

INFORMATION NEEDS FOR THE ENVIRONMENTAL AUDIT
ADVANCED POWER REACTOR 1400 (APR1400) DESIGN CERTIFICATION APPLICATION REVIEW

ITEM NO.	ESRP SECTION	INFORMATION NEED	NRC REVIEWER
Technical issue (TI) - Issue that may impact the technical contents of the submittal and staff's ability to reach a reasonable NEPA finding.			
ER-TI-1	7.2	<p>Provide access to an Subject Matter Expert (SME) knowledgeable on electronic copies of the WinMACCS project folder(s) and the technical information they contain including all mxd, data, input, and output files for all WinMACCS Version 3.7.0 runs (i.e., for all source term categories for each event category).</p> <p>For example, the staff would like to discuss with the SME how the plant-specific input parameter values in the ATMOS module were determined or developed like the number of plume segments, plume releases times, plume segment durations, etc. Additional input parameters from this and the other MACCS modules may need to be addressed as necessary based on discussions with the SME.</p>	Don Palmrose Michelle Hart Hanry Wagage
ER-TI-2	7.2	Provide access to an SME knowledgeable on the calculations of onsite and offsite doses for all event categories (i.e., internal, fire, flooding, and low power/shutdown) and all source term categories.	Hanry Wagage Don Palmrose Michelle Hart
ER-TI-3	7.2	<p>In ER Section 3, Base Risk, references are not given for much of the technical input to the offsite risk calculations. Therefore, provide access to an SME knowledgeable on the technical reports that provided the basis and details presenting the rational for the following:</p> <ol style="list-style-type: none"> 1. The meteorological data used 2. The population data used 3. The land use data used <p>This SME should also be able to discuss why the technical reports are not listed as references in the ER for the source of this information.</p>	Don Palmrose Michelle Hart

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ER-TI-4	7.2	Provide access to an SME knowledgeable on the justification as to why SecPop2000 was applied for the ER evaluation rather than the currently available SecPop 4.2 which directly applies U.S. Census 2010 data. Please note that in APR1400-K-P-NR-013902-P on page 25 the statement is made that the most recent version of the SECPOP computer program was used in the offsite risk analysis. SecPop 4.2 has been available since October 2013 and SecPop 4.3 is now available from the Sandia National Lab download site.	Don Palmrose Michelle Hart
ER-TI-5	7.2	Provide access to an SME knowledgeable for explaining in the ER what atmospheric, surface water, and groundwater pathways were applied and the resulting impacts from these pathways.	Don Palmrose Michelle Hart
ER-TI-6	7.2	Provide access to an SME knowledgeable on the details in ER Section 3, Base Risk, for the socioeconomic, individual and population health risks effects from the postulated APR1400 severe accidents.	Don Palmrose Michelle Hart
ER-TI-7	7.2	Provide access to an SME knowledgeable for the ER details on what are the dominant severe accident sequences being evaluated and how they were determined.	Don Palmrose Michelle Hart
ER-TI-8	7.2	Provide access to an SME knowledgeable who can fully discuss the process used for determining the risks from severe accidents.	Don Palmrose Michelle Hart
ER-TI-9	7.3	Provide access to an SME knowledgeable on the summary table of the SAMDAs and the associated risk reduction and implementation costs.	Don Palmrose Michelle Hart
ER-TI-10	7.3	Provide access to an SME knowledgeable on the technical justification for inclusion of each basic event discussed in Section 7 of APR1400-E-P-NR-14006-P, Rev0. No reference source is provided as to the source and technical justification of all of the basic events provided and discussed in Section 7 of this technical report as to why they should be considered as SAMDAs.	Don Palmrose Michelle Hart Henry Wagage Hanh Phan

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ER-TI-11	7.3	<p>Provide access to an SME knowledgeable on the baseline cost in U.S. dollars of each basic event in Section 7 (approximately 93 basic events among Sections 7.1 thru 7.22) of APR1400-E-P-NR-14006-P, Rev0.</p> <p>ER Section 7.1 and 7.2 indicates that important basic events from at-power, and LPSD PRA events were reviewed and assessed for their maximum total benefit along with other events from the top 100 cutsets. However, the baseline cost along with the justification for doing this is not clear or not presented adequately for the staff to conduct its review.</p>	Don Palmrose Michelle Hart
ER-TI-12	7.3	<p>Provide access to an SME knowledgeable on the 29 SAMDAs, by their SAMDA IDs' which were determined to need additional qualitative screening (see the last sentence of Section 6, page 18 of APR1400-E-P-NR-14006-P, Rev0).</p> <p>Based on the staff's review of the justifications given in Table 4 under the column heading of Qualitative Screening, there are upward of 39 potentially cost-beneficial SAMDAs. Namely, SAMDA IDs 1-3, 5-7, 16, 19, 20, 29, 38, 39, 43, 47, 54, 60, 63, 65, 66, 67, 17, 74, 75, 78, 80-82, 130-132, 136, and 143 along with SAMDA IDs 87, 89, 91, 110, 142, and 144 where a statement is made that they would affect one aspect of risk which "limits potential benefit to a maximum" to a value above the averted costs.</p>	Don Palmrose Michelle Hart

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ITEM NO.	ESRP SECTION	INFORMATION NEED	NRC REVIEWER
ER-TI-13	7.3	<p>Provide access to an SME knowledgeable to explain the purpose, need and development of Tables 5a through 5f and Tables 6a through 6f (see pages 125 through 204 of APR1400-E-P-NR-14006-P, Rev0).</p> <p>Please note that the discussion of these tables in the main report is very brief (see pages 17 and 19) which do not provide a rationale as to how the information was developed, why each "important basic event" is being presented in the tables, and if there is any relationship to the Subsections 7.1 through 7.22. All that is provided is some how this information is related to the total maximum cost reduction and has some connection for these "important basic events" to be eliminated from further consideration.</p>	Don Palmrose Michelle Hart
ER-TI-14	7.2	Provide access to an SME knowledgeable on the basis for the statement on page 17 of APR1400-K-P-NR-013902-P, Level 3 Notebook, that setting RDPLHEAT to 0.00 watts is conservative. The SME also will need to be able to discuss what the MAAP code provides for a plume heat value for a release.	Don Palmrose Michelle Hart
ER-TI-15	7.2	Provide access to an SME knowledgeable on the basis for the statement on page 23 of APR1400-K-P-NR-013902-P, Level 3 Notebook, that the appropriate economic costs input values should be from NUREG-1150 versus current local or regional values for the location of the severe accident analysis.	Don Palmrose Michelle Hart
Verification / justification (VJ) - provide access to an SME knowledgeable concerning additional information that may be necessary for the staff to evaluate conformance with the ESRP or technical guidance and reach a reasonable NEPA finding.			
ER-VJ-1	N/A	Provide access to an SME knowledgeable to justify why Sections 7.1 through 7.22 of APR1400-E-P-NR-14006-P, Rev0, are proprietary.	Don Palmrose Michelle Hart
ER-VJ-2	N/A	Provide access to an SME knowledgeable to justify why Table 9-2 in APR1400-E-P-NR-14006-P, Rev0, is being declared as proprietary.	Don Palmrose Michelle Hart

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ITEM NO.	ESRP SECTION	INFORMATION NEED	NRC REVIEWER
ER-VJ-3	N/A	Provide access to an SME knowledgeable on the relationship between the following APR1400 DC documents: APR1400-K-X-ER-14001-NP(APR1400 DC ER), APR1400-E-P-NR-14006-P (SAMDA for the APR1400), APR1400-E-P-NR-0138901-P (SAMDA Analysis), APR1400-E-P-NR-013902-P (Level 3 Notebook), and DC-DG-03-23 (Implementation of SAMDAS). Please note the last three documents are not referenced in the first two documents.	Don Palmrose
ER-VJ-4	7.2	Provide access to an SME knowledgeable to justify why APR1400-K-P-NR-013902-P, Level 3 Notebook, should not be provided to the NRC staff on the docket.	Don Palmrose
Completeness (Com) - Information that may need to be provided or docketed to support a reasonable NEPA finding.			
ER-Com-1	7.2	For Appendix A of APR1400-E-P-NR-14006-P, Rev0, provide access to an SME knowledgeable on what should be in the ER as part of the main report (within Section 3, Base Risk) or, at least, as an appendix of the ER, APR1400-K-X-ER-14001-NP. Having this appendix as a direct part of the ER would provide a more complete NEPA assessment description in the ER for this DC.	Don Palmrose
ER-Com-2	7.2 and 7.3	Provide access to an SME knowledgeable on references regarding the Level 1, Level 2, and Level 3 PRA documents that are mentioned throughout the ER.	Don Palmrose
ER-Com-3	7.3	Provide access to an SME knowledgeable on information for the process that the expert panel followed and how they determined there are 29 APR1400 design-specific SAMDA items (see Section 5 of the ER).	Don Palmrose
ER-Com-4	7.3	Provide access to an SME knowledgeable on the source document(s) and the pages in these documents for the approximately 540 SAMDA items from the PRA results (see Section 5 of the ER for the paragraph where this is mentioned as the third information source used to identify SAMDA items).	Don Palmrose

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Consistency (Con) - Information within the submittal appears to be inconsistent and should be addressed.			
ER-Con-1	7.3	For APR1400-E-P-NR-14006-P, Rev0, provide access to an SME knowledgeable on Table 4 and 5 both of which have a number of references to a specific subsection number in Section 7. However, it is not clear that all of the subsections in Section 7 are cited to in Tables 4 and 5.	Don Palmrose
ER-Con-2	7.2 & 7.3	Provide access to an SME knowledgeable on the differences between technical documents APR1400-K-P-NR-013901-P Rev 1, SAMDA Analysis, and APR1400-E-P-NR-14006-P Rev 0, Severe Accident Mitigation Design Alternatives (SAMDAs) for the APR1400. It appears the information, format, and text are essentially the same or very similar except one has more references cited.	Don Palmrose
Typo - Potential editorial error in the submittal that should be addressed.			
ER-Typo-1	N/A	ER page 4-1, in the first paragraph, NEI 05-01 should be Reference 1 not Reference 0.	Don Palmrose