August 21, 2008

Mr. Bryan J. Dolan, Vice President
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P.O. Box 1006 – EC09D
Charlotte, NC 28201-1006

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING THE ENVIRONMENTAL REVIEW OF THE COMBINED LICENSE APPLICATION FOR WILLIAM STATES LEE III NUCLEAR STATION, UNITS 1 AND 2

Dear Mr. Dolan:

Attached are requests for additional information (RAIs) generated by the U.S. Nuclear Regulatory Commission (NRC) staff during its review of the Duke Energy Carolinas, LLC (Duke) William States Lee III Nuclear Station, Units 1 and 2 Environmental Report and the site audit conducted at the end of April 2008. The NRC requests that Duke provide responses to these RAIs within 30 calendar days of this letter in order to support the combined license application review schedule. If you have any questions, please contact me at (301) 415-0491 or via email at Jessie.Muir@nrc.gov or Ms. Linda Tello at (301) 415-2907 via email at Linda.Tello@nrc.gov.

Sincerely,

/RA for Tamsen Dozier/

Jessie M. Muir, Deputy Project Manager
Environmental Projects Branch 2
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos.: 52-018 and 52-019

Enclosure:
As stated

cc: See next page

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Requests for Additional Information (RAIs)

William States Lee Nuclear Station

Combined Operating License Application

Item	ESRP/ER Section	RAI	Supporting Information
		GENERAL	
1	10 CFR 51.45(c)	Provide a description the environmental impacts of pre-construction activities at the site and an analysis of the cumulative impacts of the activities to be authorized by the COL in light of the preconstruction impacts, as explained in COL/ESP-ISG-4, available at http://www.nrc.gov/reading-rm/doc-collections/isg/col-esp-isg-4.pdf on the NRC's public Web site.	
		TRANSPORTATION	
2	Section 3.8 and 7.4	Provide a full and detailed transportation analysis including the RADTRAN and TRAGIS input and output files that supports Sections 3.8 and 7.4 of the ER.	Information Need T-3.
		HYDROLOGY AND ALTERNATIVE PLANT SYSTEMS	
3	2.3 10 CFR 51.71(d)	Submit a discussion of the discharge characteristics of the Broad River (e.g., record used for analysis, average flow, 7Q10, drought years).	Describe alternatives considered, discarded, and used to amend incomplete daily average flows available from the USGS stream flow gage data from the Gaffney Station (No. 02153500). Provide a copy of the calculations made to augment the Gaffney record using available data from Station No. 02153200 (near Blacksburg) and Station No. 02151500 (near Boiling Springs). Information Need H-5.

4	2.3 10 CFR 51.71(d)	Submit a discussion and figure with annotation on location of springs (in or near the Cherokee site) relative to existing grading, cuts, and fills.	Several springs were flooded or backfilled during construction at the Cherokee site, others remain undisturbed. Identify each of the pre – Cherokee construction springs and any new springs or seeps that have developed after construction. Information Need H-26.
5	2.3 10 CFR 1.71(d)	Submit a discussion (and possibly a figure) of prior storm water control structures, such as underground drains and their bedding materials – to clarify their potential to create preferential surface and subsurface flow paths.	Focus on prior design aspects that do or don't present opportunities for flow, (i.e., preferential flow paths to be used in other aspects of the Environmental Report and FSAR analyses). Information Need H-27.
6	2.3 10 CFR 51.71(d)	Submit the Cherokee groundwater hydrology data set(s).	These data sets are needed to support the 1973 water table map (Fig 2.3 - 12), and for the plotted radius of Figure 2.3 - 13 specify which years of groundwater data were used to establish the drawdown zone. Identify the conductive zones of the aquifer intercepted by the Mullinax well and impacted by the dewatering exercise influence during Cherokee construction (Fig 2.3 - 13). Information Need H-29.
7	2.3 10 CFR 51.71(d)	Submit a summary of the process followed to develop, discard and adopt plausible alternative conceptual models of the groundwater system, and plausible alternative groundwater pathways.	It is critical that a process be described that defines alternative routes to the public from the nuclear island. Why have routes toward Make - up Ponds A and B been eliminated? How was the future water table defined for the period following construction of the nuclear island facilities, completion of backfill and grading of the site? Information Need H-31.
8	2.3 10 CFR 51.71(d)	Submit the calculation package for groundwater movement. Identify in Tables 2.3 - 4 and 2.3 - 6 the parameters that were measured and which were estimated. Note, where possible, the corroboration of values determined for the Lee Nuclear Station with published values used to represent similar settings elsewhere in the Piedmont region.	This package is to contain all data and calculations supporting the derived hydraulic conductivities, soil properties, distances, hydraulic gradients, pore water velocities, "conservative" effective porosities, etc., that ultimately lead to estimates of groundwater travel time. Information Need H-32.

9	2.3 10 CFR 51.71(d)	Submit monthly precipitation amounts for the period October 2005 through April 2007 which predates and corresponds with the water table data in Figure 2.3 - 15. Submit an explanation for the relationship between precipitation received during this period, groundwater levels, and normal monthly amounts of precipitation.	One of the goals of the one - year monitoring period portrayed by Figures 2.4 - 13 and 2.3 - 15 is to demonstrate how groundwater height and flow direction responds to precipitation spatially and temporally. Provide monthly precipitation amounts with the figure (i.e., for April 2006 through April 2007). Explain how the precipitation received during this period related to normal monthly amounts. In addition, characterize the precipitation conditions for the 7 months (i.e., Oct 2005 to April 2006) prior to the monitoring period to provide context to the start of the observation period.
10	2.3 10 CFR 51.71(d)	Submit a description of how the depth data in Figure 2.3 - 17 have been adjusted or rectified to reflect the correct elevation for the hydraulic conductivity data points. Include an explanation of how the depth differences add “noise” and “bias” to the K versus depth comparison.	Figure 2.3 - 17 displays conductivity data as a function of depth. The figure combines data from two separate time periods (1970s and 2006) that have distinctly different surface elevations (and thus different depths) because of the geoengineering of the site.
11	2.3 10 CFR 51.71(d)	Submit a discussion of the diffuser ports and sedimentation, and describe sedimentation issues (and remedies) at Ninety-Nine Islands Dam in the vicinity of the planned construction and operation of the diffuser.	Include a description of port clogging and potential dredging. Information Need H-42.
12	2.3 10 CFR 51.71(d)	Submit an explanation of runoff and evaporation values for Makeup Ponds A and B.	Submit an explanation of runoff values for Makeup Ponds A and B, (i.e., reference to the Make - up Pond A and B values of 629 gpm and 2291 gpm respectively, appearing on p 2.3 - 11). Information Need H-53.
13	2.3 10 CFR 51.71(d)	Submit a quantification of the distribution of well depths in the region. Provide a reference for trends to abandon wells and to convert to municipal water supplies.	Quantify the distribution of well depths in the region. If there are any wells deeper than 150 ft deep, provide the number and whether any are within a mile of the plant boundary. If the modern trend is for people to abandon wells and convert over to municipal water from Draytonville and Gaffney (or elsewhere), provide a reference.

14	3.4 10 CFR 51.71(d)	Submit a table showing the concentrations in four - cycle blowdown water to be discharged to the Broad River.	Information Need H-45b and H-66.
15	4.2 10 CFR 51.71(d)	Submit a letter from the Gaffney Board of Public Works stating that existing capacity for treating drinking water and wastewater is sufficient to meet the needs of the proposed Lee Plant.	Potable water for use during construction is to be provided by the Draytonville Water District, which obtains its water from the Gaffney Board of Public Works. Wastewater treatment is to also be provided by the Gaffney Board of Public Works. Information Need H-13.
16	4.2 10 CFR 51.71(d)	Submit a high level description of prior, current and proposed dewatering efforts.	This description of prior and proposed events will provide needed background information on the use of prior and current dewatering data sets and their applicability to characterize future dewatering. Include in the description of the proposed construction dewatering effort the expected flow rates (amounts), where dewatering product to be disposed, and the quality of the dewatering product. Information Needs H-36 and H-39.
17	4.2 10 CFR 51.71(d)	Submit a summary statement regarding the construction aspects and impacts for causeway removal for both Make - up Ponds A and B.	Include a summary level discussion of the method of causeway removal to be employed, an approximation of the material to be removed, the probable location of its disposal or future use (if on - site), and the impacts of this construction activity. Information Need H-54.
18	4.2 10 CFR 51.71(d)	Submit a summary statement regarding the construction aspects and impacts on the ponds and other environments for construction activities other than causeway removal associated with Make - up Ponds A and B.	For example, provide aspects and impacts for construction of intake canals and structures, discharge canals and structures, pumping stations, etc. Include a summary level discussion of the method of construction (e.g., sheet pile walls to be employed) and the impacts of this construction activity. Information Need H-54a.
19	5.2 10 CFR 51.71(d)	Submit a description of the objectives to be met by the monitoring system design (as implemented at other Duke facilities), and, in general, how they are met.	For example, describe the objectives and design of networks of sequentially spaced monitoring wells, sentinel wells, and site boundary wells. Information Need H-40.

20	5.2 10 CFR 51.71(d)	Submit CORMIX input and output files for all CORMIX simulations from which results are extracted and shown in the application.	Information Need H-57.
21	5.2 10 CFR 51.71(d)	Submit a description of any low flow river discharge condition required of plant operation. Include complete documentation of the analysis of the low - flow issue.	Provide a description of the river discharge condition and the plant operational scenario; provide a description of the physical setting (diffuser and downstream); provide the temperature and DO impacts of such a discharge limiting condition of operation; and make any supporting calculations available for review. Information Need H-57a. Regulated low flow across the Ninety-Nine Islands dam is 483 cfs; at this value it becomes a run - of - the - river situation. However, Duke proposes to continue to pump and discharge 23 cfs below this river discharge. The question is, is there a low river discharge limit for plant operation?
22	9.4 10 CFR 51.71(d)	Submit a discussion of the wet - dry (hybrid) cooling tower technology relative to the Lee Nuclear Station application.	The focus of this statement is to address the influence of the size of plant, plume abatement, and the timing of water conservation need on the potential applicability of a wet - dry (hybrid) cooling tower technology at the Lee Nuclear Station. Information Need H-63.

SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE			
23	2.5.2 NRC Regulatory Basis: 10 CFR 51.45 (c),10 CFR 51.71 (d)	Provide information on unemployment and the correlation between unemployment and population growth.	Provide more detailed information on construction - related unemployment in the 50 - mile region and the correlation between local unemployment and population growth in the area. Also provide appropriate citations for this labor information. Information Need SE-2.
24	2.5.2 NRC Regulatory Basis: 10 CFR 51.45 (c),10 CFR 51.71 (d)	Provide information on the status of roads in the local vicinity such as road ratings, maintenance and repair.	More information is needed on road conditions of local roads near the site such as road ratings and traffic counts to identify potential choke points in the transportation network. Local road ratings are included as part of the Lee Nuclear Station Transportation Assessment (LNSTA) as are the traffic counts. These excerpts from the LNSTA are requested. Also, provide information on current and future planned maintenance and repair of roads by state and local governments. The Environmental Report states there is an adequate road network for those who opt to live outside of York and Cherokee Counties (i.e. Charlotte, Spartanburg, Shelby)—explain this road network in more detail including relevant (likely commuter) North Carolina traffic and transportation information within the 50 - mile region. Information Need SE-3a.

25	4.4.1	Provide information on McKowns Mountain Road.	Provide the number of residences and businesses along McKowns Mountain Rd and describe any potential disproportionate effects that may be felt by the residents and businesses. Describe the impact that the estimated number of construction workers (3125) with shift assumptions will have on McKowns Mountain Rd. given it has a capacity of 1700 vehicles an hour one way. Also, describe any improvements (i.e. widening, creating a turning lane etc.) Duke plans for McKowns Mountain Rd. and any effects this will have on residences along the road. Information Need SE-9.
26	4.4.1	Provide a discussion of new roads planned and improvements on existing roads inside the site.	Expand the discussion in Impacts to Transportation Section 4.4.1.3 in regards to the statement "Construction is planned for new roads and improvements on existing roads inside the Lee Nuclear Site Boundary." Include such information as what roads are planned, which ones will be improved, and when will this take place. Information Need SE-10.
27	4.4.2	Provide additional discussion of socioeconomic impact assumptions concerning commuter patterns.	It was explained at the site audit that Cleveland, Spartanburg, and Mecklenburg Counties were left off the socioeconomic analysis (impacts were analyzed for York and Cherokee Counties only) as they believed the impact would be too diffuse by that point to be a major concern. Also cited were the LNSTA and the Shaw construction information as a basis for these assumptions; however, these assumptions need more supporting data. Thus, provide additional explanation regarding how the commuter patterns included in the LNSTA support these assumptions.

28	4.4.2; 4.4.1.3, Regulatory Guide 4.7	List commitments to reduce traffic impacts of construction.	Regulatory Guide 4.7, "General Site Suitability Criteria for Nuclear Power Stations" describes the evaluation of the socioeconomic impact of new nuclear stations on the surrounding community. Part of these considerations involves increased traffic during both construction and operation of the Lee Nuclear Station. At the site audit, scenarios from the Lee Nuclear Station Transportation Assessment were discussed such as building a park and ride, widening/adding lanes of roads, staggering of shifts etc. Provide the approach that has been chosen. Describe the impacts and corresponding mitigation measures.
29	4.4.2	Provide a copy or summary of the Shaw Construction Study.	Provide a copy of the WEC/Shaw study of construction population or a summary. This study was the basis of several assumptions in the Environmental Report such as workforce/labor assumptions, in - migration of workers, region of interest assumption etc. Information Need 2b.
30	5.8.2	Provide a discussion of Duke's tax/fee in lieu payments to the county.	Provide a discussion of Cherokee County's current budget or projected budget and Duke's estimated payments (tax and/or fee in lieu) to the county. What percent of the county's budget will come from Duke? Information Need SE-12.
31	9.3.2	Provide an explanation of assumptions regarding family sizes.	There were inconsistencies related to the assumed number of construction workers required and corresponding in - migration assumptions between Chapters 2, 4, and 9. Enercon explained that chapter 9 was completed well ahead of 2 and 4 and that these were preliminary assumptions. Thus, the assumptions in Chapter 9 should be revised with the updated information, as well as the corresponding impacts.

32	9.3.2	Provide additional socioeconomic information for alternative sites.	In order to evaluate the demographic, social, and economic impact of constructing and operating a nuclear plant at the alternative sites, appropriate demographic assumptions related to the in-migrating construction and operation workforce are needed. Specifically, provide the demographic assumptions and basis for the number of in-migrating construction workers and operations workforce as well as the expected number of family members and school-age children for each alternative site. Please state if Duke is using the same workforce assumptions (i.e. number of construction and operations workers and the percentage that are in migrating) for all three alternative sites as for the primary site and how this would impact the local population. In addition, provide the tax revenue impact expected from operation of a nuclear plant for each region hosting an alternative site. Address the relative tax impacts to the local communities and where these impacts would be felt. From your review of the alternative sites, describe any notable community characteristics that would be significantly impacted such as transportation, recreation, housing, education, public services, and the local economy. For example, state any notable transportation bottlenecks and significant modifications that would be needed to host a nuclear site in the area.
33	10.4.1	Provide a summary of Duke Energy's outreach in the community.	Provide a summary of the outreach Duke Energy has done in the local community and/or expected outreach activities in Cherokee County and the Lee Nuclear Station region such as forming a transportation committee to look at the impacts to McKowns Mountain Rd.

34	10.4.1	Provide a consistent explanation of taxes.	Provide a consistent explanation of taxes between chapters 2, 4, 5 and 10. Currently the Environmental Report doesn't discuss the same kinds of taxes between chapters (for example some talk about sales tax while other chapters don't). Provide a write up discussing taxes that consistently addresses the same types of taxes and the corresponding impacts on the community for all 4 chapters.
COST BENEFIT			
35	10.4.1	Incorporate unplanned outages on expected generating capacity.	Consider the possibility of incorporating the 3% unscheduled outages conditions that are included in the Integrated Resource Plan as part of the overall estimated expected net generation of the plant e.g. the defined benefit.
36	10.4.2	Provide information on construction costs.	Describe why the Keystone study estimate of overnight capital cost was used as the basis (considering that there were a number of different studies from which to choose) for the Lee Nuclear Power station overnight capital cost estimate. In addition, specify the annual real escalation rate used to escalate costs to 2007 dollars and on what this escalation rate is based. Describe the financing cost assumptions (i.e., interest rate) on which the resulting overnight capital cost estimate is based.

37	10.4.1	Provide additional quantification of estimates of the economic benefits and costs of the construction and operation of the Lee Nuclear Station.	Quantify benefits and costs shown in Tables 10.4.1 thru 10.4.4 in monetary or other appropriate terms whenever possible and determine their significance to the region. Estimate missing or non - quantified “internal” benefits such as the market value of net electrical generation of the proposed plant and external benefits such as local and regional environmental improvements. In considering costs, provide monetary estimates of missing internal costs, such as allowance for funds used during construction (unless they are already included in the overnight cost estimate already provided) and the estimated capital cost of added transmission lines to support the proposed project, even if the lines are not paid for by the Applicant. To the extent practicable, monetize significant external costs, such as the direct costs to the regional environment. In considering external costs, if practicable, estimate the annualized monetary value of the external cost associated with the hydrologic impacts during droughts, and describe or reference the method used to develop the cost data.
RADIOLOGICAL HEALTH			
38	2.5	Reconcile Figures 2.5 - 1 and 2.5 - 2 with Tables 2.5 - 1 and 2.5 – 2.	The values presented in Figures 2.5 - 1 and 2.5 - 2 are described as representing the Year 2007 population distributions. However, they do not match the values for 2007 tabulated in Tables 2.5 - 1 and 2.5 - 2; they are lower. Is it possible that the figures are actually for the year 2000?

39	5.4.2.1	Provide background for the use of 19,293,442 person - hours/year as an input to LADTAP - II for swimming, boating, and shoreline activities. Explain the omission of swimming and boating doses from the Environmental Report.	Section 5.4.2.1 describes pathways from liquid effluents as including eating fish and invertebrates, using the shoreline, and drinking water. The full 50 - mile population projected for the year 2056 is assumed to be exposed to the river pathways. However, the person - hours for the external pathways are asserted but not defined; they are approximately equal to 4.6 hours per person per year for each pathway. Doses presented for the external exposure pathways do not include swimming or boating, unless these pathways are rolled in to the shoreline dose.
CULTURAL RESOURCES			
40	2.5.3 36 CFR 800	What information is available on the cultural resources surveys completed for the gas line and DOT studies in the vicinity of the Lee Plant?	Provide a copy of the unpublished cultural resources survey reports completed on the gas line and for DOT.
41	2.5.3 36 CFR 800	What information is available on the archaeological reconnaissance of the Gaffney By - Pass?	Provide a copy of the unpublished report on archaeological reconnaissance of the Gaffney By - Pass.
42	2.5.3 36 CFR 800	What consultation process will be used to contact interested parties? Will interested parties be formally consulted with for all APEs? (including on - site, off - site, above - ground, and transmission lines)?	What is the process for identifying Interested parties with respect to the on - site, off - site, and above - ground resources APEs? Will the Cherokee Historical Society be contacted? Information Needs CR-1 and CR-21.
43	4.1.3 and 5.1.3 36 CFR 800	What written procedure details the commitment to conduct cultural resource reviews for future APEs not yet analyzed (e.g. discharge structure and transmission lines)? Are there commitment/management practices for addressing cultural resources for future ground disturbing work associated with construction as well as future activities that may occur throughout the duration of the licensee?	Does Duke intend to establish a written procedure that details a commitment to conduct cultural resources assessments and consultation with SHPO, Tribes and interested parties for construction and operation areas not yet addressed by the Environmental Report?

44	4.1.3; 36 CFR 800	Describe how it was concluded that cultural resources monitoring will not be conducted.	Information Need CR-25.
45	4.1.3 and 5.1.3 36 CFR 800	Is there a written procedure that outlines how Duke will formalize a process (such as stop work orders, consultation with SHPO, tribes and avoidance/mitigation measures) for dealing with inadvertent and unanticipated discoveries?	Is there a written procedure that outlines how Duke will formalize a process (such as stop work orders, consultation with SHPO, tribes and avoidance/mitigation measures) for dealing with inadvertent and unanticipated discoveries? Information Need CR-24.
46	5.1.3 36 CFR 800	How were cumulative impacts and secondary impacts to cultural resources evaluated?	What is Duke's analysis of cultural resources cumulative impacts and secondary impacts resulting from ongoing maintenance and from implementation of other protective measures identified for ecological resources?
47	9.3 10 CFR 51 36 CFR 800	Describe process for weighting cultural resources in the alternative site analysis. Provide references consulted for this analysis.	Section 9.3 of the ESRP directs the staff's analysis and evaluation of alternatives to the Applicant's proposed site for the construction and operation of a nuclear power plant. Cultural resources are briefly described in the Applicant's siting study, but additional background information is necessary to evaluate the process used. Provide the thresholds for inclusion of potential cultural resource impacts in the evaluation and the weighting criteria used for their evaluation. Also provide the assumptions made for the evaluation and references consulted to conduct the analysis.
ALTERNATIVE ENERGY			
48	9.2.3 10 CFR 51	Provide a quantified evaluation of natural gas-combined cycle power generation as an alternative to the proposed action.	The analysis must evaluate 'competitive' and 'feasible' alternatives or combinations of alternatives, and should include natural gas-combined cycle power generation operating in baseload (>5000 operating hours per year). The options are evaluated in terms of environmental, health, and economic costs of the alternative compared to the proposed action. Provide an analysis that enables staff to evaluate natural gas-combined cycle both as a discrete power source capable of 2000 MW, as well as in

			combination with other alternative energy sources.
METEOROLOGY AND AIR QUALITY			
49	2.7.2 10 CFR 100.10 Regulatory Guide 1.23	Are the differences in the predominant wind direction measured at the Lee Nuclear Station and Greenville - Spartanburg the result of local channeling of the flow, or a measurement error?	Results from the Lee Nuclear Station meteorological data presented in Sections 2.7.2.1.1 and 2.7.2.1.2 of the Environmental Report show a large difference in the predominate wind direction measured at the Lee Nuclear Station to that measured at Greenville - Spartanburg. Is this behavior due to local channeling of the flow during light wind conditions, or the result of a measurement error? Additional analysis is required to determine the cause of these differences.
50	2.7.4 Regulatory Guide 1.111	Provide the XOQDOQ input (including the associated meteorological data file) and output files.	Audit Information Need.
51	5.3.3; Regulatory Guide 4.7	Provide input (including the associated meteorological data file) and output files for the Seasonal/Annual Cooling Tower Impact Prediction Code (SACTI) computer code for analysis.	Provide input (including the associated meteorological data file) and output files for the Seasonal/Annual Cooling Tower Impact Prediction Code (SACTI) computer code for analysis.
52	5.3.3.1; Regulatory Guide 4.7	How large are the SWS cooling towers?	The size of the SWS cooling towers is not described in the Environmental Report. How large are the SWS cooling towers?
AQUATIC ECOLOGY			
53	2.4.2 – 1 10 CFR 51.45 Regulatory Guide 4.2 Section 6.1	Provide the following documents: Barwick et al. 2006. Fishery resources associated with the Lee Nuclear Station Site; Cherokee County, South Carolina. How does the size-class distribution	NRC staff must be able to adequately describe how the quantitative abundances presented in the Environmental Report were determined in their EIS. This means the NRC staff must be able to review specific methods that were used to perform the aquatic surveys. The NRC staff also needs this information to determine whether the

		of fish compare with other rivers in the Piedmont region? Data tables associated with Barwick document. Dewort and McKorkel. 2006. Macroinvertebrate surveys in the vicinity of the proposed Lee Nuclear Station; Cherokee County, South Carolina	findings presented in the Environmental Report are comparable to studies completed by other researchers that are reported in the scientific literature. By providing the size - class distribution of fish encountered during Duke's 2006 fish surveys, NRC staff will be better able to evaluate habitat usage in the vicinity of the proposed plant by various life stages of fish species. Putting the local information in perspective with regional fisheries data will allow staff to describe the relative significance of important aquatic habitats in a regional context.
54	2.4.2; Regulatory Guide 4.2	Provide the Cherokee FES 1978 ichthyoplankton data collected from the Broad River from September 1974 through mid June 1975, including the methods and results applied to this particular data collection effort. See sections 2.7.2.2 and 5.5.2.1 of the FES.	Because more recent data is not available, the NRC staff wants to review the data and ichthyoplankton collection methods from the 1974 - 75 sampling effort to provide some basis for their analysis of entrainment effects of station operation.
55	3.4.2 3.4.2.1 10 CFR 51.45 10 CFR 52	Provide the finalized Make - Up Ponds A and B intake structure designs and updated descriptions when they are available. Include information on any fish - friendly parts of the design, or indicate why they are not included in the final design.	During the site audit (April/May 2008), information provided on the design of the new intake structure that will be constructed in Make - Up Ponds A and B was unclear. This was based in part on the uncertainty as to whether fish would be completely removed from the ponds or not and therefore whether fish - friendly screens would be required to meet best available technology standards for protecting aquatic species from entrainment and impingement.
56	3.4.2.1 10 CFR 51.45 10 CFR 52	Provide the finalized cooling water intake and discharge structure design and an updated description when it is available. Include information on traveling screens and parts of the design that make it "best available technology" for protecting aquatic organisms.	During the site audit (April/May 2008),the information provided was unclear on the design of the cooling water intake structure and how it would meet best available technology for protecting aquatic species from entrainment and impingement.
57	4.3.2.1.1 10 CFR 51.45	Provide a summary of Duke's expected work windows associated with construction of the intake	The purpose of this request is to obtain information that the NRC staff can cite in the EIS that illustrates how Duke

		and discharge structures. These should be linked to the USACE and SCDNR permit requirements for working in waterways.	will be limiting their construction work in and near waterways to those times when fish and other aquatic organisms are least likely to be negatively impacted. For example, it would be helpful to have a write - up from Duke that discusses their intent on working during the fall season due to naturally low flows and the avoidance of fish spawning activities in the river.
58	5.3	Explain how plant operations would or would not be likely to impede the up - or downstream migrations of diadromous fish (especially the American eel, American shad, and blueback herring, but also the Atlantic sturgeon and shortnose sturgeon). Also describe how plant operations would or would not be likely to negatively impact these diadromous fish populations during the life stages when they would likely be present near the proposed Lee site (i.e., in Broad River immediately below the Ninety - Nine Islands Dam or in the Ninety - Nine Islands Reservoir).	The Santee River Basin Accord was recently signed by Duke, SCE&G, SCDNR, NCWRC, and USFWS. Based on this agreement, construction of a fish passage facility at Neal Shoals could occur as early as 2016. If fish passage is successful at Neal Shoals, it is possible that fish passage facilities will then be constructed at Lockhart Dam, and possibly even at the Ninety - Nine Islands Dam during the lifetime of a Lee Operational Permit. American eel, American shad, and blueback herring are historically known to have ascended SC rivers inland of the fall line and into NC. The Atlantic sturgeon and shortnose sturgeon may have been stopped in their upstream migrations at the fall line, but the evidence is not clear regarding how far upstream they might migrate.
59	5.3.1.1.3 10 CFR 51.45 Regulatory Guide 4.2	Provide information on the expected “normal” and expected “maximum” extent, frequency, and duration of drawdown of Make - Up Pond B? What periods of record have been analyzed to answer this question? If analysis is limited to the 81 year record would these values change if a shorter, more recent record was examined (e.g. the last 10, 20, or 30 years)?	Drawdown in Make - Up Pond B could impact aquatic life by reducing the amount of habitat available for organisms and/or by affecting water quality. To estimate the significance of such an impact, the NRC staff would like to know more about the projected need to draw down the pond during plant operations in both normal and low - water years. The estimates will likely be based on past records. NRC staff would like to know if Duke’s projections for the 81 - yr period of record would change if a shorter, more recent period of record were considered.

60	5.3.1.1.3 10 CFR 51.45 Regulatory Guide 4.2	Provide a discussion on the “normal” and “maximum” time frames for recharge of Make - Up Pond B following water usage during low flow conditions? During the site audit discussions in April/May 2008, Duke representatives were asked to generate a scenario that shows duration and frequency of drawdown.	Drawdown in Make - Up Pond B could impact aquatic life by reducing the amount of habitat available for organisms and/or by affecting water quality. During the site audit (April/May 2008), the Applicant indicated that the pond would be re - filled between low - flow events. However there would be no requirement to refill Make - Up Pond B when the plant restarts, meaning it is possible that the pond levels could remain low for an extended time period. To estimate the significance of such an impact to aquatic organisms in the pond, the NRC staff would like to know more about the expected normal and maximum durations of drawdown events in Make - Up Pond B.
61	5.3.1.2 10 CFR 51.45 Regulatory Guide 4.2	To adequately assess the magnitude of potential impacts associated with entrainment, provide data generated from an ichthyoplankton survey in the vicinity of the proposed cooling water intake structure that is more recent than 30 years. This may require further data collection efforts by the Applicant.	Because more recent data is not available, the NRC staff would prefer the Applicant collect new ichthyoplankton data to provide the best possible basis for their analysis of entrainment effects of station operation.
62	5.3.2 10 CFR 51.45	After Duke finishes their current study on sedimentation in the vicinity of Ninety - Nine Islands Dam, provide a copy of the report. This report should include information on the expected frequency of dredging required near the discharge.	Information on the frequency of dredging that will be required near the discharge structure is needed because dredging removes bottom sediments that may contain benthic macroinvertebrates.

63	5.3.2.2 10 CFR 51.45	Duke is requested to conduct further modeling of low flow events focusing on temperature increases during low flow periods and the predicted durations of these elevated temperature events to help ecologists determine the level of impacts to the small mouth bass population below the Ninety - Nine Islands dam? Modeling should include a re - evaluate of the CORMIX modeling results downstream of the dam, considering smallmouth bass thermal tolerances as an input.	The CORMIX model evaluated the thermal plume under various scenarios, but did not specifically look at the potential for water temperatures to impact the smallmouth bass. Under a feasible scenario (e.g., low water flow, normal discharge, dam not spilling water), would the water temperature be expected to exceed 79F (either above or below the dam) during April, May, or June? If so, what is the extent of the plume, and what would be a typical duration? At any other time of the year, would the water temperature above or below the dam be expected to exceed the 90F limit set by SCDHEC (e.g., low flow/normal discharge/dam spilling water or low flow/normal discharge/dam not spilling water)? If temperatures could exceed 90F, what is the extent of such a plume (above and below the dam)?
64	9.3 – 3 Regulatory Guide 4.2	Explain the rationale behind the coarse screening criteria for the cooling water supply in the Alternative Site Selection report.	During the coarse screening for the alternative site selection, a site with an existing lake/reservoir was given a higher score than a site with an existing lake/reservoir and a river. The NRC staff would like clarification describing why a site with apparently less water availability would rank higher than a site with potentially more water availability, because limited water availability directly and indirectly impacts aquatic biota. Would any of the rankings of sites have come out differently if the lake/reservoir and river sites had been scored higher than the lake/reservoir - only sites?

TERRESTRIAL ECOLOGY			
65	2.4.1	Provide the following technical report, “Herpetological Survey for the W.S. Lee III Nuclear Station, South Carolina: Potential Impacts of Operations on Semi-Aquatic Species” by Michael Dorcas, Herpetological Laboratory, Department of Biology, Davidson College, 6 December 2007.	
66	2.4.1	Provide copies of ecological data used to prepare the Environmental Report.	Provide copies of S.C. Natural Heritage Trust Program (NHP) data, U.S. Fish and Wildlife Service (FWS) county data, and National Wetlands Inventory information used to prepare relevant Environmental Report sections for the site and alternative sites and indicate the dates these data were obtained.
67	2.4.1	Provide documentation of clean-up of site contaminants that resulted from former site uses.	Provide documentation of clean-up of site contaminants that resulted from former site uses.

68	2.4.1	What is the final routing of the rail spur? What associated consultation has been conducted with state and federal agencies? Provide the locations(s) where any spoils from the railroad grade would be deposited.	Provide the final routing of the rail spur. This may be done by providing an updated electronic copy of figure 4.1.1-4 (rail spur) in reference 29 of chapter 2 of the Environmental Report (Environmental Report section 2.2.2, page 2.2-5). • If the final routing of the rail spur traverses natural habitat (e.g., forest as opposed to parking lot), also provide a GIS layer of the rail spur. Indicate the width of the rail spur ROW and the acreages of cover/habitat types crossed. • If the final routing of the rail spur traverses natural habitat, provide the results of associated biological surveys (vegetation communities, plants, wildlife, and wetlands, rare plant and animal species, etc.) within a reasonable buffer. • If the final routing of the rail spur traverses natural habitat, provide documentation of consultation with the SC Natural Heritage Program and U.S. Fish and Wildlife Service (Environmental Report Table 1.2-1) that will be forthcoming as indicated in discussions during the site audit.

69	4.3.1	Provide an assessment of the potential impacts from construction of the intake structure and intake pipeline on the alluvial wetland located upstream from the proposed intake location.	Provide the following information that will enable an assessment of the potential for impacts (sedimentation) of the alluvial wetland (located just upstream from the proposed intake location) from construction of the intake structure and intake pipeline (section 4.3.1.1.2, page 4.3-5 of the Environmental Report): • The length and location of shoreline that will be affected by the intake; • The aerial extent of the cofferdam for the intake; • The potential effects of the cofferdam on river currents (e.g., altered currents could potentially transport sediment just upstream to the wetland if a backwater were created); • The projected amount of spoils from the intake excavation and the location for the deposition of these spoils; • The projected amount of spoils from the excavation of the intake pipeline and the location for the deposition of these spoils; • A drawing depicting the above items; • Characterization (biota [vegetation and wildlife], hydrology, and soils) of the end of the wetland that could be impacted (end of the wetland close to the proposed intake structure); • Documentation of construction best management practices that will be employed.

70	4.3.1	Provide GIS layers of all components of the construction footprint onsite.	Provide GIS layers of the following components of the construction footprint onsite: the pipeline connecting Make-up Ponds A & B (note that Environmental Report Figure 4.3-1 does not show this pipeline), excavation areas for the removal of the existing discharge and water treatment basin in Make-up Pond A (note that the Environmental Report Figure 4.3-1 does not show these but they are indicated in the "Preliminary Description and Design of Intake Structures"), and vegetation and wetland layers that will enable calculation of acreages of plant community types and wetlands to be disturbed. Provide a GIS layer for the two potential transmission line corridors. In addition, please provide a pdf file depicting all components of the construction footprint. Such a reference file is needed to ensure all pertinent GIS files are obtained.
71	4.3.1	Provide a copy of the ACE 404 permit for Make-Up Ponds A and B.	Provide a copy of the old ACE 404 permit for putting in Make-Up Ponds A & B, most likely issued sometime in the 1970s, including any associated mitigation recommendations, etc., issued for impacts to any wetlands onsite.
72	4.3.1	Provide documentation of specific construction best management practices for the intake and discharge structures.	Provide documentation of specific construction best management practices for constructing the Broad River intake and discharge structures and for the intake structures of Make-up Ponds A & B (if they need to be replaced).
73	4.3.1	Provide references for information in Sections 5.6 and 5.7 of the transmission line siting report.	Provide references for the information presented in Sections 5.6 (Land Cover) and 5.7 (Wildlife) of the transmission line siting report.

74	4.3.1	Provide a summary of work periods associated with construction that will minimize impacts to migratory birds during nesting season.	Provide a summary of Duke's construction scheduling practices that will minimize potential impacts to migratory birds during the nesting season, in consideration of federal Migratory Bird Act considerations.
75	5.6.1	What guidelines will be followed for transmission lines associated with the Lee Nuclear Site as regards minimizing avian electrocutions and collisions?	Duke indicated during the site audit that it generally follows the guidelines in "Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006" for all its power lines. Indicate specifically which guidelines are or will be followed for transmission lines for the new nuclear unit which will minimize avian electrocutions and collisions.
76		Provide the following documents: o DVD with Lee site files that should have accompanied the Bathymetry Study, prepared by Enercon, 2006. · o Detailed Bathymetry Report, prepared by DTA, 2008.	Provide the DVD containing the electronic files for the Lee site bathymetry (Appendix I): "Bathymetry of Surface Waters in Proximity to Three Proposed Nuclear Power Facilities: William States Lee Nuclear Power Station South Carolina, Bellefonte Nuclear Station Alabama, Grand Gulf Nuclear Station Mississippi by Enercon Services, Inc. in January 2007." Provide the "Ninety-Nine Islands Bathymetry and Velocity Study Report by Devine Tarbell and Associates, Inc." (May 2008) and supporting electronic files, if the report and files do not duplicate the DVD information.
77	5.6.1	Provide information as to Duke's commitment to and methods of regulating the population size of large mammals onsite once the site perimeter fence is repaired and maintained for the new plant (fencing may restrict or preclude animal movements to offsite locations and regulation [culling] may prevent possible large-scale habitat damage onsite due to overpopulation and possible animal die-offs).	
78	4.3 5.6.1	Provide the foreseen frequency of dredging, dredging footprint (ft^2), dredging depth (ft) and quantity of dredged material (yds^3) to be removed from the Broad River intake and discharge structures and for the intake structures of Make-up Ponds A and B during	

		construction and operation. Indicate the location(s) for dredged material deposition in each case.	
79	5.6.1	Provide documentation of all ROW practices (including vegetation) (elaborating on the information presented in section 3.7.5 of the Environmental Report) that would be used to maintain the final transmission line corridor that will ultimately be selected. Include documentation of the specific procedures that will be used to avoid, minimize, and/or mitigate construction impacts to wetlands and flood plains and terrestrial habitats associated with the selected corridor.	
80	5.6.1	Provide the surface elevation for Make-up pond A needed for cool safe shutdown.	
81	5.6.1	Are the ponds located just south of Make-up Pond A (see Environmental Report Figure 2.4-1) connected hydrologically to Make-up Pond A (e.g., via a culvert or semi-permeable material, etc.). If so, provide a bathymetric map with surface water elevations for these ponds. This is in relation to evaluating impacts to wetlands.	
82	5.6.1	For the “Future Water Use” analysis in Environmental Report section 5.2.2.2.1 (based on an 81-year period of record from 1926 to 2006), provide the response of Make-up Pond B, in terms of surface water elevation (or volume with a stage relationship so that surface water elevations can be calculated) over time (use a daily time step) during the following periods: 1) partial alignment to Make-Up Pond B for an actual 7-day period in 1.5 years plus the time required to	Do the same analysis using a more recent period of record.

		subsequently refill Pond B; 2) partial alignment to Make-Up Pond B for an actual one-month period in 6.4 years plus the time required to subsequently refill Make-up Pond B; 3) complete alignment to Make-Up Pond B for an actual one-month in 10.3 years plus the time required to subsequently refill Make-up Pond B; 4) partial alignment to Make-Up Pond B for 90 consecutive days in 12.2 years plus the time required to subsequently refill Make-up Pond B; and 5) for the 42 days of curtailment during June-September 2002 including any preceding period of partial and/or complete alignment prior to curtailment and the time required to subsequently refill Make-up Pond B. Also provide the response of Make-up Pond A, in terms of surface water elevation (or volume with a stage relationship so that surface water elevations can be calculated) over time (use a daily time step) during the above periods. This is in relation to evaluating impacts to wetlands.	
83	5.6.1	Provide information on how the new plants might actually be operated during drought periods that could reduce consumptive water loss, e.g., scheduled outage, ramping down energy production, etc.	RAI 85 82 assumes running both plants in full operational mode (except for curtailment) during a drought. Is this actually foreseen, or are there other possible operational scenarios that might be employed? This is in relation to evaluating impacts to wetlands.
84	4.3.1	Provide information on any stormwater basins, settling ponds, lagoons, or other such storage facilities, their potential on migratory birds (including waterfowl), and any design modifications in place to reduce such impacts.	
85	4.3.1; 5.6.1	Provide information on any night time security lighting that will be in place at the site during construction and operation.	

86	4.3.1	Provide information on any plans that would involve seeding non-native species in disturbed areas to control erosion.	
87	4.3.1	If one is available provide the management plan for the southern adder's tongue fern population on site.	
88	9.3	Provide a general description of terrestrial species associated with each alternative site.	Provide a general description of the terrestrial species for the general land/habit at cover types associated with each of the alternative sites.
ECOLOGY – AQUATIC AND TERRESTRIAL			
89	2.4.1	Provide information regarding the biota of the site, particularly within the construction footprint. In addition, provide information on the methodology used during associated fieldwork, and maps (GIS layers preferred) of all areas investigated, including sampling/observation points and locations of features of significance to the survey.	**Ecological Type Mapping:** For the ecological type mapping, provide references for the false-color infrared imagery used. Provide a map showing locations of transects and/or sampling points where the ecological type map in the Lee ER was ground-truthed. Indicate survey dates and survey personnel and their qualifications. Provide lists of dominant species in each vegetation stratum in the plant community types sampled during ground truthing (in an appendix). **Species Screen:** Regarding the species in Lee ER Table 2.4-5, in a matrix list the species and the important habitat affinities of each and references for this information. List the habitats available onsite and particularly in the construction footprint and cite any applicable references (e.g., from the ecological type mapping/ground truthing and any work by others). Compare habitat affinities and habitat availability and note a decision for each species as to the likelihood that it would be found onsite or not, and why or why not. For species likely to be found onsite, indicate in which habitats. Note whether the species was surveyed or not. The rationale should be clear for why certain species were not surveyed. In the above

			screening process, include the smooth coneflower (Echinacea laevigata), a Federally endangered species that was the subject of U.S. Fish and Wildlife Service scoping comment #0045-7. **Species Survey Methods and Results:** In the text, indicate the methods used to survey for each species and references for these. Use methods other than being "cognizant" of the species, i.e., use commonly accepted methods that are suitable for detection of the species in question (bird transects, anuran call surveys, etc.). If on-site surveys have not yet been conducted for any of the species of concern in Table 2.4-5 that were not excluded using the above process, particularly in and around the construction footprint, surveys should be conducted at the earliest possible convenience so that the results may be incorporated into the EIS. If surveys have been conducted, the methods and results need to be clearly documented, as indicated here. Produce a map showing survey locations (e.g., transects and/or sampling points, figures of soil maps for plants with specific soil-type affinities, etc.) for each species. Indicate survey dates, time of day where applicable, survey personnel and their qualifications, and level of effort (including duration), and weather conditions. Include any unusual events that might have affected the survey results. Provide corresponding survey results by species in table format, for the site as a whole and particularly for the construction footprint, and draw any relevant conclusions. Provide survey results in GIS files.
90	2.4.2 Regulatory Guide 4.7, Rev. 2 2.4.1	Once available, provide the results of the ecological surveys associated with the transmission line corridors, including habitat types traversed, locations of Federal- and State-listed species, and characterization of waterbodies, wetlands and	At the time of the site audit, the transmission corridors had only recently been sited. Because the land had not yet been acquired by Duke, ecological surveys had not been completed.

		floodplains that will be crossed.	
91	4.7 10 CFR 51.45 Reg. Guide 4.2	Provide a discussion of the cumulative effects of construction and operation impacts to the aquatic environment and include considerations on how current and future water uses may impact aquatic organisms in Ninety - Nine Islands reservoir and also below Ninety - Nine Islands Dam. This discussion should include examples of the following: o Other major water users on the Broad River and how their operations affect water availability for aquatic organisms, especially during low flow periods. o Other proposed water uses that could impact water availability in the Broad River (e.g. generating stations, municipal or industrial users, new/proposed reservoirs in the Broad River watershed) and how their operations could cumulatively impact water availability and quality relative to aquatic organisms utilizing waters in the vicinity of the Lee site.	To assist the NRC staff in fulfilling its obligations under NEPA to consider the cumulative effects of the proposed action and the alternatives, Duke is requested to submit a discussion on cumulative effects of construction and operation of the Lee Nuclear Station on the aquatic and terrestrial environment, including actions from any identified private enterprises, and federal, state, tribal, and municipal agencies.
92	4.3.2.1.2 10 CFR 51.45 Regulatory Guide 4.2, Section 5	Once the plans are finalized for fish management in Make - Up Ponds A and B (fish removal and possibly fish - friendly intake screens), provide of these plans. If fish removal is required, provide the plans for fish management in the make up ponds. Include how deep and how often the ponds would need to be drawn down to remove fish.	At the time of the site audit, plans for management of fish species currently residing in Make - Up Ponds A and B had not been finalized. Several scenarios were presented to the NRC staff during the audit including: a) removing fish from the ponds b) not removing fish from the ponds c) replacing current intake screens with fish - friendly screens d) replacing current intake screens with screens that were not specially designed to be fish - friendly In order to fully characterize the potential impacts to aquatic organisms in these ponds during construction and

			operation, the NRC staff must review the final plans for fish (and mussel) management in these ponds.
93	4.3.2.1.2 Regulatory Guide 4.2	Provide any correspondence with the SC Department of Natural Resources regarding the paper pondshell mussel. Are there plans for mitigation of potential impacts to the mussel?	The paper pondshell mussel (Utterbackia imbecellis) is a state species of concern and occurs in Make - Up Pond A. This species may be adversely impacted by siltation, dredging, and fluctuations in pond elevations due to project construction and operation. Because the paper pondshell is a state species of concern, it merits a discussion in the EIS, including any plans the Applicant has for transplanting the mussels (mentioned as a possibility during the site audit [April/May 2008]) or any other form of mitigation.
94	4.3.2.2 10 CFR 51.45 2.4.1	Provide a summary of the status and the proposed timing of the submission of applications for the following permits: o USACE Section 404 Dredge and Fill Permit o SCDHEC Permit for Construction in o Navigable Waters o FERC Water Use Permit o SCDHEC Water Withdrawal Registration o SCDHEC NPDES discharge permit o SCDHEC storm water permit o SCDHEC Section 401 Permit Also provide the status of and/or the time frame for beginning consultation with the following agencies regarding the proposed transmission routes. o USFWS o SCDNR	Because this is a new site, none of these permits currently exist. Also, because Duke does not yet own the land for the transmission line corridors, the corridors have not been surveyed for threatened or endangered species or their habitat. However, much of the information will be contained in the applications for these permits In addition, it is important for our assessment to review any new consultation correspondence between Duke and the various agencies related to the proposed construction and operation of a new nuclear unit at the Lee site and the aquatic environment.
95	4.2.2.5 40 CFR Part 423	Provide a copy of the following documents: o Duke's 1995 Best Management Practices	The NRC staff needs to review procedures that will be used to avoid, minimize, and/or mitigate construction

	Regulatory Guide 4.2	(BMPs) handbook. o South Carolina Stormwater Management and Sediment Control Handbook.	impacts (of transmission lines, intake/discharge structures, etc). The plans should include measures designed to mitigate or reverse undesirable effects such as noise, erosion, dust, truck traffic, flooding, ground water level modification, and channel blockage and how these activities will be monitored to evaluate impacts. The description should include plans for landscape restoration, protection of natural drainage channels or development of appropriate substitutes, measures taken to control rainfall runoff, installation of fish ladders or elevators or other habitat improvement, augmenting water supply for affected surface and ground water users, and flood and pollution control.
96	4.3.1 5.3.1.1 10 CFR 51.45	Describe any plans Duke has to develop additional backup water reserves in addition to Make - Up Pond B to lessen the potential for plant shut - downs and to avoid water availability conflicts in the future.	During the site audit (April/May 2008), the Applicant indicated they were currently looking at other options to increase water storage capacity beyond Make – Up Pond B. Provide a summary of the other options Duke is considering in addition to using Make – Up Pond B as cooling water during low flow conditions.
97	2.4.1; 4.3.1	Provide figure depicting wetlands, stream channels, and waters of US under the jurisdiction of the Army Corps of Engineers. Clarify if Make-up Ponds A and B are regulated by the Army Corps of Engineers.	Revise Figure 2.4-1 to reflect the waters under the jurisdiction of the Army Corps of Engineers.

ACCIDENTS – DESIGN BASIS			
98	7.1 10 CFR 50.34	Provide in electronic format the input and output files for the PAVAN code used to calculate the X/Q values for the evaluation of DBAs in the Environmental Report. Include all files required to run the code, including the formatted meteorological data file.	To be consistent with ESRP 7.1, the NRC staff has a confirmatory role in evaluating design basis accident (DBA) calculations. NRC staff will run the PAVAN code and compare the results of its calculations with the results of the Applicant's calculations. Therefore, provide in electronic format the input and output files for the PAVAN code used to calculate the X/Q values for the evaluation of DBAs in the Environmental Report. Include all files required to run the code, including the formatted meteorological data file.
99	7.1 10 CFR 50.34	What inputs to the PAVAN code change in going from Rev 15 to Rev 16 of the AP1000 DCD. Provide revised X/Q values (i.e., revise Table 2.7 - 79) that utilize the AP1000 Rev 16 design. Discuss what impact the revised X/Q values have on DBA doses presented in Tables 7.1 - 13 through 7.1 - 22 of the Environmental Report.	During the site audit, it was learned that some inputs (e.g., building area for wake calculations) used in the design basis accident (DBA) calculations to the PAVAN code utilized Rev 15 instead of Rev 16 of the AP1000 DCD. Identify what inputs to the PAVAN code change in going from Rev 15 to Rev 16 of the AP1000 DCD. Provide revised X/Q values (i.e., revise Table 2.7 - 79) that utilize the AP1000 Rev 16 design. Discuss what impact the revised X/Q values have on DBA doses presented in Tables 7.1 - 13 through 7.1 - 22 of the Environmental Report.

ACCIDENTS - SEVERE			
100	7.2 10 CFR 51.50(c)	Provide in electronic format the input and output files for the MACCS2 code used to evaluate the consequences of severe accidents in the Environmental Report. Include all files required to run the code, including the formatted meteorological data file.	To be consistent with ESRP 7.2, the NRC staff has a confirmatory role in evaluating severe accident calculations. NRC staff will run the MACCS2 code and compare the results of its calculations with the results of the Applicant's calculations. Therefore, provide in electronic format the input and output files for the MACCS2 code used to evaluate the consequences of severe accidents in the Environmental Report. Include all files required to run the code, including the formatted meteorological data file.
101	7.2 10 CFR 51.50(c)	Provide additional information and analysis to support the statement, "The liquid pathways dose is not expected to be significant" in the Section 7.2.2 of the Environmental Report.	Provide additional information and analysis to support the statement "The liquid pathways dose is not expected to be significant" in the Section 7.2.2 of the Environmental Report. Address dose risk from both ground and surface water pathways.

NEED FOR POWER			
102	8.3 10CFR51.71	What is the known or planned capacity and capacity additions within their service area, or in neighboring subregions where direct connection via high voltage transmission (>230 kV) would allow movement of power into the service area?	Section 8.3 of the ESRP directs the staff's review and evaluation of the present and planned generating capability and the present and planned purchases and sales of power and energy. What is the known or planned capacity and capacity additions within Duke's service area, or in neighboring subregions, where direct connection via high voltage transmission (>230 kV) would allow movement of power into the service area? This analysis should account for all available merchant capacity and capacity factors which would be able to serve native load. This should be consistent with committed and uncommitted interconnection requests as provided by SERC.
103	8.4 10CFR51.71	How does the proposed new capacity associated with the Lee plant fit with regional power planning references?	The SERC reserve and capacity margin projections out to 2016 suggest that all margins are expected to be maintained; estimates are provided in the NERC Long Term Reliability Assessment and SERC Regional Summary (July 2007) with one reference to 1600 MW of nuclear capacity interconnected in 2015. Reconcile the discrepancy and/or account for the VACAR specific reference to the 1600 MW of capacity in 2015 (if this is the Applicant's, both the MW rating and timeline are incorrect with stated information in the Environmental Report). Concurrently, Duke is requested to re - assess or reconcile the discrepancy between Section 8.3-3 of the ER and pages 35-36 of the IRP. Address the current and pending CPCN proceedings, the expected firm capacity from the Cliffside Station, Buck, and Dan River Combined Cycle Units, and capacity and reserve margin estimates year over year through Lee Nuclear Station commercial operation. (Example: Cliffside Station CPCN requested 1,600 MW; was issued 800 MW; and the IRP margin analysis shows 1,600 MW).