

**Environmental Scoping Comments on Duke Energy's William States Lee  
Supplement to Revision 1 of the Environmental Report by  
Mandy Hancock, High Risk Energy Organizer Southern Alliance for Clean Energy  
June 17, 2010, Gaffney, South Carolina**

My name is Mandy Hancock and I am the high risk energy organizer with Southern Alliance for Clean Energy. We are a regional non-profit organization with members here 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. Thank you for having tonight's meeting to address the environmental impacts of the proposed Lee reactors.

As my colleague stated at the first scoping meeting back in 2008, we have serious concerns about Duke's push to build two new reactors here in Cherokee County. The uncertainties 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 Duke's revised report.

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

Energy efficiency measures preserve our water resources, save consumers money and also pose no health or safety risks to the public. 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 Duke University<sup>1</sup> and our report, "Yes We Can: Southern Solutions for a National Renewable Standard."<sup>2</sup>

Renewable energy technologies, such as solar and wind, do not require extreme manipulation of our precious water resources. The revised Environmental Report still overlooks Duke's excellent wind resources within its service territory. The Clemson University Restoration Institute<sup>3</sup> 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. The NRC must evaluate a combination of energy efficiency, wind, solar, and clean bio-energy sources as a viable alternative to building expensive and risky new reactors.

Further, the NRC needs use updated information to reevaluate Duke's analysis for the new reactors in terms of the need for power given the economic downturn and reduction in demand.

### **Water Impacts**

Duke and the NRC already know that this region has historically suffered from severe droughts as Duke's revised report references the 2005 South Carolina Water Use Report Summary that says the last multi-year drought was in 2008.<sup>4</sup> The National Drought Mitigation Center shows the immediate vicinity of Gaffney to be currently suffering "abnormally dry"<sup>5</sup> conditions. The Supplement lists recorded statewide droughts since 1925 that show a pattern of getting more frequent and longer lasting droughts.<sup>6</sup> The proposal of creating Make Up Pond C is simply illogical—what actually makes sense is to pursue less water intensive energy options to begin with instead of costly engineering measures that will negatively impact the environment, add to the cost, and ultimately waste even more water. When comparing types of energy generation, nuclear

<sup>1</sup> See [http://www.sealliance.org/se\\_efficiency\\_study/full\\_report\\_efficiency\\_in\\_the\\_south.pdf](http://www.sealliance.org/se_efficiency_study/full_report_efficiency_in_the_south.pdf)

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

<sup>3</sup> See [http://www.clemson.edu/restoration/focus\\_areas/renewable\\_energy/wind/index.html](http://www.clemson.edu/restoration/focus_areas/renewable_energy/wind/index.html)

<sup>4</sup> Duke Energy, Lee COL application, Supplement to Rev. 1, p. 2-4

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

<sup>6</sup> Duke Energy, Lee COL application, Supplement to Rev. 1, p. 2-4

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.<sup>7</sup> An April 2010 report by the Georgia Institute of Technology and Duke University examined energy efficiency in the South and illustrated ways by which we could substantially reduce our energy needs, while simultaneously reducing our water consumption. According to the report: “*In the North American Electric Reliability Council (NERC) regions in the South, 8.6 billion gallons of freshwater could be conserved in 2020 (56% of projected growth in cooling water needs) and in 2030 this could grow to 20.1 billion gallons of conserved water (or 45% of projected growth).*”<sup>8</sup>

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 River<sup>9</sup> and consume, or lose, 35-41 mgd resulting in an overall consumptive loss of approximately 50-70%.<sup>10</sup> This is unacceptable in a region in which water resources are already stressed. And the revised report doesn’t even consider the future implications of climate change.

The application also mentions that average surface water use (public and industrial) in Cherokee County was 8.4 million gallons per day.<sup>11</sup> This means that on a daily basis the Lee plant could use six to ten times the amount of surface water used by everyone else in the county combined. The plant will be competing with other important water users in South Carolina and the region. Yet, the application does not acknowledge the impacts this may have, nor does it ponder the impacts this could have during severe drought conditions, such as we regularly experience. The NRC needs to address all of these serious issues in the draft EIS.

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 expand the Cliffside coal plant in NC, and SCE&G’s proposal to build two reactors in Jenkinsville, SC also aim to use huge amounts of water from the Broad River. The full extent of these proposed impacts are not discussed in the application. The NRC needs to analyze not only the Broad River of today, but the Broad River of tomorrow, which is slated for more development. The application even 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.<sup>12</sup> How will the Broad River be able to provide enough water for all these needs?

### **Cumulative Impacts**

As the NRC is aware, Duke already operates five reactors here in SC and several more nearby in NC. In fact, SC is the most nuclear power reliant state in the SE and the 3<sup>rd</sup> most reliant in the country. Further, a host of nuclear waste and nuclear industrial operations are here in SC. 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 in SC. 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. In the current crisis to provide energy to meet our future needs, we demand that utilities utilize technologies to create an energy system that does not devour economic, environmental, and water resources. The inherent power in the Earth’s environmental systems along with measures to reduce overall energy demand can provide the energy needed without degrading ecosystems and depleting life-necessary resources. There is an opportunity to do things differently and in smarter, non-radioactive ways. That opportunity must be seized for the sake of our communities and future generations.

Thank you.  
Mandy Hancock

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<sup>7</sup> Hoffmann, J., S. Forbes, T. Feeley, U.S. DOE, Estimating Freshwater Needs to Meet 2025 Electrical Generating Capacity Forecasts, June 2004.

<sup>8</sup> Brown, Marilyn A; Etan Gumerman; Xiaojing Sun; Youngsun Baek; Joy Wang; Rodrigo Cortesand Diran Soumonn, “Energy Efficiency in the South.” p. vii, April 12, 2010. [http://www.sealliance.org/se\\_efficiency\\_study/full\\_report\\_efficiency\\_in\\_the\\_south.pdf](http://www.sealliance.org/se_efficiency_study/full_report_efficiency_in_the_south.pdf)

<sup>9</sup> Duke Energy, Lee COL Application, Supplement to Rev. 1, Table 2.3-14, p. 2-20.

<sup>10</sup> Lee COL application, Supplement to Rev. 1, 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>

<sup>11</sup> Lee COL application, Rev. 1, p. 2.3-25

<sup>12</sup> Lee COL application, Rev. 1, p. 2.3-25