From: James Riley
To: Lee, Anita
Subject: A few more observations and questions regarding the NGS plant emissions
Date: Thursday, November 21, 2013 1:49:27 PM

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21 November 2013

Dr. Anita Lee

Dear Dr. Lee: Thank you for providing me with information on the basis for EPA's draft ruling regarding the operation of the NGS plant and visibility in the Grand Canyon and other nearby parks. These matters are much more complex than I imagined. I did find that the table and map presented in the posters comparing projected reduction in visibility for different operational options to be useful (easier to understand).

With regard to the map, it is my understanding that the bar diagrams indicate the potential improved visibility starting with the baseline (Blue) compared to three other levels of treatment. At first glance it is surprising to me that the impact of the NGS plant is much higher at all levels of treatment for sites located to the north of NGS. Evidently the wind direction must be mostly from the south. But even that does not explain the data for the Grand Canyon, which appear to be the highest of any stations. Perhaps, the topography of the canyon leads to the plume to be channeled downstream along the Colorado River into the canyon.

In trying to better understand the information given in the table, I ended up focusing on the Cumulative Visibility Improvement and the Total Annual Cost.

Option	Color on Map	Cumulative Visibility Improvement %	Total Million Dollars per year
Baseline	BLUE	0	0
LNB/SOFA	RED	33	5.2
SNCR+LNB/SOFA	GREEN	45	23.5
SCR+LNB/SOFA	PURPLE	73	58.8

When I plotted these there was a big drop between the Blue and the Red

Option. Is this the result of the installation of the SO_2 scrubbers? The Red, Green and Purple fall on a straight line that had a slope of 5% improved visibility for every 10 M$/year invested. This may be an error on my part or an over simplification. If we were to add the Technical Work Group option, where would it fall on this tabulation or plot?

In scanned the Technical Report and did not find a clear statement on how the CAL PUFF projections compare to actual observations.

I won't be writing routinely, just when I may have a question or observation for you. I do not want to take up more of your valuable time.

JJRiley

P.S. One more thing, for the former Mohave Plant I note only SO_2 levels are mentioned in the two technical papers referenced in my statement submitted in Tucson. Were the NO_x levels already under control?

JJR