



North Carolina Department of Environment and Natural Resources
Division of Air Quality


Michael F. Easley, Governor

William G. Ross, Jr., Secretary
B. Keith Overcash, P.E., Director

January 29, 2008

MEMORANDUM

To: Donald R. van der Vaart, Ph.D., P.E.

From: Keith Overcash 

Subject: Recommendation for Issuance of Air Quality Permit
Duke Energy Carolinas LLC

Cliffside Steam Station
Permit No. 04044T26
Cliffside, North Carolina
Rutherford County

I have reviewed the hearing officer's (Ms. Margaret Love) report for the public hearing held on September 18, 2007 in Forest City for the purpose of obtaining public comment on the draft Prevention of Significant Deterioration (PSD) Air Quality Permit for the Duke Energy Carolinas LLC Cliffside Steam Station in Cliffside, Rutherford County. I am in agreement with the hearing officer's recommendation to issue the permit based on consideration and resolution of the recommendations in the report as follows:

Hearing Officer Recommendation 1:

It is recommended that the permit be revised to include an enforceable limit for maximum hourly heat input for Unit 6.

DAQ Resolution:

The Permitting Section should ensure that the air quality analysis for carbon monoxide and particulate matter are reflected in mass emission rates based on the maximum hourly heat input rate for the unit.

Hearing Officer Recommendation 2:

It is recommended that the review be revised to include the updated emissions from the emergency generator and emergency firewater pump and the potential emissions should be re-evaluated.

DAQ Resolution:

The Permitting Section should ensure that the emissions from the emergency generator and firewater pump are characterized accurately.

Hearing Officer Recommendation 3:

It is recommended that the language in the draft permit be amended to require that Units 1 through 4 and the associated auxiliary boiler (ID No. ES-7) be permanently shut down prior to operation of the new Unit 6.

DAQ Resolution:

In accordance with the netting analysis for Cliffside unit 6, the permit should require that units 1 through 4 are shut down simultaneous with or prior to operation of unit 6. In addition, the permit should require operation of the unit 5 wet flue gas desulfurization system at the same time.

Hearing Officer Recommendation 4:

It is recommended that the modeling be re-evaluated to determine if the emission reductions for SO₂ and NO_x are qualitatively equivalent in their effects on public health and welfare.

DAQ Resolution:

The Permitting Section should verify that the comparison of before and after unit 6 operation SO₂ and NO_x emissions was accurately performed and properly explained.

Hearing Officer Recommendation 5:

It is recommended that the avoidance of the analysis of ambient equivalence for Class I area impacts be better explained in the review.

DAQ Resolution:

The Permitting Section should clarify this section of the permit review.

Hearing Officer Recommendation 6:

It is recommended that the permit review evaluate the requirement for an analysis of whether or not the NO_x and SO₂ emissions will impact the increment in Class I areas.

DAQ Resolution:

Since PSD review was not triggered for NO_x and SO₂, no Class I increment analysis is required.

Hearing Officer Recommendation 7:

It is recommended that the language regarding any relaxation of the PM₁₀ limits for filterable and total PM₁₀ be revised to require a significant modification for a change to the PM₁₀ limits.

DAQ Resolution:

Any changes to the PM₁₀ limits will require a non-administrative permit modification.

Hearing Officer Recommendation 8:

It is recommended that the opacity limits be re-evaluated.

DAQ Resolution:

The Permitting Section should re-evaluate the treatment of opacity as a PSD regulated pollutant given recent EPA decisions in this regard.

Hearing Officer Recommendation 9:

It is recommended that the draft permit be revised in condition 2.1 J.2.g to indicate that PM10 emission limits apply at all times, and that a discussion of startup and shutdown emissions be expanded in the review.

DAQ Resolution:

The Permitting Section should clarify startup and shutdown requirements in the permit and review.

Hearing Officer Recommendation 10:

It is recommended that BACT for mercury be re-evaluated for Cliffside Unit 6.

DAQ Resolution:

The Permitting Section should re-evaluate the mercury BACT pursuant to North Carolina's mercury rule.

Hearing Officer Recommendation 11:

It is recommended that the modeling of PM2.5 performed by DAQ Planning staff be evaluated to confirm the dispersion properties of PM2.5

DAQ Resolution:

The Permitting Section should coordinate with the Planning Section to verify that Cliffside unit 6 was evaluated in the PM2.5 attainment demonstration.

Hearing Officer Recommendation 12:

It is recommended that the permit review re-evaluate the impact of increased vehicular and rail traffic.

DAQ Resolution:

The permitting section should re-evaluate the impact of vehicular and rail traffic.

Hearing Officer Recommendation 13:

It is recommended that compliance averaging times be incorporated into the permit. PM and sulfuric acid mist emissions have been evaluated for the combustion of only sub-bituminous coal and it is recommended that this be further explained in the preliminary determination.

DAQ Resolution:

The permitting section should clarify that emissions were evaluated for a mixture of coal types in the permit review and include appropriate averaging periods in the permit.

Hearing Officer Recommendation 14:

It is recommended that the discussion of the BACT analysis for PM emissions from the auxiliary boiler be further elaborated in the permit review.

DAQ Resolution:

The permitting section should ensure that the PM BACT discussion for the auxiliary boiler in the permit review is clear and accurate.

Hearing Officer Recommendation 15:

It is recommended that the discussion of the modeling for ambient impact assessment be expanded in the permit review.

DAQ Resolution:

The permitting section should ensure that the modeling discussion in the permit review is clear and accurate.