From: Mark Notich
To: "Amy G. Aughtman" <AGAUGHTM@SOUTHERNCO.COM>,<jtdavis@SOUTHERNCO.COM>,<TCMOORER@SOUTHERNCO.COM>
Date: 10/11/2006 9:49:26 AM
Subject: Table X-1 of Info Needs Table
cc: "Christian Araguas" <CJA2.OWGWPO01.HQGWDO01@nrc.gov>

I have attached a version of the Info Needs table that has Table X-1 as the last page. If Table X-1 does not show up, please contact me ASAP.

Mark D. Notich
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NRR/ADRA/DNRL/NEPB
301-415-3053

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Subject: Table X-1 of Info Needs Table
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From: Mark Notich

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Recipients "Christian Araguas" <CJA2.OWGWPO01.HQGWDO01@nrc.gov>
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Information Needs for the Vogtle Early Site Permit Environmental Review

#	Information Need	Discipline Name	Reviewer Name
1	Provide more detailed information on location, purpose, withdrawal rate for known surface water intakes within 50 mi of the VEGP site, not just those intakes within the Savannah River Basin (potential impacts of severe accidents are not limited to the Savannah River Basin). The information should include bearing and distance from the site. Tables 2.3.2.2 and 2.3.2.3 and Figures 2.3.2-3 and 2.3.2.4 provide relevant, but incomplete information.	Accidents	Van Ramsdell
2	Complete bibliographic information should be included in the reference lists for NRC documents referenced in the text. (Through out ER)	Accidents	Van Ramsdell
3	Why does the ER reference more than one version of the AP1000 Design Control Document? (e.g. Section 2.7 references Revision 14; Section 3.0 references Revision 15)	Accidents	Van Ramsdell
4	Please provide input to and output from the PAVAN code.	Accidents	Van Ramsdell
5	Section 2.7.7 does not provide a basis for the statements related to predicted noise levels. How were the noise levels estimated? Please provide references?	Accidents	Van Ramsdell
6	The last line of Section 5.3.3.1 states that 1999 meteorological data were used in the SACTI code runs because they were the most complete. Was 1999 a representative year meteorologically? If not, why not and what is the impact of the departure on the results of the SACTI analysis.	Accidents	Van Ramsdell
7	Section 5.3.3.1.3 cites a salt deposition value in NUREG-1555 as a basis for determining significance. This is an improper use of NUREG-1555. NUREG-1555 is a review plan, not a technical basis document. Use of NUREG-1555 in this manner decreases the validity of the environmental review.	Accidents	Van Ramsdell

#	Information Need	Discipline Name	Reviewer Name
8	Page 5.6-7 Section 5.6.3.4 refers to “A 1974 study on radio noise...” Please provide a reference for the statement and include the reference in the reference list.	Accidents	Van Ramsdell
9	Page 7.1-1... Last paragraph... What EAB is considered here? It isn’t likely to be the EAB for the current site, which is the EAB described in Chapter 3.	Accidents	Van Ramsdell
10	Please explain how the noise levels predicted for the cooling towers (Table 2.7-26) are combined with ambient noise levels to arrive at the conclusion in Section 2.7.7.	Accidents	Van Ramsdell
11	The EAB defined in Table 3.0-1 near the bottom of page 3.0-2 is not the EAB described or used for X/Q calculation in Section 2.7.5.1, or for the X/Q presented in Table 3.0-1 near the center of page 3.0-2.	Accidents	Van Ramsdell
12	Section 3.6.3.1 states that there will be no sources of gaseous emissions for the new plants other than from the diesel generators and auxiliary boilers. Will there be activities using paint, solvents, or other volatile substances?	Accidents	Van Ramsdell
13	Please clarify the last sentence in Section 3.7.1. How do the 12 and 30 ft numbers in this sentence relate to the 45 ft phase-to-ground clearance listed in Section 3.7.2 on page 3.7-2?	Accidents	Van Ramsdell
14	Page 4.4-3, last line of Section 4.4.1.1.3. Does this sentence mean that the “ ”minor road repairs and improvements” said to be necessary in the last paragraph on page 4.4-2 will not be made? Or that damage to public roads, etc. listed in the first paragraph of pate 4.4-3 will not be made as promised. The words “... and will not require mitigation.” are unacceptable in places where mitigation measures are discussed or promised!	Accidents	Van Ramsdell
15	Same comment line of page 4.4-3; last line of Section 4.4.1 on page 4.4-5; last line on page 5.1-3;	Accidents	Van Ramsdell

#	Information Need	Discipline Name	Reviewer Name
16	The statistics in Section 4.7.2 seem to indicate that VEGP is a more dangerous place to work than the US or Georgia in general. Why is that? The nuclear industry is generally regarded as having a good safety record.	Accidents	Van Ramsdell
17	On page 4.4-19 and again on page 5.8-15, you estimate the number of school-aged (under 18 years old) children in a manner that is incorrect. The methodology creates an estimated percentage of under 18 people based on the general GA population which includes children, retired people, and possibly other demographic groups that do not have children. Please provide a more appropriate estimate of the number of school-aged children.	Socioeconomics and Environmental Justice	Katie Cort
18	Provide a complete listing of the county-by-county residence for Vogtle employees.	Socioeconomics and Environmental Justice	Katie Cort
17	Population data in different parts of the analysis come from different sources (SECPOP, US Census, State of Georgia). Provide a short discussion of the different data sources and explain how the use of multiple sources does not compromise the conclusions you derive from them.	Socioeconomics and Environmental Justice	Katie Cort
20	On page 2.5-2 you say future populations were calculated from SECPOP data, extrapolated by applying the change in population between 1980 and 2000 in SECPOP. On page 2.5-3 you say future populations were calculated from State of Georgia Data, extrapolated by using ". . . the most recent census data and the actual birth and death data for 1990 through 2003." Reconcile this conflict and explain why you can use an extrapolation from a recent 20-year change in population to more than eighty years in the future. (See page 2.5-2.) Provide a complete list of the underlying assumptions behind your population projections, any possible bias each assumption could introduce to the analysis, and the potential magnitude of that bias.	Socioeconomics and Environmental Justice	Katie Cort

#	Information Need	Discipline Name	Reviewer Name
21	Provide the raw Arcview data and the "calculation package" used to determine minority and low-income population sizes.	Socioeconomics and Environmental Justice	Katie Cort
22	The ESP characterization of affected Native American communities on page 2.5-25 does not include South Carolina populations. Provide this analysis.	Socioeconomics and Environmental Justice	Katie Cort
23	Page 4.4-13, states (and page 5.8-11 reiterates): "Use of the WMA/boat landing is seasonal and it will be unlikely that hunters and fishermen will be on River Road at the same time as the construction shifts. . ." Provide citations for the assumption that sports and recreational users of the boat landing will not be on the roads at the same time as construction or operations-related vehicles.	Socioeconomics and Environmental Justice	Katie Cort
24	On page 2.5-20 the ESP says: "All three school districts have *some* capacity for additional students. . . " [Emphasis added] Please provide concrete values for this statement. What is the capacity of each affected school? What was the student population at each school last year? What are the projected population and capacity factor for each school during the construction phase of the Vogtle project?	Socioeconomics and Environmental Justice	Katie Cort
25	Page 4.4-7 states "The creation of such a large pool of jobs [5,800] would inject *millions of dollars* into the regional economy . . ." Provide an actual value for your estimate.	Socioeconomics and Environmental Justice	Katie Cort
26	Page 4.4-8 states "While the exact amount of income taxes the project will generate for Georgia cannot be known, it could be *fairly large* over a 7-year pre-construction and construction period. . ." Provide a quantity for your estimation of the tax revenues that will be collected.	Socioeconomics and Environmental Justice	Katie Cort

#	Information Need	Discipline Name	Reviewer Name
27	Clarify your statements on page 4.4-16, within two sentences, that the in-migration of workers in Burke County is "significant" and "MODERATE."	Socioeconomics and Environmental Justice	Katie Cort
28	Page 5.8-6 of the report states: "Therefore, SNC used generic assumptions. SNC based costs on reasonable assumptions supported by several independent studies . . ." Provide a comprehensive list of those studies and the generic and reasonable assumptions used in this report. For each assumption, discuss the consequences of that bias in terms of its direction and magnitude on the results of the analysis.	Socioeconomics and Environmental Justice	Katie Cort
29	List all of your underlying assumptions with regard to the working conditions at the Vogtle site. How many days a week will the construction workforce work? How many hours a day? Will the work be done with labor agreements with local unions or through nonunion companies? Provide references and/or anecdotal evidence in support of each assumption. On page 4.4-11, the ESP states; ". . . SNC has assumed that there will be four construction shifts and each shift will include 25 percent of the total construction workforce. . ." Provide evidence this manpower strategy has been successfully employed on a project of this magnitude.	Socioeconomics and Environmental Justice	Katie Cort
30	Page 5.8-11 discusses the impact of outages, but there is no description of what is meant when an outage occurs. Explain your number of outages per year, how it was derived, and what takes place at an outage.	Socioeconomics and Environmental Justice	Katie Cort

#	Information Need	Discipline Name	Reviewer Name
31	On page 2.5-1, you assume the construction workforce will locate in the 50-mile region in approximately the "same proportion as the existing workforce." There is not enough detail presented to support your assumption. Table 4.4.2-1, footnote #1 suggests this assumption may be coming from a report; however the report is not cited. Revise your assumptions for worker housing to reflect a defensible distribution of workers. List your assumptions, any potential bias that each assumption may impose, and the potential magnitude of that bias. Provide citations.	Socioeconomics and Environmental Justice	Katie Cort
32	On page 2.5-1 you state “the residential distribution of the new units’ construction and operational workforces would resemble the residential distribution of VEGP’s current workforce.” You also state that since 80% current workforce lives in only three counties, that those three counties are sufficient for your socioeconomic analysis. Provide an analysis for all construction and operational workers and all of the counties within the 50 mile radius around the Vogtle site.	Socioeconomics and Environmental Justice	Katie Cort
33	Almost half the study area is in South Carolina, yet all of the socioeconomic and environmental health effects are limited to only three counties in Georgia. Explain county-by-county why that simplifying assumption can be made.	Socioeconomics and Environmental Justice	Katie Cort
34	The ER claims 1,000 of the 4,400 construction workers will come from local labor sources. Provide citations for the reports and studies from which this assertion was derived. Farther in the analysis, you claim that, to be conservative, you assume all of the 660 workers needed for operating the new Vogtle units after construction will immigrate from outside the area. Explain why some proportion of the 660 operations workers cannot come from the local labor pool. Provide anecdotal evidence or other support for such an assertion.	Socioeconomics and Environmental Justice	Katie Cort

#	Information Need	Discipline Name	Reviewer Name
35	Page 4.4-6 uses a multiplier to estimate the number of new jobs that will be created by the influx of 3,400 new construction workers for the life of the construction project. The value assigned to the construction labor multiplier appears to be too high for it to be correct. Specific issues and questions that arise related to the use of the multiplier include the following: 1. Is it appropriate for this multiplier to be applied directly to the labor component of the economy? 2. What were the baseline and specific changes to that baseline that went into the RIMS II analysis? Please provide the letter you cited from the BEA representative that gave you the RIMS II multiplier value and the contact's instructions on how to it. 3. When construction is complete, the area will experience a loss of about 2,300 jobs (based on the maximum construction employment, net of the new operations work force). In terms of multiplier effects, can you adequately capture and discuss the net loss in employment from this change? 4. Construction employment is not constant. It will begin with a small work force and then expand to its maximum size, then decline to a low level again (similar to a bell curve with the peak at 4,400), not a constant plateau at 4,400 from beginning to end. This would suggest that the ER overstates the full employment effect by as much as 100% (assuming a normal distribution on the bell curve). Can you adjust your analysis based upon this distribution?	Socioeconomics and Environmental Justice	Katie Cort

#	Information Need	Discipline Name	Reviewer Name
36	Chapter 4 claims ". . . the assessed value of plant during construction is discussed as likely being greater than $0 and less than "actual cost."" Provide an estimated value, using the estimated overnight capital costs used in Table 10.4-2.	Socioeconomics and Environmental Justice	Katie Cort
37	Provide the list of local "government officials, the staff of social welfare agencies, and local businesses" that were contacted concerning environmental justice issues? Provide copies of all interview notes, as well.	Socioeconomics and Environmental Justice	Katie Cort
38	Provide the GIS layer data that includes population data as well as minority and low-income block groups.	Socioeconomics and Environmental Justice	Katie Cort
39	Provide estimates of the potentially disproportionate health and environmental effects among populations of interest. Quantify each health and environmental effect identified. Discuss and quantify the applicant's planned mitigation strategies for these anticipated effects, using monetary measures whenever possible. Quantify and discuss the possible exposure doses to affected populations of interest. (This especially applies to all four subsections of chapter 7.)	Socioeconomics and Environmental Justice	Katie Cort

#	Information Need	Discipline Name	Reviewer Name
40	The ER identifies a serious public services problem that may arise due to the in-migration of workers: "Fire protection infrastructure, already inadequate could not be able to meet the needs of [Burke] county. . ." Chapter 4 identifies under staffing of the fire department and the county police, road congestion problems, and overcrowding of its schools. Chapters 4 and 10 let local tax increases fund the new personnel and equipment necessary to address these problems. However, there is a lag between the collection of the new taxes and the actual use of the new assets. Furthermore, mitigation strategies need to be actions to be taken by the applicant, not outside entities. What forms of mitigation does the applicant plan to mitigate social problems created by the construction and/or operation of the Vogtle units 3 and 4? Provide cost estimates of the before- and after-mitigation levels for all social problems that require mitigation.	Socioeconomics and Environmental Justice	Katie Cort
41	Provide a table that displays all of the benefit categories attributable to the proposed site and all alternative sites and the expected magnitude of those benefits in monetary terms whenever possible.	Socioeconomics and Environmental Justice	Katie Cort
42	Expand the analysis on page 10.1.2 which discusses the unavoidable and adverse impacts of operation (currently in eleven lines). Include a discussion of each impact, mitigation strategies to reduce their impact, and cost estimates for before- and after-mitigation levels for each impact.	Socioeconomics and Environmental Justice	Katie Cort
43	Provide a discussion of the procedures and practices that the applicant will undertake to minimize the size of the commitment, the cost of those efforts, and some quantification of those commitments that remain after all mitigation attempts have been made.	Socioeconomics and Environmental Justice	Katie Cort

#	Information Need	Discipline Name	Reviewer Name
44	Establish a $2005 US standard for all dollar values in the report.	Socioeconomics and Environmental Justice	Katie Cort
45	The section on unavoidable adverse environmental impacts discusses social issues without specificity and never identifies any particular environmental concern. Clarify this discussion to include specific environmental adverse impacts for construction and operations, including an assessment of the before- and after-mitigation value of those impacts? Include the EJ effects of both construction and operations for each alternative site. Provide a table that displays all of the adverse environmental impacts of construction and operations (including human health effects); a description of each impact; all mitigation strategies to be undertaken by the applicant for that impact, the cost of mitigation, and the expected value of the unavoidable portion of that impact.	Socioeconomics and Environmental Justice	Katie Cort
46	Provide a discussion of the unavoidable and adverse effects of construction and operation at alternative sites (including human health effects), including the pre- and post-mitigation levels of those impact categories. Provide a table that displays all of the adverse environmental impacts of construction and operations at alternative sites; a description of each impact; all mitigation strategies to be undertaken by the applicant for that impact, the cost of mitigation, and the expected value of the unavoidable portion of that impact.	Socioeconomics and Environmental Justice	Katie Cort
47	Provide a copy of the documentation for your assessment of the real estate markets in the affected area. In particular, explain your statement on page 5.8-12 that states: “the average income of the new workforce will be expected to be higher than the median or average income in the county, therefore, the new workforce could exhaust the high-end housing market . . .” What is the correlation between wages and home value (corrected for boom economy immigration) in the Savannah River basin?	Socioeconomics and Environmental Justice	Katie Cort

#	Information Need	Discipline Name	Reviewer Name
48	Provide a table that displays all of the benefit categories (including human health benefits) attributable to the proposed site (including health benefits) for the proposed site and all alternative sites; a description of each benefit; and the expected value of the benefit.	Socioeconomics and Environmental Justice	Katie Cort
49	Wetlands meet the definition of "important habitats" in NUREG-1555. Impacts to wetlands associated with building the new units at Vogtle will be quantified as part of the NEPA review process. Provide the wetland information in Table X-1.	Terrestrial Ecology	Amanda Stegen
50	Please identify and provide a figure with all wetlands that may be impacted during the pre-construction and construction activities including the wetlands found on the floodplain adjacent to the Savannah River.	Terrestrial Ecology	Amanda Stegen
51	How were the wetlands determined - aerial photos, wetlands delineation. If delineated, was the 1987 Wetlands Delineation Manual used? If not, what method was used?	Terrestrial Ecology	Amanda Stegen
52	Identify the specific activities associated with wetlands impacts - including both preconstruction and construction activities (example - building the access/haul roads, new water intake structure) Specifically, provide information on the activity, the potential impact, number of acres to be impacted, type of wetland impacted (jurisdictional/non jurisdictional), and any planned mitigation associated with the wetlands. We have provided Table X-1 to facilitate compiling this information.	Terrestrial Ecology	Amanda Stegen
53	It is understood that the specifics associated with the construction of the new 500 kV transmission line and the borrow areas is still in the planning phase. Provide as much information as possible on wetlands, sensitive areas, and Carolina Bays that may be impacted with the construction of the new 500 kV transmission line as well as the borrow areas.	Terrestrial Ecology	Amanda Stegen

#	Information Need	Discipline Name	Reviewer Name
54	In regards to wetlands, has SNC provided maps or delineations to the ACOE for jurisdictional determinations, and if not, how much interaction regarding wetlands has SNC had with the Corps?	Terrestrial Ecology	Amanda Stegen
55	What is the proposed schedule for obtaining the required permits from Georgia DNR and COE? What is the status of the 401, 404 and Section 10 applications? These permits include the 401, 404 and Section 10 permits.	Terrestrial Ecology	Amanda Stegen
56	Provide acreage associated with the man-made ponds.	Terrestrial Ecology	Amanda Stegen
57	What species are associated with Debris Basins 1 and 2 and associated wetland areas?	Terrestrial Ecology	Amanda Stegen
58	What species are associated with the large basin between Debris Basin 1 and 2?	Terrestrial Ecology	Amanda Stegen
59	There is currently insufficient detail to determine if there will be any dredge and fill activities associated with the preconstruction/construction activities including building access roads to and from riverfront structures, the new cooling water intake structure, the new discharge structure; modification of existing barge slip; and installation of proposed 500 kV transmission line. Provide information regarding the preconstruction/construction activities that may have dredge and fill component. What are the quantities of material to be dredged/ used for fill? And have these sediments been characterized? Table X-1 has been provided to facilitate compiling this data.	Terrestrial Ecology	Amanda Stegen
60	pg 2.4-4, 4th para The first sentence states that “No streams or wetlands are located within the proposed footprint (see Figure 2.1-1).” The legend for Figure 2.1-1 does not include wetlands. Provide a map with wetlands in legend and on figure.	Terrestrial Ecology	Amanda Stegen
61	What survey methods were used for the 2005 threatened and endangered surveys? Were separate plant, reptile, amphibian and bird surveys conducted? If not, how were these organisms surveyed? What methods were used to complete these surveys (eg did trained biologists conduct the surveys, number of people on each survey, type of survey?).	Terrestrial Ecology	Amanda Stegen

#	Information Need	Discipline Name	Reviewer Name
62	Specifically what sections of the VEGP Site and transmission line corridors were surveyed for threatened and endangered species? Please provide a map(s) with this information.	Terrestrial Ecology	Amanda Stegen
63	Were the all the areas that will be impacted during pre-construction/construction activities surveyed for threatened and endangered species? If not, what areas that will be impacted were NOT surveyed? Please identify what activities are associated with areas that have been surveyed/haven't been surveyed. Table X-1 is provided to facilitate compiling this information.	Terrestrial Ecology	Amanda Stegen
64	If areas that will be impacted were not surveyed, please provide justification for not completing any surveys/monitoring.	Terrestrial Ecology	Amanda Stegen
65	Are there historical records of "important" species using the site? If so, when and where?	Terrestrial Ecology	Amanda Stegen
66	Provide information on any historic programs that documented wildlife onsite or in the transmission line corridors.	Terrestrial Ecology	Amanda Stegen
67	pg 5.6-1, 4th para, last sentence, Transmission System Impacts Provide additional details (procedures/training qualifications) concerning reporting unusual occurrences (or mortality) of federally threatened or endangered (T&E) species to the GPC Environmental Affairs Department within 24 hours of discovery. Do the maintenance crews actively look for T&E species or are the reports just by chance? Do they have T and E training?	Terrestrial Ecology	Amanda Stegen
68	Has suitable habitat for T&E species been identified in the transmission corridors or onsite? If not, have any efforts been made to identify suitable habitat?	Terrestrial Ecology	Amanda Stegen

#	Information Need	Discipline Name	Reviewer Name
69	pg 2.4-4, 2nd para The last sentence states that "SNC biologists at VEGP are familiar with special-status species in eastern Georgia." Does this imply that there is on-going program to document special-status species if they are encountered on site? Do the SNC biologists work with state and federal biologists to document/protect species that may occur onsite or in the transmission corridors? Please describe the SNC terrestrial threatened and endangered species program.	Terrestrial Ecology	Amanda Stegen
70	The longleaf, loblolly and slash pine forests that occur on the VEGP Site are described as being "diverse ages" (pg 2.4.1). Provide a map that shows the distribution of the forest age classes on the VEGP site in relation to the areas that will be impacted by pre-construction and construction activities.	Terrestrial Ecology	Amanda Stegen
71	Provide information on the construction/pre construction activities associated with removal of forested/hardwood areas. Specifically provide the activity, type of impact, acres impacted, type of forest, and planned mitigation. Table X-1 has been provided to facilitate compiling this information.	Terrestrial Ecology	Amanda Stegen
72	Page 2.4.-4 mentions the "bottomland hardwoods" near the new intake structure. Please describe these hardwoods including acreage.	Terrestrial Ecology	Amanda Stegen
73	Provide the data sources (e.g., on-going investigations by licensee, existing GIS database, federal/state/local records, etc.) used to describe the existing environmental conditions, the site habitats and communities, and the wildlife populations. These general descriptions are found in section 2.0 and 2.4.	Terrestrial Ecology	Amanda Stegen
74	Provide documentation regarding any fieldwork that was conducted as part of the review including extent/duration of the field work, and whether or not any federal or state agencies participated in the field work or data analysis/review.	Terrestrial Ecology	Amanda Stegen
75	Provide information on the existing species composition, spatial and temporal distribution, abundance of terrestrial natural resources onsite and in the transmission line corridors.	Terrestrial Ecology	Amanda Stegen

#	Information Need	Discipline Name	Reviewer Name
76	Has the species composition, spatial and temporal distribution, abundance of terrestrial natural resources changed since the 1985 FES for operation was written? In so, please explain how these communities have changed. If the communities have not changed, please explain how "no change" has been verified.	Terrestrial Ecology	Amanda Stegen
77	Are the dominant species present native or non-native?	Terrestrial Ecology	Amanda Stegen
78	Are there any issues concerning invasive plant species?	Terrestrial Ecology	Amanda Stegen
79	Are there any species present that serve as biological indicators?	Terrestrial Ecology	Amanda Stegen
80	pg 2.4-4, 5th para continued Are there any species present that are critical to the function and structure of the local terrestrial ecosystem?	Terrestrial Ecology	Amanda Stegen
81	What activities are included in the 500 acre footprint?	Terrestrial Ecology	Amanda Stegen
82	Provide a complete map with locations for all the planned activities/buildings including any new debris basins, the solid waste storage areas, fabrication and shop areas (pg 3.9-3). Provide information on the acreage breakdown associated with each pre-construction activity. For example, provide the number of acres associated with expanding the barge slip, building the new intake, etc. Table X-1 is provided to facilitate compiling this information.	Terrestrial Ecology	Amanda Stegen
83	What upgrades will be required on "the rail line that runs from its connection with Norfolk and Southern line to the termination at VEGP" (pg 3.9-3)?	Terrestrial Ecology	Amanda Stegen
84	It is difficult to discern what activities are covered under the current license and thus out of scope of our review and which pre construction activities are associated with the ESP application. For example, are the transmission line re-routes part of the pre-construction activities or are these covered under the current license for Units 1 and 2? Please clarify which activities are covered under the current license and which activities are associated with the ESP application.	Terrestrial Ecology	Amanda Stegen
85	Are any upgrades/changes to the **existing** corridors needed to support additional power that will be generated by Units 3 and 4?	Terrestrial Ecology	Amanda Stegen

#	Information Need	Discipline Name	Reviewer Name
86	Does SNC cooperate with the Georgia Natural Heritage Program or other state/federal agencies in conducting transmission corridor rare plant survey program on a periodic basis?	Terrestrial Ecology	Amanda Stegen
87	Provide information regarding the location/description of any sensitive/protected areas in the transmission corridors.	Terrestrial Ecology	Amanda Stegen
88	Provide the transmission line maintenance procedures.	Terrestrial Ecology	Amanda Stegen
89	Provide the GPC procedures for implementing Georgia Code Title 22, Section 22-3-161 (pg 4.1-3).	Terrestrial Ecology	Amanda Stegen
90	Provide the GPC Avian Protection Plan.	Terrestrial Ecology	Amanda Stegen
91	Provide the VEGP Environmental Protection Plan.	Terrestrial Ecology	Amanda Stegen
92	Provide documentation on how SNC will comply with the Migratory Bird Treaty Act during pre-construction and construction activities?	Terrestrial Ecology	Amanda Stegen
93	Pg 4.3-1 - how many acres of forested area will be impacted by construction? There are conflicting total acres on this page (500, 250, 249 acres). How many acres of hardwood forest will be impacted - this page states that "25 acres" will be impacted and page 4.1.-1 states that 50 acres of hardwood will be impacted. Please clarify.	Terrestrial Ecology	Amanda Stegen
94	What are the impacts to the shoreline associated with the new intake and barge slip as well as increased water withdrawals?	Terrestrial Ecology	Amanda Stegen
95	Are there any ecological or biological studies of the site or its environs that are recent or currently in progress (either by licensee or others)?	Terrestrial Ecology	Amanda Stegen
96	pg 2.4-4, 5th para What is the status of the primary game species (e.g., relative health of deer herd, number of deer harvested)?	Terrestrial Ecology	Amanda Stegen
97	The fourth sentence states that "No 'travel corridors' for game species cross the VEGP site." Provide documentation/reference for this conclusion. Was actual field reconnaissance conducted?	Terrestrial Ecology	Amanda Stegen

#	Information Need	Discipline Name	Reviewer Name
98	pg 4.3-2, 3rd para, last sentence It is not clear if the "few avian collisions with existing structures at VEGP" is based on a formal cooling tower bird collision survey. Please clarify.	Terrestrial Ecology	Amanda Stegen
99	6.5-2 Construction, Pre-Operational, and Operational Monitoring In Section 5.3.3.2.5 Avian Collisions, the following statement is made: "Because collisions with existing VEGP cooling towers are rare, it is likely that bird collision with the new towers will be minimal." NUREG-1555, Section 6.5.1, states that "Monitoring programs should cover elements of the ecosystem for which a causal relationship between station construction and/or operation and adverse change is established or strongly suspected." Provide documentation on the cooling tower monitoring that was conducted to confirm that no changes in composition, abundance, or distribution of avian species are occurring as a result of operating the two additional units at VEGP. If no monitoring was conducted, provide documentation on how SNC reached the conclusion that collisions with the existing towers are rare.	Terrestrial Ecology	Amanda Stegen
100	Chapter 10 10.1 Unavoidable Adverse Environmental Impacts and 10.2 Irreversible and Irretrievable Commitments of Resources Provide a summary regarding the modification to wetlands or wetlands filled as part of the planned construction activities in the bottomland hardwood forest along the Savannah River or along the proposed 500 kV transmission corridor across approximately 60 linear miles of eastern Georgia.	Terrestrial Ecology	Amanda Stegen
101	Provide information on the cumulative impacts on terrestrial resources.	Terrestrial Ecology	Amanda Stegen
102	pg 6.0-1, Chapter 6, Environmental Measurements and Monitoring Programs Provide a figure showing the monitoring locations.	Terrestrial Ecology	Amanda Stegen
103	pg 6.5.1, 6.5 Ecological Monitoring, 6.5.1 Existing Ecological Monitoring Explain how the criterion of pre-application monitoring for at least one annual cycle has been met.	Terrestrial Ecology	Amanda Stegen

#	Information Need	Discipline Name	Reviewer Name
104	pg 4.3-2, 4th para NUREG-1555, Section 2.4.1, page 2.4.1-6, states that “Information should be based on an analysis of at least one full year of data, to reflect seasonal variations in terrestrial populations.” Was any effort made to either review historical data or collect new data for wildlife at the site?	Terrestrial Ecology	Amanda Stegen
105	All of the input, output, and on-site meteorological (1998 - 2002 or more) files used for the PAVAN, XOQDOQ, and SACTI models.	Meterorology	Jeremy Rishel
106	Please provide a map showing the areas that will be directly or indirectly impacted by construction of the new plant and the locations of archaeological sites documented by New South.	Cultural and Historical Resources	Darby Stapp
107	Determinations of Eligibility. In order for NRC to move forward with its determination of impact, SNOC needs to obtain concurrence from the Georgia SHPO on both the "recommended eligible for listing on the National Register" and "recommended not eligible for listing on the National Register " archaeological sites. Presently, we understand that New South has submitted site forms for the sites with these recommendations to the Georgia Archaeological Site files. No action will be taken, however, until SNOC requests the Georgia SHPO to review the site forms and agree or not agree. Once this is done, NRC will know for certain which sites are eligible for listing (i.e., "historic properties") and therefore which sites need to be addressed in the analysis. It is important that this concurrence be obtained before the site audit.	Cultural and Historical Resources	Darby Stapp
108	Determination of Adverse Effect. SNOC needs to seek concurrence from SHPO on SNOC's determination that the water intake structure and associated infrastructure will have no impact on archaeological sites 9BK416 and 9BK423. It is important that this concurrence be obtained before the draft EIS is submitted.	Cultural and Historical Resources	Darby Stapp

#	Information Need	Discipline Name	Reviewer Name
109	In order for NRC to make its level of impact determination, several things need to be clarified: a. In comparing Figure 2.5.3-1 with Figure 3.1-3, it appears that the water intake structure and associate road will impact both sites. Please explain why SNOC does not believe it will. b. We understand that no shovel testing was conducted on the river terrace where the water intake structure will be located. Please explain why no testing was done and why SNOC does not believe that there is any potential for archaeological sites in this area. c. Please explain any protective/mitigation measures that will be put in place during construction and operation. d. Please copies of the procedures that will be in place relative to cultural and historic resource protection.	Cultural and Historical Resources	Darby Stapp
110	Please provide the revised New South report.	Cultural and Historical Resources	Darby Stapp
111	Please provide any responses from the SHPO office, tribes, or interested parties.	Cultural and Historical Resources	Darby Stapp
112	**Section 2.3 Water** Provide maximum, average maximum, average, average-minimum, and minimum monthly temperature of the Savannah River.	Hydrology	Chris Cook
113	Provide a description (figure and coordinates) of all wetlands, and their respective seasonal characteristics, on the site. Describe how these wetlands will be affected during construction and operation of the facility.	Hydrology	Chris Cook
114	Provide estimated erosion characteristics and sediment transport rates, including bed and suspended load fractions, for the Savannah River near the site.	Hydrology	Chris Cook
115	Provide any water velocity data collected near the location of the proposed intake and outfall structures.	Hydrology	Chris Cook

#	Information Need	Discipline Name	Reviewer Name
116	Provide the stage-discharge rating curves for the Savannah River gauges nearest the site.	Hydrology	Chris Cook
117	**Section 2.3.1 Hydrology** Describe the process used to develop the reasonably conservative Vogtle site conceptual model and nearby area. Also, describe any alternate conceptual models that were considered. Provide data (e.g., precipitation, surface water runoff, streamflow, groundwater levels, historical groundwater resource depletion [pumping]) used to formulate the water budget for key hydrologic elements of the Vogtle site and the nearby area, (e.g., Mallard/Mathes pond, water table aquifer, Tertiary aquifer, Cretaceous aquifer). Include data and descriptions on the recharge rates, soil moisture characteristics and moisture content in the vadose zone.	Hydrology	Chris Cook
118	Provide any information regarding what the anticipated impacts of excavation beneath the ESP facility site will have on the water levels within the pond. Also, provide any existing monthly water elevation and water quality data. Based upon the piezometric contour maps for the water table aquifer, much of this aquifer apparently recharges Mallard/Mathes Pond.	Hydrology	Chris Cook
119	**Section 2.3.1.2.3 Observation Well Data** Provide a table listing the observation and water well statistics (for example, well name, legal location, well depth, screened interval, and formation or water-bearing unit of the screened interval). Provide geologic logs and construction diagrams of the observation wells and discuss the procedures for installing these wells.	Hydrology	Chris Cook
120	Provide data that support why Wells OW-1006 and OW-1007 were at their highest elevations in June and lowest elevations in December (Table 2.3.1-18). Trends at other wells show relatively low elevations in July and high elevations in Feb/March. Well 808, with its respective high/low elevation for September and May, also seems to be an exception.	Hydrology	Chris Cook

#	Information Need	Discipline Name	Reviewer Name
121	**Section 2.3.1.2.4 Water Table Aquifer** Provide the data presented in Table 2.3.1-20. In the case of well OW-1001A, the depth interval tested for hydraulic conductivity appears to be above the water table, and hence not suitable for testing saturated zone hydraulic conductivity.	Hydrology	Chris Cook
122	This section describes the basis for a groundwater travel time of 400 years from the center of the Powerblock to Mallard Pond. This travel time is based on Barnwell Formation data; geometric mean hydraulic conductivity of 0.41 ft/day, horizontal gradient of 0.012 ft/ft, effective porosity of 0.32, and distance of 2200 ft. If the north-south cross section reported in Figure 2.4.12-2A of the Vogtle Early Site Permit Application - Part 2 - SSAR is applicable to the groundwater path between Powerblock and pond, the water table aquifer between them is a combination of Utley Limestone and Barnwell Formation. Assuming a release from the vicinity of the Powerblock could move through the backfill underlying construction to the Utley Limestone, the travel time to Mallard Pond may be much shorter than the 400 years described. If one only examines the influence of the hydraulic conductivity cited for the Utley Limestone (range 340 to 4.2 ft/day), the travel times are 0.5 year and 40 years respectively. Describe the conceptual model supporting the groundwater travel time estimate more fully, and include a map showing where across the site the basal Utley Limestone of the water table aquifer is known to be absent, where it is present and its thickness. Include data on the Utley Limestone necessary to make a travel time calculation, e.g., effective porosity. Note that deMarsily (1986) suggests a much lower porosity for limestone than employed for the Barnwell Formation. Provide a table and map showing the 'geotechnical and hydrogeological borings' used to describe each of the geohydrologic units described in the conceptual model of the Vogtle site, (e.g., Barnwell Formation, Utley Limestone, Tertiary aquifer, Cretaceous aquifer).	Hydrology	Chris Cook
123	**Section 2.3.1.2.4 Lisbon Formation (Blue Bluff Marl) Confining Unit** Provide data to support porosity values in this section. The deMarsily (1986) citation does not support the assumption of an effective porosity of 80% of total porosity for the Lisbon Formation confining unit. Rather, the cited table suggests a total porosity of ~0.44 which corresponds to an effective porosity of ~0.13. These values will impact time of travel calculations.	Hydrology	Chris Cook

#	Information Need	Discipline Name	Reviewer Name
124	**Section 2.3.2.1.1 Local and Onsite Water Use and** **Section 5.2.4 Future Water Use** Provide current and projected water use at the SRS site. SRS is a major water consumer within 6 miles of the site.	Hydrology	Chris Cook
125	Describe any recent activity toward developing a current/updated comprehensive water resources management plan (e.g., an updated Rutherford 2000) that includes a revised drought management plan with the ESP facility in place. Describe how these developments could or could not impact SNC's ability to acquire the water rights necessary for the ESP facility.	Hydrology	Chris Cook
126	**Section 2.3.1.1.3.4 Historic Flooding** Since PMF is a statistical event that is not reasonably expected to occur, what is the surrounding environmental concern surrounding its discussion?	Hydrology	Chris Cook
127	**Section 2.3.2 Water Use** Provide maps and cross sections showing those portions of ground water aquifer systems that could be affected by plant withdrawals (i.e., water table aquifer, Tertiary aquifer).	Hydrology	Chris Cook
128	Provide 2005 and any 2006 data for Tables 2.3.2-4 and 2.3.2-6.	Hydrology	Chris Cook
129	Provide quantitative and qualitative descriptions of navigational, recreational, instream and other nonconsumptive present and known future water uses (see page 2.3.2-3, especially as it relates to the information requested for a 6 mile radius).	Hydrology	Chris Cook
130	Provide the specifics (e.g., depth, aquifer, and known degree of hydraulic connection with the water table and Tertiary aquifer) on which wells reported tritium (page 2.3.3-5). Provide the tritium data obtained from those wells from 1991 through 2002 (or current, if available).	Hydrology	Chris Cook
131	**Section 2.3.3 Water Quality** Provide the mean, range, temporal and spatial variations of surface water quality characteristics such as water temperature, TSS, TDS, DO, BOC, COD, etc. Is this type of data available for surface waters and ground water at the site?	Hydrology	Chris Cook

#	Information Need	Discipline Name	Reviewer Name
132	"Ground water from the water table aquifer contains 20 to 170 ppm TDS; ground water from the deeper confined aquifer contains 110 to 194 ppm" page 2.3.3-3. Which wells are these values derived from and what has been the variation over time?	Hydrology	Chris Cook
133	**Section 2.6 Geology** Page 2.6-2. Indicate how many borings were "drilled as part of the ESP subsurface investigation program encountered the top of the Blue Bluff member.....".	Hydrology	Chris Cook
134	**Section 2.8. Related Federal Project Activities** Provide recent information on the ongoing USACE studies regarding decommissioning of the Savannah Bluff's Lock and dam. Describe the consultations which have been conducted between SNC and USACE regarding decommissioning.	Hydrology	Chris Cook
135	**Section 3.3 Plant Water Use** Provide average plant water use by month.	Hydrology	Chris Cook
136	**Section 3.3.1. Water Use** For the water use diagram, provide the data and narrative description for water consumption during periods of minimum water availability, and average operation by month and by plant operating status.	Hydrology	Chris Cook
137	Table 3.3-1. Provide the atmospheric conditions applied when generating data shown in this table. Are the maximum case values bounding?	Hydrology	Chris Cook
138	**Section 3.3.2 Water Treatment** Provide operating cycles for each water treatment system for normal modes of plant operation (i.e., full power operation, shutdown/refueling, and startup).	Hydrology	Chris Cook
139	Provide a tabulation of chemicals to be added by quantity and frequency of addition.	Hydrology	Chris Cook
140	Provide a list of all chemicals (identification and quantities) to be used or considered.	Hydrology	Chris Cook

#	Information Need	Discipline Name	Reviewer Name
141	**Section 3.4.1.3.2 Water Treatment** What is the environmental concern associated with the icing discussion in this section?	Hydrology	Chris Cook
142	**Section 3.4.2.1 River Intake Structure** Provide the basis for stating that the minimum river level is 78 ft MSL. Describe consultations SNC has had with USACE regarding minimum water surface elevations at the site. Has a commitment from USACE been provided to maintain a minimum water surface elevation?	Hydrology	Chris Cook
143	**Section 3.4.2.2 Final Plant Discharge** Provide details regarding how the ESP facility will comply with 40 CFR 423 and EPA's associated discharge regulations.	Hydrology	Chris Cook
144	**Section 4.2.2 Water Use Impacts** Provide inputs to the calculation package and the calculation package to assess the impacts of construction on the potentiometric surface at the property boundary.	Hydrology	Chris Cook
145	**Section 5.2.2 Hydrologic Alterations and Plant Water Supply** Provide the calculation package for the drawdown model.	Hydrology	Chris Cook
146	Provide any impacts of drawdown to Mathes Pond.	Hydrology	Chris Cook
147	Provide any impacts of drawdown to the closest offsite wells completed in the water table aquifer and the Tertiary aquifer as well as the Cretaceous aquifer.	Hydrology	Chris Cook
148	Provide information on potential impacts resulting from site excavation to Mallard Pond.	Hydrology	Chris Cook
149	**Section 5.2.2.2 Water Related Impacts - Groundwater** Describe SNC's consultations with the appropriate state agencies to withdraw water for the ESP facility at rates up to VEGP's withdrawal limit. Also, discuss any restrictions that may be placed on the withdrawals. Finally, discuss any issues the state agencies raised with the stated potential to exceed withdrawal limits for short periods of time.	Hydrology	Chris Cook

#	Information Need	Discipline Name	Reviewer Name
150	Well MU-2A was chosen as the well from which to simulate drawdown resulting from the cumulative projected water usage. Was the drawdown calculation made using a model calibrated to MU-2A data? If so, describe the data and model calibration. If not, describe more fully the circumstances mentioned in footnote 1 on Table 6.3-2; "MU-2A has proved difficult to monitor."	Hydrology	Chris Cook
151	The transmissivity value of 158,000 gpd/ft and the storativity value of 3.1x10-4 used in the simulation of drawdown at MU-2A need to be supported with the complete data sets from which they are drawn. Page 2.4.12-12 of the Vogtle Early Site Permit Application - Part 2 - SSAR describes the transmissivity range as 110,400 to 130,900 gpd/ft and the storativity as 1.07x10-4 based on earlier data (i.e., Unit 1 and 2 studies. Page 2.4.12-13 of the Vogtle Early Site Permit Application - Part 2 - SSAR describes the transmissivity average as 158,000 gpd/ft and a storativity range of 3.3x10-4 to 2.1x10-4 based on more recent data that included data from test well TW-1. The complete data sets are needed for both hydraulic conductivity and storativity. Based on the data presented, the average hydraulic conductivity lies outside the cited range.	Hydrology	Chris Cook
152	The simulated drawdown for both the two existing units and all four units are provided, however, the hydraulic head of the Cretaceous aquifer should be provided to complete the argument that the forecasted drawdown is not of consequence.	Hydrology	Chris Cook
153	**Section 5.2.3.1 Chemical Impacts** Provide the data and/or calculations to support the claim that no effect is expected from the Units 3 and 4 discharge plume on DO concentrations in the Savannah River near the site. Provide a figure and coordinates showing what sections of the Savannah River near the site are on the South Carolina and Georgia State 303(d) Lists.	Hydrology	Chris Cook
154	**Section 5.2.3.2 Thermal Impacts** Provide a map and the coordinates of Shell Bluff Landing.	Hydrology	Chris Cook
155	**Section 5.2.3.8 Bottom Scour** Expand on and quantify the statement “ only minor scouring of the river bottom is expected.”	Hydrology	Chris Cook

#	Information Need	Discipline Name	Reviewer Name
156	**Section 5.3.2 Discharge Systems** Expand on the statement “During infrequent periods...more scouring could be expected.”	Hydrology	Chris Cook
157	Provide data input, data output, graphics and schematization conditions used in the CORMIX model. Include the CORMIX data package.	Hydrology	Chris Cook
158	**Section 6.1 Thermal Monitoring** Provide descriptions of the monitoring equipment to be used. Also, identify the type and frequency of temperature measurements to be taken and the duration of each monitoring program (page 6.1-2).	Hydrology	Chris Cook
159	Provide more information regarding why “it is unlikely that routine thermal monitoring will be a requirement of the new or amended permit” and why the pre-application and postoperational monitoring activities (as specified in the ESRP) are not discussed.	Hydrology	Chris Cook
160	**Section 6.2.2 Existing Radiological Environmental Monitoring Program Contents** How would releases of radiological contaminants from DOE's Savannah River Site (SRS) be distinguished from releases from Vogtle Units 1, 2, 3, or 4? Is monitoring of the Vogtle site designed to distinguish Vogtle releases from SRS releases? Would Vogtle staff rely entirely on SRS reports / data / interpretations? Are agreements in place with DOE regarding radiological releases to the environment from these two adjacent facilities? Are the existing monitoring programs at the two sites cooperative programs? Or, has it been assumed that any and all incremental change in the environment from the pre-operational state in the 1980's is associated with operation of Vogtle Units 1 and 2? Is it now assumed that any and all incremental change from the current state will be associated with operation of Vogtle Units 3 and 4?	Hydrology	Chris Cook
161	**Section 6.3 Hydrological Monitoring** Provide the datasets that support this section.	Hydrology	Chris Cook

#	Information Need	Discipline Name	Reviewer Name
162	**Section 6.3.1 and Table 6.3-1 Existing Hydrological Monitoring** What process was followed to define the frequency and adequacy of monitoring as reflected in Table 6.3-1? How does the process used and the conclusions reached regarding sampling frequency relate to the conceptual site model, especially as the conceptual site model attempts to describe seasonal aspects of the environment?	Hydrology	Chris Cook
163	**Section 6.3.2 Construction and Pre-Operational Monitoring** This section summarizes the construction and pre-operational monitoring that will occur, and concludes that no significant impacts to groundwater are anticipated during construction. The reasonably conservative conceptual site model employed to reach this conclusion and others should be verified, to the extent possible, during the construction and pre-operational period. Were data from the construction and pre-operational period for Units 1 and 2 used to calibrate the model used here to conclude the construction of Units 3 and 4 would not impact the aquifers? What process will be used during the construction and pre-operational period to conclude that changes in the aquifers are anticipated and not unanticipated? What are the anticipated hydraulic head levels in the water table, Tertiary, and Cretaceous aquifers during the dewatering phase of construction? What delta from the anticipated levels will signal unanticipated performance of the adopted conceptual site model? Would an unanticipated level lead to review / revision of the conceptual site model, and be reflected in revised estimates of future impact?	Hydrology	Chris Cook
164	**Section 6.7.1 Pre-Application Monitoring** Describe the process that was followed to arrive at the conclusion “No thermal pre-application monitoring will be required**....”**. Provide SNC’s consultations with the appropriate state and federal agencies that support this statement.	Hydrology	Chris Cook
165	10 CFR 51.52 states a condition that rad wastes are to be in solid form and packaged or the applicant has to do an impact analysis. ER page 5.11.3 states that all rad wastes will be solidified, but ER Section 3.5.3 indicates some liquid wastes may be shipped offsite. Please clarify this apparent discrepancy. Also, explain why SNC intends to ship liquid wastes.	Transportation	Philip Daling
166	Did SNC estimate the heat load in a spent fuel shipping cask and compare the result to 10 CFR 51.52 Table S-4 conditions (i.e., 225,000 Btu/hr (~66 kW))?	Transportation	Philip Daling

#	Information Need	Discipline Name	Reviewer Name
167	Did SNC estimate the non-radiological impacts of accidents and compare the results to Table S-4 condition (i.e., non-radiological accidents result in one fatal injury per 100 reactor years, 1 non-fatal injury in 10 reactor years, and $475 in property damage per year)?	Transportation	Phil Daling
168	Figure 2.1-1 shows a small onsite pond and a stream leading from it to Telfair Pond. However, no description of this stream or pond was found, unless it was considered one of the several detention ponds mentioned briefly in Section 2.4.2.1. More description of the stream and pond is needed	Aquatic Ecology	Rebekah Krieg
169	Sampling occurred in the Beaverdam Creek over a two year period in 1977-1978. Did sampling take place in Telfair pond or in the stream or small pond above Telfair Pond? If so, what were the results? If not, why was it considered not important to sample?	Aquatic Ecology	Rebekah Krieg
170	The statement is made in 2.4.2.1 that “Little is known about the aquatic biota of this stream” (the unnamed stream that drains Mallard Pond. Is more known about the aquatic biota besides the statement that “probably supports limited communities of aquatic macroinvertebrates and fish”. Is there any information on the aquatic biota of Mallard Pond?	Aquatic Ecology	Rebekah Krieg
171	Have any more recent surveys been conducted of the Beaverdam creek since 1977 and 1978? If so, provide the results.	Aquatic Ecology	Rebekah Krieg
172	Would any construction related activities impact the small pond and stream inside the site property line that drain into Telfair pond? Would there be impacts to Telfair pond as a result of impacts to the small pond and stream?	Aquatic Ecology	Rebekah Krieg
173	Is it Beaverdam creek? Or Beaver Dam creek? Both names are used in the ER.	Aquatic Ecology	Rebekah Krieg
174	A more detailed characterization of the retention ponds is needed.	Aquatic Ecology	Rebekah Krieg

#	Information Need	Discipline Name	Reviewer Name
175	Section 2.4.2.2.1 refers to “changes in the flow characteristics of the Savannah River associated with the construction of dikes, upriver dams and removal of meanders....” A description of such changes that are directly related to that portion of the Savannah River that flows by the Vogtle site is needed unless this information is easily obtainable from the referenced document (Arnett 2001)	Aquatic Ecology	Rebekah Krieg
176	Section 2.4.2.2.2 (Resident Fish of the Middle Savannah River) refers to a study between 1980 and 1995 of fish collected by the Academy of Natural Sciences. However, the reference cited (Halverson 1997) is from a SRS Ecology Environmental Information Document prepared by Westinghouse Savannah River Company. Is this the correct reference?	Aquatic Ecology	Rebekah Krieg
177	Section 2.4.2.2 (Sturgeons) discusses the substrate of the Savannah River in the vicinity of the VEGP as being characterized as “shifting sand”. A copy of GPC 1972 might clear this up, but we are interested in the basis for this statement. What type of substrate sampling was performed on the bottom of the Savannah River to make this conclusion. Where were the samples taken and when were they made?	Aquatlic Ecology	Rebekah Krieg
178	Section 2.4.2.2 (Sturgeons) mentions a four year Department of Energy study of ichthyoplankton abundance and entrainment. No reference is provided. Is this the 1983-1985 Comprehensive Cooling Water study (DuPont 1987)?	Aquatic Ecology	Rebekah Krieg
179	Section 2.4.2.2 (Sturgeons) cites a reference, “ Lamprecht, 1991", is this the same reference as “Hall, Smith and Lamprecht 1991"?	Aquatic Ecology	Rebekah Krieg
180	Characterize any noise impacts to the fauna of the Savannah River from construction activities such as pile driving?	Aquatic Ecology	Rebekah Krieg

#	Information Need	Discipline Name	Reviewer Name
181	Provide any available GIS layer information for the following areas: - site description including location of disturbed areas, new plant structures, temporary laydown areas, - near site description including closest cities, water bodies, current transmission lines, gas lines etc. - radiological sampling sites - other sampling sites - vegetation maps for the Vogtle site - approximate location of the proposed transmission lines	General	Rebekah Krieg
182	Please have section authors available during the audit.	Human health/radiological	Michael Smith
183	Did different staff do the biota and public dose assessments? If so, please have each available during the audit.	Human health/radiological	Michael Smith
184	I would like an opportunity to view/cross check original data. This is a general request for which I provide the following example: TLD (dosimeter) monitoring reports that feed into offsite and construction worker dose calculations. The direct radiation to construction workers (ER Section 4.5.3.1) is estimated as 51 mrem/yr, but no reference or supporting data is provided. It would be helpful to have a listing of quarterly TLD measurements used, along with locations mapped.	Human health/radiological	Michael Smith
185	I would like to view the following reports: - offsite dose calculation manual - several years of the environmental monitoring report (operating report) - several years of the annual radioactive effluent release report, including the years referenced in the ER (2001 & 2003).	Human health/radiological	Michael Smith
186	I would like to view input & output files for LADTAP and GASPAR model runs. I would like to receive copies of input/output so that I can run them independently (receive during audit or have them submitted as part of the application?)	Human health/radiological	Michael Smith

#	Information Need	Discipline Name	Reviewer Name
187	**Comments on ER Section 5.4 - Radiological Impacts of Normal Operation, and ER Section 6.2 - Radiological Monitoring, and Related Supporting Sections of the ER and SSAR** Radiation exposures and doses due to liquid and gaseous effluents are based on models, assumptions, and site-specific data described in two documents. The are: • Southern Nuclear Operating Company, Offsite Dose Calculation Manual for Southern Nuclear Operating Company, Vogtle Electric Generating Plant, Ver. 22, June 25, 2004. (ODCM) • Southern Nuclear Operating Company, Vogtle Electric Generating Plant - Unit 1 and 2, Annual Radioactive Effluent Release Report for January 1, 2003 to December 31, 2003. (Effluent Release Report) However, the information and model parameters are not described in ER Section 5.4, with the above documents not included in the application. The documents will be obtained ([1]) and reviewed to determine whether the modeling approach and assumptions used for operating plants are acceptable in the context of an ESP application. Based on this review, RAIs will be submitted to the applicant, as needed.	Human health/radiological	IHPB/NRC
188	Sections 3.5 and 5.4 of the ER refer extensively to the AP1000 Design Control Document (Rev. 15, November 2005). The AP1000 DCD will be reviewed to determine whether the information, assumptions, and data are properly used in the context of the ESP application. Based on this review, RAIs will be submitted to the applicant, as needed.	Human health/radiological	IHPB/NRC
189	Sections 3.0 and 5.4 of the ER do not demonstrate compliance with liquid and gaseous effluent concentration limits of Part 20, Appendix B, Table 2, Columns 1 and 2. The ESP application will be reviewed and based on the results of this review, RAIs will be submitted to the applicant, as needed.	Human health/radiological	IHPB/NRC

#	Information Need	Discipline Name	Reviewer Name
190	Section 5.4 of the ER excludes potential exposure pathways (for liquid and gaseous effluents), with no basis provided for their omissions. For example, the ER excludes boating, shoreline activity, crop and pasture irrigation, and cow and goat milk production. Given that the ER relies on information presented in the ODCM and effluent release report, these documents will be reviewed and based on the results of this review, RAIs will be submitted to the applicant, as needed.	Human health/radiological	IHPB/NRC
191	Other items identified include internal inconsistencies in referencing information and parameters used in calculating doses to the maximally exposed individual. For example, such inconsistencies include: • basis for the dilution factor within ER Section 5.4, as applied to liquid effluents • basis for atmospheric dispersion factors between SSAR Section 2.3.5 and ER Section 2.7.6 versus that cited in ER Section 5.4 (ODCM for existing plants) • designations of wind sectors and distances for the maximally exposed individual and nearest site boundary for gaseous effluents between ER Sections 5.4 and 2.7.6 and SSAR Section 2.3.5 • location of the maximally exposed individual for liquid effluents within ER Section 5.4 • basis of total population within the 50-mile radius used in assessing collective doses between ER Sections 2.5.1 and 5.4 • operational radiological monitoring program of onsite ground water wells stated to be used for potable water in light of the information presented in ER Sections 2.3.3, 6.2.3, and 6.3.3 and SSAR Section 2.4.12	Human health/radiological	IHPB/NRC
192	Sections 4.5.2.2 and 4.5.2.3 of the ER reference gaseous releases for 2003 and liquid releases for 2001 as being typical releases for the existing units. No data for releases for other years is provided to justify the use of the release data for the years chosen. It is unclear why the data for typical gaseous and liquid releases were chosen from two different years.	Human health/radiological	IHPB/NRC

#	Information Need	Discipline Name	Reviewer Name
193	Section 4.5.3.1 of the ER discusses the use of TLD data to establish the estimated direct radiation dose to construction workers. This section should provide additional information on the applicant's basis for selecting 50 mrem/year as the average accumulated exposure from VEGP. Additional information should include the year that this data was measured (and why 50 mrem/year is a representative value to use for the average direct dose value), the number and location of the TLDs used to obtain this dose data, and if the TLD values were corrected for a 100 percent power level.	Human health/radiological	IHPB/NRC
194	Section 4.5.3.1 of the ER also discusses the dose contribution from the ISFSI. Additional information is needed about when the ISFSI will be put into use and what percent loading of the ISFSI the applicant assumed to arrive at the ISFSI contribution of 15 mrem/year to the Unit 3 construction workforce. How the licensee arrived at the estimated direct radiation dose to construction workers of 52 mrem/year is also not clear.	Human health/radiological	IHPB/NRC
195	In Section 4.5.4.2 of the ER, the applicant applies a multiplication factor of ten (10) 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. The applicant did not provide a description of how they derived this multiplication factor.	Human health/radiological	IHPB/NRC
196	Table 4.5-1 in the ER should have a column showing the TEDE annual dose (sum of whole body and critical organ annual doses).	Human health/radiological	IHPB/NRC
197	Section 4.5 of the ER should include a site map indicating the location of the internal and general area TLDs used to estimate the direct radiation dose to the construction workforce.	Human health/radiological	IHPB/NRC

Note: There are no land use or alternative needs available at this time.

Table X-1. Information Need

Activity	Pre-construction/Construction	Total # acres Impacted	Number of forested acres impacted	Type of forest impacted	Type of impact in forested area	Number of wetland acres impacted	Type of wetland impacted (jurisdictional/ not jurisdicational)	Type of impact on wetlands	Any dredge and fill associated with activity? Quantities?	T&E survey of area impacted?	Mitigation measures