Blue Ridge Environmental Defense League

www.BREDL.org PO Box 88 Glendale Springs, North Carolina 28629 (336) 982-2691 BREDL@skybest.com

August 31, 2006

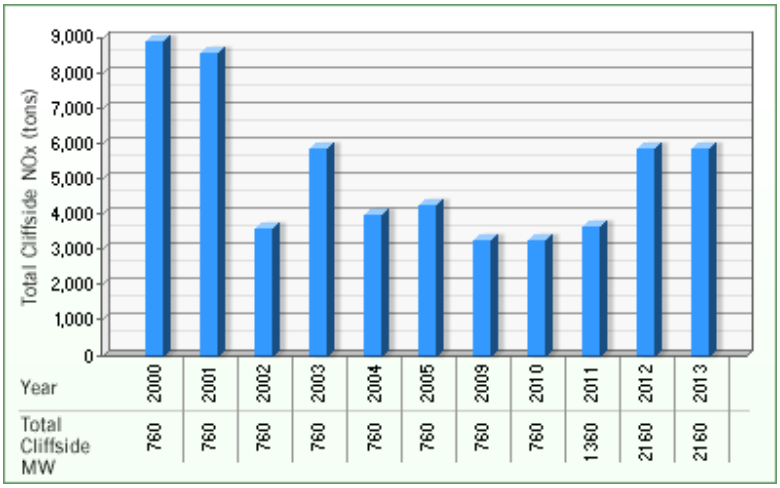
Robert P. Gruber, Executive Director
Public Staff—NC Utilities Commission
4326 Mail Service Center
Raleigh, NC 27699-4325

Re: Docket No. E-7, Sub 790, Application of Duke Power Company for two 800 MW coal-fired electric generation units at Cliffside Steam Station

Dear Mr. Gruber:

On behalf of the Blue Ridge Environmental defense League, I write to comment on the Certificate of Convenience and Public Necessity for Duke Power's Cliffside plant. We have many concerns regarding the expansion of the coal-fired electric generating power station at Cliffside and, indeed, about the expansion of any coal-fired power plants in this region.

As you know, Duke Power proposes to triple the electric power output of its Cliffside plant from 760 megawatts to 2,160 megawatts. Duke estimates that emissions of nitrogen oxides will double with the retirement of the old units and the addition of new units: from about 3,000 tons per year to nearly 6,000 tons/year. [1]



Nitrogen oxides are the primary source of ground level ozone, a pollutant which frequently exceeds National Ambient Air Quality Standards in many parts of North Carolina. Ozone is a regional problem; NO_x emissions affect downwind counties and states. The location of the Cliffside plant just 50 miles from downtown Charlotte means that the NO_x emitted from its stacks cause the deterioration of air quality in a non-

attainment area. Tripling the output of the plant while doubling the ozone pollution is no bargain for the people of Rutherford and Cleveland counties, Charlotte or North Carolina or South Carolina.

Further, the increased amount of coal burned at Cliffside would create higher amounts of a host of toxic air pollutants, many of which bypass pollution control devices. According to Duke Power, the new Cliffside station will have the following controls:

> The boiler design will include low NOx burners and overfire air to minimize the formation of NOx, and a selective catalytic reduction (SCR) system to reduce NOx and to oxidize mercury. Following the boiler and SCR will be the dry electrostatic precipitator (ESP) to remove PM including mercury adsorbed onto fly ash. Next, the wet flue gas desulfurization (WFGD or "scrubber") system will reduce SO2, other acid gases and oxidized mercury. Finally, the wet ESP will remove aerosols and fine particulates including sulfuric acid mist. [1]

Dioxins and furans are a group of organochlorine compounds which are produced by the burning of hydrocarbons and chlorine. The US Environmental Protection Agency publishes emissions factors for all pollution sources. Table 1.1-12 from the latest AP-42 reveals that even state-of-the-art controls cannot eliminate these toxic air pollutants. [2]

Table 1.1-12 EMISSION FACTORS FOR POLYCHLORINATED DIBENZO-P-DIOXINS AND POLYCHLORINATED DIBENZOFURANS FROM CONTROLLED BITUMINOUS AND SUBBITUMINOUS COAL COMBUSTION

Controls	FGD-SDA with FF[a]		ESP or FF[b]	
Congener	Emission Factor[c] (lb/ton)	EMISSION FACTOR RATING	Emission Factor[c] (lb/ton)	EMISSION FACTOR RATING
2,3,7,8-TCDD	No data	---	1.43E-11	E
Total TCDD	3.93E-10	E	9.28E-11	D
Total PeCDD	7.06E-10	E	4.47E-11	D
Total HxCDD	3.00E-09	E	2.87E-11	D
Total HpCDD	1.00E-08	E	8.34E-11	D
Total OCDD	2.87E-08	E	4.16E-10	D
Total PCDD[d]	4.28E-08	E	6.66E-10	D
2,3,7,8-TCDF	No data	---	5.10E-11	D
Total TCDF	2.49E-09	E	4.04E-10	D
Total PeCDF	4.84E-09	E	3.53E-10	D
Total HxCDF	1.27E-08	E	1.92E-10	D
Total HpCDF	4.39E-08	E	7.68E-11	D
Total OCDF	1.37E-07	E	6.63E-11	D
Total PCDF[d]	2.01E-07	E	1.09E-09	D
TOTAL PCDD/PCDF	2.44E-07	E	1.76E-09	D

[a] Reference 34. Factors apply to boilers equipped with both flue gas desulfurization spray dryer absorber (FGD-SDA) and a fabric filter (FF). SCCs = pulverized coal-fired, dry bottom boilers, 1-01-002-02/22, 1-02-002-02/22, and 1-03-002-06/22.
[b] References 35-37. Factors apply to boilers equipped with an electrostatic precipitator (ESP) or a fabric filter. SCCs = pulverized coal-fired, dry bottom boilers, 1-01-002-02/22, 1-02-002-02/22, 1-03-002-06/22; and, cyclone boilers, 1-01-002-03/23, 1-02-002-03/23, and 1-03-002-03/23.
[c] Emission factor should be applied to coal feed, as fired. To convert from lb/ton to kg/Mg, multiply by 0.5. Emissions are lb of pollutant per ton of coal combusted.
[d] Total PCDD is the sum of Total TCDD through Total OCDD. Total PCDF is the sum of Total TCDF through Total OCDF.

Increased power output necessitates increased coal burning. Therefore, the greater amount of coal burned will increase the level of toxics by a corresponding amount regardless of SCR, ESP and WFGD. In addition to greater dioxin emissions, increased levels of hydrocloric acid, polynuclear aromatic hydrocarbons, arsenic, cadmium and lead would occur. The impact on public health would be increased hospitalizations and deaths from asthma and pulmonary disease. Dioxin and PAH are carcinogens.

Moreover, carbon dioxide, a greenhouse gas which contributes to global warming, would intensify the ongoing problems of sea-level rise and climate change.

In short, it is neither convenient nor necessary to exacerbate the existing air pollution problem. Duke has not made a convincing case that alternatives to burning more coal at Cliffside are not the preferred route to meeting the needs of the people in its service area.

Respectfully submitted,

Louis Zeller

References

1. Duke Energy website at http://www.duke-energy.com/about/plants/new_generation/coal/cliffside/air

2. AP 42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources