

PMLeeCol PEmails

From: Linda Tello
Sent: Wednesday, April 09, 2008 10:04 AM
To: tjbowling@duke-energy.com
Subject: FW: Table of information needs and requests for GIS layers and figures
Attachments: Lee Info Needs Summary.doc; Figure Numbers Requested from ER.doc; GIS Layers Requested for Lee COL.doc

Hearing Identifier: Lee_COL_Public_EX
Email Number: 47

Mail Envelope Properties (Linda.Tello@nrc.gov20080409100400)

Subject: FW: Table of information needs and requests for GIS layers and figures
Sent Date: 4/9/2008 10:04:24 AM
Received Date: 4/9/2008 10:04:00 AM
From: Linda Tello

Created By: Linda.Tello@nrc.gov

Recipients:
"tjbowling@duke-energy.com" <tjbowling@duke-energy.com>
Tracking Status: None

Post Office:

Files	Size	Date & Time
MESSAGE	3	4/9/2008 10:04:00 AM
Lee Info Needs Summary.doc	217154	
Figure Numbers Requested from ER.doc		71746
GIS Layers Requested for Lee COL.doc		82498

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Information Needs Lee COL Site Audit

Number = number of original information need.

Letter = information need added to the list of original information needs during the site audit.

Red text = Further definition of or addition to information needs as a result of site audit conversations.

Info needs #	Information Needs
General (G) Information Needs	
G-1	Please provide originals of ER figures given in the attached list in .jpeg, .png or .tif format at a resolution of at least 300 dpi, and sized correctly.
G-2	Please provide separate layers for GIS files given in the attached list as shapefiles.
G-3	Please provide ER references.
G-4	Provide the background information that supports all statements made and conclusions reached for each subject area for each alternative site (documentation is needed to show due diligence in gathering and using the best readily available information for a reconnaissance level review).
Land Use (LU)	
LU-1	<p>Please provide a knowledgeable expert on the site, transmission lines, access corridors, and rights of way. This expert should be able to address questions related to land use issues such as:</p> <ul style="list-style-type: none"> • Would projected access corridors to both plant and transmission lines including rights of way have any associated restrictions on development? • Would proposed access to transmission or access corridors be limited due to maintenance or seasonal uses (agricultural)? • Are existing roads/corridors required to be developed or upgraded and projected impact? • Would the disposition or volume of spoils or borrow pits impact their disposal or use?

Audit Information Needs – Summarized Version

Info needs #	Information Needs
Transmission Lines (TL)	
TL-1	Please provide an expert to discuss the effect on the overall transmission line corridor selection process of combining rare, threatened, and endangered species discussions with cultural resources discussion, wetlands discussion with water quality factors discussion, and floodplains and woodlands discussions with land cover discussions.
TL-2	Please provide print outs of S.C. Natural Heritage Trust Program (NHP) data and the U.S. Fish and Wildlife Service (FWS) county data and indicate the dates these data were obtained. Also indicate the date the National Wetlands Inventory database was accessed.
TL-3	Please provide an expert to discuss the status of ongoing consultations with the NHP and FWS regarding the selected transmission line corridors (as indicated in Table 1.2-1 of the ER).
TL-4	Please provide references for the information presented in sections 5.6 (Land Cover) and 5.7 (Wildlife) of the transmission line siting report, and a more detailed map (electronic if available) of the wetlands and floodplains crossed by the two selected transmission lines.
TL-5	Please provide an expert to discuss the upcoming field collection of wildlife and plant data (see page 48 of the transmission line siting report), including rare, threatened, and endangered species, and the delineations of wetlands along the two selected transmission line corridors. Specifically, be able to discuss the methods that will be used for each type of biota (e.g., birds, herpetofauna, mammals) and wetlands, and the anticipated schedule.
TL-6	Please provide an expert to discuss construction and maintenance practices (including ROW maintenance, elaborating on the information presented in section 3.7.5 of the ER) of the two selected transmission line corridors, and potential impacts on wetlands and flood plains and terrestrial habitats. Specifically, be able to discuss the procedures used to minimize impacts on these habitats. Please provide documentation of these construction and maintenance practices and impact minimization measures.
TL-7	Please provide an expert to discuss the potential upgrades to existing transmission line corridors alluded to in section 1.1 (page 1.1-4) of the ER.
TL-8	In relation to #8 above, please provide an expert to discuss any information similar to what is presented in section 2.4.1 (Terrestrial Ecology) of the ER for the existing transmission corridors which are not covered in section 2.4.1 of the ER).
Meteorology/Noise/Air Quality (Met)	
Met-1	Provide a meeting with individual(s) that have written the meteorology and air quality sections of the ER (Section 2.7)
Met-2	Provide input decks used for the X/Q calculations presented in Section 2.7.4.
Met-3	Provide a meeting with individual(s) that have written the meteorological monitoring section (Section 6.4). This should include a tour of the meteorological equipment, and a meeting with staff that operate and maintain the meteorological equipment.

Audit Information Needs – Summarized Version

Info needs #	Information Needs
Met-4	Provide a meeting with individual(s) with knowledge of the cooling system in order to evaluate issues related to noise and cloud formation from the cooling towers (Section 5.3.3.1.4-5.3.4.2).
Hydrology (H)	
H-1	Please have an expert available to describe the application and use of the RESRAD model.
H-2	Please have an expert available to articulate the sedimentation issues associated with the Broad River and intake and discharge structures.
H-3	Please have an expert available to discuss hydrologic impacts to wetlands (including surface water and groundwater impacts) during pre-construction, construction, and operation phases?
H-4	Please have an expert available who can provide a water mass balance diagram for regional water supply and consumption (e.g., river, holding ponds, evaporation, runoff, precipitation, seepage, etc.) associated with the various operational modes Power Operation, Start-up, hot Standby, Safe Shutdown, Cold Shutdown, Refueling (Full Core Offload).
H-5	Please have an expert available to discuss the discharge characteristics of the Broad River (e.g., record used for analysis, average flow, 7Q10, drought years).
H-6	Please have an expert available to discuss water use and impacts during construction, (e.g., influence of dewatering on the characterization data set, dredge spoil volume, dredge spoil disposal, potable water use, dewatering, and resulting areas of lesser and greater recharge).
H-7	Please have an expert available who can discuss water usage trends and supply, which may impact water availability after the plant begins operation (e.g., future demands of power generation, water use projections through the life of the proposed facility, and plant water use, surface water velocities, water supply shortages, future water use considerations, periodic dredging, river flow versus plant withdrawal, period of maximum demand, dilution, 5% source water annual mean flow, stage of Ninety-Nine Islands Reservoir, analysis applying FERC operating rules, and partnership on regional model).
H-8	Please have available an expert who is familiar with gaging station data, gaps in data, and surface water and groundwater monitoring programs, and hydrological monitoring (e.g., monitoring of radiological impact).
H-9	Please have an expert available to discuss the groundwater aquifer(s) (e.g., prior site setting, previously installed storm water drains, dewatering, nearest neighbor well(s), characterization, hydraulic conductivity data, and hydraulic gradients).
H-10	Please have an expert available to discuss the groundwater use, regionally and locally.
H-11	Please have available an expert who is familiar with the Circulation Water System and Service Water System (e.g., blowdown characteristics, location of feed systems, location of sampling for operational quality as well as release, sanitary drainage system discharge rate, and liquid effluents).

Audit Information Needs – Summarized Version

Info needs #	Information Needs
H-12	Please have an expert available to discuss water quality, (e.g., origins of the poorly buffered system observed, potential sources of fecal coliform and turbidity impacting the Broad River or sources less (or not) likely to be the source, mining, potential avenues of impact from other pollution sources, and potable water supply).
H-13	Please provide an expert who can discuss the impacts from obtaining water from the Draytonville Water System and discharging sanitary waste to the Gaffney Board of Public Works Wastewater Treatment Plant.
H-14	<p>Please have an expert available who is familiar with the permit applications and FERC license requirements, including</p> <ul style="list-style-type: none"> • The well permits - SCDHEC • Section 401 water quality certification - SCDHEC • Water withdrawal registration - SCDHEC • NPDES discharge permit - SCDHEC • NPDES storm water permit - SCDHEC • Water use permit - FERC • Permit for construction in navigable waters - SCDHEC • Section 404 dredge and fill permit - USACE • Jurisdictional wetland delineation - USACE • Dam repair permit - SCDHEC • Permit - construction and operation of public water distribution-SCDHEC • Temporary C&D permit - storing of engineered fill • Permits for dewatering in 2005 through present day - SCDHEC
H-15	Please provide personnel who would be able to discuss precipitation-driven runoff, sediment erosion, and other surface water features and events that might impact the environment during construction and operation.
H-16	Please provide an expert who can discuss the characteristics and operations of the holding ponds during times of drought.
H-17	Please provide an expert who can discuss the bathymetry and characteristics in the area of the intake (e.g., screen width and stream velocity near intake) and discharge structures, and water velocities at multiple depths and locations near the discharge structure.
H-18	Please provide an expert who can discuss the design and ramifications associated with the discharge structure, especially under low flow conditions.
H-19	Please provide an expert who can discuss thermal and chemical releases to the Broad River, including CORMIX analyses (input and output of CORMIX and the application of CORMIX associated with the discharge structure), analyses above and below dam, integration of dam and reactor operation, analyses of mean river water temperatures and high flow conditions, annual cycle of river and discharge temperature, and dilution factor.
H-20	Please have an expert who can discuss alternative plant heat dissipation and circulating water systems.

Audit Information Needs – Summarized Version

Info needs #	Information Needs
H-21	Please have an expert available to describe the presence of mineral and petroleum resources in the region surrounding the proposed site.
H-22	Please have an expert available to discuss the availability of GIS data underlying figures in the ER, (e.g., maps, drawings, bathymetry, site figures containing proposed and existing structures, and site boundaries for the proposed and alternate sites).
Terrestrial Ecology (TE)	
TE-1	Please provide an expert to discuss the status of ongoing consultations with the NHP and FWS regarding the rail spur and any necessary road work (as indicated in Table 1.2-1 of the ER).
TE-2	Please provide an electronic copy of figure 4.1.1-4 (rail spur) in reference 29 of chapter 2 of the ER (see section 2.2.2, page 2.2-5 of the ER), which details the 1,300-ft detour at the Reddy Ice Plant and areas where vegetation would be impacted, etc.
TE-3	Please provide an expert to discuss the regulatory status of the jurisdictional non-alluvial wetlands and the non-jurisdictional wetlands discussed in section 2.4.1.1.1 (page 2.4-5) of the ER, and the one alluvial wetland and other non-alluvial wetlands for which a jurisdictional/non-jurisdictional classification was not indicated in section 2.4.1.1.1 (page 2.4-5) of the ER.
TE-4	Please provide an expert to discuss the results of the site reconnaissance visits made in March, April, June, and October 2006 (see section 2.4.1, page 2.4-2 of the ER), for the site as a whole but in particular with respect to the construction footprint.
TE-5	<p>Please provide the following references at the site audit:</p> <ul style="list-style-type: none"> • Duke Power Company, <i>Project 81, Cherokee Nuclear Station Environmental Report</i>, Charlotte, NC, 1975. • Army Corps of Engineers (ACE) letter of review (issued September 24, 2007 [see section 2.4.2.6, page 2.4-37 of the ER]) of Duke’s preliminary wetland determination letter sent to ACE on August 14, 2006 (see section 2.4.1, page 2.4-2, and section 2.4.2.6, page 2.4-37, of the ER). • The report(s) for the information collected during site reconnaissance visits in March, April, June, and October 2006 (see section 2.4.1, page 2.4-2 of the ER).
TE-6	Please provide an expert to discuss the process by which the presence of suitable habitat onsite was precluded for 43 of the 60 species identified by the SC Department of Natural Resources species list and presented in Table 2.4-5 (see section 2.4.1.3.1, page 2.4-14 of the ER).
TE-7	Please provide an expert to discuss surveys conducted for dwarf-flowered heartleaf and Georgia aster. Also provide a map of soil types for the site for reference.

Audit Information Needs – Summarized Version

Info needs #	Information Needs
TE-8	Please provide an expert to discuss the limited building surveys for the southeastern myotis, surveys and level of effort for the loggerhead shrike and kestrel, and the field reconnaissance by which the observer could have determined the presence/absence of the northern cricket frog.
TE-9	Please provide an expert to discuss potential sedimentation effects to the alluvial wetland from construction of the intake structure (section 4.3.1.1.2, page 4.3-5 of the ER).
TE-10	Please provide an expert to discuss the schedule for obtaining an ACE permit (including any mitigation) for all the non-alluvial jurisdictional and the one alluvial jurisdictional wetlands onsite that could potentially be impacted, even indirectly, by construction (section 4.3.1.1.2, page 4.3-5 of the ER).
TE-11	Please provide an expert to discuss the SACTI modeling of salt drift deposition. Be able to discuss the cooling water salt concentration used (see Table 5.3-1, page 5.3-17 of the ER), the use of 656 ft as a downwind distance in the analysis (section 5.3.3.2.1, page 5.3-13 of the ER), and potential effects that could be obtained from modeling both sets of 3 cooling towers.
TE-12	Please provide an expert to discuss making power lines raptor-safe with regard to electrocution hazard (section 5.6.1, page 5.6-3 of the ER).
TE-13	Please provide an expert to discuss cumulative impacts to the terrestrial environment, including past, present, and expected future impacts (e.g., land use impacts from private enterprises and Federal, State, Tribal, municipal, agencies) to terrestrial resources in the region (information on cumulative impacts appears to be missing in the ER).
TE-14	Please provide an expert to discuss the maximum and minimum projected drawdown of Make-Up Ponds A and B and the duration of drawdown under normal and drought conditions – this is in relation to potential impacts to wetlands and wildlife use around the margins of those ponds.
TE-15	Please provide an expert to discuss the maximum and minimum projected drawdown of the Broad River and the duration of drawdown under normal and drought conditions – this is in relation to potential impacts to use of shoreline areas by wildlife.
TE-16	Please provide an expert to discuss wildlife use of shoreline areas around Make-Up Ponds A and B and the Broad River.
Aquatic Ecology (AQ)	
AQ-1	If available, please provide any correspondence with federal or state agencies (e.g., USFWS and SCDNR) regarding impacts to aquatic species in York County
AQ-2	Please provide a knowledgeable expert to discuss cumulative impacts to the aquatic environment in the region
AQ-3	Please provide a knowledgeable expert to discuss Best Management Practices associated with construction and operation/maintenance of the plant and transmission corridors, especially related to aquatic habitats.

Audit Information Needs – Summarized Version

Info needs #	Information Needs
AQ-4	Please provide a knowledgeable expert to discuss construction and operation of the proposed intake structure, including intake design, areas and aquatic habitats and species likely to be impacted, information on proposed timing and length of the construction period, and any predictions of the need for future dredging in the vicinity of the intake.
AQ-5	Please ensure a knowledgeable applicant is available at the site audit to discuss construction of the proposed discharge structure, including discharge location and design, areas and aquatic habitats and species likely to be impacted, as well as any information on proposed timing and length of the construction period.
AQ-6	Please provide a knowledgeable expert to discuss operation of the proposed discharge structure, including information on the mixing zone.
AQ-7	Please ensure a knowledgeable applicant is available at the site audit to discuss the current status of aquatic environmental permits and consultations (e.g., NPDES, Section 404, Threatened and Endangered Species related to the proposed transmission corridors and the area immediately downstream of Ninety-Nine Islands Dam).
AQ-8	<p>Please provide an expert knowledgeable about the aquatic ecological monitoring programs at the Cherokee/Lee site. This person should be able to discuss such topics as:</p> <ul style="list-style-type: none"> The methodology and results of the 2006 macroinvertebrate and fish surveys. (If a report was prepared documenting these surveys, please make it available for review during the site audit.) The basis for the decision that no post-operational monitoring of aquatic ecological impacts is necessary.
AQ-9	Please ensure a knowledgeable applicant is available at the site audit to discuss operation of the plant during low flow conditions (i.e., below 538 cfs) and the potential impacts (both positive and negative) to the aquatic ecosystem.
AQ-10	<p>Please provide a knowledgeable expert to discuss the potential for impingement and entrainment of aquatic organisms at the Lee site, and specifically to:</p> <ul style="list-style-type: none"> • Discuss the life history of resident and migratory fish species in the vicinity of the intake and discharge structures. This person should be generally familiar with the species present, spawning habitats, spawning timing and spawning methods/egg types. • Provide an estimate of the magnitude of the potential impingement and entrainment impacts on aquatic species populations and the aquatic ecosystem.
AQ-11	Please ensure a knowledgeable applicant is available at the site audit to discuss operational impacts of the proposed discharge structure, including information on the mixing zone and how the thermal plume may change under typical dam operating conditions and how impacts to aquatic biota would be expected to change through the seasons.
AQ-12	Please provide and expert to discuss construction and maintenance of the two new transmission line corridors, including ROW maintenance and its impacts on aquatic habitats. Specifically, be able to discuss the procedures used to minimize impacts on aquatic habitats.

Info needs #	Information Needs
AQ-13	Please provide a copy of the following reference for review during the site audit so we are able to review the early fish collection data. (Ref 5. in Section 2.4.3 of the ER) Duke Power Company, <i>Project 81, Cherokee Nuclear Station Environmental Report</i> , Charlotte, NC, 1975.
Socioeconomics/EJ (SE)	
SE-1	Please ensure a knowledgeable expert is made available to discuss population and demographic characteristics around the Lee site for both permanent and transient populations. The following topics should be addressed: <ul style="list-style-type: none"> • Information on the driving force behind the population increases projected for Cherokee and York counties and the expected additional 60,000 houses in York County by 2025. • Information on locations and schedules of transient population sources including the raceway and outlet mall. • Description of approach to estimate transient population projections in the region.
SE-2	Please have an expert available who is familiar with the labor characteristics and institutions in the region, including: <ul style="list-style-type: none"> • Information on construction-related unemployment and the correlation between unemployment and population growth (with appropriate citations for labor information). • Information on labor unions (that would likely be involved with plant construction activities) in the state.
SE-3	Please provide an expert who is able to discuss the following topics related to road networks and transportation in the area: <ul style="list-style-type: none"> • Status of roads in the area such as road ratings, maintenance and repair. • Road networks that exist for workers to commute from high populated areas (e.g., Charlotte, Spartanburg, Shelby). • Information related to relevant transportation and traffic information (i.e., likely commuter or emergency evacuation routes) in North Carolina. • Description of how supplies for the first units were transported and any problems that occurred.
SE-4	Please provide an expert who is able to describe the process (e.g., criteria and justification) for narrowing the regional scope of many of the socioeconomic factors, including political structure, to the two counties, York and Cherokee, and explain why neighboring counties such as Spartanburg and Cleveland were not included. As part of this explanation, the following socioeconomic topics should be covered: <ul style="list-style-type: none"> • Justification regarding why Cherokee and York Counties have the “greatest potential to be socio-economically affected.” • Justification (with relevant citations) regarding why it is assumed that construction/permanent workers will live in Cherokee or York county and not Spartanburg or Mecklenburg County, and bedroom communities of Charlotte. • Provide basis behind the assumption regarding which schools will be most impacted within the region.

Info needs #	Information Needs
SE-5	<p>Please ensure an expert is made available who could discuss community tax revenue sources and infrastructure characteristics in the region, including information on the following topics:</p> <ul style="list-style-type: none"> • Information on whether the site is currently hooked up to city water and sewer (and if not, what that would entail) and an estimate of usage. • Description of the location of Piedmont Medical Center and capacities of the health facilities and their ability to meet expected demand. • Information on non-profit NGO charity/social service groups and their level of service for the area. • Information on how the education system is financed in Cherokee County and in South Carolina, in general. • Information regarding private schools in the area • Growth rate for the school districts in the area. • Information on income tax for out of state workers and any reciprocity agreements SC has with other states.
SE-6	<p>Please ensure that an expert is made available to discuss the approach used to evaluate environmental justice characteristics in the area, including the following topics:</p> <ul style="list-style-type: none"> • Information on the number of census block groups with minority intensive populations (i.e., how many block groups are represented on corresponding GIS map provided on the topic 2.5-24). • Names or institutions of any local contacts that were made to verify information regarding subsistence practices (by low-income or minority populations) in the region.
SE-7	<p>It would be helpful to have additional information on how some of the original construction efforts on the Lee Site (when it was the Cherokee Site) impacted the region in order to provide some additional insight regarding how to assess some of the potential social and economic impacts of large-scale construction projects in Cherokee County. If any good references (e.g., company newsletters, newspaper articles, etc), were used to gather information to assess potential impacts or if these types of resources are known and available, please provide copies of these resources (or explicit references).</p>
SE-8	<p>Please ensure a knowledgeable expert is available to discuss the following workforce and construction assumptions (related to construction activities at Lee site):</p> <ul style="list-style-type: none"> • Construction shift assumptions • Assumptions related to the number, routing, and timing of truck deliveries • Workforce in-migration assumptions • Description of “other large construction projects in the region...” • Additional and/or updated information (if available) regarding annual expenditures within the region for materials and services during construction.

Audit Information Needs – Summarized Version

Info needs #	Information Needs
SE-9	<p>Please provide an expert with knowledge of the following information related to McKowns Mountain Road and its residents:</p> <ul style="list-style-type: none"> • Number of residences and businesses on McKowns Mountain Rd and, if possible, the demographics of the residents. • Description of any potential disproportionate effects that may be felt by these populations. • Basis for the small to moderate impact on McKowns Mountain Rd. • Description of the impact that the estimated 3125 construction workers (given shift assumptions) would likely have on McKowns Mountain Rd (with regard to congestion/capacity limitations), which currently has a capacity of 1700 vehicles an hour (one way). • Description of the expected socioeconomic implications of widening McKowns Mountain Rd.
SE-10	<p>Please ensure a knowledgeable expert is available to discuss the transportation and road impacts related to construction activities at Lee site, including issues related to the following topics:</p> <ul style="list-style-type: none"> • Usage data for roads surrounding the plant and peak travel times. • Plans by applicant to construct new roads and plans regarding improvements to existing roads within site and in vicinity of site. • Road map that identifies McKowns Mountain Rd and all the “tributary” roads that feed into major roads. • Update on the status of the regional traffic study commissioned by Duke for the Lee site region (or if study is now available, please provide a copy of this study).
SE-11	<p>Please describe the possible effects of construction on the Charlotte-Gastonia nonattainment area (as defined by EPA) and any mitigation strategies that could be implemented.</p>
SE-12	<p>Please explain the “in lieu of taxes” arrangement in detail such that it is clear which types of taxes are included, how and who (e.g., which taxing entities) negotiate the taxation arrangement, and what periods (e.g., during which part of construction phase or operation of plant) these arrangements are made</p>
SE-13	<p>Please ensure a knowledgeable expert is made available to discuss issues related to community infrastructure, and how Lee site construction activities may impact this infrastructure, including the following topics:</p> <ul style="list-style-type: none"> • Assumption related to individual water consumption. • Information related to impacts on medical facilities in surrounding areas and a description of any onsite first-aid/minor medical assistance that would be provided. • Information on hotel, motel, RV and trailer parks in the area.
SE-14	<p>Please describe in economic terms “market-driven mitigation.”</p>
Cultural Resources (CR)	

Info needs #	Information Needs
CR-1	<p>Provide a knowledgeable expert on the cultural resources <i>consultation process undertaken for the proposed action</i> on the Lee site, transmission lines, railroad spur and rail road right of way and within one mile of the Lee site, transmission lines, railroad spur and rail road right of way. This expert should be able to address questions related to the process such as:</p> <ul style="list-style-type: none"> • What was the basis for identifying stakeholders and tribal contacts for consultation purposes? • What is the nature of concerns if any by stakeholders, tribal contacts and/or SHPO regarding impacts to cultural resources? • What is the status of the consultation?
CR-2	<p>Provide a knowledgeable expert on <i>the cultural resources located on the Lee site</i>, transmission lines, railroad spur and rail road right of way and within one mile of the Lee site, transmission lines, railroad spur and rail road right of way This expert should be able to address questions related to these properties such as:</p> <ul style="list-style-type: none"> • What cultural resources (above ground and archaeological) are located on the Lee site, transmission lines, railroad spur and rail road right of way and within one mile of the Lee site, transmission lines, railroad spur and rail road right of way? • What cultural resource studies have been conducted within the vicinity of the Lee Site, transmission lines, railroad spur and rail road right of way? • What is the basis for establishing the significance of the cultural resources that have been identified (above-ground and archaeological)? • What is the basis for determining historic affiliation associated with the historic above ground and archaeological resources located on the Lee site, transmission lines, railroad spur and rail road right of way and within one mile of the Lee site, transmission lines, railroad spur and rail road right of way? • What is the basis for determining extent and depth of ground disturbance at the Lee site? • What is the basis for determining archaeological site boundaries for those sites located on the Lee site and within one mile of the Lee site? • What types of cultural resources are found in this region? • What kinds of historical maps, records and aerial photographs were used to develop an historic context? • What kinds of historical contexts were used in the analysis (pre contact, ethnohistoric and historic eras)? • What is the expected process for completing assessments for areas not yet investigated (two on site APEs and two offsite APEs?)

Info needs #	Information Needs
CR-3	<p>Provide a knowledgeable expert on the process used to establish mitigation measures for known and potential impacts to cultural resources located on Lee site, transmission lines, railroad spur and rail road right of way and within one mile of the Lee site, transmission lines, railroad spur and rail road right of way This expert should be able to address questions related to the development of measures to minimize, avoid or mitigate impacts to cultural resources such as:</p> <ul style="list-style-type: none"> • What is the basis for identifying mitigation measures such as the archaeological monitoring procedures and inadvertent discovery procedures? • What is the status of the agreement regarding future work and impacts to cultural resources as requested by the SHPO?
CR-4	<p>Provide a knowledgeable expert on the process used to assess potential impacts to cultural resources located on Lee site, transmission lines and within one mile of the transmission lines and Lee site. This expert should be able to address questions related to the impact analysis process such as:</p> <ul style="list-style-type: none"> • What is the basis for the on-site and off-site APE determinations? • What is the basis for the assumption that no traditional cultural properties are located within the vicinity of the project or will be impacted? • What assumptions were made regarding the 2007 cultural resources survey focus and the locations of the shovel tests? • What assumptions were made regarding unassessed archaeological sites and eligibility of above ground resources located on the Lee Site and within one mile of the Lee site? • What is the basis for the assumption that several previously recorded sites located on the Lee site have been destroyed by construction activities? • What is the basis for concluding that archaeological sites located on the Lee site will not be impacted? • What is the basis for determining that the cemeteries will not be impacted? • What is the basis for evaluating noise and viewshed impacts to cultural resources? • What is the basis for concluding no adverse effect to the 99 Islands Dam? • What is the basis for evaluating cumulative impacts? • What is the basis for evaluating construction and operation impacts? • How were the alternative sites evaluated from a cultural resources perspective?
CR-5	<p>Please provide copies of References 52,30,35,16, 127, 47, 62, 77, 78 identified in Section 2.5.6 and Phase One 2007 Survey, Proposed Scope of work identified for Phase One Survey, and Addendum Report on the Met Tower.</p>
CR-6	<p>Please provide copies of figures depicting the APEs as well as the APEs in relation to archaeological and above-ground resources on and within a mile of the site and alternate sites.</p>

Info needs #	Information Needs
Alternatives (Alt)	
Alt-1	Please provide a knowledgeable expert who can discuss site descriptions, typical aquatic inhabitants, and the environmental criteria on which aquatic ecology conclusions are based for the Alternative sites.
Alt-2	<p>Provide a knowledgeable expert on the alternative power for assessment for Duke and the SERC region. This expert should be able to address questions related to the assessment such as:</p> <ul style="list-style-type: none"> • Could a quantified review of power purchasing be provided addressing power across all sectors of the generation resources of the region given the no-alternative action? • Would be able to address both regional and sub-region spinning reserve and reserve margins? • Would describe the regional and sub-region inertia relationship and how it supports the mitigation or requirement of purchased power currently and during commercial operation? • Would be able to address regional and sub-region capacity and availability both current and projected across all fired fuels? • Would be able to address data supporting baseloaded capacity across alternative plant configurations (coal, natural gas) in terms of availability of the resource, and deployment cost-benefit? • Consistent with alternative configurations, would be able to address fixed and variable costs as they relate to alternatives? • Would address methodology for exclusion on alternative configurations for discharge systems? <p>Would comment on the preclusion methodology of hybrid cooling, and quantify the station efficiency penalty?</p>
Alt-3	Please provide a knowledgeable expert who can discuss site descriptions, typical terrestrial inhabitants, and the environmental criteria on which aquatic ecology conclusions are based for the alternative sites.
Alt-4	Please provide print outs of S.C. Natural Heritage Trust Program (NHP) data and the South Carolina Rare, Threatened, and Endangered Species Inventory data for the alternative sites and indicate the dates these data were obtained. Also indicate the date the National Wetlands Inventory database was accessed for the alternative sites.
Alt-5	Please provide a knowledgeable expert to discuss how the assumptions regarding family sizes (of in-migrating workers) correspond with each other between chapters 4, 5, and 9 (alternative sites).
Alt-6	Please provide a knowledgeable expert to discuss the reference for the basis of impact levels (e.g., small, moderate, large) for socioeconomic sections of alternative sites and whether or not socioeconomic factors such as housing, schools, and community infrastructure are included as criteria in making these impact assessments (and if not, why not?).
Alt-7	Please provide a knowledgeable expert to describe the types of workers that are included in the “construction workforce” estimates and whether or not these correspond well with the specialized skills needed for a nuclear power plant construction workforce.
Alt-8	Please provide a knowledgeable expert to discuss and identify concentrations of low-income/minority populations at site alternative locations, and GIS mappings (similar to Figures 2.5-7 or 2.5-24) for the 3 alternative sites.

Audit Information Needs – Summarized Version

Info needs #	Information Needs
Rad/Fuel Cycle/Waste/Decommissioning (HP)	
HP-1	Please have available at the site audit someone knowledgeable of estimated radiation dose rates and airborne radioactivity concentrations during construction at the site, and the assumptions used to produce those estimates.
HP-2	Please have available at the site audit someone knowledgeable of the distances from the proposed reactor to the nearest site boundary for each radial sector, and the location of the nearest residence, milk cow, milk goat, meat animal, and vegetable garden larger than 50 m ² to a distance of 5 miles.
HP-3	Please have available at the site audit someone knowledgeable of the projected population five years from the time of the licensing action under consideration, the present annual meat production, the present annual milk production, the present annual vegetable production, and the estimated direct radiation doses from sources within the site for each radial sector out to distances of 50 miles from the reactor.
HP-4	Please have available at the site audit someone knowledgeable of the present commercial fish and invertebrate catch from waters within 50 miles downstream of the facility radwaste discharge; major catch locations, their distance from the facility radwaste discharge, and the amount caught within 50 miles of the facility that is consumed. Also be prepared to discuss the transit time from the point at which the discharge stream enters an unrestricted area to each major catch location, the estimated dilution at each location, and the basis for calculating transit time and dilution.
HP-5	Please have available at the site audit someone knowledgeable of the irrigation rate, crop yield, annual production, and growing period for irrigated land using water withdrawn within 50 miles of the facility radwaste discharge (downstream or radius); the crop type and its use, total crop production (by type) within the 50-mile distance, the amounts consumed within a 50-mile radius of the facility; transit time from the point at which the discharge stream enters an unrestricted area to the points of withdrawal, estimated dilution at each withdrawal point, and the bases for calculating transit times and dilution factors.
HP-6	Please have available at the site audit someone knowledgeable of radiation doses from sources of direct radiation to the maximally exposed, the collective doses from direct radiation sources to the population within 50 miles of the facility, and the occupational collective dose from sources of direct radiation.
HP-7	Please have available at the site audit someone knowledgeable of the sample size, sampling collection duration, sample type, the measuring equipment to be used, the lower limit of detection for each analysis, the approximate date on which the proposed program will be effective, and the quality-assurance program for the proposed radiological environmental monitoring programs.
Accidents (Acc)	
Acc-1	(General) Site tour, or additional tours, should include locations of proposed reactor buildings, exclusion area boundary (EAB) and low population zone (LPZ), nearby residences and public facilities, transportation routes near the site, and water users (recreational and commercial).

Audit Information Needs – Summarized Version

Info needs #	Information Needs
Acc-2	(General) Please provide someone who can discuss potential issues with referencing an unapproved design (AP1000, Rev. 16).
Acc-3	(Section 7.1) If not already provided, electronic copies of the PAVAN code input and output files for the X/Q will be needed.
Acc-4	(Section 7.2) If not already provided, electronic copies of code input and output files for the MACCS2 computations will be needed.
Acc-5	(Section 7.2) Please provide someone who can discuss potential changes in land used.
Acc-6	(Section 7.2) Please provide someone who can discuss modeling details for ground water and surface water pathways.
Need for Power (NP)	
NP-1	<p>Provide a knowledgeable expert on the need for power for Duke and the SERC region. This expert should be able to address questions related to the assessment such as:</p> <ul style="list-style-type: none"> • Would the regional interties impact the VACAR/SERC transmission constraints at the expected capacity? • Would the known current or projected merchant capacity in the regional power pool contribute to current or expected power purchase agreements, available reserve margin, decommissioning activities, • Are provisions established to quantify and reference the projected energy mix relative to the project and service area, and would they verify the trend in demand growth? • Would be able to comment on differences in costs/benefits between varying system alternate configurations?
Benefit-Cost (BC)	
BC-1	Please provide a knowledgeable expert to discuss the estimate of expected spent fuel management costs.
BC-2	Please provide a knowledgeable expert to discuss information on Duke’s outreach and community service activities (at other Duke sites and/or expected outreach activities in Cherokee County and Lee site region).
BC-3	Please provide a knowledgeable expert to discuss the timing of tax revenue benefits to the community (including during the construction phase) and how these tax revenue estimates correspond with each other between chapters 4, 5, and 10.
BC-4	Please provide a knowledgeable expert to discuss how the construction worker assumptions and wage rate estimates correspond with each other between chapters 2, 4 and 10.
BC-5	Please provide a knowledgeable expert to discuss whether or not any fluctuations in water availability (as described in hydrology section of chapter 5), particularly during the peak demand periods, is considered as part of the power generation estimates, which largely define the benefits of the proposed project.
BC-6	Please provide a knowledgeable expert to discuss any updated and/or revisions to benefit and cost estimates of plant construction and operation.

List of Figure Numbers Requested from Lee COL ER
1.1-4
2.0-1
2.1-1
2.2.4
2.2-5
2.3-1
2.3-10
2.3-11
2.3-12
2.3-13
2.3-13
2.3-14 (all sheets)
2.3-15 (all sheets)
2.3-16 (all sheets)
2.3-17
2.3-18
2.3-2
2.3-21
2.3-22 (all sheets)
2.3-23 (all sheets)
2.3-24
2.3-3
2.3-4
2.3-5
2.3-6 (all sheets)
2.3-7
2.3-8 (all sheets)
2.3-9
2.4-1
2.4-1
2.4-2
2.5-1
2.5-10 (particularly the underlying GIS layers)
2.5-11 (particularly the underlying GIS layers)
2.5-12 (particularly the underlying GIS layers)
2.5-13 (particularly the underlying GIS layers)
2.5-14 (particularly the underlying GIS layers)
2.5-15 (particularly the underlying GIS layers)
2.5-16 (particularly the underlying GIS layers)
2.5-17 (particularly the underlying GIS layers)
2.5-18 (particularly the underlying GIS layers)
2.5-19 (particularly the underlying GIS layers)
2.5-2
2.5-20 (particularly the underlying GIS layers)
2.5-21 (particularly the underlying GIS layers)
2.5-22 (particularly the underlying GIS layers)
2.5-23 (particularly the underlying GIS layers)

List of Figure Numbers Requested from Lee COL ER
2.5-24 (particularly the underlying GIS layers)
2.5-25 (particularly the underlying GIS layers)
2.5-3
2.5-4
2.5-6 (particularly the underlying GIS layers)
2.5-7 (particularly the underlying GIS layers)
2.5-8 (particularly the underlying GIS layers)
2.5-9 (particularly the underlying GIS layers)
2.7-17
2.7-3
3.2-1
3.3-1
3.4-1
3.7-2
4.1-1
4.1-1
4.1-1
4.3-1
4.3-1
4.3-1
4.3-2
4.3-2
4.3-2
4.3-2
5.3-1
5.3-2
5.3-2
5.3-3
5.3-3
5.3-4
5.3-4 (sheet 2)
Figure 1 in the transmission line siting report
Figure 11 in the transmission line siting report
Figure 4 in the transmission line siting report
Figure from Appendix A entitled "Duke Energy Transmission Line Siting Process"

List of GIS Layers Requested from Lee COL ER			
Data Set	Figure Reference	Priority	NOTES
Site Property Boundary	Figure 1.1-2	Very High	
Exclusion Area Boundary	Figure 2.2-5	Very High	
Intake / Discharge Structures	Figure 2.3-5	Very High	
Area Geology	Figure 2.3-8	Very High	Available for 50-mile radius?
Area Faults	Figure 2.3-8	Very High	Available for 50-mile radius?
Non-vegetated / roads within/nr site	Figure 1.1.-4	High	
Radwaste Lines	Figure 2.1-1	High	
Wastewater Lines	Figure 2.1-1	High	
Proposed Roads	Figure 2.1-1	High	
Proposed Structures	Figure 2.1-1	High	
Adjacent Land Use	Figure 2.2-5	High	
Water Table Contours / Flow Paths (1973)	Figure 2.3-12	High	
Observation Wells	Figure 2.3-13	High	
Construction Dewatering Excavation Area	Figure 2.3-13	High	
Construction Dewatering Drawdown Area	Figure 2.3-13	High	
Monitoring Wells	Figure 2.3-15	High	
Water Table Contours / Flow Paths (2006 - 2007)	Figure 2.3-15 (sheets 1-7)	High	
Groundwater Compartment Boundary	Figure 2.3-15 (sheet 8)	High	
Post-Dewatering Groundwater Flow Path	Figure 2.3-15 (sheet 8)	High	
Surface Water Sampling Locations & Data	Figure 2.3-2.1	High	
Local Surface Water Bodies w/ Elevations	Figure 2.3-5	High	
Other Mapped Geology within Quadrangles	Figure 2.3-8	High	Is this a different source? Is this available?
Local Geology	Figure 2.3-9	High	Is this available for 6-mile radius?
Noise Measurements and Data	Figure 2.5-26	High	
Transmission Line Routing	Figure 9.4-8	High	
Site Countours	Figure 1.1.-4 / 3.1-1	Moderate	
Existing Roads	Figure 2.1-1	Moderate	
99 Islands Dam (poly or line feature)	Figure 2.1-1 / Figure 2.3-5	Moderate	
Site Scale Soils	Figure 2.3-10	Moderate	Is this available for 6-mile radius?

List of GIS Layers Requested from Lee COL ER			
Data Set	Figure Reference	Priority	NOTES
Dam Point Locations	Figure 2.3-2	Moderate	
Bridge Point Locations	Figure 2.3-2	Moderate	
Station Point Locations	Figure 2.3-3	Moderate	Are there more stations than what is presented on Figure?
Broad River Cross-Sections	Figure 2.3-4	Moderate	Are there more stations than what is presented on Figure?
Existing / Permanent Structures	Figure 2.3-5	Moderate	
Ninety-nine Island Bathymetry	Figure 2.3-6 (sheet 1)	Moderate	
Make-up Pond B Bathymetric Contours	Figure 2.3-6 (sheet 2)	Moderate	
Make-up Pond A Bathymetric Contours	Figure 2.3-6 (sheet 3)	Moderate	
Hold-up Pond A Bathymetric Contours	Figure 2.3-6 (sheet 4)	Moderate	
Ecological/Landcover Types	Figure 2.4-1	Moderate	Site only?
Fish Collection Sites	Figure 2.4-2	Moderate	and data?
Roads		Low	
Railroads		Low	
State Boundaries		Low	
County Boundaries		Low	
Urban Boundaries		Low	
Town point locations		Low	
State Park boundaries		Low	
National Park boundaries		Low	
Other Federal / State Boundaries		Low	
Wildlife Management Area		Low	
Forest Service / Public Lands		Low	
Hydrography / Watershed Boundaries from NHD		Low	The extent is dependent upon watershed contributing area
Hydrography more detailed from applicant		Low	