



Georgia Chapter

December 26, 2007

Chief, Rules and Directives Branch
Division of Administrative Services,
Office of Administration
Mailstop T-6D59
US Nuclear Regulatory Commission
Washington, DC 20555-0001

(19)

September 14, 2007
72 FR 52584

Re: Georgia Chapter Sierra Club Comments on the draft Environmental Impact Statement for the Plant Vogtle Early Site Permit:

To Whom It May Concern,

Please add these comments to the Vogtle Final EIS and respond to them.

Vogtle's Draft NUREG 1872, section 5.3.2, Water-Use Impacts, page 5-6, lines 7 - 12 state:

"The existing VEGP (Vogtle Nuclear Power Plant) Units 1 and 2 are among the largest water users in the region. Likewise, the proposed Units 3 and 4 ... would also become major users of surface water and groundwater. ...The ratio of total groundwater withdrawals to surface water would be approximately 9 percent."

Line 37 lists the maximum withdrawal from the river for the two new reactors as 57,784 gallons per minute. That translates to 1,440 minutes per day, and equals 83,208,960 gallons of water per day as the maximum withdrawal from the Savannah River. An additional 9% from the Cretaceous Aquifer and the Tertiary Aquifer would equal 7,488,806.4 gallons per day of groundwater, for a total of 90,697,766.4 gallons of water per day for the two proposed units.

Since these units will be added to the existing two units, the total maximum water usage should these two units be approved would be double that amount, for a total maximum usage of 181,395,532.8 gallons of water per day. Approximately one third of that would be returned to the river up to 50 degrees hotter than when it was withdrawn and contaminated with chemicals and radioactive toxins. Two thirds will be evaporated, or consumed.

We are currently in the worst drought in history, vast sections of the state are at level 4 drought, yet the NRC's analysis only considers drought to level 3. Page 5-6, lines 40-41 state "Comparable levels for drought level 4 are not shown in Table 5-1 since they cannot be calculated because the river discharge is not specified." And on page 5-7, lines 24-25, state: "As in Table 5-1 comparable levels for drought level 4 are not shown in Table 5-2." Therefore, the Vogtle EIS is deficient in only considering drought level 3.

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With Georgia now in a persisting and intensifying drought, I, it is only prudent to consider Vogtle's expansion in relation to drought level 4.

Section 5.3.3, Water-Quality Impacts, on page 5-13, lines 23-26 state:

"Surface-water impacts include thermal and chemical changes in the Savannah River resulting from effluents discharged by the plant. Groundwater impacts include changes in water quality of the surrounding environment because of plant withdrawals, primarily from the Cretaceous aquifers."

Section 5.3.3, lines 30-33 state:

"The GDNR classified the Savannah River at the VEGP (Vogtle Nuclear Power Plant) site for fishing water use (GDNR 2007a). The water-quality standards for temperature are not to exceed 32.2 degrees C. (90 degrees F) and at no time is the temperature of the receiving waters to be increased more than 2.8 degrees C (5 degrees F) above the intake temperature.

(It should be noted here that when the Tennessee River registered 90 degrees F for a 24-hour period Aug. 16 Unit 2 at the Browns Ferry Nuclear Plant was forced to shut down).

Page 5-14, lines 6-7 state:

"The independent assessment performed by the staff assumed Drought Level 3 conditions were in effect."

Page 5-15, lines 1-2 state:

"The temperature difference between the ambient river and the discharge effluent were therefore calculated to be 28 degrees C (50 degrees F).

So, even at Drought level 3, the maximum effluent discharges are calculated to be 10 times hotter than the maximum allowed.

Chemical changes in the Savannah River are mentioned and quoted above in section 5.3.3.

Page 5-16 lines 35 and 36 state:

"The staff extended its thermal impact assessment using the CORMIX model to consider the potential impacts of chemical pollutants in the discharge to the Savannah River." No mention is made of the specific chemicals or their radiotoxicity. Dilution is the only consideration. Since the EIS allows for fishing we would expect to see information about the concentration of the chemicals or the radiotoxicity concentration in the fish, and the resultant detrimental health effects on people. Since this information is not included this EIS is deficient, and this should be corrected.

Dilution is not a solution to radioactive pollution. The National Academy of Science Biological Effects of Ionizing Radiation, (BEIR VII) report has recognized that there is

no level below which radiation is harmless.

Fetuses and young children are more radiosensitive than adult men. Internal doses from inhalation and ingestion of radionuclides are far more deadly than external doses.

In the 1970's guideline 1.42 was replaced by guideline 1.109 that is still in use today. Guideline 1.42, calculated the dose to a 1-year old child drinking milk from a cow that would have grazed near the proposed Hartsville Nuclear Plant to be 335 millirems to the thyroid from I-131. NRC abolished that guideline, and substituted guideline 1.109 that reduced that dose to 1.1 millirems. This calculation method only considers adult men, and external doses.

The complete fuel cycle should be considered. The radon released from the mill tailings produced in the mining and milling of uranium required to fuel a single reactor for 1 year will cause deaths to future generations that will run into the hundreds, according to Dr. Walter P. Jordon, retired assistant director of the Oak Ridge National Lab., in a memorandum to the NRC in 1977.

Consideration of women, young children, and fetuses, plus inhalation and ingestion that contribute to internal doses, should be considered and made a part of your calculation method, which should then be peer reviewed before it is adopted. No additional licenses should be granted until this deficiency is corrected. All licenses that have been granted using guideline 1.109 should be readdressed and the deficiency corrected. The NRC was established to protect the health of the public, therefore, it is your responsibility to uphold that obligation.

Alternative uses of the site should be fully addressed. New technology is being developed that will be less expensive and safer, not only for the public, but for the utility as well. Nanosolar Powersheets won the Popular Science 2007 award for the best new development. Reducing the cost of silicon based solar photovoltaic panels by 90% would make the need for additional electricity from coal or nuclear moot.

Oceanlinx has developed wave powered modules that can produce electricity and desalinate water, although not simultaneously. Hydrogen is the byproduct of their desalination process. The cost of the electricity production using their turbines is comparable to wind generated electricity.

The potential for wind generated electricity in the west exceeds the total amount of electricity needed for the entire U.S. Energy efficiency and conservation are better buys to combat climate change and they are available now. They pose no threat of terrorist attack or proliferation danger.

If these sustainable technologies and strategies were adopted by Southern Co., the Vogtle site could be left for wildlife habitats and at far less costs to the taxpayers and rate payers. Trees remove carbon dioxide and release oxygen. Leaving Vogtle as a natural area is far better solution to climate change than your proposal to build two additional nuclear reactors.

The financial ability of the utility to build this facility without government subsidies should be considered. Considering the fact that future appropriations may delete subsidies,

their inclusion is unjustified in deciding the financial qualifications of the utility to build and operate this facility. If the utility is not financially qualified to build and operate a safe nuclear plant, minus government handouts, then this license should be disapproved.

Construction of every nuclear plant has caused rates to increase. This is already happening because of the Vogtle proposed expansion. As rates rise, consumers reduce their usage. The orders that are anticipated for the electricity that these units are designed to produce may not materialize. The material to build them will also be more costly than anticipated, and may not be available at all. Most if not all the equipment will have to be imported. Cost have historically exceeded their initial estimates for nuclear reactors, and these Vogtle reactors will be no exceptions to that rule.

Nuclear waste going to Barnwell, S.C. will cease in 2008. Yucca Mountain is not open and perhaps will never open to accept spent fuel; therefore, complete plans for onsite storage of all of Vogtle's nuclear waste, including the decommissioned plant itself, should be included. The spent fuel pool should be located in such a hardened facility that it will be impervious to a terrorist attack, including an airplane or rocket attack. Long term storage, beyond even the life of the plant, and capable of being maintained for the thousands of years that the waste will remain a threat to life on this planet, should be included.

Monitoring in all directions, for air, water, and milk, should be included. Monitors should be placed in concentric circles, from the fence line, then at no greater than 1/2 mile intervals up to and including out to at least 50 miles in all directions. Real time monitoring results should be available to the public. All milk produced in this 50 mile radius should be monitored for SR 90 on a daily basis, prior to being mixed with unpolluted milk.

Evacuation plans should extend beyond the current 10-mile limit. If sheltering in place is the preferred option, then all residences and schools within a 50 mile radius should be prepared at the expense of the utility, for such an emergency. Since this is not an expense that would be incurred with any other electric generating option, the cost will immediately render moot consideration of this nuclear option. Finally, terrorists attacks, including that of a fully fueled jetliner, against the control rooms, spent fuel pools and the reactor containment buildings of all 4 Vogtle reactors should be considered.

If you have any questions or would like to follow up with me I may be reached at 404-607-1262 x 226 or patty.durand@sierraclub.org.

Respectfully submitted,



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