PMBelCOL PEmails

From: Ray, Phillip M [pmray@tva.gov]
Sent: Monday, May 19, 2008 10:18 AM
To: Joseph Sebrosky
Cc: Eddie R Grant; Shelley Kowkabany; rgrumbir@gmail.com
Subject: Climatology
Attachments: draft rai climatology.doc

Joe,

I have discussed the questions with the SMEs and they do not need a call. They understand the questions.

Thanks,

Phil

Hearing Identifier: Bellefonte_COL_Public_EX
Email Number: 825

Mail Envelope Properties (28921B76CDD05940A918AEEC9EBCA7C0078D8072)

Subject: Climatology
Sent Date: 5/19/2008 10:17:42 AM
Received Date: 5/19/2008 10:18:04 AM
From: Ray, Phillip M

Created By: pmray@tva.gov

Recipients:
"Eddie R Grant" <erg-xl@cox.net>
Tracking Status: None
"Shelley Kowkabany" <skowkabany@enercon.com>
Tracking Status: None
"rgrumbir@gmail.com" <rgrumbir@gmail.com>
Tracking Status: None
"Joseph Sebrosky" <Joseph.Sebrosky@nrc.gov>
Tracking Status: None

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MESSAGE	138	5/19/2008 10:18:04 AM
draft rai climatology.doc	27712	

Options
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Request for Additional Information

From RSAC

Bellefonte Units 3 and 4
TVA
Docket No. 52-014 and 52-015
SRP Section: 02.03.01 - Regional Climatology
Application Section: 2.3.1

QUESTIONS from Siting and Accident Consequences Branch (RSAC)

02.03.01-***

It appears that the tornado wind speed values in SAR section 2.3.1.2.1.2 (e.g., 10-7 probability of expected maximum tornado wind speed of 285 mi/h) were taken from NUREG/CR-4461 Rev. 1, while the Design Basis Tornado Parameters in SAR section 2.3.1.4 (e.g., Design Basis Tornado maximum wind speed of 230 mi/h) were taken from Revision 1 of Regulatory Guide 1.76, which is based on NUREG/CR-4461 Rev. 2. Justify the inconsistency between these values.

02.03.01-***

SAR section 2.3.1.2.1.3 estimated 17 thunderstorm events per year in northeast Alabama and extreme south central Tennessee. The NCDC Local Climatological Data from the first order NWS station at Huntsville, AL identified a frequency of 55.6 thunderstorms per year. Please justify the value chosen.

02.03.01-***

The BLN SAR identified the Air Quality Control Region (AQCR) for Jackson County as part of the Tennessee River Valley (Alabama)-Cumberland Mountains (Tennessee) Interstate Air Quality Control Region. Attainment designations were provided, and a nonattainment for PM-2.5 (particulate matter with a diameter less than 2.5 microns) was identified for Jackson County. Please describe any impact that the nonattainment area designation has on the design and/or operation of the proposed nuclear power unit.

02.03.01-***

SAR section 2.3.1.2.2, “Severe Winter Storm Events”, contains an estimate (7.53 inches liquid) of the 48 hour Probable Maximum Winter Precipitation (PMWP) derived from 5 years of BLN site data. This estimate appears to be inconsistent with the 48 hour PMWP value of 24.7 inches (based on

HMR-53) listed in section 2.3.1.2.2.2, “Estimated Weight of the 48 hour Maximum Winter Precipitation”. Please explain/justify the difference between these values.

02.03.01-***

SAR section 2.3.1.2.2.1 states that the greatest snow depth recorded at Scottsboro was 10 inches, while section 2.3.1.2.2 states that the greatest snowfall in Scottsboro deposited 12 inches. Justify using the 10 inch value vs. the 12 inch freshly fallen snow value for the 100-year snow pack value.

02.03.01-***

Please identify that portion of the 48-hour PMWP that could fall as frozen precipitation.

02.03.01-***

SAR Section 2.3.1.3 states that it discusses BLN site and local area meteorological data that may impact design of safety-related heat removal systems. SAR Section 2.3.1.3.1 then goes on to present the controlling meteorological parameters necessary for the analysis of cooling tower performance. However, the chosen reactor design (AP1000) does not use a cooling tower to release heat to the atmosphere following a loss-of-coolant accident (AP1000 DCD Tier 2 Section 6.3). Instead, a passive containment cooling system (PCS) would provide the safety-related UHS. (a) Please provide the meteorological data used to evaluate the PCS system. (b) Please identify all the cooling towers used to support plant operation and state whether they serve a safety-related function.

02.03.01-***

SAR Table 2.0-201 lists Maximum Safety and Minimum Safety wet-bulb and dry-bulb temperature site characteristics as 0.4% exceedance values rather than 0% exceedance values. Because the maximum and minimum safety temperature site characteristics should be based on the higher of either historic or 100-year return period values, please confirm how SAR Table 2.3-203 corresponds with Table 2.0-201 using the higher of either historic or 100-year return period site characteristic values for maximum and minimum safety temperatures.