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To: cathy.wilson@ncmail.net, jim.roller@ncmail.net

cc: mckinley@duke-energy.com, Brenda Johnson/R4/USEPA/US@EPA

Subject: Additional PRIME justification

This note is in lieu of a phone message Cathy had asked me to send.

I spoke with Brenda Johnson at the SAMI meeting in Atlanta May 2 about her suggestion that there needed to be a model run for Dan River without buildings, to show that the high concentrations were indeed due to downwash. I explained to her that in the revised justification sent back in March, we referred to previous modeling studies submitted for regulatory review, which did not (1980) and did (1991) include buildings. This comparison was given in the very first paragraph of the revised justification (Dan River report, Appendix B). Brenda told me that she either could not read the file for the revised justification, or she deleted it; either way, she apparently did not have the revised justification when she told NCDAQ more evidence was needed.

She did go on to say that if the information I described was in the revised justification, that should satisfy her. She added that it was ultimately your decision when there was sufficient information provided. I am suggesting that no additional modeling is necessary, since the revised justification references two modeling studies which have been submitted to NCDAQ which make the case that downwash has a major influence on the model results. The first paragraph of the revised justification reads:

"The Dan River Steam Station has no documented history of measured SO₂ air quality problems related to downwash of stack emissions. Air quality modeling in 1980 without a wake-effect downwash algorithm [Ambient sulfur Dioxide Analysis of Duke Power Company's Coal-Fired Power Plants in North Carolina, Vol. 1. Duke Power Company, Design Engineering Department, Environmental/Architectural Section, November, 1980.] gave results which indicated no close-in (within 1-2 kilometers) air quality values exceeding or approaching the NAAQS; the maximum concentration occurred at a distance of about 4.5 km downwind of the coal-fired stacks. Eleven years later, when the ISC downwash algorithm was used to model the Dan River Steam Station SO₂ emissions [Sulfur Dioxide Compliance Demonstration of Duke Power Company North Carolina Facilities. Duke Power Company, Revised November 1991.], the maximum concentrations were at or just beyond the fence line, 0.38 km downwind of the coal-fired stacks. Furthermore, the modeled concentrations increased from 362 g/m³ to 734 g/m³ (24-hour), and from 941 g/m³ to 2234 g/m³ (3-hour)."