight hours per year, there will be, on average, 61 hours per year when a plume might be perceptible within the park.

Thank you again for the opportunity to review the draft permit for TEP.

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