PMBelCOL PEmails

From: Joseph Sebrosky
Sent: Wednesday, May 07, 2008 7:06 AM
To: pmray@tva.gov
Subject: BLN_Info_Needs-Hydrology_Safety_Audit.doc
Attachments: BLN_Info_Needs-Hydrology_Safety_Audit.doc

Phil,

Attached are the staff's information needs for the site visit next week. In addition to the attached, the staff would like to know see if you plan on having subject matter experts (SMEs) on the site/dam tours. The staff would prefer to have SMEs on these tours who can answer questions.

Joe

Hearing Identifier: Bellefonte_COL_Public_EX
Email Number: 1020

Mail Envelope Properties (Joseph.Sebrosky@nrc.gov20080507070500)

Subject: BLN_Info_Needs-Hydrology_Safety_Audit.doc
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From: Joseph Sebrosky

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"pmray@tva.gov" <pmray@tva.gov>
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MESSAGE	316	5/7/2008 7:05:00 AM
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TVA Bellefonte Nuclear Plant

Information Needs for Hydrology Safety Audit - May 13-16, 2008

5/7/08

Serial #	FSAR Section	Discipline	Information Needs	Reviewer
1	2.1.1.2.1	Groundwater Hydrology	Provide a subject matter expert (SME) to identify the location of the exclusion area boundary (EAB) with respect to these residences near Town Creek and any procedures by which access to the Town Creek portion of the EAB will be limited.	P Meyer
2	2.4.1.2.4	Groundwater Hydrology	Provide an SME to identify the local water users including those around Town Creek.	P Meyer
3	2.4.12.1.2	Groundwater Hydrology	Provide an SME to describe the evidence for the existence of perched or semi-perched conditions at the site.	P Meyer
4	2.4.12.2.1	Groundwater Hydrology	Provide an SME to describe the process used to determine changes in private water wells since the construction of Units 1 and 2.	P Meyer
5	2.4.12.2.3	Groundwater Hydrology	Provide an SME to describe methods used to construct groundwater contours and method to ensure that other plausible sets of contours would not result in different conclusions.	P Meyer
6	2.4.12.2.3	Groundwater Hydrology	Provide an SME to explain the large variability in wells WT2 and WT5 (and WT1?) during the 1970s seen in Fig. 2.4.12-211.	P Meyer
7	2.4.12.2.3	Groundwater Hydrology	Provide an SME to identify the 12 aquifer test observation wells.	P Meyer
8	2.4.12.2.3	Groundwater Hydrology	Provide an SME to elaborate on the explanation of the observed groundwater depression including any more recent groundwater head data obtained after May 2007 that would support that hypothesis.	P Meyer
9	2.4.12.2.4	Groundwater Hydrology	Have a copy of Reference 221 available for review at the audit.	P Meyer
10	2.4.12.2.4.1	Groundwater Hydrology	Provide an SME to discuss the protocols by which samples were classified as soil, epikarst, or bedrock and the methods used to conceptualize the lithology through various cross sections.	P Meyer
11	2.4.12.2.4.2	Groundwater Hydrology	Provide an SME to discuss methods used to estimate porosity and the depth of the abrupt porosity change.	P Meyer
12	2.4.12.2.4.2	Groundwater Hydrology	Provide an SME to discuss methods used to provide a conservative estimate of the hydraulic conductivity.	P Meyer
13	2.4.12	Groundwater Hydrology	Provide an SME to discuss the significance of vertical gradients shown in the data of Table 2.4.12-204.	P Meyer

14	2.4.12	Groundwater Hydrology	Provide any available photographs and excavation logs of the subsurface environment exposed during construction of Units 1 and 2 for review during the site audit.	M McBride
15	2.4.12	Groundwater Hydrology	Provide an SME to describe the geophysical boring program described in section 2.5, in particular location and evaluation of voids, and groundwater level measurements made in the borings.	M McBride
16	2.4.12	Groundwater Hydrology	Provide an SME to discuss the inferred interconnection of voids detected in bedrock and epikarst.	M McBride
17	2.4.12	Groundwater Hydrology	Provide an SME familiar with the details of hydraulic testing (e.g. slug and pumping tests) conducted in bedrock and epikarst.	M McBride
18	2.4.12	Groundwater Hydrology	Provide an SME to locate springs, seeps, or other discrete locations of groundwater discharge to the surface at the site.	M McBride
19	2.4.12	Groundwater Hydrology	Provide an SME to discuss the methods used to estimate the vertical groundwater gradients in bedrock and epikarst.	M McBride
20	2.4.12	Groundwater Hydrology	Provide an SME to define the exact distinction between “dry” wells (i.e. wells that produced very little water) and wells completed above the water table.	M McBride
21	2.4.12	Groundwater Hydrology	Provide an SME to explain the methods used to identify the locations of groundwater supply wells.	M McBride
22	2.4.12	Groundwater Hydrology	Provide the correct citation for second complete paragraph on FSAR p. 2.4-50 (Reference 205 is apparently incorrect).	M McBride
23	2.4.12	Groundwater Hydrology	Provide an SME to discuss rationale for excluding wells completed in the soil zone in preparation of groundwater piezometric surface maps.	M McBride
24	2.4.12	Groundwater Hydrology	Provide an SME to discuss the methods used in estimating the effective porosity of bedrock.	M McBride
25	2.4.12	Groundwater Hydrology	Provide an SME to discuss the assumptions used in estimating groundwater flow velocities.	M McBride
26	2.4.13	Accidental Release	Provide an SME to discuss the values in the RESRAD input file(s) used in this section.	P Meyer

27	2.4.13	Accidental Release	Provide an SME to describe the methods employed for the laboratory adsorption measurements.	P Meyer
28	2.4.13	Accidental Release	Provide an SME to discuss the basis for the source concentrations for the radionuclides included in the transport analysis.	P Meyer
29	2.4.13	Accidental Release	Provide an SME to discuss the basis for the sequence of events and time scales used in the transport analysis.	P Meyer
30	2.4.13	Accidental Release	Provide an SME to discuss the basis for using Parameter Values in Table 2.4.13-203 relative to the minimum observed values as reported in Table 2.4.13-202.	P Meyer
31	2.4.13	Accidental Release	Have a calc package for review (or/and an SME to describe) the computation of the Area of Contaminated Zone in Table 2.4.13-203.	P Meyer
32	2.4.13	Accidental Release	Provide an SME to clarify whether the contaminant source is assumed to be directly in the saturated zone as illustrated in Figure 2.4.13-201. If so, explain the use and impact of the contaminated and unsaturated zone parameters.	P Meyer
33	2.4.13	Accidental Release	Provide an SME to explain how alternative plausible scenarios, consistent with limited data available, for groundwater radionuclide migration eastward from Unit 4 toward the intake structure on Guntersville Reservoir were filtered to determine that the postulated scenario was conservative.	M McBride
34	2.4.13	Accidental Release	Provide an SME to discuss whether preferential flow through fractures and solution openings in bedrock and epikarst is a plausible alternative conceptual model for transport of radionuclides.	M McBride
35	2.5	Geology	Have a copy of Reference 399 available for review at the site audit.	P Meyer
36	2.4.6	Hill-slope Failure	Provide an SME to discuss the possibility of hill-slope failure-generated tsunami-like waves on inland sites per RG 1.206.	H Jones
37	2.4.2.3	Local Flooding	Provide an SME to discuss the site drainage and a large-format copy of Figure 2.4.2-202 (Grading and Drainage Plan).	K See
38	2.4.2	Basin Flooding	Provide an SME to discuss the rationale for selecting flood records after 1952 as representative of current and future (to the duration life of the COL) floods.	K See
39	2.4.2	Basin Flooding	Provide an SME to discuss any field measurements taken near the Bellefonte site (e.g., river discharges, stage heights, water velocities) during the 2003 flood event.	K See

40	2.4.2	Basin Flooding	Provide an SME to describe any bounding calculations performed without SOCH to estimate the Probable Maximum Flood (PMF) elevation at the Bellefonte site.	S Breithaupt
41	2.4.3.2	Basin Flooding	Provide an SME to discuss the method used to estimate precipitation losses.	K See
42	2.4.3.3	Basin Flooding	Provide an SME to discuss the method used to correct unit hydrographs derived from deconvolution of much smaller storms for a Probable Maximum Precipitation (PMP) event.	K See
43	2.4.3.3	Basin Flooding	Provide an SME to discuss why the Goodrich semi-graphical method was selected for tributary routings.	K See
44	2.4.3.3	Basin Flooding	Provide an SME to describe the status of dam safety modifications at the Chickamauga Dam.	K See
45	2.4.3.3	Basin Flooding	Provide an SME to discuss the assumptions about the status of spillway gates and other adjustable structures during the PMF.	K See
46	2.4.3.4	Basin Flooding	Provide an SME to discuss the method used to estimate the initial state of the reservoir, the reservoir state at the end of the antecedent storm and how these assumptions comply with Standard Review Plan 2.4.4 and GDC 2, Appendix A of 10 CFR 50.	K See
47	2.4.3.4	Basin Flooding	Provide an SME to discuss the methodology to model embankment breaching.	K See
48	2.4.4.3	Basin Flooding	Provide an SME to discuss the impacts on the PMF brought about by a change in the reservoir operation policy discussed in the Reservoir Operations Study conducted by TVA in 2004.	K See
49	2.4.4.3	Basin Flooding	Provide an SME to describe the collection methods and locations for the most current bathymetric and topographic data available. Also describe how these data relate to data used to develop cross sections in the flood routing analysis.	K See