Justin Leous

From: Sara Barczak [sara@cleanenergy.org]
Sent: Tuesday, July 22, 2008 3:08 PM
To: Justin Leous
Subject: JP: Revised SACE Vogtle License Renewal comments
Attachments: F-SACE REVISED Vogtle LR comments 072208.pdf; ATT00001; clip_image002.png; ATT00002

Hi JP--

Thanks for allowing me to submit revised comments. I greatly appreciate it.

Let me know if you have any problems w/the attachment. I'll mail these revised comments too.

Thanks again--Sara Barczak

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Southern Alliance for Clean Energy

July 22, 2008

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RE: Revised Comments on the DSEIS for Vogtle License Renewal—in place of 7/16/08 comments

To Whom It May Concern:

Southern Alliance for Clean Energy (SACE) is a non-profit energy policy organization with members throughout Georgia and across the region. We promote responsible energy choices that create global warming solutions and ensure clean, safe and healthy communities in the Southeast. SACE believes that extending the operating life of the existing Vogtle reactors poses unacceptable risks that should be avoided. Southern Company's Plant Vogtle is also the only site in the country undergoing permitting with the U.S. NRC for a license renewal, an early site permit (ESP), and most recently, a combined operating license (COL). We have serious concerns about the ability of the NRC and other relevant agencies to thoroughly review all the permits in a holistic manner that ensures coordination between the respective NRC project teams.

Other Energy Choices Exist

We requested in our environmental scoping comments that the NRC fully research other energy choices, including renewables and energy efficiency and conservation as the application from Southern Nuclear was woefully inadequate. Thank you to the NRC staff for including updated wind information that was lacking in the application including that new certified wind maps of Georgia were released by the National Renewable Energy Laboratory in October 2006 that show there is substantial wind power available, especially offshore, with a potential of 10,000MW. (See the Georgia Wind Working Group website at www.gawwg.org.) Additionally, Southern Nuclear's application referenced 1986 wind data in spite of Southern Company being involved in an offshore wind study with Georgia Tech that was released in 2007,"Southern Winds: Summary Project Report 2007, A study of wind power generation potential off the coast of Georgia." That study recommended that Southern Company continue to pursue offshore wind and the NRC staff did include our recommendations to include that study in the draft EIS. We appreciate that inclusion.

According to the Department of Energy, wind power capacity factors continue to increase with technological advances, operational advances, and taller towers. The capacity factors for Class 4 and 5 wind projects in 2006 ranged from 35-45%. Additionally, in reference to lines 37-40 on page 8-68, the argument against wind turbines does not accurately portray modern methods for installing wind turbines. By making the argument that wind is not an alternative method to nuclear plant Vogtle because no more than 200 wind turbines have ever been put up at one time, Southern Company is making the assumption that wind plants are built in the exact manner that nuclear and

coal plants are, all at once. To the contrary, the most common method for installing wind plants are to either contract with a professional wind developer and enter a 20-year PPA. The second most common method is for the professional wind developers to enter into a partnership with the utility that will allow both entities to enjoy the financial benefits of wind plants. By doing this, the utility can simultaneously build wind plants. A great example is Xcel Energy who installed 2,635 MW of wind energy in 2007 alone. Further, an advantage of wind power is that the construction times are relatively short, 8-10 months, and allows for quick installation. This installation then allows for Southern Company to immediately assess its future needs for electricity, instead of trying to project 10 years into the future based on current consumer behavior. Lastly, offshore wind generally peaks during the summer afternoons, which can help curb the peak load. This information should be considered in the final EIS.

Southern Company's direct comparison of nuclear to wind, nuclear to solar, and nuclear to energy efficiency ensures that Southern Company cannot truly appreciate the advantage of using a diverse options of energy resources. The extremely high costs of new nuclear reactors is unfair to consumers and Southern Company should instead implement serious efficiency programs to first reduce the amount of electricity that will be required in the future, and then use a mix of biomass, offshore wind energy, and solar to meet the rest of the demand.

The cost of the proposed Vogtle expansion is approximately $14 billion. According to the Department of Energy's latest numbers on offshore wind turbines ($2.6 million/ MW installed), Southern Company could spend $13 billion for 5,060 MW of wind power. Although, in partnership with other developers, Southern Company would not spend this money in its entirety, and therefore it would save Southern Company capital, and defend customers from the rising cost of nuclear power (11-13 cents / kWh according to Progress Energy). Offshore wind energy, according to Georgia Tech and Southern Company's wind report is between 8-13 cents/kWh, and is not subject to fuel price increases. The NRC should investigate these costs more thoroughly in the final EIS.

We believe that the NRC failed to acknowledge in the draft EIS that many renewable energy technologies, including as wind, offer substantial water benefits. According to the Department of Energy's National Renewable Energy Laboratory, developing 1000 MW of wind in Georgia would save 1628 million gallons of water per year.[i] The NRC has completely overlooked this important information in the draft EIS and it must be incorporated before the final EIS is issued.

The draft EIS is still deficient in its analysis of energy efficiency. Energy efficiency and conservation represent the quickest, safest, cheapest way to provide more power and to best protect our air and water resources. As an added benefit, increased energy efficiency reduces water consumption by power plants that compete with local industries and cities for much needed water. The NRC makes no mention of this connection. In December 2007, Georgia's Drought Response Unified Command (DRUC) highlighted the water-energy connection, issuing a statewide press release that stated:

> *DRUC encourages Georgians to help save water by conserving electricity. Large amounts of water are required to generate electricity. In Georgia, each kilowatt hour (kWh) of electricity production consumes 1.65 gallons of water according to the National Renewable Energy Laboratory.[ii] To put it in context, the average Georgia household's electricity use is 1,148 kilowatt hours per month, requiring 1,894 gallons of water to generate.[iii]*

Negative Impacts on Our Water Resources

Power plants have a tremendous impact on our water resources. Our energy choices make a big difference on the future of the river basins and the communities and businesses reliant on those water sources. And given that the license renewal for Vogtle is for 20 additional years of operation—taking us to 2047 and 2049 if approved, we believe the NRC needs to evaluate not only the Georgia of today, but the Georgia we may be living in 40 years from now. But the draft EIS doesn't really do this. The State of Georgia and surrounding states continue to face drought conditions, yet there is little analysis beyond a level 3 drought. The brief mention of a level 4 drought in Appendix E does not appear to take into account the impacts from the additional two proposed reactors and that must be done in the final EIS. It is unclear whether impacts to upstream users, such as those reliant on Lake Hartwell, the upper-most reservoir on the river, have been studied. This must be included in the final EIS. Plant Vogtle is already a large water user that is currently returning only about one-third of what it withdraws from the Savannah River. An additional 20 years of operation, as populations increase, will not be a positive development for our water resources.

Further, the proposed new nuclear reactors at Plant Vogtle are estimated to use 53 million gallons of water per day with 50-75% of that lost as steam. (*Southern Nuclear Operating Company, Early Site Permit Application, Environmental Report, August 2006*). This means that more water will be lost from the two existing and two proposed reactors at Plant Vogtle than is currently used by all residents of Atlanta, Augusta, and Savannah combined.[iv] From our review of the draft EIS for the ESP at Vogtle, the cumulative impacts on water quality and quantity have not been satisfactorily evaluated. Therefore, we believe that this issue is also remains deficient in terms of the license renewal evaluation—sort of a cart-before-the-horse phenomenon.

There are concerns about tritium contamination, a radioactive form of hydrogen that can impact our health. Faced with saltwater intrusion of the Floridan Aquifer, both Beaufort and Jasper counties in South Carolina and the Savannah area will become more dependent on the Savannah River for drinking water. In fact, in 2009 the City of Savannah's main line will begin blending Floridan aquifer with Savannah River water in order to help meet groundwater use reduction requirements. There is no mention of this in the draft EIS. Plant Vogtle already contributes to the tritium in the river and allowing the reactors to operate for longer will do nothing to reduce this reality, let alone when and if more reactors come online. The NRC needs to study tritium in the river, future projections especially given the Savannah River Site's already large contribution to the tritium pollution, and to analyze this with droughts and future population growth in mind. Just stating on page 4-54 that SRS is the major contributor and that further operation of Vogtle will contribute limited tritium increases is not acceptable; an analysis of the cumulative exposure of people to tritium via their drinking water in particular is needed in the final EIS.

Licensing Deficiencies / Regulatory Concerns

As we mentioned earlier, we have grave concerns that too many permits are occurring at the same time with Plant Vogtle: a license renewal, an early site permit, and a combined operating license. Can the NRC keep up with all of this in a manner that is truly protective of public health? From our review of the draft EIS for the license renewal and the draft EIS for the ESP, we are doubtful; as we all know, bureaucracies themselves have their deficiencies. The idea that everything will be coordinated seamlessly between all these different staff and all these different projects seems unrealistic and now we have further proof that it is not being achieved.

Global Warming

We asked the NRC to evaluate predicted effects of global warming on this region and how nuclear power plants may be negatively impacted or unable to generate electricity. This was demonstrated by the heat wave this past summer in Europe and the U.S.—when nuclear power plants from Sweden to Alabama had to power back because the lake or river water temperatures were too high to allow for safe operation of their nuclear power plants. Yet this hasn't been analyzed in the draft—it is just mentioned in terms of comments that we already submitted; it must be done before a final EIS is issued. It wasn't done for the draft of the ESP either. When will the NRC address this important issue?

Summary

The draft EIS for the relicensing of Plant Vogtle along with the draft EIS for the early site permit demonstrate that the NRC is not adequately protecting human health or the environment, rather, the NRC is protecting the nuclear power industry. Overlooking clean, safe energy alternatives and ignoring the tremendous impacts to our water resources and pocketbooks is not acceptable. The NRC must do better before issuing the final environmental impact statements.

Sincerely,

Sara Barczak, Safe Energy Director
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[i] 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. 300 MW land based and 700 MW offshore.

[ii] National Renewable Energy Laboratory, *Consumptive Water Use for U.S. Power Production*, Paul A. Torcellini, Nicholas Long, & Ronald D. Judkoff, Dec. 2003.

[iii] DRUC Press Release, 12/11/07, at https://www.piersystem.com/go/doc/1619/185714/.

[iv] Using 2005 Census figures and with the average per capita daily water use in GA at 75 gallons from surface and ground water sources, http://water.usgs.gov/watuse/tables/dotab.st.html. Water use figures for new reactors from Southern Nuclear Operating Company, Vogtle Early Site Permit Application, Environmental Report, August 2006.