

## ClinchRiverESPHFNPEm Resource

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**From:** Fetter, Allen  
**Sent:** Thursday, April 06, 2017 2:54 PM  
**To:** Schiele, Raymond Joseph; pshastings (pshastings@tva.gov)  
**Cc:** ClinchRiverESPEmNPEm Resource; Dozier, Tamsen; Vokoun, Patricia; Sutton, Mallecia  
**Subject:** FW: Info Needs for Env Audit ACC\_AE\_LU\_MET.docx  
**Attachments:** Info Needs for Env Audit ACC\_AE\_LU\_MET.docx

[More info needs for environmental audit.](#)

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**From:** Dozier, Tamsen  
**Sent:** Thursday, April 06, 2017 1:59 PM  
**To:** Fetter, Allen  
**Cc:** Vokoun, Patricia ; Sutton, Mallecia  
**Subject:** Info Needs for Env Audit ACC\_AE\_LU\_MET.docx

I believe these should be good to go. (is 34 items).

My understanding is that first submission was 6 alternatives and 14 transportation. 54 down and approximately 88 to go.

TSD

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**From:** Fetter, Allen

**Created By:** Allen.Fetter@nrc.gov

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DRAFT Information Needs for Environmental Audit May 2017  
Submission 2 (Accidents, Aquatic Ecology, Land Use, Meteorology)

Info Needs #	Info Needed	SME Name	ER Section
ACC-01	Make available a knowledgeable expert to discuss and describe the small modular reactor (SMR) loss-of-cooling accident (LOCA), including how the SMR LOCA differs from a standard pressurized-water reactor (PWR) LOCA.	Palmrose, Donald  Mart, Eva	7.1.2
ACC-02	Provide, for staff examination, the vendor design-basis accident (DBA) calculation that forms the basis for the surrogate SMR dose calculation (via a scaling factor).	Palmrose, Donald  Mart, Eva	7.1.3
ACC-03	Make available a knowledgeable expert to discuss the basis for the DBA dose calculation assumptions including those related to breathing rates and uncertainties (e.g., whether the vendor DBA doses were calculated for the reactor design-power level plus a margin for uncertainty). The Environmental Report (ER) does not discuss the dose calculation assumptions other than stating that the doses were obtained by scaling vendor DBA results.	Palmrose, Donald  Mart, Eva	7.1.3
ACC-04	Provide, for staff examination, the various vendor probabilistic risk assessment (PRA) documents that were used as the basis for the PRA results presented in ER Section 7.2-2 to help the staff understand the PRA results.	Palmrose, Donald  Mart, Eva	7.2-1
ACC-05	Make available a knowledgeable expert to discuss the various vendor-supplied PRA documents to help the staff understand the PRA assumptions and bases, including the core damage frequency (CDF) of 4.65E-08 per Ryr, the relative frequencies for the release categories, and the how the six release categories were developed.	Palmrose, Donald  Mart, Eva	7.2-1
ACC-06	Make available a knowledgeable expert to discuss the analyses and measures the Tennessee Valley Authority (TVA) has taken, or will take at the combined operating license (COL) submittal stage, to address other at-power and low-power/shutdown initiating events. The ER only evaluates internally initiated events.	Palmrose, Donald  Mart, Eva	7.2-1
ACC-07	Make available a knowledgeable expert to discuss externally initiated events (e.g., external flooding and seismic events). TVA's ER does not address potential	Palmrose, Donald  Mart, Eva	7.2-1

	probability-weighted consequences (i.e., risk) from externally initiated events.		
ACC-08	Provide sources of information for the input parameters in ATMOS and make available a knowledgeable expert to discuss the computation of severe accident consequences using MACCS to help the staff understand the bases for the input parameters in ATMOS (including release fractions, deposition velocities, reactor building geometries, and weather).	Palmrose, Donald  Mart, Eva	7.2.2
ACC-09	Provide sources of information for input parameters in EARLY and make available a knowledgeable expert to discuss the computation of severe accident consequences using MACCS to help the staff understand the bases for the input parameters in EARLY (including emergency response measures assumed).	Palmrose, Donald  Mart, Eva	7.2.2
ACC-10	Provide sources of information for the meteorological input file and make available a knowledgeable expert to discuss the meteorological data, the basis for selecting mid-2012 through mid-2013 as a representative year, and how this time period compares to other years.	Palmrose, Donald  Mart, Eva	7.2.2
ACC-11	Make available a knowledgeable expert to discuss emergency planning and assumed response scenarios applied in the MACCS input including the basis for the assumption of a 2 mi emergency planning zone (EPZ) when current U.S. Nuclear Regulatory Commission (NRC) guidance is for a 10 mi EPZ. Note that the environmental finding for severe accidents is derived in part from a comparison of the offsite risks of a severe accident at the current generation of reactors with a 10 mi EPZ to the offsite risks for the proposed action.	Palmrose, Donald  Mart, Eva	7.2.2
ACC-12	Provide sources of information for the input parameters in the MACCS site file and make available a knowledgeable expert to discuss the population inputs, their bases, and the source of the information (e.g., latest version of SECPOP applying 2010 U.S. Census Bureau data) to help the staff understand whether the values are consistent with those provided in the ER Chapter 2.	Palmrose, Donald  Mart, Eva	7.2.2
ACC-13	Provide sources of information for input parameters in the MACCS site file and make available a knowledgeable expert to discuss:	Palmrose, Donald  Mart, Eva	7.2.3.1

	<ul style="list-style-type: none"> <li>- population inputs, their bases, and the source of the information (e.g., latest version of SECPOP applying 2010 U.S. Census Bureau data) to help the staff understand whether the values are consistent with those provided in ER Chapter 2</li> <li>- land-use values in SITE, to help the staff understand the values, including whether they are consistent with the info in ER Chapter 2 and whether the values were adjusted for any potential land-use changes.</li> </ul>		
ACC-13	Provide sources of information and make available a knowledgeable expert to discuss the individual economic input values used in input file CHRONIC for MACCS and their bases to help the staff understand the severe accident cost impacts, including evacuation costs, values of crops contaminated and condemned, value of milk contaminated and condemned, cost of property decontamination, and indirect costs resulting from loss of property. The ER provides one economic risk value (29.3 \$/Ryr) but does not provide a justification for the values assumed.	Palmrose, Donald  Mart, Eva	7.2.3.1
ACC-14	Make available a knowledgeable expert to discuss the locations of nearby bodies of water and potential locations where water is withdrawn from the Clinch River for both drinking water and crop irrigation.	Palmrose, Donald  Mart, Eva	7.2.3.3
ACC-15	Make available a knowledgeable expert to discuss if TVA is considering any additional sensitivity calculations such as those discussed in CLI-16-07.	Palmrose, Donald  Mart, Eva	7.2.4 and 7.2.5
ACC-16	Make available a knowledgeable expert to discuss the MACCS calculation results.	Palmrose, Donald  Mart, Eva	7.2.4 and 7.2.5
AE-01	Provide a knowledgeable expert to discuss potential impacts to aquatic biota and habitats in the vicinity of the proposed locations for the intake and discharge structures and the barge/traffic area on the Clinch River.	Doub, Peyton  Krieg, Rebekah	2.4.2; 4.3.2; 5.3.2
AE-02	Provide a knowledgeable expert to discuss the process (if any) that TVA uses to avoid bodies of water and aquatic species and habitats during placement of new transmission lines (including underground lines) or work on existing transmission lines. For those areas where perennial, intermittent, and ephemeral streams and ponds will be subject to permanent or temporary disturbance on the CRN site and barge/traffic area from placement of new transmission lines or work on existing transmission line corridors, identify the	Doub, Peyton  Krieg, Rebekah	2.4.2; 4.3.2

	location and provide a description of disturbance and any technology or procedures used to limit the disturbance to aquatic.		
AE-03	This is same as TE-08. Provide a knowledgeable expert who can discuss the status of TVA's correspondence with U.S. Fish and Wildlife Service (FWS) regarding Federally listed important species and habitats and TDEC – Division of Natural Heritage and Tennessee Wildlife Resources Agency regarding State-listed important species and habitats. Provide any correspondence to or from these agencies.	Doub, Peyton  Krieg, Rebekah	4.3.2
AE-04	ER Section 6.5.2.3 states that TVA would repeat aquatic field studies following construction in order to collect at least 1 year of preoperational and/or operational data for comparison to the baseline data. Provide a knowledge expert to discuss the purpose, location and objectives of these proposed studies that are characterized in the ER as being a “subset of the site preparation field studies”.	Doub, Peyton  Krieg, Rebekah	6.5.2.3
AE-05	Provide a knowledgeable expert who can accompany staff to ORR Sites 2 and 8 to discuss aquatic ecology issues in the field for those two alternative sites. The staff does not consider it necessary to revisit the Redstone site but would still like to meet with a knowledgeable expert to discuss aquatic ecology issues associated with the Redstone site. This is related to TE-20.	Doub, Peyton  Krieg, Rebekah	9.3.5.2
LU-01	Provide high-resolution digital scans of aerial photographs of the original Clinch River Breeder Reactor construction site and areas adjoining areas of the ORR, including what is now designated as the BTA. The photos would ideally illustrate the full extent of land disturbance from that activity, including development of the associated barge and rail facilities and access/haul roads.	Doub, Peyton  Anderson, David M	2.2.1
LU-02	Provide information describing floodplain mapping and characteristics for the site and for offsite affected land areas including transmission line corridors. Describe the expected impacts of any preconstruction activities to floodplains.	Doub, Peyton  Anderson, David M	2.2
LU-03	Provide a knowledgeable expert who can discuss land use, regional planning, and zoning issues for the City of Oak Ridge, TN and Anderson and Roane Counties, TN. Has the city or either of the counties established zoning for the site or adjoining lands, including lands opposite the site on the Clinch River? Is the site	Doub, Peyton  Anderson, David M	2.2

	addressed in other regional land use plans (e.g., ORR Ten-Year Plan)?		
LU-04	Provide information regarding special land-use classifications (e.g., Native American or military reservations, wild and scenic rivers, state and national parks, national forests, wildlife refuges, and wilderness areas) on or adjacent to proposed transmission line corridors or routes or locations for other proposed offsite facilities. This includes transmission line segments subject to being rebuilt, re-conducted, or uprated. Also, please address the Redstone and ORR 2 and 8 alternative sites.	Doub, Peyton Anderson, David M	2.2; 4.1.1; 9.3.5.2
LU-05	Discuss encroachment by the project into TVA Zone 3 – Sensitive Resource Management along the Clinch River and associated conflicts with TVA land use policy. Is a zoning change or a variance needed?	Doub, Peyton Anderson, David M	2.2.1
LU-06	Provide a knowledgeable expert who can discuss potential land disturbing activities associated with rebuilding, reconducting, and uprating offsite transmission lines, including access issues and effects on existing land uses.	Doub, Peyton Anderson, David M	4.1.2
LU-07	Provide electronic copy of GIS layers used to develop Figures 2.1-2, 2.2-1, 2.2-2, 2.2-3, 2.2-4, 2.2-5, and 4.1-1.	Doub, Peyton Anderson, David M	2.2.2; 4.1.2
LU-08	ER Page 2.2-3 discusses the "Farmland Conversion Impact Rating" and Form AD-1006, which is included in Appendix A of the ER, page A-11. That form indicates that 1131 acres of land at the CRN site are expected to be converted as a result of the Clinch action. That is an area larger than the site itself (935 ac). Please clarify the acreage of CRN site areas expected to be disturbed.	Doub, Peyton Anderson, David M	2.2.2.1
MET-01	Provide a knowledgeable expert to discuss onsite meteorological data collection.	Quinlan, Kevin Willingham, Laura Flaherty, Julia E	2.7, 6.4
MET-02	Provide a knowledgeable expert to discuss dispersion modeling with PAVAN, XOQDOQ, and CALPUFF.	Quinlan, Kevin Willingham, Laura Flaherty, Julia E	2.7
MET-03	Provide monthly mixing height data, including frequency and duration of inversion conditions and the methods used to provide the estimates and an assessment of these values relative to their effect on air quality and/or dispersion.	Quinlan, Kevin Willingham, Laura Flaherty, Julia E	2.7
MET-04	Provide monthly summaries of atmospheric stability.	Quinlan, Kevin	2.7

		Willingham, Laura Flaherty, Julia E	
MET-05	Provide the reactor-specific and site-specific greenhouse gas emissions estimates for different stages of the complete plant lifecycle. No construction/preconstruction estimates are in the application. (Per ISG-26 Attachment 1).	Quinlan, Kevin Willingham, Laura Flaherty, Julia E	