Document

Post Audit Items

North Anna Power Station Unit 3 New and Significant Audit February 2-3, 2011

Info Needs #	Audit Item	Resolved for Audit (Y/N)	Comments
G-	**General** B. Sandusky/A. Davis		
G-1	Provide a knowledgeable expert(s) to discuss the current status of authorizations from consultations with Federal, State, Regional, and local governments as well as affected Native American tribal agencies	Y	
H-	**Hydrology** M. Masnik / L. Vail / P. Meyer		
H-1	Make available information detailing the approximate locations of the two to three domestic wells described in Revision 3 of the Environmental Report (ER) Section 4A.6 and the expected pumping rates and duration of pumping for these wells.	N	Applicant will provide additional information regarding maximum water usage and rational for any additional wells including future use of the wells after completion of construction.
H-2	Provide a knowledgeable expert(s) to more specifically identify the methods and data used to determine the impact of tritium discharge on the tritium concentration in Lake Anna. (see RHH-4)	N	See RHH-4
H-3	Make available a diagram(s) of all plant water use, including rates, for anticipated plant operational modes for the proposed Unit 3.	N	Applicant to provide figure similar to what appeared in the ESP ER.
H-4	Provide a knowledgeable expert(s) to identify new	Y	Resolved as to information that is available

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	information, if any, relating to the operation of the Unit 3 Wet/Dry Tower cooling system in view of current plans for reservoir management and the results of the instream flow incremental methodology (IFIM) study. (see AE-1)		to date.
AE-	**Aquatic Ecology** M. Masnik / J. Ward		
AE-1	Provide a knowledgeable expert(s) to discuss the status of the final reservoir management agreement with VDGIF/ Virginia Department of Environmental Quality (VDEQ).	Y	See H-4
AE-2	Provide a knowledgeable expert(s) to more specifically identify how the water budget estimates were developed with respect to a) consumptive water use for Unit 3, and b) projections of low flow (20 cfs) releases over the North Anna dam under existing (two unit) and proposed (three unit) operation.	Y	Table 5.10-4 of the ER summarizes the results of three scenarios.
AE-3	Provide a knowledgeable expert(s) to more specifically identify any aquatic monitoring that has been conducted in Lake Anna, the Waste Heat Treatment Facility (WHTF), or the North Anna River since the development of Rev. 2 of the ER (e.g., 2008-2010), or monitoring that will be required based on the final IFIM report and resulting reservoir management agreement	N	Applicant will submit 2008 and 2009 reports to be docketed. Applicant also to provide citation for study plan that is part of the NPDES permit that was renewed in 2008 VA0052451.

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	between Dominion and VDGIF/VDEQ.		
AE-4	Provide a knowledgeable expert(s) to identify new information, if any, related to the potential impacts to ephemeral streams in the vicinity of the cooling tower area from construction of Unit 3.	Y	Resolved for audit.
TE-	**Terrestrial Ecology** M. Masnik / M. Sackschewsky		
TE-1	Provide a knowledgeable expert(s) to determine if new information is available regarding important species in any correspondence with U.S. Fish and Wildlife Service (USFWS), Virginia Department of Game and Inland Fisheries (VDGIF), and Virginia Natural Heritage Program (VNHP) over the past two years.	Y	Resolved for audit.
TE-2	Provide a knowledgeable expert(s) to provide information regarding the results of the springtime survey for Eppling's hedge-nettle.	Y	Resolved for audit.
TE-3	Provide a knowledgeable expert(s) to more specifically identify new information regarding the evaluation of the potential presence of endangered, threatened, or otherwise rare species along the large component transport route or at the barge unloading site on the Mattaponi River. Make available any correspondence with State (VDGIF and VNHP) and federal (USFWS and National Marine Fisheries Service [NMFS]) agencies with regard to this evaluation.	Y	Resolved for audit.

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TE-4	Make available GIS shapefiles of the large component transport road for the purpose of using as overlays to determine whether there is potential for impact to endangered species in the Walkerton area or elsewhere along the route. Make available copies of the results or reports from any ecological surveys for Federal or State endangered or threatened species along the proposed route and at the proposed Walkerton unloading station.	Y	Resolved for audit.
TE-5	Provide a knowledgeable expert(s) to more specifically identify any changes to the expected quantity and pattern of salt deposition from the Ultimate Heat Sink (UHS) cooling towers – including interactions with the main cooling tower.	N	Staff will review FSAR RAI 02.03.02-2 to be revised based on new technology to include contour deposition map(s), and deposition values contained in calc package.
TE-6	Provide a knowledgeable expert(s) to discuss the status of coordination with the U.S. Army Corps of Engineers (USACE) regarding onsite and additional property wetlands and the 404 permit.	Y	Resolved for audit.
TE-7	Provide a knowledgeable expert(s) to discuss the status of coordination with the USACE regarding wetlands potentially affected by lake level changes due to increased operating elevation (i.e., 250.25 ft) or operation of Unit 3.	N	Applicant to provide shoreline delineation report. Specifically the two summary maps and E-2 key sheet in the shoreline wetland delineation report.
S/EJ-	**Socioeconomics/Environmental Justice** D. Mussatti / M. Niemeyer		

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S/EJ-1	Provide a knowledgeable expert(s) to identify new information, if any, on local roads and traffic in the North Anna vicinity, specifically, Route 208 and 606 and any updates on construction or future plans.	N	Applicant to provide VDOT traffic study in reading room with VDOT approval if not publically available.
S/EJ-2	Provide a knowledgeable expert(s) to identify new information, if any, on the potential impact of the large component transport road and any related construction to any EJ communities.	Y	Resolved for audit.
S/EJ-3	Provide a knowledgeable expert(s) to identify new information, if any, on the construction workforce estimate for Unit 3.	Y	Resolved for audit.
S/EJ-4	Provide a knowledgeable expert(s) to identify new information, if any, on the aesthetic impacts and recreational implications of the 500kV transmission lines.	Y	Resolved for audit.
CB / NFP	**Cost Benefit / Need for Power** D. Mussatti / M. Niemeyer		
CB / NFP-1	Provide a knowledgeable expert(s) to identify how updated cost estimates for Unit 3 compare to recently published estimates such as the U.S. Department of Energy/ Energy Information Administration (DOE/EIA) recently published costs.	Y	Resolved for audit.

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NFP-2	Provide a knowledgeable expert(s) to identify new information, if any, related to the updated power demand, supply forecasts, and the reserve margin provided in the need for power analysis.	Y	Resolved for audit.
CR-	**Cultural Resources** J. Cushing / T. O'Neil		
CR-1	Make available any new consultation correspondence and/or cultural resources reports that have been generated by the applicant and any responses to these from Tribes, SHPO and interested parties regarding the COLA since the last letter received by NRC from the SHPO (2/3/ 2009) that has not already been provided to the NRC (ER Table 1.2-1). Specifically, in regards to avoidance plan for archaeological site 44SP0618, be prepared to discuss the assessment of eligibility and effect to architectural resources 088-054, 088-0169, and 088-0133, the status of avoidance plans for 44LS0233, and any formal cultural resources surveys, analysis and consultation completed for the large component transport route.	N	Applicant will place Cultural and Historic Resource Management Plan in the Reading room. Applicant will place in reading room access database list of cultural historic reports surveys and letters by 2/17/11. Final update by 3/17/11.
CR-2	Provide a knowledgeable expert to identify new information, if any to land acreage to be disturbed and	Y	Resolved for audit.

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	the effect on cultural resources.		
CR-3	Provide a knowledgeable expert to identify any changes to Dominion's management plans or procedures for those assertions made in their August 2008 letter to the NRC regarding cultural resources and interactions with VDHR.	Y	Resolved for audit.
MET-	**Meteorology** V. Ramsdell / J. Flaherty		
MET-1	Provide a knowledgeable expert(s) to discuss the new and significant information review for Section 2.3 (Meteorology and Air Quality), including any changes to the Exclusion Area Boundary (EAB), low population zone (LPZ), or site receptors (nearest garden, goat, cow) distances that might change the site χ/Qs or D/Qs.	N	Applicant will provide clarification and a description of changes and evaluation to support their conclusions.
MET-2	Make available any updated evaluation of air quality attainment status for counties in the vicinity of North Anna Power Station site.	Y	Resolved for audit.
MET-3	Provide a knowledgeable expert(s) to identify the locations of release points for design basis accidents (DBAs) for the Advanced Pressure Water Reactor (APWR) relative to those assumed for an Economic Simplified Boiling Water Reactor (ESBWR). Identify	Y	Resolved for audit.

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	any instance in which the distances to the EAB and LPZ were affected by the change in reactor designs.		
MET-4	Make available all electronic input and output files for XOQDOQ used to calculate updated long-term χ/Q and D/Q.	Y	Resolved for audit.
MET-5	Provide a knowledgeable expert(s) prepared to discuss the applicant's approach to the new and significant information review of those calculations in the revised ER which used the 1996-1998 meteorological data collected at the site."	N	Applicant to describe process for determining data is still representative and provide a brief summary of results.
MET-6	Provide a knowledgeable expert(s) to provide new information regarding changes in expected air-related emissions, either from the cooling towers or supplementary systems related to the change from ESBWR to APWR.	N	Applicant to provide air emission from boilers and generators associated with the APWR.
MET-7	Provide a knowledgeable expert(s) to more specifically identify new information regarding the confirmatory study discussed in ER Rev. 3 Section 5.3.	Y	Resolved for audit.
RHH-	**Radiological Human Health/Fuel Cycle/Waste Management** R. Emch / G. Stoetzel		
RHH-1	Provide a knowledgeable expert(s) to more specifically	Y	Resolved for audit.

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	identify new information regarding the routine liquid radioactive effluent source term for the APWR provided in Table 3.1-10 and Table 5.4-1 in ER Rev. 3.		
RHH-2	Provide a knowledgeable expert(s) to more specifically identify new information relating to the sources of direct radiation from the existing two units and Independent Spent Fuel Storage Installation (ISFSI) to include data from protected area thermoluminescent dosimeters (TLDs) for the past two years.	Y	Resolved for audit.
RHH-3	Provide a knowledgeable expert(s) to more specifically identify new information relating to the orientation of the proposed APWR unit on the ESP site.	Y	Resolved for audit.
RHH-4	Provide a knowledgeable expert(s) to more specifically identify new information relating to the impact of the "greater than plant parameter envelope (PPE)" tritium liquid effluent release source term on Lake Anna tritium concentrations. (see H-2)	N	Applicant to provide source of the reported tritium concentration of 7460 pCi/L that appears in Table 2.3-1 of the ER Rev. 3. NRC to clarify additional information needs if any, at a later date.
RHH-5	Provide a knowledgeable expert(s) to more specifically identify new information regarding the gaseous effluent release points for the APWR.	Y	Resolved for audit.
RHH-6	Provide a knowledgeable expert(s) to specifically identify new information related to the calculation of dose to the maximally exposed individual from routine gaseous effluents provided in Tables 5.4-4, 5.4-5, and	Y	Resolved for audit.

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	5.4-6 in ER Rev. 3.		
RHH-7	Provide a knowledgeable expert(s) to more specifically identify the assumptions used to determine the gaseous effluent contribution to biota dose.	Y	Resolved for audit.
RHH-8	Provide a knowledgeable expert(s) to more specifically identify new information related to how low level radwaste will be handled and disposed of.	N	Applicant will provide copy of shielding dose calc package to reading room.
RHH-9	Provide a knowledgeable expert(s) to more specifically identify new information related to the calculation of dose to the maximally exposed individual from routine liquid effluents provided in Tables 5.4-2 and 5.4-6 in ER Rev. 3.	Y	Resolved for audit.
RHH-10	Make available all electronic input and output files for the LADTAP II code calculation of annual liquid effluent doses to the maximally exposed individual.	N	Applicant will provide electronic input and output files for the LADTAP II code. Related calc packages will be available in the reading room.
RHH-11	Make available all electronic input and output files for the GASPAR II code calculation of annual gaseous effluent doses to the maximally exposed individual.	N	Applicant will provide electronic input and output files for GASPAR II code.
RHH-12	Make available any technical basis documents or calculation packages showing the assessment of the dose contribution from the Interim Radwaste Storage Facility (IRSF) designed for on-site storage of radiological waste generated during 10 years of normal operation including the methodology, basis,	Y	Resolved for audit.

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	and assumptions used to develop the source term and calculate the doses.		
RHH-13	Make available the reports on the liquid and gaseous dose contributions from existing units mentioned in Notes 2 and 3 of Table 5.4-6 in ER Rev. 3.	Y	Resolved for audit.
RHH-14	Provide a knowledgeable expert(s) to identify new information, if any, regarding the potential for exposure by construction workers to radioactive materials due to material buried under 10 CFR 20.304 or10 CFR 20.2002, or as a result of construction activities at approved release points.	Y	Resolved for audit.
RHH-15	Provide a knowledgeable expert(s) to identify new information, if any regarding the sources of direct radiation not currently described, such as; the steam generator storage facility, the south side of the existing Units 1 and 2, near at the proposed Unit 3 discharge structure, onsite shielded storage container (OSSC) storage locations, and replaced Reactor Head storage areas.	Y	Resolved for audit.
RHH-16	Provide a knowledgeable expert(s) to identify new information, if any, regarding the potential for exposure by construction workers to migration of radioactive materials deposited from leakage or spills at the existing units to the construction site.	Y	Resolved for audit.

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ACC-	**Accidents** R. Emch / V. Ramsdell		
ACC-1	Provide a knowledgeable expert(s) to discuss the US-APWR DBA analyses.	Y	Resolved for audit.
ACC-2	Provide a knowledgeable expert(s) to discuss the 0 to 2 hr isotopic release rates for APWR DBAs presented in Tables 3.0-3a, 3.0-3b, 3.0-4, 3.0-5, 3.0-6, 3.0-7a, 3.0-7b, 3.0-8, and 3.0-9 in ER Rev. 3.	N	The 0 to 2 hr isotopic release rates for APWR DBAs are not available in the DCD. NRC will request this in an RAI. Applicant to provide a revised description for how DBA's were calculated in the ER.
ACC-3	Provide a knowledgeable expert(s) to discuss severe accident consequence assessments based on updated site information and severe accident source terms for the US-APWR.	Y	Resolved for audit.
ACC-4	Make available the input to and output from a revised severe accident consequence assessment (MACCS runs).	N	Applicant to provide input and output files for MACCS runs. As new simulations are completed output will be provided.
ACC-5	Provide a knowledgeable expert(s) to identify new information, if any, regarding the site and regional population, land use, and economic data used to evaluate the severe accident consequences for Unit 3.	N	Applicant will provide a discussion of the representativeness of the population and economic data input to MACCS code for APWR.
ACC-6	Provide a knowledgeable expert(s) to discuss the use of core damage frequencies for internally initiated events, internal flood events, internal fire events, and	N	Applicant to provide missing consequence for MACCS runs for all cases.