PMNorthAnna3COLPEmails Resource

From: Laura Quinn
Sent: Thursday, January 10, 2008 5:45 PM
To: 'Tony Banks'; Alicia Williamson
Cc: Richard Raione
Subject: Information Needs from Application Review
Attachments: Application Review Table_1_info needs.doc

Tony
Attached is a table that contains information needs that were flag by the staff as possible future needs to be review especially at the audit phase. Not all the issues on this table meet this description but the issues that Alicia and I would like to maybe discuss some with you tomorrow afternoon are those information needs that we would like to see at the audit. A lot of the information requests can be gathered in other means or simply provided by Dominion if possible. If you have any questions please let us know.
Thanks
Laura

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Subject: Information Needs from Application Review
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"Richard Raione" <Richard.Raione@nrc.gov>
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Table 1. North Anna Unit 3 Information Needs

1. Issue Area/Topic (*ESRP, Reg, or RG Section*)	***Sufficiency Review Question*** *Is the following material found and cited in the Environmental Report, Site Safety Analysis Report, or Site Redress Plan?*	Completeness and Technical Sufficiency Which Form Basis for Acceptability for Docketing				Changes to Planning Assumptions to be Considered in Development of Baseline Review Schedule			Review Dependencies Among Concurrent Reviews	
		2. Does the ER address the items required by regulation (refer to 10 CFR 52.80(b) and RG 4.2? (Completeness) **(Yes/No)**	3. Is ER issue area technically sufficient for this review area/ topic? (Sufficiency) **(Yes/No)**	4. Can the technical deficiency be resolved through the RAI process or at the site audit? **(Yes/No)**	5. If **no**, for either completeness or technical sufficiency, identify deficiency(ies) and provide details. *Note specific section in the ER applicable to the deficiency.*	7. Are the pre-baseline review schedule and estimated staff-hours appropriate for the issue area? **(Yes/No)** *Answer yes if 2, 3, and 4 are yes. No, if 4 is no.*	8. For each **no**, identify the change (or basis for change). (*If able to estimate the impact, labor effort, or schedule delay, provide estimate. Otherwise leave blank.)*	9. Identify the total review time in staff-hours. (Leave blank.)	10. Can the review of the issue area be completed without the completion of a concurrent review? *(Is the section technically bound to another ESRP section?)* **(Yes/No)**	11. For each **no**, identify which issue area section. *Provide the ESRP section number and title impacted by the noted deficiency.*
1.2	The date of application/initiation and scheduled date of issuance of each authorization.	Yes	No	Yes	Specific schedule needs to be developed.					
1.2	The current status of each authorization (from consultation with Federal, State, regional, local, and affected Native American tribal agencies).	Yes	No	Yes	Specific information needs to be provided.					
2.1	Site location: State; county; latitude and longitude Universal Transverse Mercator (UTM) coordinates; and township, range, and section(s).	Yes	No	Yes	Not all the requested information was provided.					
2.1	For geographical orientation, simplified maps (based on an official source of information such as a State highway map) centered on the facility site: one general map with about an 80-km (50-mi) radius and a second map with about a 10-km (6-mi) radius of the facility (orient true north at the top of the map).	Yes	No	Yes	10-km map not provided, a 10-mile map provided.					
2.1	High-oblique aerial view or perspective drawing of the site with an indication of the facility boundary (facility site should occupy about 10% of the view) (from the ER upon request [reproducible copy] from the applicant).	Yes	No	Yes	Needs to be provided.					
2.2.3	Maps showing major public and trust land areas in the region.	No	No	Yes	Locations of major public and trust land areas within the region are available via the Internet.					

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		2.	3.	4.	5.	7.	8.	9.	10.	11.
2.4.1	Has the applicant identified the species and habitats that will be considered "important" ecological resources of the site, vicinity, transmission corridors, and offsite areas for evaluation of potential impacts on them? Did the applicant include a map that identifies "important" terrestrial habitats on and in the vicinity of the site?	Yes	No	Yes	More detailed information about the distribution of resources – especially along the Transmission Line – is needed.					
2.4.1	Did the applicant describe any "important" species and their spatial and temporal distributions on and in the vicinity of the site, including, as appropriate, their relative abundance, critical habitat, and their life histories—critical life stages, biologically significant activities, seasonal habitat requirements and population fluctuations, food chain, and other interspecific relationships?	Yes	No	Yes	More information about species and habitats within the transmission line right-of-way (ROW) will be needed.					
2.4.1	Did the applicant identify and describe the species' composition, the spatial and temporal distribution, abundance, and other structural and functional attributes of biotic assemblages that could be impacted by the proposed action?	Yes	No	NA	Site is probably OK – but more information needed for Transmission line ROW.					
2.4.1	Did the applicant identify and describe the location of wildlife sanctuaries and natural areas that might be impacted by the proposed action?	No	No	Yes	Not mentioned in COL or ESP					
2.4.1	Did the applicant list of species that are of concern as disease vectors or pests?	No	No	Yes	Not mentioned in COL or ESP ERs					
2.4.1	Did the applicant describe the natural and man-induced effects (e.g., farming, logging, grazing, and burning), preexisting environmental stresses (e.g., infestations, epidemics, and catastrophes), and the current ecological conditions that are indicative of such stresses?	No	No	Yes	Not explicitly addressed in COL or ESP ERs – although sort-of covered in other ways					
2.4.2	Has the applicant identified the species and habitats that will be considered "important" ecological resources of the site, vicinity, transmission corridors, and offsite areas for evaluation of potential impacts on them? Did the applicant include a map that identifies "important" aquatic habitats or bodies of water on and in the vicinity of the site?	Yes	No	Yes	There is not a map to identify important aquatic habitats or bodies of water.					

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2.4.2	Has the applicant consulted with local offices of the appropriate Federal, State, regional, local, and affected Native American tribal agencies to determine the possible presence of such species? Determine when was the last time there was consultation with agencies.	No	No	Yes	List of agencies is provided in Table 1.2-1 of COL ER. No evidence in COL ER that the applicant has consulted with appropriate agencies.					
2.4.2	Did the applicant identify and describe the species composition, the spatial and temporal distribution, abundance, and other structural and functional attributes of biotic assemblages that could be impacted by the proposed action?	Yes	No	Yes	Need to determine if additional monitoring data is available for lake and river. specifically, fish data collected after submittal of ESP ER.					
2.4.2	Did the applicant describe the location of any ecological or biological studies of the site or its environs that are recent or currently in progress?	Yes	No	Yes	Need to determine if additional monitoring data is available for lake and river, specifically, fish data collected after submittal of ESP ER.					
2.4.2	Is the available site-specific data adequate, accurate, and complete?	Yes	No	Yes	Need to evaluate applicant's process for evaluating new and significant information.					
2.5.2	Social-structure information, including major community structures.	No	No	Yes	Not present in this ER or in the ESP-ER.					
2.5.2	Housing information, including the sales and rental market in the region, number and types of units, turnover and vacancy rates, and trends in addition to housing stock, adequacy of structures, and location of existing and projected housing.	Yes	No	Yes	Reference to ESP ER, but not up-to-date.					
2.5.2	Information about the local educational system (regional primary and secondary schools and higher education institutions), including capacity and present percentage of use.	Yes	No	Yes	Reference to ESP ER, but not up-to-date.					
2.5.2	Public and private recreational facilities and opportunities, including present and projected capacity and percentage of use.	Yes	No	Yes	Reference to ESP ER, but not up-to-date.					

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2.5.2	Regional tax structure and distribution of the present revenues to each jurisdiction and district.	Yes	No	Yes	Reference to ESP ER, but not up-to-date.					
2.5.2	Local plans concerning land use and zoning that are relevant to population growth, housing, and changes in land-use patterns.	Yes	No	Yes	Reference to ESP ER, but not up-to-date.					
2.5.3	A detailed description of any archaeological or historical surveys of the proposed site, transmission line routes, or access corridors, including the physical extent of the survey, including why areas were not surveyed; techniques used; qualification so the surveyor; and findings.	Yes	No	Yes	Changes in scope from the ESP to the COL create additional disturbance from transmission corridor access roads and road widening for transport of additional infrastructure. Any surveys or previous investigation for these areas need to be provided.					
2.5.3	A description of cultural resources within the proposed site, proposed transmission line routes or access corridors, and offsite areas that are in or eligible for inclusion in the National Register or are included in State or local registers or inventories of historic and archaeological resources.	Yes	No	Yes	Changes in scope from the ESP to the COL create additional disturbance from transmission corridor access roads and road widening for transport of additional infrastructure. Cultural resources in these areas need to be addressed.					
2.5.4	Comments of any organizations contacted by the applicant that locate and assess uniquely vulnerable minority and low-income communities located on or near the proposed station site.	Yes	No	Yes	No summary provided in this ER or in the ESP ER. It is not clear whether any specific outreach to minority and low income communities occurred.					
3.1	Aesthetic principles and concepts used in the facility design and layout.	Yes	No	Yes	Details regarding specific principles and concepts not discussed.					

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3.1	An architectural rendering of the proposed project to include landscaping and all major station features.	Yes	No	Yes	ER lacked information about proposed details regarding landscaping.					
3.7	Lengths, widths, and area of corridors, including modification and/or use of existing corridors and other facilities for the proposed project.	Yes	No	Yes	Applicant needs to summarize how changes in the usage of transmission corridor from ESP to COL will affect cultural resources and what process will be followed to take that into account.					
3.8	Does the applicant estimate the heat load in a spent fuel shipping cask and compare the result to 10 CFR 51.52 Table S-4 conditions (i.e., 225,000 Btu/hr (~66 kW)?	No	No	Yes	SNF shipment heat load is not evaluated in Sections 5.11 or 7.4 of the ER.					
3.8	Does the applicant estimate the non-radiological impacts of accidents and compare the results to Table S-4 condition (i.e., non-radiological accidents result in one fatal injury per 100 reactor years, 1 non-fatal injury in 10 reactor years, and $475 in property damage per year)?	No	No	Yes	No assessment of non-radiological accidents impacts is presented in the ESP or the COL ER.					
4.1.1	Has the applicant addressed transportation of construction materials to the site? For example, will rail service need to be established, restored, or otherwise reconditioned to accommodate the industrial loads expected during facility construction? If so, have these activities been characterized?	Yes	No	Yes	The transportation of materials involves road widening. How this could affect cultural resources is not directly addressed.					
4.1.1	Will borrow pits be constructed (or expanded)? If so what volumes of borrow will be transported and used in construction?	No	No	Yes	If material will be borrowed from within the site area then cultural resources should be addressed.					
4.1.1	Will the applicant be making use of currently abandoned rail lines?	Yes	No	Yes	Need more information on possible use of rail spur to plant site.					

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4.1.1	Will dredging of barge slips or other channels be required to facilitate construction? If so, where will the dredge spoils be deposited and what volume of spoil is projected?	Yes	No	Yes	Need information concerning where dredge spoils will be deposited and estimated volume of spoils.					
4.1.1	Will borrow pits be constructed (or expanded)? If so what volumes of borrow will be transported and used in construction?	Yes	No	Yes	Need more information on planned use of borrow pits.					
4.1.1	Has the applicant detailed the extent of the planned construction footprint in terms of amount of disturbed ground?	No	No	Yes	NUREG-1811 has footprint information for two units but not for one unit.					
4.1.3	A description and National Register evaluation of cultural resources within the site boundary.	Yes	No	NA	Copies of the Supplemental Archaeological Survey provided to the Commonwealth in the October 11, 2007 letter from Dominion need to be reviewed along with any other completed survey.					
4.1.3	State laws and plans for historic preservation.	No	No	Yes	There is no mention of state laws. They may default to Federal laws.					
4.1.3	The applicant's finding on whether important cultural and historical resources will be affected during construction.	Yes	No	Yes	Both widened and access roads in the transmission corridor need to be addressed directly.					
4.1.3	The applicant's finding on whether important cultural and historical resources will be adversely affected.	Yes	No	Yes	Widened roads for material transport and additional use of transmission corridor for access need to be addressed directly.					
4.1.3	The applicant's proposed avoidance measures to avoid impact to important cultural and historical resources during construction.	Yes	No	Yes	Areas where survey is not mentioned (new access roads for transmission corridor					

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					and road widening for infrastructure transport) need a "how cultural resources will be identified" section. For example: Construction monitoring or worker training.					
4.3.1	Did the applicant identify the construction activities that impact "important" species and habitats of the site and vicinity, transmission corridors, and offsite areas (e.g., construction activities that will dewater any wetlands, ponds, or seepages or alter surface drainage patterns supporting terrestrial biota/wetlands)?	Yes	No	Yes	Will need more details about impacts to on-site wetlands, especially dewatering or altered surface hydrology.					
4.3.1	Has the applicant identified any noise impacts on "important" species?	Yes	No	Yes	Need more details about the updated noise modeling methods and results.					
4.3.2	Is there information available that can be used to determine how construction activities will impact "important" species and their habitats (e.g., those resulting from scouring and siltation, dredging and soil disposal, and interference with shoreline processes)? Is there information that can be used to estimate the magnitude and duration of such impacts? Consider potential disturbances of benthic areas by the following construction activities: • placement of intake and discharge structures • channel modifications for navigation or flow control • placement and removal of cofferdams • construction of bulkheads, piers, jetties, basins, and storm sewers • direct dredging, including the area that may be affected by resulting siltation and turbidity • percent of the water body cross section that might be obstructed by construction activity at any time	Yes	No	Yes	Time and duration of water body obstruction due to construction activity are not discussed.					

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	• time and duration of such obstruction • potential changes to water quality caused by exposure of substrate to contaminants during construction (e.g., dredging for intake channels, cofferdam construction).									
4.3.2	Is there information available that can be used to assess the potential for reversibility of impacts following completion of construction? Are there plans for environmental improvement following construction?	Yes	No	Yes	Appendix E of COL ER describes site redress plan but is not available in applicant submittal.					
4.3.2	Are there plans for dewatering wetlands?	No	No	Yes	Additional information on dewatering plans needs to be provided.					
4.4.2	Annual expenditures within the region for materials and services during construction.	No	No	Yes	No estimate provided in this ER or in the ESP ER					
4.4.2	Taxes by type and jurisdiction to be paid during construction.	Yes	No	Yes	Types and jurisdictions were given in the ESP-ER, but not amount.					
4.4.2	Annual construction labor force requirements (for each quarter year, if possible) over the construction period. Where necessary, requirements by major construction craft may be reported.	No	No	Yes	A maximum bound was given in the ESP-ER, but no annual values.					
5.1.3	State laws and plans for historic preservation.	No	No	Yes	State laws are not mentioned.					
5.1.3	The applicant's finding on whether important cultural and historical resources will be affected during operations.	Yes	No	Yes	References to specific correspondence from the Commonwealth need to be included.					
5.3.2.2	Has the applicant identified adverse impacts of cooling system discharge operation on aquatic biota? Have thermal, chemical, and physical alterations to the receiving water body been identified that may affect impacts? Will there be alterations in the discharge area (the mixing zone) or changes that will extend over a larger portion of the receiving-water body that might	Yes	No	Yes	Applicant describes method for assessing impact in 3.6.1, page 3-56, but does not provide the calculations used.					

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	affect biota that are transported through, migrate through, or are attracted to the mixing zone?				Provide a complete description, including calculations, demonstrating chemical discharges will meet water quality criteria.					
5.3.2.2	Has the applicant considered the biological effects of thermal, chemical, and physical alterations to the receiving water body on the identified "important" aquatic species? Are there estimates of survival from these discharge system impacts, and estimates of the relative or absolute losses of the impacted populations?	Yes	No	Yes	Applicant describes method for assessing impact in 3.6.1, page 3-56, but does not provide the calculations used. Provide a complete description; including calculations, demonstrating chemical discharges will meet water quality criteria.					
5.3.3.2	Has the applicant considered the impacts of drift deposition on facilities? Has the applicant identified isopleths of deposition at ground levels on a seasonal basis? Have they described natural and managed facility communities on the site and offsite that occur in isopleths above 20 kg/ha/yr?	Yes	No	Yes	Need details about the updated SACTI runs – need to see the model output (Air SME will need to verify the input/ output of the SACTI model).					
5.3.3.2	Has the applicant considered the detrimental effects increased fogging/icing could have on local vegetation?	Yes	No	Yes	Need details about the updated SACTI runs – need to see the model output (Air SME will need to verify the input/ output of the SACTI model.					
5.3.4 III (1, 2)	Has the applicant evaluated sources for generating noise associated with the cooling system (e.g., cooling towers and pumps)? Have they estimated noise levels at the nearest offsite residence and at the site boundary? Is there a comparison of noise emission levels to State or local standards?	Yes	No	Yes	Specific results of the noise analysis need to be reviewed.					

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		2.	3.	4.	5.	7.	8.	9.	10.	11.
5.3.4 III (2, 3)	For an application with a plant that utilizes a cooling system with cooling pond(s), lake(s), canals, or uses once-through cooling system with discharge to a river with a flow rate below 9 x 10^{10} m^3/yr (3.15 x 10^{12} ft^3/yr): Has the applicant consulted with the local State Public Health Department and reviewed records associated with waterborne disease outbreaks in the region? If there is a potential that thermal discharges from the plant would increase the number of deleterious thermophilic microorganisms to levels that could cause a public health problem, has the applicant considered mitigative measures to minimize the potential impacts?	Yes	No	Yes	ER references FEIS Section 5.8 for further information on cooling system impacts. Section 5.8.1 states that "Dominion stated that it is exploring options with VDEQ and VDH to communicate information related to existing risks to local residents (Dominion 2006a)." This commitment is also in the comment resolution section of the FEIS (Vol. 2, pp 3-201 – 203). An update on this communication should be provided to address technical sufficiency.					
5.4.2	Gaseous and liquid effluent data.	Yes	No	Yes	The basis for the receptor locations (i.e., nearest residence, nearest meat cow, and nearest vegetable garden) used in calculating dose to the maximally exposed individual from routine gaseous effluents is not clear.					
5.4.2	Occupational radiation dose estimates.	Yes	No	Yes	Section 5.4.2 of the COL ER provides a revised estimate of occupational dose but no reference to the source of this information is provided.					

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5.4.3	Maximum site-specific doses to members of the public.	Yes	No	Yes	Table 5.4-4 and Table 5.4-5 of the COL ER report conflicting values for thyroid dose from the garden pathway (15 mrem/yr vs. 14 mrem/yr, respectively).					
5.6.1	Has the applicant described the maintenance practices, such as use of chemical herbicides, roadway maintenance, and mechanical clearing, that are anticipated to affect terrestrial biota, including sensitive agricultural crops?	Yes	No	NA	Need to verify current ROW and site land maintenance practices.					
5.6.1	Has the applicant identified the operational and maintenance activities associated with transmission facilities that could impact "important" terrestrial species and habitats?	Yes	No	Yes	Need details about locations of important species and habitats and the specific procedures that will be followed to avoid or minimize adverse impacts.					
5.6.3 III (1)	Maximum predicted noise levels at the edge of rights-of-way resulting from transmission system operation, and the bases for these predictions	Yes	No	Yes	Specific analysis results need to be reviewed.					
5.8.2	Expenditures within the region for materials and services during operation.	No	No	Yes	No estimate ever provided in this ER or in the ESP ER.					
5.8.2	Taxes by type and jurisdiction to be paid annually during operation.	Yes	No	Yes	States what they are but not how much on an annual basis.					
5.8.2	Expenditures within the region for materials and services during operation.	No	No	Yes	No estimate provided in either this ER or the ESP-ER.					
5.8.2	Taxes by type and jurisdiction to be paid annually during operation.	Yes	No	Yes	Types and jurisdictions given in ESP-ER. Annual amounts were not provided.					
5.8.3	Any assessment of the degree to which each minority and low-income population would disproportionately receive any benefits compared with the entire geographic area.	No	No	Yes	No estimate provided in either this ER or the ESP-ER.					

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5.8.3	Any assessment of the degree to which each minority and low-income population would disproportionately receive any benefits compared with the entire geographic area.	No	No	Yes	No estimate provided in either this ER or the ESP-ER.					
6.5.1	Did the applicant complete any pre-application monitoring to examine the distribution and abundance of "important" species and habitats? Critical life history information should include parameters such as feeding areas, wintering areas, and migration routes to the extent that the proposed project is expected to affect these parameters.	Yes	No	Yes	Dominion performed minimal pre-ESP monitoring and no pre-COL application terrestrial monitoring. Need monitoring results for Trans-mission line ROW.					
6.5.1	Is the applicant planning on completing pre-operational/operational monitoring related to terrestrial resources? If so, what will each program entail (both in schedule and scope)?	Yes	No	Yes	Dominion does not propose any terres-trial related pre-operation or opera-tional monitoring. ESP EIS states that Dominion is expected to work with the Commonwealth on developing and implementing any required monitoring programs. Need to determine what, if any, programs will be required by the commonwealth.					
6.5.1	Has the applicant supplied a basis for the decision to conduct/not conduct monitoring (pre-application/preoperational/operational)?	Yes	No	Yes	Lack of a need for monitoring needs to be better developed via the RAI process.					
7.1	Is the exclusion area boundary definition consistent throughout the ER and Site Safety Analysis Report (SSAR) or Final Safety Analysis Report (FSAR)? If other nuclear facilities are located on the site, is the proposed exclusion area boundary (EAB) consistent with EAB definitions for the other facilities?	Yes	No	Yes	The EAB is described as the perimeter of a 5000-ft circle from the center of the originally planned NAPS Unit 3 contain-ment. The 5000-ft distance is consistent between COL ER					

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					(Table 3.0-1), ESP FEIS (Table I-1), and FSAR (Table 2.0-201). The offset between the originally planned and currently planned Unit 3 containment and its impact, if any, on the analyses is not described.					
7.1	Are the meteorological data used to calculate X/Qs for DBA analyses the same as the data used to calculate X/Q for routine releases?	Yes	No	Yes	Meteorological data from 1996 to 1998 associated with license renewal analyses was used for the DBA analyses. More recent meteorological data was used in XOQDOQ code to calculate long-term diffusion estimates to determine radiological impact from normal operations (ESP ER §2.7.6, Table 2.7-14).					
7.1	Does the ER list the name, version number, and date for any computer code used to calculate the X/Qs used for DBAs?	Yes	No	Yes	The names of codes are listed, but not the version numbers.					
7.1 Regulatory Guide 1.145	Are the X/Q values used for DBA analyses, for representative (50%) meteorological conditions? If so, were the procedures used to calculate the X/Q values consistent with NRC guidance?	Yes	No	Yes	Reference is made to ESP ER §7.1.4 using a procedure to calculate χ/Q values that is inconsistent with NRC guidance. NRC staff calculated χ/Q values for time periods and reported them in the ESP FEIS.					

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		2.	3.	4.	5.	7.	8.	9.	10.	11.
7.2	If so, what are the name, version, date, etc. for the code used?	Yes	No	Yes	MACCS2 code used; however, no version number or date is provided in the COL ER.					
7.2	What meteorological data were used in the evaluation? Are they the same data used in evaluation of the impacts of normal operation and DBAs? If not, why not? (Check with meteorology project reviewer)	Yes	No	Yes	Meteorological data from 1996 to 1998 associated with license renewal analyses was used for the severe accident analyses and DBA. More recent meteorological data was used in XOQDOQ code to calculate long-term diffusion estimates to determine radiological impact from normal operations (ESP ER §2.7.6, Table 2.7-14).					
7.2	What population data were used in the evaluation? Are the data consistent with data presented in the demographic discussion? Are population projections based on the most recent census and appropriate projection techniques? (Check with socioeconomic project reviewer)	Yes	No	Yes	The most recent census data were not used. Population projections are for year 2030 based on 1990 census data used for the North Anna license renewal.					
7.3	Does the ER (or SSAR/FSAR) contain a description of the method, rationale, or process used to identify, screen, and select design alternatives and procedural modifications?	Yes	No	Yes	The process is briefly described in COL ER §7.3.1. This description is limited, e.g., no detail is provided for why particular SAMDAs were determined not to be impacted by various site characteristics. This section only outlines the procedure to be followed.					

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		2.	3.	4.	5.	7.	8.	9.	10.	11.
7.3	Does the ER contain the estimated cost, risk reduction, and value impact ratios for the selected SAMAs along with the underlying assumptions?	Yes	No	Yes	No SAMAs were determined by the applicant to potentially impact the analyses. The applicant started with the ESBWR SAMA analyses and then determined there were no site-specific impacts. Reference is made to analyses reported in General Electric document NEDO-33306, *ESBWR Severe Accident Management Design Alternatives*, dated February 12, 2007. Any potential deficiencies likely can be resolved through the RAI process or at the site audit.					
8.2.1	Methodology, assumptions, and information sources used to develop the forecasts of electricity consumption, peak load demand, and load factor.	Yes	No	Yes	Specific details need to be provided for these areas.					
8.2.1	Chart or table of historical and projected yearly electricity consumption, system peak-load demand, and load factor for the relevant service area(s) and principal reasons for the increase in consumption/demand and shifts in the load factor.	Yes	No	Yes	Load factor information needs to be provided.					
8.2.1	Results of any independent assessments of the forecasted electricity consumption and peak load demand.	Yes	No	Yes	No independent assessments presented for service area.					
8.2.2	Historical and projected economic, weather, price of electricity, energy mix, and demographic/population trends that are driving the growth in electricity demand.	Yes	No	Yes	Specific details not provided.					

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		2.	3.	4.	5.	7.	8.	9.	10.	11.
8.2.2	Methodology and information sources used to develop the forecast of economic, weather, price of electricity, energy mix, and demographic/ population trends.	Yes	No	Yes	Specific details not provided.					
10.4.1	Description of differences in benefits between alternatives and system configurations. [ESRPs 9.4.1, 9.4.2, 9.4.3]	No	No	Yes	No references to differences in benefits of system configurations or alternatives in Chapter 10.					
10.4.2	Description of differences in costs between alternatives and alternative system configurations. [ESRPs 9.4.1, 9.4.2, 9.4.3]	No	No	Yes	No references to costs of different system configurations or alternatives in Chapter 10.					
Cumulative Impacts (No ESRP Section)	Has the applicant identified the activities of other agencies that have occurred/will occur in the potential impact area that may contribute to a cumulative impact on terrestrial or aquatic resources?	No	No	Yes	Dominion does not appear to address cumulative impacts in the ER. Information can be obtained via RAI process.					
Cumulative Impacts (No ESRP Section)	Has the applicant identified projects in the region that may contribute to a cumulative impact on "important species" or habitat?	No	No	Yes	Dominion does not appear to address cumulative impacts in the ER. Information can be obtained via RAI process.					