

PMComanchePeakPEm Resource

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Sent: Thursday, November 15, 2012 10:07 AM
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Cc: ComanchePeakCOL Resource; Reyes, Ruth; Takacs, Michael; Pohida, Marie
Subject: Comanche Peak RCOL Chapter 19 - RAI Number 264
Attachments: RAI_6877 (RAI 264).docx

I am re-sending RAI 264 (6877) as the incorrect number was posted on the RAI issued on October 18, 2012. RAI 6877 is the correct number, instead of RAI 6887.

thanks,

Stephen Monarque
U. S. Nuclear Regulatory Commission
NRO/DNRL/NMIP
301-415-1544

Hearing Identifier: ComanchePeak_COL_Public
Email Number: 1772

Mail Envelope Properties (9C2386A0C0BC584684916F7A0482B6CAB708B57127)

Subject: Comanche Peak RCOL Chapter 19 - RAI Number 264
Sent Date: 11/15/2012 10:07:13 AM
Received Date: 11/15/2012 10:07:16 AM
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Files	Size	Date & Time
MESSAGE	284	11/15/2012 10:07:16 AM
RAI_6877 (RAI 264).docx	19689	

Options

Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Request for Additional Information 264 (6877)

Issue Date: 10/18/2012

Application Title: Comanche Peak Units 3 and 4 -
Operating Company: Luminant Generation Company, LLC.

Docket No. 52-034 and 52-035

Review Section: 19 - Probabilistic Risk Assessment and Severe Accident Evaluation

Application Section:

QUESTIONS

19-21

The staff has reviewed the applicant's response to RAI Number 6320 (Question Number 19-19). In this response, to evaluate extreme winds (other than tornado) during full power operation, the applicant used the average US frequency of a loss-of offsite power (LOOP) due to weather-related causes for critical operation as $4.8E-3$ per year as referenced in NUREG/CR-6890.

As stated in 10CFR52.79(d)(1), for applicants referencing a DC, "In addition, the plant specific PRA information must use the PRA information for the design certification and must be updated to account for site-specific design information and any design changes or departures". Therefore, the staff believes that the extreme wind frequency should be site specific and should not be based on average US data. The staff also noted that based on average US data, the core damage frequency (CDF) for extreme winds constitutes approximately 8% of the CDF.

The staff also reviewed the applicant's response to shutdown operations. It appears that the non-safety related alternating current (AC) power system was credited in the extreme winds assessment.

Based on the applicant's response to RAI 19-19, the staff is requesting the applicant to:

(1) Document in Chapter 19 of the FSAR that extreme winds as discussed in Chapter 2 of the COLA FSAR (Table 2.0-1R page 2.0-2), which references a site specific extreme wind speed (other than tornado) of 96mph in 1/100 years, do not contribute more than 10 percent of the full power core damage frequency compared to the US-APWR DC PRA. Please also consider that the switchyard could be damaged resulting in a LOOP event that cannot be recovered within 24 hours. Please provide the updated PRA results (e.g. dominant cutsets) and any risk insights due to the site impacts from the site specific extreme wind speed on non-safety related SSCs.

(2) Document in Chapter 19 of the FSAR that extreme winds as discussed in Chapter 2 of the COLA FSAR (Table 2.0-1R page 2.0-2), which references a site specific extreme wind speed (other than tornado) of 96mph in 1/100 years, do not contribute more than 10 percent of the shutdown core damage frequency compared to the US-APWR DC PRA. Please also consider that the switchyard could be damaged resulting in a LOOP event that cannot be recovered within 24 hours. Please verify whether credit was taken for the non-safety related alternate AC power system, and if so, justify why credit was taken. Please provide the updated PRA results (e.g. dominant cutsets) and any risk insights due to the site impacts from the site specific extreme wind speed on non-safety related structure, system and components (SSCs).

Regulatory Guide 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," Revision 2, March 2009 states, "**1.2.5 Screening and Conservative Analysis of Other External Hazards Technical Elements**

Screening methods can often be employed to show that the contribution of many external events to CDF and/or large early release frequency (LERF)/LRF (large release frequency) is insignificant. The fundamental criteria that have been recognized for screening-out events are the following: an event can be screened out either (1) if it meets the criteria in the NRC's 1975 Standard Review Plan (SRP) or a later revision; or (2) if it can be shown using a demonstrably conservative analysis that the mean value of the design-basis hazard used in the plant design is less than 10^{-5} per year and that the conditional core damage probability is less than 10^{-1} , given the occurrence of the design-basis-hazard event; or (3) if it can be shown using a demonstrably conservative analysis that the CDF is less than 10^{-6} per year. It is recognized that for those new reactor designs with substantially lower risk profiles (e.g., internal events CDF below 10^{-6} /year), the quantitative screening value should be adjusted according to the relative baseline risk value." Based on RG 1.200, the staff requests the following:

1. Please update the screening discussion described in Section 19.1.5 of the CPNPP FSAR, Revision 3 to be consistent with RG 1.200 Section 1.2.5 (and, if necessary, add RG 1.200 to FSAR Table 1.9-201) or justify your current screening methodology.
2. The overall frequency of a 6-hour, 25-inch PMP event for the U.S is not appropriate for a site-specific analysis. Since section 2.4 of the CPNPP FSAR provides a deterministic evaluation of PMP for the site, has this evaluation in Chapter 2 been applied in Chapter 19, considering Criterion 1 of the screening criteria for other external hazards referenced in RG 1.200 Section 1.2.5?