

PMComanchePeakPEm Resource

From: Monarque, Stephen
Sent: Thursday, April 01, 2010 5:31 PM
To: ComanchePeakCOL Resource
Subject: FW: 2010-04-01 Safety Review Level of Detail

From: Hamzehee, Hossein
Sent: Thursday, April 01, 2010 4:16 PM
To: Donald.Woodlan@luminant.com
Cc: Monarque, Stephen; Magee, Michael
Subject: RE: 2010-04-01 Safety Review Level of Detail

Don,

Thanks for your additional clarifications. We will review them before our next telecom.

Hossein

From: Donald.Woodlan@luminant.com [mailto:Donald.Woodlan@luminant.com]
Sent: Thursday, April 01, 2010 2:59 PM
To: Hamzehee, Hossein
Cc: Monarque, Stephen; John.Only@luminant.com; Magee, Michael; joseph_tapia@mnes-us.com; Eric.Evans@luminant.com; rbird1@luminant.com
Subject: 2010-04-01 Safety Review Level of Detail

Hossein,

I wish I could have been a better communicator yesterday regarding the level of detail required in applications and needed to support the safety review of such applications. This is certainly a key in understanding my positions regarding the RAIs we received regarding the safety hydrology review.

The SRP contain a lot of detail but I invite your attention to the acceptance criteria. Here are a few examples of the words:

- [SRP 2.4.1] "The description ... should be sufficiently complete to allow evaluation of the impact of flood design bases." "Data and descriptions should be sufficiently detailed to allow the staff to review the applicant's conclusions regarding the safety of the plant and to determine of the design bases of safety-relate SSC."
- [SRP 2.4.2] "To satisfy the hydrological requirements of these sections, the applicant's SAR should contain a description of the surface and subsurface hydrological characteristics of the site and region and an analysis of the PMF. This description should be sufficient to assess the acceptability of the site and to assess the potential for those characteristics to influence the design of plant SSC important to safety."
- [SRP 2.4.3] "... the design bases for these SSC shall reflect ... [a]ppropriate consideration of the most severe natural phenomena"
- [SRP 2.4.4] "Meeting this requirement provides a level of assurance that SSC important to safety have been designed to withstand the effects of floods induced by seismic failure of upstream or downstream dams."
- [SRP 2.4.5] "If a hazard to SSC important to safety exists from sediment erosion and deposition, it should be documented and included in the design bases of these SSC."
- [SRP 2.4.7] "The application should demonstrate that the potential effects of site-related proximity, seismic, and non-seismic information as they relate to worst-case icing scenarios adjacent to and on the plant site and site regions are appropriately take into account."
- [SRP 2.4.12] "This description should be sufficient to determine any adverse effects of groundwater on plant foundations and SSC important to safety."

- [SRP 2.4.13] “The description of these pathways should provide sufficient information including data to ensure that the bounding set of plausible pathways that may result in the worst-case contamination are adequately identified.”

I provide these examples not because I want to debate them (and I did not give the context because I do not want to challenge any of the areas), but because I wanted to demonstrate that through words like “sufficient,” “appropriate,” “level of assurance,” “if,” and “appropriately” the SRPs recognize that there needs to be some judgment used to establish a level of detail needed to address each aspect of the review.

These SRP words are consistent with the policies and regulations of the Commission. The word “reasonable” and “reasonable assurance” are used throughout the regulations and especially in 10 CFR Parts 50 and 52.

The background above identifies one of the major challenges to FSAR authors (for applicants) and reviewers/SER authors (for the NRC) – what level of detail is needed to provide a reasonable assurance of safety or, in other words, provides sufficient information for the SER to conclude that a specific aspect of the design supports a conclusion of reasonable assurance of safety.

In my opinion, level of detail is a continuum. It ranges from general “trust me” statements to proof beyond a shadow of a doubt – or from general conclusion to detailed justifications that might be used to support a thesis or a technical paper for a profession, peer-reviewed publication. I think that most people would agree that the proper level of detail is somewhere between those extremes. The best description I have ever seen is in NEI 96-07, the NRC endorsed guidance regarding the 10 CFR 50.59 process. With regard to 10 CFR 50.59 evaluations the report says, “Consistent with the intent of 10 CFR 50.59, these explanations should be complete in the sense that another knowledgeable reviewer could draw the same conclusion.” On a more practicable plane, there are others things that can be done to assess the appropriate level of detail:

- Review related guidance material (SRPs, ESRPs, RGs, etc.)
- Review other applications
- Review published SERs relating to the same area
- Meetings or conference calls with the NRC staff

With respect to our hydrology safety review, my concern focused on level of detail and the implication in the RAIs received in February that more rigorous assessments were needed. Luminant and the NRC had been working on this for some time:

- The Luminant team developed the information for the application in 2007 and early 2008
- The application was submitted in September 2008 and accepted for review in December 2008
- In June of 2010, we received a list of reviewer needs for the site visit and the visit was held during three days in July
- In response to discussions during the site visit, Luminant posted a group of documents (calculations, etc.) in the electronic reading room
- Also in response to the site visit, Luminant provided supporting information on the docket (TXNB-09037 dated 8/31/2009), and revised wording for the FSAR (TXNB-09039 dated 9/2/2009 which transmitted a URT for the FSAR)
- In October, the NRC issued a series of related RAIs (101, 102, 103, 104, 105, 107, 111, 112, 113, 114, 116)
- A conference call was held on October 16, 2010, to discuss and clarify the RAIs
- Responses to the RAIs were provided via TXNB-09067 and TXNB-09068 dated 11/13/2009 and 11/16/2009 respectively
- The next communication was in February 2010 when we received the current set of RAIs

I was surprised when I received the February 2010 questions. Luminant and the NRC reviewers were very misaligned with respect to the appropriate level of detail. Luminant felt that our application and docket contained an appropriate level of detail and sufficient information to draw the needed conclusions. For example, RAI-143, question 02.04.03-10 asks “In order to make its safety determinations based on appropriate consideration of the conservative estimates, the staff requests that the applicant justify why the average of July baseflows is bounding conservative as compared to the use of a greater baseflow statistic.” The baseflow used in the calculation is about 10 cfs. The maximum value in the data available to the reviewer is about 49 cfs. The difference is around 39 cfs. The total flow used in the calculation is approximately 148,000 cfs. In my opinion, it is obvious that the very small change in base flow is going to have no impact on acceptability of the calculation. The difference is probably smaller than the accuracy of the calculation. As a reviewer,

I would not have asked this question (although it is not outside the scope of the SRP) because I believe I already had sufficient information to write an SER.

I included the example above, not to criticize the reviewer involved, but to illustrate how I feel the level of detail in these RAIs (in general and not in all cases) goes beyond what is necessary. I am glad to hear that the appropriate branch chiefs are getting involved because management oversight and direction is frequently the proper tool to get activities like these on track. I firmly believe that everyone involved is doing their best to meet the requirements and expectations associated with applying for a license and for approving that application. Although we can do a lot with good training, experience is always valuable. In some cases, the gap in depth of information requested may rest in the reviewer's confidence in his experience level in drawing conclusions from information that is less rigorous than a highly conservative detailed calculation resulting in four-decimal place accuracy. Reviewers who have practiced only in the classroom or laboratory may be reluctant to stake their professional reputation on anything less than a calculation that proves beyond any doubt whatsoever that the conclusion drawn is correct.

Please do not feel that you need to respond to this email. I am providing it only to clarify, amplify the remarks on our conference call yesterday and in hopes that your team will take these ideas into account as you prepare for our upcoming conference call. I don't expect any of the RAIs to be closed or necessarily changed, but I hope that "sufficient," "appropriate," and "reasonable assurance" are considered when we discuss our potential paths to respond to the questions. The Luminant teams are currently working on resolutions to the pending RAIs and in some cases working parallel resolution paths. One path would develop what we believe is the appropriate information needed to write the SER and a second path is to develop a more rigorous response which fully meets the implications of the questions. No matter the outcome of the upcoming conference call and the potential public meeting, Luminant intends to devote the time and resources necessary to provide the information needed to allow the NRC to draft the related SER sections, whether or not I agree with the level of detail being requested. Even if these comments have no impact on the CPNPP review, they might prove useful in enhancing the review of future applications.

Thanks,

Donald R. Woodlan

Manager, Nuclear Regulatory Affairs

Luminant Power

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