

# Pacific Northwest National Laboratory

Operated by Battelle for the  
U.S. Department of Energy

April 12, 2006

Ms. Sally Adams  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike, Mail Stop O12 E5  
Rockville, MD 20852

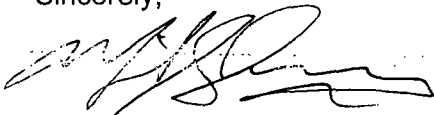
Dear Ms. Adams:

**Subject: Initial Scouting Trip Summary Report (JCN J-3012, Task No. 13)**

PNNL has completed a summary report of the initial scouting trip conducted at the Vogtle and Hatch Sites in support of anticipated application from Southern Nuclear Operating Company for an Early Site Permit at the Vogtle Site near Waynesboro, GA. Please see the enclosed hard copy of this report. An electronic copy has been transmitted directly to the Environmental Program Manager, Mr. Mark Notich.

Please contact me at 509-376-2554 (email: [michael.sackschewsky@pnl.gov](mailto:michael.sackschewsky@pnl.gov)) if you have any questions or comments.

Sincerely,



Michael R. Sackschewsky  
Ecology Group  
Pacific Northwest National Laboratory

cc: Van Ramsdell, PNNL, K3-55  
Mark Notich, NRC O11 F1

## **Southern Nuclear / Vogtle Early Site Permit**

### **Pre-Application Scouting Trip**

20 March through 22 March 2006

#### **20 March 2006**

Location: Plant Hatch, Appling County, GA

Attendees:

NRC: Christian Araguas, Mark Notich, Jack Cushing,

PNNL: Mike Sackschewsky

SNC: Thomas Moorer (Environmental Project Manager), Amy Greene, Byron Feimster, Dennis Madison, Kathy Underwood, Bill Duvall, Violet Coleman.

Georgia Power: Kristen Cooper, Gary Dye

Initial discussion centered on the general ESP / ER preparation process and the relative merits of the various alternate sites. Tom Moorer indicated that Chapter 9 of the ER, which provides the site comparisons should be ready for NRC preview in May. They did not provide many details about the green field site in Alabama. They indicated that the analysis found that all three existing sites would be acceptable for new units, but that the Hatch site was a notch below Vogtle and Farley because of water availability issues. They had not given serious consideration to dry cooling towers. Vogtle was selected as the preferred site because of power transmission considerations. Farley may be the preferred site in a future application.

We then took a site tour with Tom Moorer, Amy Greene, and Byron Feimster. Specific sites examined included the original barge slip, the existing intake structure, the meteorological tower, and the proposed location for new units.

The new power block and cooling towers would be located to the south of the existing units between two wide, cleared transmission corridors. The area currently consists partially of planted pines and partially of second growth forest. The site's primary meteorological tower is within the area that would be disturbed and therefore would need to be moved to accommodate the new units. A new barge slip or rail lines would be required to deliver large components to the site. There currently is no barge traffic in this part of the Altamaha river.

A new intake structure would be located approximately 900 feet upriver of the existing intake, and a new discharge pipe would need to be installed, probably down river of the existing discharge. Annual average flow in the Altamaha river is approximately 11,500 cfs but is highly variable, and can be below 2000 cfs. Current make-up water withdrawals are approximately 57 MGD (88 cfs) but they are permitted up to 85 MGD (135 cfs). Average discharge is approximately 25 MGD (39 cfs) therefore approximately 33 MGD (51 cfs) are lost via the mechanical draft cooling towers. During average flow the consumptive loss represents less than 0.5% of the river flow, but during low flow conditions it may be up to 3.1%. The primary negative concern with placing new units at this site is that during low flow periods the

consumptive loss from the river would be too great. Discharge temperatures are limited to 5F over ambient, with a ceiling of 90F - but ambient has occasionally been greater than 90F.

Discussion in the field led to a concern about collection of meteorological data in support of the ER. Specifically, Jack Cushing pointed out that relative humidity data needs to be collected at a height comparable to the height of the cooling towers to properly model the plume. This is not a problem for mechanical draft towers, but could be at a site with natural draft towers, such as those proposed for the new units at Vogtle. This led to a conference call with Van Ramsdell of PNNL and Mark Abrams, a consultant to SNC. It was determined that construction of a tower the full height of the cooling towers would not be necessary, but various means of determining relative humidity should be explored. SNC indicated that they would contact the Savannah River Site to see what type of data are available there. Current data from existing 100 m or possibly 60 m towers may be sufficient. There was to be follow-up discussions concerning tower height and data issues.

We then met with Kristen Cooper and Gary Dye of Georgia Power, who are responsible for the radiological and site monitoring programs at Hatch and Vogtle and are also familiar with the transmission line routing process used by Georgia Power. They collect radiological data from a typical suite of environmental media (fish, sediment, benthos, vegetation, milk air). They also perform a yearly land-use survey within 5 miles of each site wherein they look for changes in land use. This helps them to locate the nearest garden, dairy, etc.

They then explained the process that Georgia Power uses to select new transmission routes. There is a transmission siting committee that weighs the various decision factors such as cost, environmental impacts, land acquisition problems, etc. In general, they try to avoid wetlands, streams, and other sensitive areas. They leave a 25' buffer along creeks, and flag and GPS wetland boundaries. They are usually able to span wetland areas, but they will use BMPs such as matting, hand vegetation removal, and no mechanical equipment if they do need to work within a wetland. They have used nation-wide permits on occasion to support working in wetlands. Most of Georgia Power's rights-of-way are through easements; they perform some of the maintenance work but contract out for the larger sections. Tom Moorer indicated that SNC/Georgia Power would make the siting and maintenance procedures and guidance bulletins available at the full-site audit.

If new units were constructed at the Hatch site, there would probably be a need for two new transmission lines, one would likely head toward Atlanta, the other toward Florida. However, SNC has not performed any level of planning for such new lines.

## **21 March 2006**

Location: Plant Vogtle, Burke County, GA

Attendees:

NRC: Christian Araguas, Mark Notich, Jack Cushing,

PNNL: Mike Sackschewsky

SNC: Thomas Moorer (Environmental Project Manager), Amy Greene, Don Goodwin, Mary

Beth Lloyd  
Oglethorpe Power: Doug Fuller, Bob Masser  
New South Associates: Natalie Adams  
TetraTech NUS: Karen Paterson

The team met briefly at the Vogtle visitor center prior to touring the site.

SNC indicated that it would prepare a letter or e-mail detailing the plan for meteorological data collection for NRC evaluation and concurrence prior to submittal of the ESP application. They also indicated that they had initiated contact with National Marine Fisheries Service, USFWS, Georgia, and South Carolina.

It is likely that 2 new transmission lines will be required to connect the proposed new units to the Georgia Power electrical grid. These would likely head toward Atlanta and Florida because these are the largest load centers. They have not yet selected the specific routes, and are not likely to have made specific route selections prior to submitting their application. Tom Moorer indicated that they would likely be able to identify the counties where the corridors would be present.

SNC has performed threatened and endangered species surveys for the plant site and the existing transmission corridors (apparently these were performed in support of the upcoming license renewal application for Units 1 and 2). A draft of the survey report was available for inspection at the meeting, and will be provided to NRC and PNNL staff at a later site audit. It did not appear that there were any federal threatened or endangered species on the Vogtle site. There have been reports of shortnose sturgeon in the Savannah River, but the SNC staff indicated that the species is very rare at the site.

We then took a tour of the Vogtle site. Natalie Adams of New South Associates is the archaeologist who has performed the majority of the cultural resource investigations on the site. There are 10 archeological sites within the plant area, six have been previously disturbed. Of the four remaining sites, two are within existing transmission corridors, one is a small, good-quality site on a bench near the proposed location for the intake structure, and one is a relatively large site along a bluff above the river, where SNC had planned to route the intake structure access road. Because of these archeological sites, SNC is evaluating re-routing the access road and the intake structure location.

The average flow of the Savannah River is similar to that of the Altamaha River (about 11,000 cfs), but the flow is much less variable at the Vogtle site - probably because of greater upstream regulation through dams. The existing intakes withdraw approximately 44,000 gpm (64 MGD) but can be as high as 66,000 gpm (96 MGD). Approximately 60% is returned via blowdown. The new plants are expected to require approximately 50 cfs (32 MGD) [This could be for each unit]

The proposed new power block area and the location for the new cooling towers is all within an area that was previously disturbed at the time of Unit 1 and 2 construction. The area is now a mixture of planted pine stands, open grassy areas, early successional areas, and developed areas with storage buildings, lay-down yards, and support facilities.

Kristen Cooper and Gary Dye were available for continued discussion. They described the

Vogtle Radiological and Effluent Monitoring Program (REMP). Tom Moorer indicated that the AP1000 comes with a recommended REMP, and that SNC would probably base its new REMP on this canned program.

Mike Wright then provided a tour of the Vogtle meteorological facilities. They have recently had to trim trees and perform some other landscaping maintenance to minimize interference. SNC may need to re-locate the met towers when the new cooling towers are built because the distance between new cooling towers and the existing met towers would be less than the ANSI standard of 10X the height of the obstacle.

Follow-up actions resulting from the two days of site tours:

- 1) SNC would follow up on Met tower height and met data issues
- 2) SNC will provide NRC with the REMP results for 2004
- 3) SNC will provide a copy of the Westinghouse siting document for the AP1000, which includes water use information and recommended REMP documentation.

## 22 March 2006

The third day of the trip was dedicated to community outreach. Christian Araguas, Mark Notich, Jack Cushing (NRC) and Michael Sackschewsky (PNNL) first visited Jesse Stone, Mayor of Waynesboro.

- Mayor Stone has been getting information from SNC for a year or so
- Probably the biggest local concern is spent fuel storage
- local governments would like to see incentives to keep more of the work force (especially the higher-paid management types) in Burke County
- The City of Waynesboro recently completed a housing survey - they are looking at ways to increase home ownership and to improve worker housing. They currently have a high rate of rental housing and publicly supported rental property. They also have a number of vacant lots within the city limits that he would like to see developed.
- Waynesboro is the only substantial town to be affected in Burke county - others such as Sardis (about 1200 people, John Hamilton - Mayor) and Gerard ( Ed Grinwald - Mayor) are very small.
- Mayor Stone provided the names of other important local officials including:
  - County Commissioners:
    - Henry Tenley (retired, public health background),
    - Wayne Crockett, (district includes Vogtle and Northern Burke county) ,
    - Jimmy Dixon, (board chairman, a retire farmer).
  - County administrator: Merv Waldrop
  - Waynesboro City Administrator: Jerry Colason
  - Emergency management agency: Rusty Sanders
  - School board chairman: Johnny Jenkins
  - School Superintendent: Linda Thalley

We then met with Bill Owen of the Burke County Planning Commission.

- The county has hired a consultant to prepare a new comprehensive plan for the county - it was suggested that SNC should be in contact with the county concerning the comprehensive plan, and how Vogtle expansion will effect the planning processes.

We then met with Ashley Long of the Burke County Chamber of Commerce and Jerry Long, of the Development Authority of Burke County.

- They have heard a little form SNC and Georgia Power, but have not seen a formal presentation or specific details.
- Both felt that the local business community will be very supportive
- Both were happy to engage in the process early so that they could help local businesses gear up to support the new construction.
- They suggested that the Waynesboro paper and the Augusta Standard should be used for the public notices.
- Ashley put us in contact with the local satellite campus of Augusta Technical College as a good location for for public meetings. Ella Jones is the contact 706-437-6801.

The final stops were at the Burke County Library, where arrangements were made for space to hold public documents related to the permit application, and Augusta Technical College in Waynesboro, where we looked at the available public meeting room and made arrangements for reserving the room for the May 11<sup>th</sup> public meeting.