Trip Summary

Vogtle / Southern Nuclear Operating Company Early Site Permit

Pre-Application Alternate Site Visits

April 25 and 26, 2006

April 25, 2006

Farley Site

Attendees: Mark Notich (NRC)
Mike Sackschewsky (PNNL)
Tom Moorer (SNC)
Amy Green (SNC)
Mary Beth Lloyd (SNC)
Ken Darby (SNC)
Jim Lochamy (Alabama Power)
Steve Krotzer (Alabama Power)

Entrance and/or Exit meetings were also attended by (all with SNC):

John Hoen
Bill Oldfield
Rod Bayne
Rod Rogers
Becky Badham
Tony Livingston
Randy Johnson
Lisa Hogg

The meeting started at approximately 8 am.

After general introductions with the larger group, the smaller group of attendees broke off for site specific discussions and the site tour. Tom Moorer provided an overview of site operations.

The existing plants are PWR's with mechanical draft helper towers located on a 1850-acre site. The cooling system meets the definition under 316b of a closed cycle system, but about 60 % of the water goes straight through without going through the towers. Water is taken from the Chattahoochee River at a rate of approximately 170 cfs. The water is first stored in a 44 ha service water storage pond on site that also serves as the ultimate heat sink. After cooling the condensers, approximately 125 cfs is returned to the river (including tower blowdown). Consumptive water use is approximately 45 cfs. The flow rates that were provided during the site visit did not match those published previously in the Farley license renewal ER and SEIS - the numbers above are from the SEIS. The cooling water is treated to control biological growth - especially *corbicula*, but the water is dechlorinated prior to discharge.

Discharge limits are a 5°F temperature increase with a maximum discharge temperature of 90°F. Even at low flows, the water temperature is within 0.1°F of ambient within 1000 feet of the discharge. Fire protection and potable water are obtained from groundwater wells. The productions wells are screened at a depth of 600 to 700 feet in the Nanafalia aquifer.

The Chattahoochee River has an average flow of 11,000 cfs, 7Q10 of 2050 cfs, and (for NPDES purposes) a most probable flow of 8000 cfs (these values are from the SEIS - Tom had suggested average flow of 3000 cfs). Flows tend to be considerably lower on weekends when less water is released by upriver from hydropower electrical generation. There are currently a number of inter-state water issues and conflicts concerning the Chattahoochee river. According to current projections, water will not be available to new users by about 2030. There are plans for a new 1200 MW coal combined cycle plant in GA approximately 4 miles downstream of Farley. That plant would use effluent from the adjacent Geogia-Pacific Plant for cooling.

Because of downstream dams, there are apparently no anadromous fish in the Chattahoochee river at Farley (however FWS believes that some get through the locks). The area is somewhat isolated, so there is not a major sport fishery near the site, although downstream from the discharge can be popular during the colder seasons. Major sport fishes are striped bass, crappie, small mouth bass, sunfish, and catfish.

There are currently six transmission lines originating at Farley. At least one more would be required if 2 additional units were constructed; the siting process is simpler in Alabama than in Georgia. The transmission corridors are owned by Alabama Power Company (APC) and are maintained by a combination of APC and contractors. The maintenance is audited by the QA department.

Undeveloped portions of the Farley site are a combination of planted and natural forests. The site has a long-range forest management plan; there are a few controlled burns. There are a lot of wetlands on site. These have been mapped but not formally delineated. Listed species include the indigo snake and bald eagle, as well as the gopher tortoise - which is not federally listed in this part of Alabama, and the bluestripe shiner, a species of state concern that is found in the service water pond. FWS required a mussel survey in the Chattahoochee river during the relicensing review but no live specimens were found. As with other SNC nuclear plants, Farley is certified by the Wildlife Habitat Council. Beside the Chattahoochee river, the only other flowing water on site is Wilson Creek, a very small creek that runs through the site to the north of the existing power block.

There are no sites located at Farley that are listed on the historic register although there are a number of relics and a small village site with the plant boundaries.

The REMP program consists of continuous river sampling upstream and down, quarterly tritium analysis in the river, sampling of offsite ground water, milk from nearby dairy, forage vegetation, twice yearly sediment and fish samples. They have 10 air sampling locations, most with iodine specific samplers, and about 40 TLD locations. They do not perform any on-site tritium monitoring.

Other site features include an on-site sewage treatment plant that can handle approximately 100,000 gallons per day. Discharge is to a wetland type area on site. There is a solid waste landfill that is used only for construction and demolition debris; there is a permitted asbestos trench. The site met tower is located adjacent to the solid waste landfill, it collects temperature at 10m and 40m as well as wind speed, dewpoint, rainfall, and solar radiation. SNC is currently

working on a series of computer and equipment upgrades.

If new units were to be built at Farley, they would be located to the south of the existing power block and arranged perpendicular to the existing two units. The cooling towers would be located to the east of the new power block. The site is about one-half pre-cleared, and the other half forested with a natural timber stand. The area slopes steeply off on the south side, so a considerable amount of fill from off-site would be required to prep the site for the new units. A new intake structure would be installed to the north (upstream) of the existing intake, and a new discharge pipe would be installed either upstream of downstream from the exiting discharge. There is an existing rail line to the site that would need some upgrades and refurbishment. The existing barge slip is well maintained and would probably not require any modifications to support construction of new units. SNC estimates that there would be approximately 400 new permanent jobs per unit and a peak construction work force of approximately 4400 people. SNC has not performed a transportation / road analysis in the Farley area.

After the site tour and Farley-specific discussions, the group discussed some additional questions regarding the Vogtle site. It appears that there will be one new 500 kV transmission line that will be located completely within Georgia. The endpoint for this line should be identified in the ESP application, but only a very rough description of the route will be available. For ESA and NHPA purposes a list of counties that the route will pass through will be provided. SNC hopes that the specific routing will be available for the COL application.

There is no indication of tritium in the ground water originating from Vogtle. There is no specific monitoring for tritium in the ground water, but the DOE and Georgia DNR have studied the issues, and there is no indication that Vogtle is a tritium source. There are traces of tritium regularly found in the Savannah River, but it is not clear if the source is Vogtle or the Savannah River Site.

The CZMA does not appear to apply to the Vogtle site. Regarding the 401 certification, Georgia law would suggest that the new units will be added to the existing NPDES permit effluent permit. The storm water permit is State Generic, although they are starting to develop individual permits to support construction. Therefore, Vogtle may get a new 401 certification for construction storm water.

There are three state-recognized Native American Tribes that could be contacted concerning the Vogtle ESP application include the Eastern tribe of Georgia Cherokee, the Georgia Cherokee tribe, and the Lower Muskogee Creek Tribe of Georgia. None of these tribes is federally-recognized. The NRC's Office of State and Tribal Programs should be contacted for additional guidance.

Wetlands at Vogtle are currently mapped for land-use planning purposes, but have not been formally delineated. Apparently the only wetland area likely to be impacted is at the proposed intake structure and possibly a steam that drains Mallard pond.

A road / transportation analysis is in progress.

The planned construction schedule is to start the Limited work Authorization activities in July 2009, pour the first concrete for the safety-related systems in November 2011, and have the plant on line in May 2015.

The NRC and PNNL staff left the Farley Site by 2 pm.

April 26, 2006

Barton / Greenfield Site

Attendees: Mark Notich (NRC)
Mike Sackschewsky (PNNL)
Tom Moorer (SNC)
Amy Greene (SNC)
Brian Seale (Alabama Power)
Brian Roberston (Southern Company)

The meeting commended at approximately 8:00 am at the Clanton, Al offices of Alabama Power.

After a brief description of the Barton site and its history, the group traveled to the Barton site which is located on Jordan Lake, approximately 15 miles ESE of Clanton, AL and 20 to 25 miles north of Montgomery, AL.

The 2600 acre site is currently undeveloped and is heavily wooded and has considerable internal topographical relief. The area was probably clear-cut during the first half of the 20th century, it now consists of mixed pine and hardwood regrowth and some old pine plantations. The site is approximately 80% owned by the Southern company.

The water source would be Lake Jordan, which is an impoundment of the Coosa River. The average flow is approximately 8781 cfs with a peak of 237,230 cfs and a 7Q10 of 1700 cfs. The area is very rural, with only a few scattered small communities within at least 10 miles. There is a high-end residential development that is completely surrounded by the proposed site boundaries. There are no known issues with threatened or endangered species or cultural resources, although it does not appear that there have been any modern field surveys. Bald eagles are likely to be found in the area, the habitat on site would not support red cockaded woodpeckers.

Transportation in the vicinity of the site includes Interstate 65, approximately 8 miles east of the site, U.S. 31, approximately 5 miles west of the site, a CSX rail line 6 miles southwest and the Montgomery Regional Airport approximately 32 miles south of the site.

There is currently a 115 kV transmission line that runs through the site, a 230 kV line approximately ½ mile west of the site, and a 500 kV line about 19 miles to the west in Chilton County. The site would require significantly more transmission line construction and upgrades than the other alternative sites.

A natural gas pipeline runs under Lake Jordan upstream of the Barton site.

Alabama Power had proposed construction of 4 nuclear units at the Barton site in the 1970's. They completed a PSAR and collected 5 to 10 years of meteorology data at the site. The applications were withdrawn for Units 3 and 4 in 1975 and Units 1 and 2 in 1977 while the construction permit applications were still under review.

The site tour and meetings ended at approximately 11:30 AM.