

Georgia Environmental Protection Division Public Hearing – March 3, 2015 – Augusta, Georgia
Draft NPDES Permit No. GA0039420 – Southern Nuclear Operating Company:
Vogtle Electric Generating Plant (Units 3 and 4)
Public Comments from the Southern Alliance for Clean Energy

Good evening. My name is Sara Barczak and I am the program director for the Southern Alliance for Clean Energy's high risk energy choices program. We are a non-profit organization working on energy policy in the Southeast with staff and members throughout Georgia who are concerned about energy, water issues and climate change. Thank you for holding tonight's public hearing.

First, I would like to reiterate our disappointment with the Georgia Environmental Protection Division's (EPD) decision to issue the massive surface water withdrawal permit¹ from the Savannah River for the proposed Vogtle reactors last December. We believe that decision was in error given Vogtle's impact on dissolved oxygen levels and the permit's lack of low flow requirements since drought contingency planning has yet to be finalized.² And we believe it was a mistake to issue that permit separately from the discharge permit under consideration at this hearing.

The Savannah River is the third most toxic river in the country and is unable to currently deal with the pollution that is being dumped into it. Dumping even more into it, which includes thermal pollution or heated water, will only exacerbate this situation. We recommend that EPD not rush issuing a final surface water discharge permit. There are too many open questions and decisions that have not been resolved, such as the U.S. Army Corps of Engineers' drought response plan.

EPD should be aware that since the withdrawal permit was issued, the estimated commercial operation date for the Vogtle reactors has been pushed back, again – the project is now 39 months delayed. Instead of April 1, 2016 for reactor Unit 3, it is now mid-2019. And these dates could further slip. The price tag is climbing and is billions of dollars over budget.³ There is no reason for EPD to rush making a decision about the discharge permit nor was there a need to rush approval of the withdrawal permit.

Both the withdrawal and discharge permits have far-reaching water quality impacts on upstream and downstream users in Georgia and South Carolina. For instance, these permits have major implications for the Savannah Harbor. It is for the protection of the harbor that EPD required that an un-tested oxygenation system, such as Speece Cones, be installed well downstream of Plant Vogtle. Unfortunately this was the only mitigation measure in the withdrawal permit and it was designed to address dissolved oxygen, a water quality issue. How does EPD know whether this system will even work, how it will be monitored and maintained and who will pay for it over the potential 60-plus year operating life of the reactors? What happens if the system doesn't work? It doesn't appear that there is any contingency plan. But more importantly, why are there no mitigation measures in this discharge permit? Why is there nothing to protect dissolved oxygen levels in the vicinity of the plant? The draft permit contains no limits for dissolved oxygen or pollutants affecting dissolved oxygen, such as temperature, biochemical oxygen demand and chemical oxygen demand.

Georgia's power sector is the largest water user in the state, surpassing agriculture, and already significantly burdens our water resources. Letting Georgia Power have one of the biggest straws to draw from and dump into the Savannah River, such as with Vogtle and their downstream Plant McIntosh coal plant, will further increase competition with other uses.

¹ The existing two Vogtle reactors are already among the largest water users on the river and are permitted to withdraw as much as 127 million gallons per day (mgd). Plant Vogtle currently withdraws 67 mgd on average with an approximate consumptive use of 43 mgd, basically returning to the river less than one-third of what is withdrawn. The two proposed Toshiba-Westinghouse AP1000 reactors, which have never been built nor operated anywhere in the world, received withdrawal permits for 74 mgd maximum daily and 62 mgd monthly average with a reported estimated average consumption of 43 mgd or 71%. (Documentation from EPD from July 24, 2012 stated "the worst case equates to a 49 mgd withdrawal, 8 mgd return ... This scenario causes a consumptive loss to the Savannah River of 88%.") To put the projected consumptive water loss in perspective, with average per capita daily water use in Georgia at 75 gallons from surface and ground water sources, this means the two existing and two proposed reactors could consume enough water to supply over 1.1 million Georgians with drinking water. (The average per capita daily water use in Georgia is 75 gallons from surface and ground water sources, <http://water.usgs.gov/watuse/tables/dotab.st.html>. With water consumption for all 4 reactors (2 existing and 2 proposed) projected at approximately 86 mgd (~43 mgd for the existing two reactors and ~43 mgd for the proposed two reactors) that could mean the equivalent of over 1.1 million residents).

² SC DHEC legally challenged the withdrawal permit in January. See http://www.cleanenergy.org/wp-content/uploads/LettertoGAEPDJudsonTurnerfromBlairMasseyreSCDHEC_PetitionforHearing_VogtleH2Owithdrawalpermit_010215.pdf

³ See SACE 2/19/2015 press release at <http://www.cleanenergy.org/2015/02/19/georgia-public-service-commissioners-approve-vogtle-vote/>.

As a result of heavy demands, the Savannah River basin has experienced a steady reduction in flow and aquifer levels. This becomes problematic in times of drought, which have been frequent and severe over the last decade, and will become more so with climate change. The draft permit continues to ignore the impacts that climate change could have on the region and the river including sea level rise, extreme heat events and a decreasing freshwater supply.

Sea level rise could exacerbate the contamination of freshwater supplies with saltwater and accelerate saltwater intrusion. Vogtle is already competing with the drinking water needs of residents in cities such as Savannah and Hilton Head. Who will have top priority to quality freshwater?

Hotter temperatures for longer periods of time will impact the river's water temperatures, further exacerbating dissolved oxygen problems and potentially affecting the ability for Vogtle's reactors to fully operate.

We recommend that an effective mitigation measure would be to require that the proposed new reactors use the most efficient cooling technologies available, such as wet/dry-hybrid cooling. This cooling system is extremely effective during long drought periods, which are anticipated to increase in frequency with climate change. If implemented, both the water withdrawal requirements and the volume of pollution generated would be reduced.

We also recommend that a Zero Liquid Discharge (ZLD) treatment and recycling system be required, which does not have to be coupled with the wet/dry-hybrid cooling. ZLD technology is available at reasonable cost and would eliminate cooling tower blowdown discharges to the river from the proposed reactors' cooling systems and reduce water withdrawals. According to testimony provided previously to EPD, a ZLD system would cost \$32 to 42 million,⁴ which is a tiny fraction of the Vogtle project's current cost estimates.

In conclusion, to avoid repeating the same mistakes in the future, the State of Georgia must demonstrate leadership in pushing measures that advance less water-intensive energy choices, particularly, energy efficiency and conservation that offer both water and energy savings. Renewable energy supplies, such as wind and solar, can also provide substantial water quality and water savings benefits.

Thank you for your time and consideration.

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⁴ See previously filed comments on the surface water withdrawal permit, including Bill Powers' testimony, at <http://blog.cleanenergy.org/2014/05/29/vogtle-reactors-guzzle-more-from-savannah-river/>.