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OCT 9 2008

Docket Nos.: 52-025
52-026

AR-08-1430

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4 Combined License Application
Response to Questions Raised in Combined License Public Meeting

Ladies and Gentlemen:

By letter dated March 28, 2008, Southern Nuclear Operating Company (SNC) submitted an application for combined licenses (COLs) to the U.S. Nuclear Regulatory Commission (NRC) for two Westinghouse AP1000 reactor plants at the Vogtle Electric Generating Plant (VEGP) site located near Waynesboro, Georgia, in accordance with 10 CFR Part 52. In a public meeting held by the NRC on July 17, 2008 to discuss the COL process, questions were posed to the NRC by the public regarding the cooling water technology selected for the project. Accordingly, SNC is writing this letter to provide our perspective on the answers to these questions.

First Comment/Question and Response:

The first comment and subsequent question stated that EPA rules under the Federal Clean Water Act required the licensee to implement Best Available Technology (BAT) as defined by the EPA, if the licensee withdraws more than 25 million gallons per day from a river or lake for use as cooling water. A question was raised on why the NRC had not required VEGP to install BAT since VEGP withdrawals clearly exceed 25 million gallons per day.

Section 316 (b) of the Clean Water Act does require implementation of BAT for withdrawals of greater than 25 million gallons per day from a river or lake for a new facility. Section 316 (b) is intended to protect aquatic organisms from impingement or entrainment caused by cooling water intake structures at large power producing facilities. EPA rules implementing the Clean Water Act define BAT as closed-cycle cooling.

Closed-cycle cooling uses evaporation to transfer the heat from water flowing through the plant condenser to the atmosphere via a cooling tower. This process reduces the temperature of the water returned to the water body to within 1 to 2 degrees F of ambient while dramatically reducing water withdrawal and impingement/entrainment effects as compared to once-through cooling technology. In

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contrast, once-through cooling requires billions of gallons of water per day while closed-cycle cooling requires less than 50 million gallons per day for a typical 1000-megawatt electric power plant. Obviously, cooling water requirements vary with geographic location based on ambient temperature of the water body and local meteorology.

The cooling systems proposed for VEGP Units 3 and 4, as well as the systems already in use for VEGP Units 1 and 2, employ BAT (closed-cycle cooling technology) in the form of recirculating natural draft cooling towers. These towers and the associated intake structures clearly meet the Clean Water Act mandate of significantly reducing impingement and entrainment effects on the Savannah River and reducing the discharge temperature well below Clean Water Act Water Quality Standards.

Second Comment/Question and Response:

The second comment referenced the cooling system proposed by AREVA, and indicated that the AREVA technology would use a new cooling technology that could reduce water use by as much as 98 percent. After conducting an investigation, SNC has determined that the comment is most likely derived from an article in the Baltimore Sun titled "Nuclear Power Has New Shape" or a similarly related article. The article stated the following:

"A doughnut-shaped building that looks like a sports arena may soon rise beside the Chesapeake Bay – a cooling tower for a huge new nuclear reactor proposed at the Calvert Cliffs power plant in Southern Maryland. The state-of-the-art cooling system would enable the new reactor to recycle water, thus drawing 98 percent less from the bay than the two existing reactors, which opened in 1975 and 1977."

The article goes on to explain:

"The Calvert Cliffs plant does not have cooling towers today. Instead, its two reactors draw 2.4 million gallons of water per minute out of the Chesapeake to cool the steam that spins electric turbines, with the water returned to the bay about 10 degrees warmer."

As the article referenced above suggests, the closed-cycle application for the new Calvert Cliffs unit may indeed reduce water use by as much as 98 percent compared to the once-through technology used for the existing Calvert Cliffs units. However, that reduction is based on a comparison to the once-through technology employed at the existing Calvert Cliffs units, not the closed-cycle technology proposed for VEGP Units 3 and 4. The closed-cycle technology proposed for VEGP Units 3 and 4 would achieve comparable reductions in water use as the new Calvert Cliffs unit, as opposed to once-through technology.

If you have any questions regarding this letter, please contact Mr. Charles Pierce at (205) 992-7872.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



Charles R. Pierce

Vogtle Deployment Licensing Manager

U.S. Nuclear Regulatory Commission

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Document Services RTYPE: AR01

File AR.01.02.06

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