

# Pacific Northwest National Laboratory

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December 12, 2006

Ms. Elinor Cunningham  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike, Mail Stop 12 E5  
Rockville, MD 20852

Dear Ms. Cunningham:

**Subject: Vogtle Early Site Permit Site Audit Trip Report (JCN J-3329)**

PNNL has completed a summary of the site audit trip conducted October 17 through 19 in support of the review of an application from Southern Nuclear Operating Company for an Early Site Permit (ESP) at the Vogtle Site near Waynesboro, GA. The purposes of this trip included: 1) discussions with the applicant concerning the ESP application, 2) tour the site and surrounding area, 3) meeting with federal, state, and local officials regarding the application and review process, and 4) attend a public meeting as part of the environmental impact statement scoping process.

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)) or Mr. Van Ramsdell (509-372-6313, [van.ramsdell@pnl.gov](mailto:van.ramsdell@pnl.gov)) if you have any questions or comments.

Sincerely,



Michael R. Sackschewsky  
Ecology Group  
Pacific Northwest National Laboratory  
P.O. Box 999 MSIN K6-85  
Richland, WA 99352

cc: Van Ramsdell, PNNL, K3-55  
Mark Notich, NRC O11 F1 7

**Vogle ESP Site Audit  
Trip Report  
October 17-19, 2006**

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**General**

*10/16/2006 – Travel Day and Planning Meeting*

All NRC and PNNL staff travel to Augusta, GA. Mark Notich led an evening pre-audit meeting at the Hampton Inn with NRC and PNNL staff to discuss agenda and logistics for the Vogle site audit.

*10/17/06 - Morning*

The site audit began at 8:00 a.m. Brief presentations were given by Mark Notich (NRC) and Tom Moorer (SNC), covering objectives and the schedule for the site audit. After the introductory presentations, all staff toured the Vogle site in a chartered bus. Visited locations included areas around the existing Unit 1 and 2 reactors, cooling towers, and water intake and discharge structures. The proposed locations for the Unit 3 and 4 reactors, cooling towers, and surrounding environs were also visited. Several state or federal agency officials were present for the site tour and some or all of the subsequent meetings, including: Strant Colwell and Robert Brooks (USFWS, Brunswick Ecological Services Office), and Joe Kane, Jeff Larson, and Ted Jackson (GaDNR Environmental Protection Division).

Following the general site tour the team convened at the Vogle training center for break out sessions with SNC and contractor technical specialists. Depending on the particular technical area, these meetings continued through Thursday, 10/19/2006. Reports for each technical area follow.

*10/19/06 - Evening*

Michael Sackschewsky and Kim Leigh (PNNL) attended the evening open house and public scoping meeting at Augusta Technical College in Waynesboro, GA.

**Aquatic Resources (Becky Krieg)**

*October 17, 2006, Site Audit*

Tuesday afternoon the ecology team (Becky Krieg, Amanda Stegen, and Corey Duberstein [PNNL], Nancy Kuntzleman and Jim Wilson [NRC]) met with Phil Moore (aquatic ecologist) and Mike Whitter (terrestrial ecologist) of Tetra Tech. They were the authors of the aquatic and terrestrial sections. Strant Colwell and Robert Brooks (USFWS) was also present.

Items of significance -

- Noise - Phil said he would look into the noise issues and provide a writeup.
- Substrate - the ecology team asked for additional information on the substrate that is off the intake/discharge section of the river. SNC eventually promised to collect data to address this issue.
- SNC was asked for more information on the barge slip and the work they are doing on it (as in where it is exactly going to be, what it will look like, etc)

*October 18, 2006, Site Audit*

The ecology team took a wetland tour of the site with Nick Odgen, the wetlands specialist hired to complete the delineation, and Amy Aughtman (SNC). The ecology team went to Mallard Pond and saw the tailwaters of the creek that drains to the northeast corner of the site. The ecology team examined the northwest portion of the Site, including some of the on-site transmission lines and the area where they are anticipating placing the borrow pits. There were a number of planted pine trees in this area - and the ecology team could see the outline of the previous borrow pits. The ecology team walked down to a stream that ran through there to Mallard pond. Later the ecology team drove to the retention ponds that flowed into Telfair pond.

*October 19, 2006 - Social Circle, Georgia*

In the morning the ecology team met with Matt Elliott - the Program Manager for the Georgia Natural Heritage Program (within the GADNR). He said that the proposed action would not have much effect on species or habitats of concern. He indicated that the rare species would likely be on the bluff (where SNC is planning to build the intake structure). His biggest concern is the short-nosed sturgeon. The Robust Red Horse is also likely in the Savannah River but he thought they would work out a plan with Georgia Power to avoid impacts to the Robust Red Horse.

He also indicated the Blue-barred pygmy sunfish is about to be State listed and that the habitat it likes is the floodplains off of the Savannah River (where the intake will be built). They were recently collected on the Yuchi Wildlife Management Area, and could be located in backwaters and on tributaries. He was asked about the stream coming down from Mallard Pond and he indicated that in low water months the mouth of that stream would be a suitable refuge area for the Blue-barred pygmy sunfish.

Regarding fisheries - he said the American Shad is a recreational and commercial fish (although the commercial fishery is in the estuary area). They do run up to the lowest dams.

Issues for the sturgeon and Robust Redhorse include thermal alteration, water withdrawal, impingement (flow regime), and potentially surface mixing

He suggested the team talk to several other people in the GADNR Division of Wildlife Resources, including Matt Thomas - The coastal manager (912-727-2112) and also Jon Biagi - Assistant Chief of Fisheries 770-918-6406. Don Forester is their director. He also indicated he

would email the phone number of Joel Fleming, the anadromous fish coordinator. Mr. Elliott indicated they were aware of the ESP proposal and that the agency would like to receive copies of the draft EIS.

In the afternoon - the ecology team met with Jim Candler and Brett Estep - of Georgia Power - Environmental Laboratory

Information obtained during the meeting include

- Ebenezer Creek is a unique area with no sensitive species (the transmission lines may go through here).
- When routing and maintaining transmission corridors, SNC/Georgia Power tries to stay clear of wetlands. Buffer distances include are 25 feet for water, 50 feet for streams, and 100 feet for wetlands with endangered species.
- Not planning to replace towers or poles
- Discussed environmental review process associated with siting
- Haven't done any sampling at Mallards pond or the drainages

### **Cultural Resources (Darby Stapp)**

*Day 1 - October 17, 2006*

Jennifer Davis (NRC) and Darby Stapp (PNNL) determined that SNC would need to respond to the GA SHPO concerning the conditions that were imposing on SNC in the SHPO letter dated 10/4/2006. Tom Moorer said he would write to SHPO. The challenge of site protection during the water intake construction was also discussed. Tom said the new facility would be 200 to 300 ft. from the lower bench site.

We looked over the revised New South archeological report; they will also be submitting an addendum to cover the additional work done. Also working to get the letter from SHPO.

Discussed the burial find on the transmission line with Tom Moorer. It was a casket with a glass window with a woman inside, which had been placed on top of a Native American female burial. Tom says there is a report, but he was unable to find it.

*Day 2 - October 18, 2006 - Athens, GA*

Jennifer Davis and Darby Stapp conducted a site files search at the University of Georgia in Athens. The following quadrangle maps were reviewed: Alexander, Shell Bluff Landing, Girard, and Northwest Girard. The staff's research identified two additional sites (Honerkamp site 3A and Hancock's Landing #4). Additional research revealed that site number BK1/20 is

probably a continuation of site number 416. They reviewed some of the transmission line reports.

Based on the first two days of the audit, the following information or document needs were identified:

- SHPO letter
- SNC response to SHPO letter
- 9BK416 site form
- Addendum report

*Day 3 - October 19, 2006*

Ms. Davis and Dr. Stapp met with SNC's archaeological contractor Ms. Natalie Adams and went on an in-depth tour of the areas surveyed. They were accompanied by archaeologists from the Savannah River Site, Mark Brooks, and Keith Stevenson. The tour included visits to the bench site, bluff site, and the springhead site (which is adjacent to existing intake facility). The tour also included Mallard's Pond, and then down to the existing water intake where the team observed the base of 9BK416 where there is a spring.

The team discussed the need for monitoring during construction. Responses were received to several of the information needs that had been identified earlier, including the SHPO letter, which SNC will respond to it. SNC is redoing the 416 site forms due to overlap with 423. Tom has never actually seen the burial report, but will look for it. Natalie will be sending in the addendum to her report in a few weeks. Page 5 of the New South report has the Collection Plan. Natalie says she has never seen artifacts at the base of the hill.

### **Hydrology (Chris Cook)**

*Note: All meetings were attended by the hydrology team: Chris Cook (PNNL), Richard Raione (NRC), Alan Fetter (NRC), and Charley Kincaid (PNNL).*

*October 17, 2006*

On the morning of Tuesday October 17<sup>th</sup> the hydrology team toured the Vogtle site. This tour included viewing the existing intake structure, the existing outfall, the existing cooling towers, and the proposed center of containment for the ESP units. Visits to locations over all days were documented using a GPS and a digital camera.

During Tuesday afternoon, the hydrology team initiated discussions with SNC and their consultants focusing on the conceptual model used as the basis for the hydrological analysis in the Environmental Report (ER). Principal participants in addition to the hydrology team included: Jim Davis (SNC), Louise Headland (Bechtel), Gary Gunter (Tetra Tech), Joe Kane (GA EPD), Ted Jackson (GA EPD), and Jeff Larson (GA EPS).

During the late afternoon, the hydrology team viewed the proposed intake structure location by boat. The boat was launched downstream of the site, and the tour also included the existing discharge outfall and existing intake structure from the water.

*October 18, 2006*

Discussions resumed Wednesday morning covering a substantial number of questions and information needs related to the hydrological analysis in the ER. The applicant agreed to submit (in the future) additional information to satisfy some of the hydrology related questions. Principal participants, in addition to the hydrology team, included: Jim Davis (SNC), Tom Moorer (SNC), Mark Notich (NRC), Chris Nolan (NRC), Louise Headland (Bechtel), Gary Gunter (Tetra Tech), Nick Ogden (Ogden Consultants), Joe Kane (GA EPD), Ted Jackson (GA EPD), and Jeff Larson (GA EPS).

*October 19, 2006*

The hydrology team toured the Vogtle Site in the morning by car, reviewing the location of the proposed intake structure, Mallard Pond, and Debris Dam #2.

Meetings in the afternoon with the applicant reviewed the list of responses to the hydrology questions. Several data packages were provided to NRC/PNNL and docketed. These were: (a) executive summary of the CORMIX model and supporting river water quality data, (b) executive summary of the groundwater draw-down calculations, and (c) Vogtle Site groundwater use data reports. Additional datasets and/or detailed responses from the applicant are expected to be submitted to NRC in November and/or December.

### **Land Use and Cumulative Impacts (Paul Hendrickson)**

*October 17, 2006*

After the general site tour, Tom Kenyon (NRC) and Paul Hendrickson (PNNL) met with Karen Paterson (Tetra Tech) regarding land use issues and cumulative impacts.

Discussion topics included:

On-site wetlands - SNC agreed to provide an estimate of cumulative effects to wetlands.

Borrow pits - SNC will provide a statement describing the projected size and location of the on site borrow pits.

Dredging and spoils disposition - SNC will provide a statement describing the amount of proposed dredging and the proposed disposition of dredge spoils.

Transmission lines - SNC agreed to provide documents and / or statements that describe the transmission line siting process, including information about approval process in Georgia. They also explained that limited agriculture is allowed within the transmission corridors, and agreed to

provide a statement describing these activities. An onsite transmission line will need to be re-located and a new onsite switchyard will be needed.

Infrastructure - The onsite rail corridor was recently updated and probably will not need upgrading for the planned new facilities.

Cumulative impacts - the applicant indicated that they were not aware of any other large construction projects in the vicinity, but agreed to provide additional discussion regarding the cumulative impacts with activities on the Savannah River Site.

*October 18, 2006*

The morning was spent providing close-out information to PNNL and NRC staff. Mr. Hendrickson returned to Richland, WA during the afternoon.

#### **Meteorological/Air Quality Issues (Jeremy Rishel)**

*October 17, 2006 – Site Audit*

Upon completing the general site tour, Jeremy Rishel (PNNL), Van Ramsdell (PNNL), Amy Aughtman (SNC), Christian Araguas (NRC), Cristina Guerrero (NRC), and Steven J. Connor (Tetra Tech) met to discuss meteorological issues.

Primary results pertaining to meteorology included:

Meteorological data for the years 1998-2002 were given to the NRC for docketing.

PAVAN and XOQDOQ input files were given to Van Ramsdell and copy (CD) was given to Kim Leigh and NRC for docketing. PAVAN and XOQDOQ output files and SACTI input/output files still need to be obtained for review.

QA/QC Procedures were obtained, reviewed, and provided to NRC for docketing.

The meteorology team also toured the existing meteorological tower site, where they were met by Michael Wright from SNC. Mr. Wright is a Nuclear Specialist at Vogtle but also oversees the meteorological surveillance at the Vogtle site.

There are two meteorological towers operating on the Vogtle site: the primary, 60-meter tower and a backup, 45-meter tower. The 60-meter tower is instrumented at 10 meters and 60 meters; the 45-meter tower is instrumented at 10 meters only. Measured quantities include temperature (at both heights), wind speed and direction (at both heights), and humidity (at the 10-meter height, only). Instrumentation are calibrated semi-annually according to the site procedure.

The existing observation location is well-suited for current measurements and is a large, grassy area, with trees and shrubs well off in the distance. Observations are stored on computers housed in a shed near the towers and are made available to the plant network. Upon visiting the data logger location, everything appeared to be in good working order, had appropriate power backup, and lightning suppression.

*October 18, 2006*

The site audit continued Wednesday morning, wrapping up outstanding items. The meteorology team received additional QC/QA procedures from SNC concerning met tower instrumentation calibration. Procedures were all given to Kim Leigh for docketing. Jeremy Rishel briefly examined noise issues with Michael Smith (PNL), since noise is addressed in a few meteorology sections within the ER.

### **Postulated Accidents (Van Ramsdell)**

*October 17, 2006 – Site Audit*

Van Ramsdell (PNNL), Jeremy Rishel (PNNL), and Steven J. Connor (Tetra Tech) met to discuss Noise and EMF Acute Effects. SNC / Tetra Tech provided clarification of statements in Sections 3.7.1 and 3.7.2 related to clearances. The 12 and 30 ft clearances in Section 3.7.1 are in switchyard, the 45 ft clearance in Section 3.7.2 is offsite.

Postulated Accident Discussion. Van Ramsdell, Jeremy Rishel, Steven J. Connor (Tetra Tech).

- Discussed rationale for use of an EAB that differs from the Vogtle EAB– The 800 m EAB lies inside the Vogtle EAB for any likely location for a new facility on the Vogtle site. Thus, doses calculate for the 800 m EAB bound doses at the actual EAB.
- Requested PAVAN and XOQDOQ code input and output. Received input but not output.
- Requested MACCS2 code input and output. Received neither. The reviewers will need both to perform confirmatory calculations and to be able to cite Southern Co. calculations as source of any numbers that are used in severe accident writeup.

*October 18, 2006 – Site Audit*

Tour of Emergency Evacuation Routes. Van Ramsdell and Eva Hickey.

- Drove emergency evacuation routes as part of evacuation time estimate evaluation. Covered most of the primary routes on the Georgia side of the Savannah River.



**Radiological Health, Nonradiological Health, and Transportation (Michael Smith)**

*October 17, 2006 – Site Audit*

Radiological Health

The Radiological Health group consisted of Michael Smith (PNNL), Eva Hickey (PNNL), Greg Lee (SNC), and Philip Young (Tetra Tech).

Philip Young completed the analyses for both the biota and public dose assessments and authored ER Sections 3.5, 4.5, and 5.4. This portion of the site audit focused on those sections of the ER. Primary issues included:

- Philip Young displayed and described the spreadsheets used to support dose assessment analyses for ER Section 3.5, 4.5, and 5.4. He stated that these spreadsheets could be provided, if requested.
- They did not run GASPAR and LADTAP, but reused results from previous GASPAR and LADTAP analyses performed for Units 1 and 2 combined with new AP1000 source term. Note that the meteorology and release conditions are not consistent with those used in the remainder of the ER.
- A copy the document RFI# AR-01-ADR-045, "Estimation of ISFSI Dose to Construction Workers on VEGP 3 & 4," was requested to help assess the calculations performed to evaluate the dose contribution from the ISFSI. Initial loading of the ISFSI is assumed to begin in 2014.
- A multiplication factor of ten (10), based on professional judgement, was applied to the measured annual effluent dose to account for the fact that the workers are located closer to the effluent release point than the maximum exposed member of the public. Note that this may be acceptable because the contribution from direct radiation is much higher than from effluent doses.
- 325 mrem/person/yr was assumed as the natural background dose used in ER Table 5.4-10. Philip Young stated that a source for this information would be provided.
- We were directed to available documents including the Offsite Dose Calculation Manual (ODCM) and the Radiological Effluent Monitoring Program (REMP) reports for questions regarding dilution and dispersion factors, the location of TLDs, and other information used to estimate direct radiation doses. These documents have been requested and will be analyzed to determine if they adequately address the question.
- Philip acknowledged several inconsistencies, including the population estimates used in ER Table 2.5.1-1 (664,102) and ER Table 5.4-10 (667,092), and issues concerning onsite ground water wells. Corrections to these inconsistencies will be provided.

October 18, 2006 – Site Audit

### Nonradiological Health

The Nonradiological Health group consisted of Michael Smith (PNNL), Jim Davis (SNC), and Greg Lee (SNC). Tom Moorer (SNC) and Karen Patterson (Tetra Tech) also provided input. Primary outcomes of these discussions include:

- Jim Davis stated SNC will provide approach, basis, and any associated references used to estimate the Units 3 and 4 noise levels.
- Jim Davis stated SNC will provide information on their method for updating the ODCM.
- The staff asked about the occupational injury rates at VEGP because the data presented in the ER suggests that the rates are unusually high. Jim Davis (SNC) stated that the incidence rates reported in ER Section 4.7.2 are from various years; where the U.S. and Georgia incidence rates are from 2003 and the VEGP incidence rate is from 1984-5. Tom Moorer further stated that the construction industry has generally become safer since the 1980s, so the incidence rates reported in ER Section 4.7.2 cannot be directly compared.
- Karen Patterson explained how the predicted noise levels for the cooling towers were combined with the ambient noise levels to arrive at the conclusions in Section 2.7.7.
- Jim Davis provided a reference for the statements on page 5.6-7 regarding a previous study on radio noise.

### Transportation

The Transportation group consisted of Michael Smith (PNNL), Mark Notich (NRC), Jim Davis (SNC), Karen Patterson (TetraTech), and Lisa Matis (TetraTech, by telephone). SNC and Tetra Tech were able to provide information regarding the transportation issues and calculations, but it was determined that full resolution would require a followup teleconference with Phil Daling (PNNL) and Lisa Matis (TetraTech) as well as NRC and SNC management. PNNL took the action to schedule this teleconference. Items that were discussed during the site audit included:

- Lisa Matis explained that SNC does not intend to ship liquid rad waste. They will likely produce about three drums per year of mixed waste, some of which may be liquid.
- The heat load in a spent fuel shipping cask was not evaluated in the ER (assumption based on 0.5 MTU and 5-yr inventory). There is no cask design yet for the AP1000. TetraTech could make some broad assumptions, with known uncertainty.
- Lisa Matis stated that no quantitative evaluation was made of the non-radiological impacts of accidents, only qualitative.
- Lisa Matis stated that ORIGEN runs from previous ESP applications from SRS to Yucca

Mountain, consistent with previous applications were used to evaluate the impacts of activation products and crud on the overall spent fuel transportation accident risks. The same inventory was used, although inventory and cask design remain uncertain at this time.

- Regarding the evaluation of radiological impacts of routine transportation on Maximally Exposed Individuals (MEI), an attempt was made to mirror what was done in previous NRC ESP EISs. Lisa Matis requested clarification of the MEI definition.

### **Socio-Economics (Katie Cort)**

*Note: All meetings will be attended by Dan Mussatti (NRC) Katie Cort (PNNL), and Doug Elliott (PNNL). Wednesday's meetings were also attended by Mike Dusaniwskyj, NRC.*

#### **Tuesday, October 17<sup>th</sup>**

8am - 3pm Meetings with Applicant at Vogtle Site - Attendees included Katie Cort, Doug Elliott, Paul Hendrickson, Mike Sackschewsky (PNNL), Dan Mussatti, Mike Dusaniwskyj, Tom Kenyon, Mark Notich, and Chris Nolan (NRC), Tom Moorer (SNC), Nikki Hill (Tetra Tech), and Jon Cudworth (Tetra Tech).

SNC and Tetra Tech addressed a number of PNNL / NRC questions regarding the Socio-Economic portions of the ER. Including basis for population estimates, demographic assumptions, EJ issues, work force distribution, local infrastructure, taxation, and other issues. SNC committed to provide written answers to most of the questions and information needs.

3:30pm-5 pm: Meet with Bill Hillis, director of Screven County Family Services in Sylvania, 110 Singleton Ave (912) 564-2041

We discussed a number of issues, including schools, poverty, subsistence hunting/fishing, and traffic. People in the area do not seem to know much about the proposed Vogtle expansion at this point, but he had not heard anything negative with regard to plant expansion and its impact on the region.

#### **Wednesday, October 18<sup>th</sup>**

8am-9am: Tri-Counties Real Estate Broker 112 S. Main St., Sylvania, GA  
Meeting with *Stan Shepherd*, real estate broker and Screven County Commissioner.

Among other things, discussed zoning and real estate availability. Limited rental availability in county.

10am-11:30am: Meeting at Burke County Courthouse, 602 Liberty St., Waynesboro, GA  
(ph: 706.554.8758, county administrator or 706.554.2607, tax assessor)

**Merv Waldrop**, County Administrator

**Jerry Long**, Director of Economic Development (Mr. Long is familiar with business development issues, as well as housing and poverty issues in the county)

**Bill Owens**, Burke County Planning and Zoning (Also familiar with issues regarding original construction of Vogtle nuclear plant, when no zoning or development restrictions were in place in the county)

**Patricia May**, Tax Assessor's office

**Cynthia McManus**, Tax Assessor's office

**Edwin Stephens**, Head of local chapter of Habitat for Humanity (he preferred to attend this meeting rather than have one just devoted to housing and poverty issue)

Discussed existing infrastructure and potential impacts of Vogtle plant expansion. Specific topics included improved zoning, significant positive revenue impacts of Vogtle, and sufficiency of fire/police/hospitals/schools. Positive outlook toward expansion, but hoped to capture more permanent workers this time around.

11:45am-1pm: Burke County Board of Education, 789 Perimeter Road, Waynesboro, GA  
(phone: 706.554.5101)

**Wilbert Roberts**, Assistant Superintendent of Burke County School District

Met with a group of eight school administrators. In addition to discussing student racial and low-income status, also learned that the schools have built excess capacity, have no debt, and have relatively low student-to-teacher ratios. Many emphasized that Vogtle has been a good neighbor, and felt that the district was well-positioned for any influx of workers.

3pm-4pm: Burke County Chamber of Commerce, 241 E. Sixth Street, Waynesboro, GA  
(phone: 706.871.9162)

**Ashley Long**, Executive Director of Burke County Chamber of Commerce

**Billy Hopper**, Retired, "Active community member" and former county employee (knowledgeable about situation when original license was granted back in 1979)

**Roy Chalker**, former Mayer, owner of local newspaper (also has historical knowledge of how Burke county was before Vogtle and is today)

Discussed economic situation in the county and lessons learned from the original Vogtle construction. Regrets expressed over not capturing high-end plant jobs last time around.

**Thursday, October 19th**

9am-10:30am: Augusta Planning and Zoning Commission, 525 Telfair St, Augusta, GA  
(phone: 706.821.2300)

**George Patty**, Executive Director of Planning and Zoning

**Paul DeCamp**, Planning Director, familiar with road network needs and what is involved in large construction projects

We discussed the impacts of possible Vogtle expansion on Richmond County. These planners felt that Richmond County has plenty of infrastructure excess capacity (housing, roads, police, fire, etc.) for any influx of workers. Columbia County captured many of the management jobs from Vogtle, and the major growth in residential real estate is in Columbia County currently

10:30am-11:30am : Plumbers and Steamfitters Union Local 150, 1211 Telfair St, Augusta, GA

**Charles Hardigree**, Business Manager

**Johnny Hutcheson**, International Brotherhood of Electrical Workers (IBEW),  
Business Representative & Political Coordinator

**Tom Jenkins**, Carpenters and Millwrights Local Union No. 283, Business Representative

Union representatives were very supportive of Vogtle expansion and did not foresee any problem with handling the potential 4500 construction jobs. Mentioned that because of SRS, there are a large number of potential workers with nuclear experience in the region.

1 pm-2:30pm: Burke County Social Services, 729 6<sup>th</sup> St., Waynesboro, Georgia

**Alaine Hickman**, Social worker who is familiar with most all “pockets of poverty” in county and can point them out on a map

Discussed various minority and low-income issues such as housing and social services. She thought that both SRS and Vogtle have reduced Burke County's social services needs.

3pm-4pm: Cox Real Estate, 259 S. Liberty St., Waynesboro, GA

**Cathy Hawkins**, Realtor, Waynesboro (she was the owner of a couple of the original trailer parks used to house construction workers first time around)

Primarily discussed the real estate market. Mentioned that the housing market is quite tight for both rentals and owner-occupied dwellings, although new subdivisions could help to alleviate that to some degree. Felt that Vogtle expansion could only help Burke County.

**Terrestrial Resources (Amanda Stegen)**

*October 17, 2006 - Site Audit*

Items of significance identified during the general site tour:

- SNC will have to dredge out an area for the expanded barge slip. They may/may not have to dredge the channel. The current plan is to raise the water level enough during times of barging, so that dredging the channel will not be necessary.
- New discharge pipe will be approximately 200 feet downstream of the current discharge pipe
- The site for Units 3 and 4 is currently concrete and planted slash pine.

In the afternoon the ecology team (Amanda Stegen, Becky Krieg, Corey Duberstein [PNNL], Nancy Kuntzleman and Jim Wilson [NRC]) and Strant Colwell and Robert Brooks (USFWS) met with Phil Moore (aquatic ecologist) and Mike Whitter (terrestrial ecologist) of Tetra Tech, the authors of the aquatic and terrestrial sections of the ER. The Tetra Tech staff were able to provide general information about the ecological issues on site, but deferred many of the teams specific information requests to SNC. The ecology team requested that all questions that were verbally answered by Tetra Tech be submitted by SNC in a document that can be referenced.

Outcomes of these discussion include:

- SNC stated that they had not completed a wetlands delineation, but indicated they planned to have wetlands areas that would be impacted delineated. The ecology team later met with Nick Ogden, who was hired by SNC to complete this wetlands delineation. SNC was asked to supply specific information to address wetlands information needs.
- Although Section 4.3-3 of the ER states that a bounding analysis was conducted for the proposed new transmission line. The ecology team was told this was a mis-statement that should have stated "will be performed".
- SNC was asked to provide specific information regarding the activities that are expected under the LWA-1, and maps with the locations of these activities and/or the anticipated overall disturbance footprint for LWA-1 activities.
- SNC was asked to provide more detailed information on the Threatened and Endangered Species survey locations, and a current habitat map and construction footprint.

*October 18, 2006 - Site Audit*

The ecology team took a wetland tour of the site with Nick Ogden, the wetlands specialist hired

to complete the delineation, and Amy Aughtman (SNC). The ecology team went to Mallard Pond and saw the tailwaters of the creek that drains to the northeast corner of the site. The ecology team examined the northwest portion of the Site, including some of the on-site transmission lines and the area where they are anticipating placing the borrow pits. There were a number of planted pine trees in this area - and the ecology team could see the outline of the previous borrow pits. The ecology team walked down to a stream that ran through there to Mallard pond. Later the ecology team drove to the retention ponds that flowed into Telfair pond.

The ecology team had a closeout meeting with Mark Notich, Chris Nolan (NRC), and Tom Moorer (SNC). The group discussed in detail the information needs that SNC would need to provide to fill in our essential knowledge gaps. SNC committed to provide followup information on several of the information needs identified.

*October 19, 2006 - Social Circle, Georgia*

10:30 AM - The ecology team met with Matt Elliott - the Program Manager for the Natural Heritage Program (a program within the GaDNR) and Tom Patrick a GaNHP botanist. Matt said that there was suitable habitat for the relict trillium (*Trillium relictuum*) on the bluff that will be impacted with the new intake structure. This plant occurs in mesic hardwoods. The best time for this species is in March-April. Other trillium populations have been increasing over the last few years and DNR will be surveying for trillium in the Spring 2007. Based on the aerial photo of the site, both Matt and Tom agreed that no other T and E species would likely occur in areas that would be impacted onsite.

The ecological team talked briefly about the proposed transmission corridor and counties that it would go through. Tom and Matt identified several additional species/habitats of concern including Canby's dropwort, pondberry, pitcher plant bogs, Atlantic white cedar swamps, Rosemary Balds and hardwood forests.. The species identified mainly occur in sandhill habitats but if the corridor crossed any Piedmont granite areas- additional species might be found.

1:00 pm - The Ecological Team met with Jim Candler and Brett Estep - of Georgia Power - Environmental Laboratory. The highlights of this meeting include:

- Transmission line maintenance procedures discussed. Brett mentioned that NRC needs to get the GP transmission line procedures (has been requested)
- Jim/Brett discussed a T and E survey that was conducted in 2000 to look at sensitive areas/species on or near the GPC transmission lines. This survey was conducted for all the lines, not just the Vogtle lines. The study went through a 4-5 year process that looked at DNR occurrence data within 0.5 miles of the transmission lines. The team has requested a copy of this report.

- Jim/Brett agreed that there was suitable habitat for the relict trillium on the bluff that would be impacted when the new intake was built.
- Discussed environmental review process associated with siting
- Jim mentioned that there were 100 year old long-leaf pine that occur adjacent to the area that Tom Moorer had said would be used as a borrow area. He mentioned that he had conducted red-cockaded woodpecker surveys in this area earlier this year. He has been working with GaDNR to create a Safe Harbor Agreement for the area.

Based on our meetings with GPC and GaDNR, the ecological team identified several additional documents and questions/information needs:

- The 2000 survey report that was conducted by Georgia Power on the transmission lines
- The Georgia Power transmission line maintenance procedures.
- A copy of the safe harbor agreement application that has been submitted for RCWs.
- Information about potential suitable habitat for T and E species, both onsite and in the transmission line corridors.
- A copy of the Wildlife Habitat Enhancement Management Plan that was referenced in section 2.4.
- Documentation or procedures regarding T&E species surveys prior to timber harvest or other actions on site, what types of activities prompt such surveys, and what the surveys entail.
- Are there plans to conduct T and E surveys in areas that will be impacted by construction and have not been surveyed (such as the borrow area etc)?
- Have there been any bird impact events - such as avian collisions with cooling towers?