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Re: Southern Alliance for Clean Energy's Environmental Scoping Comments on Supplement 1 to Revision 1 of the Environmental Report of Duke Energy's W.H. Lee Combined Operating License Application

June 30, 2010

Southern Alliance for Clean Energy is a regional non-profit organization with members in South Carolina, throughout Duke's service region, and across the Southeast concerned about the impacts energy choices have on our health, economy and environment.

We have serious concerns about Duke's push to build two new reactors at the Lee site. The uncertainties associated with building new nuclear power plants continue to escalate, putting ratepayers, taxpayers, and the environment at increasing risk. The proposal to impound the Broad River to create a 620 acre make up pond would forever alter the ecosystem of this area. These risks are not adequately addressed in the Environmental Report and must be thoroughly examined by the Nuclear Regulatory Commission (NRC) in the draft Environmental Impact Statement (DEIS).

Utilities in South Carolina have better ways to meet the region's increasing demand for energy while protecting our water resources and tackling global warming. Investing more resources in the region's wind, solar, and bio-energy industries and promoting energy efficiency measures instead of costly new nuclear reactors would benefit Duke Energy and offer economic development opportunities for the region, without draining our water resources or our pocketbooks. The NRC must evaluate these alternatives more thoroughly before allowing Duke Energy to commit the billions of dollars, millions of gallons of water, and nearly an entire decade to building these proposed reactors when that time and money could be better spent on less risky, more sustainable solutions.

Renewable energy technologies, such as solar, wind and bio-energy are clean, safe technologies that do not require extreme manipulation of important water systems. Energy efficiency measures also pose no health or safety risks to the public, save consumers money and preserve our water resources. South Carolina utilities have significant resources to tap in these areas as outlined in a recent extensive report, "Energy Efficiency in the South," by Georgia Tech and

SOWSI Review Complete

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Duke University¹ and our 2009 report, “Yes We Can: Southern Solutions for a National Renewable Standard.”²

Duke’s Environmental Report overlooks the excellent wind resources within its service territory. The Clemson University Restoration Institute³ shows that South Carolina is poised to lead the charge toward renewable offshore wind energy with its high offshore wind capacity and to reap large economic benefits from the manufacture of wind turbines. Wind, solar, clean bio-energy sources, and efficiency should be fully employed before building expensive and risky nuclear reactors. The NRC should evaluate the use of a *combination* of these energy choices in comparison to the proposed new reactors. Additionally, the NRC needs to consider all of Duke’s new power plant proposals, such as the new coal unit proposed for the Cliffside plant in North Carolina and how that affects the need for the proposed new reactors.

Water Impacts

This region has historically suffered from severe droughts. Yet Duke’s application references the 2005 South Carolina Water Use Report Summary that says the last multi-year drought was in 1998.⁴ The National Drought Mitigation Center shows the immediate vicinity of Gaffney to be currently suffering “abnormally dry”⁵ conditions. The Supplement lists recorded statewide droughts since 1925 that show a pattern of getting more frequent and longer lasting.⁶ The proposal of Make Up Pond C, to “be used to provide supplemental water during drought and/or low flow periods” in a region prone to severe drought and temperatures, seems extreme and dangerous.

According to Duke’s application, the two Lee reactors will withdraw during normal use 50-86 million gallons of water per day (mgd) from the Broad River⁷ and consume, or lose, 35-41 mgd, returning only 30-50% back to the river. Overall consumptive loss will be approximately 50-70%.⁸ This is unacceptable in a region in which water resources are already stressed. The application also mentions that average surface water use (public and industrial) in Cherokee County was 8.4 million gallons per day.⁹ This means that on a daily basis the Lee plant could use six to ten times the amount of surface water used by all other users in the county combined. Though the proposed plant will be competing with other important water users in South Carolina and the region, the application does not acknowledge the impacts this may have, nor does it ponder the impacts this could have during severe drought conditions. The NRC needs to address this in the DEIS.

The Broad River, from which the Lee site will rely, is already stressed from the drought and a variety of industrial and municipal users. Further, other proposals, such as Duke’s efforts to

¹ See http://www.seealliance.org/se_efficiency_study/full_report_efficiency_in_the_south.pdf

² See <http://www.cleanenergy.org/images/files/SERenewables022309rev.pdf>

³ See http://www.clemson.edu/restoration/focus_areas/renewable_energy/wind/index.html

⁴ Duke Energy, Lee COL application, Rev. 1, p. 2.3-5

⁵ See <http://drought.unl.edu/dm/monitor.html>

⁶ Duke Energy, Lee COL application, Supplement to Rev. 1, p. 19

⁷ Duke Energy, Lee COL Application, Supplement to Rev. 1, Table 2.3-14, p. 2-20.

⁸ Lee COL application, Rev. 0, Enviro. Rpt. Ch. 2, TABLE 2.3-14 ESTIMATED SURFACE WATER WITHDRAWAL AND CONSUMPTION FOR STATION OPERATIONS, <http://www.nrc.gov/reactors/new-licensing/col/lee.html#appDocuments>

⁹ Lee COL application, Rev. 0, p. 2.3-23

expand the Cliffside coal plant in North Carolina, and SCE&G's proposal to build two reactors in Jenkinsville, South Carolina at the V.C. Summer site also aim to use huge amounts of water from the Broad River. The full extent of these cumulative impacts is not discussed in the application. The NRC needs to analyze not only the Broad River of today but also the Broad River of tomorrow, which is slated for more development. The application states that an estimated 56 percent increase in water demand is projected from 1997 to 2020 for the North Carolina portion of the Broad River basin.¹⁰ How will the Broad River be able to provide enough water for all these needs?

Duke Energy and its utility partners can meet demands using less water-intensive, affordable energy options. When comparing types of energy generation, nuclear power has higher rates of both water withdrawal and consumption than coal and natural gas and far more than renewable energy sources, such as wind and solar.¹¹ For example, according to the Department of Energy's National Renewable Energy Laboratory, developing just 1000 MW of wind in neighboring Georgia instead of traditional power plants could save 1628 million gallons of water per year.¹²

Cumulative Impacts

As the NRC is aware, Duke already operates five reactors in South Carolina and several more in North Carolina. In fact, South Carolina is the most nuclear power reliant state in the Southeast and the third most nuclear-reliant in the country, with about 58% of its electricity produced by nuclear power. Further, a host of nuclear waste and nuclear industrial operations are located in South Carolina. The Savannah River Site near Aiken is the most radioactive Department of Energy site in the nation. The Barnwell nuclear dump is also a radioactive hot spot. Nowhere in the application does it discuss the cumulative impacts of having all these facilities operating nor does it discuss the cumulative health impacts to Carolinians. The NRC must address these cumulative impacts to water resources and human health if it is to make a truly informed decision on adding two more reactors into this already radioactive mix.

Sincerely,

Sara Barczak, Program Director &
Mandy Hancock, Organizer
High Risk Energy Choices Program
Southern Alliance for Clean Energy

¹⁰ Lee COL application, Rev. 1, p. 2.3-25

¹¹ Hoffmann, J., S. Forbes, T. Feeley, U.S. DOE, Estimating Freshwater Needs to Meet 2025 Electrical Generating Capacity Forecasts, June 2004.

¹² National Renewable Energy Lab, Economic Benefits, Carbon Dioxide (CO2) Emissions Reductions, and Water Conservation Benefits from 1,000 Megawatts (MW) of New Wind Power in Georgia, June 2008. 300MW land based and 700 MW offshore.