

3/20/08  
73 FR 15009  
19

May 21, 2008

RECEIVED

2008 MAY 21 PM 1:58

RULES AND DIRECTIVES  
BRANCH  
US NRC

Chief, Rulemaking, Directives, and Editing Branch  
Division of Administrative Services, Office of Administration  
Mailstop T-6D59  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
Email: [Lee.COLEIS@nrc.gov](mailto:Lee.COLEIS@nrc.gov)

Re: Southern Alliance for Clean Energy's Environmental Scoping Comments on Duke Energy's W.H. Lee Combined Operating License Application

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. Following are the environmental scoping issues that we believe should be evaluated as the NRC prepares the draft Environmental Impact Statement (EIS).

We have serious concerns about Duke's push to build two new reactors here at the Lee site. The uncertainties associated with new nuclear power plants continue to escalate, putting ratepayers, taxpayers, and the environment at increasing risk. These risks are not adequately addressed in the application.

Duke has better ways to meet the region's increasing demand for energy, protect our water resources, and combat global warming. Investing more resources in the region's wind, solar, and bio-energy industries and promoting energy efficiency measures instead of costly nuclear power would benefit Duke and offer economic development opportunities for the region, without draining our water resources or our pocketbooks. Unfortunately, the Lee application does not adequately address these other energy options. Renewable energy technologies, like bioenergy, solar, and wind, which are not likely to be targeted by terrorists nor have the capacity, in terms of accidents, to kill thousands of people or permanently contaminate large land areas, should not be ignored by Duke. Energy efficiency measures also pose no health or safety risks to the public and Duke has significant resources to tap in this arena.

Duke has excellent wind resources within its service area and should be encouraged to invest more in developing this clean, safe energy resource instead of spending billions of dollars on the proposed Lee site. There is also potential for bioenergy production in their service territory. Clean forms of bioenergy represent a 'homegrown' energy source that can provide local jobs to rural areas that would also support farmers and the region's economy, while helping expand clean energy technologies. The use of solar technologies and other clean energy choices were summarily dismissed in the application. The draft EIS must include a more thorough analysis of energy alternatives.

P.O. Box 1842  
Knoxville, TN 37901  
Phone: (865) 637-6055  
Toll-free: (866) 522-SACE  
Fax: (865) 524-4479

250 Arizona Avenue, NE  
Atlanta, GA 30307  
Phone: (404) 373-5832  
Fax: (770) 234-3909

29 North Market Street  
Suite 409  
Asheville, NC 28801  
Phone: (828) 254-6776  
Fax: (828) 254-5466

428 Bull Street  
Suite 201  
Savannah, GA 31405  
Ph/Fax: (912) 201-0354

P.O. Box 1833  
Pittsboro, NC 27312  
Phone: (919) 545-2920

SONS = Review Complete  
Template = ADM-013

E-REDS = ADM-03  
Add = F. Tello (HMT2)

The NRC needs to fully evaluate Duke's need for power along with alternative supply options, including energy efficiency and demand side management measures. We are concerned that Duke is overestimating capacity needs and the NRC needs to fully evaluate whether the additional generating capacity is truly needed. The NRC needs to include all of Duke's new power plant proposals, such as the new coal unit proposed for the Cliffside plant in NC.

The high cost of nuclear power plants will likely lead to cost overruns and rate increases; this is not mentioned in the application. The price for new reactors, such as Westinghouse's AP1000 design that Duke intends to use, has skyrocketed. Utilities in Florida pursuing the same reactor design have recently stated costs of \$6 to \$8.5 billion per reactor, nearly tripling their estimates from just one year ago. Just a few days ago, a Charlotte Business Journal article reported that Duke "conceded that its original cost estimate of \$6 billion is out of date."

### **Water Impacts**

Nuclear power plants have a large impact on water quantity and quality. Nuclear power plants release radioactive contaminants and hazardous chemicals into surrounding water resources, contribute greatly to thermal pollution, negatively impact aquatic life, and require enormous volumes of water in order to operate—requiring more water use than other traditional forms of energy production and significantly more water than energy efficiency measures and clean energy technologies such as solar and wind. This reality is not mentioned in the application.

Duke and the NRC should already know that we are currently suffering from a historic drought. Yet Duke's application references the 2005 South Carolina Water Use Report Summary that says the last multi-year drought was in 1998.<sup>1</sup> Well, guess again. We're in a severe one now and Duke should have mentioned that in the application and the NRC certainly must consider this as it prepares the draft EIS.

According to Duke's application, the two Lee reactors will withdraw during normal use over 47 million gallons of water per day (mgd) from the Broad River and consume, or lose, on average over 35 mgd, returning only one quarter back to the river. The maximum withdrawals will be over 81 mgd with maximum consumption of over 41 mgd. So overall consumptive loss will be approximately 50-75%.<sup>2</sup> That is unacceptable. The application also mentions that average surface water use (public and industrial) in Cherokee County was 8.4 million gallons per day.<sup>3</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 are currently experiencing. The NRC needs to address this in the draft EIS.

---

<sup>1</sup> Lee COL application, Rev. 0, p. 2.3-5

<sup>2</sup> 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>

<sup>3</sup> Lee COL application, Rev. 0, p. 2.3-23

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, 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>4</sup> How will the Broad River be able to provide enough water for all these needs?

Another problem with water discharged from nuclear plants is its temperature. This water is warmer than the water into which it is discharged, and the resulting "thermal plumes" cause stress on aquatic life, which can include commercially important fish and shellfish. Warmer water temperatures proximate to a nuclear power plant result in conditions that effect the feeding and breeding patterns of various species. For instance, nuclear power plants aggravate the problem of low dissolved oxygen levels through its heated discharge to lakes and rivers. The NRC needs to study these impacts.

### **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, with about 58% of its electricity produced by nuclear power. 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 in the draft EIS.

### **Global Warming**

Nuclear power plants are vulnerable to the effects of heat and drought. Drought conditions in this region have already forced power plants to shut down or power back. The predicted effects of global warming in the region, such as summer heat waves or droughts, could negatively impact the ability for the proposed reactors at Lee to generate electricity under those conditions if the Broad River is impacted. This deficiency was demonstrated by the recent summer heat waves and droughts, when nuclear power plants in France, Germany, and across Europe, and in the U.S., had to shut down or power back because the water temperatures were too high. The application has no mention of the predicted impacts of global warming including in terms of temperature and drought on the Broad River and how that could impact the operation of the Lee reactors. The NRC should evaluate these concerns in the draft EIS.

### **Public Involvement -- Summary**

Lastly, and we have stated this previously for other licensing applications, we would like to comment on the difficulty with reviewing the application. Though we appreciate having the

---

<sup>4</sup> Lee COL application, Rev. 0, p. 2.3-25

resources available on-line, it is a very cumbersome process to do so. Regular citizens and policymakers do not have the time to wade through these thousands of pages that have to be downloaded at times individually. We recommend that the NRC require applications to be submitted in a more 'user-friendly' format.

Fundamentally, we believe this application is not complete and should never have been accepted by the NRC. It is frustrating that taxpayer dollars have been wasted on this document, and that time and effort on the part of public citizens has also been wasted reviewing this document, since it really does not seem to be complete. We request that the NRC ask Duke to revise and resubmit their application.

Sincerely,

Sara Barczak, Safe Energy Director  
Southern Alliance for Clean Energy—Savannah