PMLevyCOLPEm Resource

From: Habib, Donald
Sent: Monday, May 11, 2015 1:10 PM
To: Kitchen, Robert (Robert.Kitchen@duke-energy.com)
Subject: List of Topics and Questions for Pending Meeting_AP1000 Condensate Return
Attachments: Revised List of Topics and Questions for Pending Meeting_AP1000 Condensate Return.docx

Bob –

Attached is the **original list** of questions related to condensate return to be addressed at the next subcommittee meeting.

Based on feedback from ACRS, the list has been subsequently revised, and I will forward the **revised list** to you.

Don Habib
Levy COL Review, Lead Project Manager
NRO/DNRL, Licensing Branch 4
301-415-1035

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ACRS Interaction for Levy/Condensate Return
List of Topics/Questions for Pending Meeting

Process and Quality Assurance

Topic/Question	Respondent
1. Why Westinghouse is doing the design change (what is the driver)? (Gets into meeting SECY requirements, preserving design basis, preserving Chapter 15 analysis)	Westinghouse
2.a. How did Westinghouse handle discovery of the erroneousassumption of 90% condensate return in their Appendix B programs/CAP? 2.b. What are the lessons-learned from the discovery and handling of the error?	Westinghouse Westinghouse
3. What is the basis for determining the error to not be a Part 21 substantial safety hazard?(Also, is the basis used for the determination in this instance acceptable for use generically by any vendor? Please state the basis generically.)	Westinghouse and Staff (DCIP)
4. What oversight does Duke provide over the AP1000 vendor, Westinghouse? (Our question doesn't go to oversight generally. It is specific and limited to the licensee responsibilities as set forth in Appendix B to 10 CFR Part 50, including compliance with requirements applicable to design and testing. To the extent that this oversight is limited by the design certification process, how is oversight of compliance with Appendix B in these areas overseen by others?)	Duke
5. What oversight has the staff had over Westinghouse and Duke Appendix B programs regarding the design change? (Oversight of the Duke Appendix B program is assumed to be provided as part of the normal, region-based inspections. How is this affected, if at all, in the case of a certified design?)	Staff (DCIP)
6. What is the root cause, extent of condition, and lessons learned for not addressing this issue earlier? (The "issue" is the incorrect assumption concerning condensate return for the certified design. On what basis is this issue considered unique?)	Duke/Westinghouse and Staff
7. What is the DCD update process? (This is for information only and can be addressed only briefly. Also, what visibility exists for outstanding DCD "updates" which involve correction of similar "issues"?)	Staff (DNRL)

Policy

Topic/Question	
1.a. What is the meaning of “safety design basis” (The perspective for this question is the licensing basis. That is, what is required to delete a performance requirement from the "safety design basis" and relocate to a different category in the licensing basis?) 1.b. How does it relate to the design change? (Also, how does it relate to the Part 21 substantial safety hazard determination? That is, why does failure to meet a safety design basis performance requirement not constitute a substantial safety hazard?)	Duke/Westinghouse and Staff (DNRL) Duke/Westinghouse and Staff (DNRL)
2. How is GDC 34 applied for this review? (Please relate the answer also to the licensing basis.)	Staff (DSRS)

ACRS Interaction for Levy/Condensate Return
List of Topics/Questions for Pending Meeting

3. Are there any other requirements beyond the SECY to cool down the RCS below 420F?	Staff (DSRS)
4. What is "safe-stable shutdown"?	Duke/Westinghouse and Staff (DSRS)

Testing and Analysis

Topic/Question	
1. Why do different models of system performance provide different results? (We need to get beyond simply saying that the HX models used in the spread-sheet analysis vs. the Westinghouse and staff computer models are different. Understanding the difference is important to understanding the sensitivity of system behavior.)	Duke/Westinghouse and Staff (DSRS)
2. How do we know that the model(s) used for heat transfer for uncovered tubes is accurate? (That is, what was the model(s) used and how was the applicability validated? In addition, is the containment pressure effect on the saturation temperature of the IRWST considered?)	Duke/Westinghouse and Staff (DSRS)
3.a. Does the certified design, before modifications, achieve 420 F and maintain stable cooling for 72 hours using Chapter 15 assumptions?(Ideally, this would be shown in pressure/temperature plots for the RCS and containment and in an IRWST level plot.) 3.b. What if there is no change? (What we want is the version of the Westinghouse proprietary slide 37 for the certified design, before modifications.)	Duke/Westinghouse and Staff (DSRS) Duke/Westinghouse and Staff (DSRS))
4. Additional plots/analyses (These are also requested in comments above) 4.a Temperature vs time for various condensate return rates 4.b Containment response vs time (pressure and condensate return) 4.c System performance before design change	Duke/Westinghouse and Staff (DSRS)
5. Using Chapter 15 design-basis analysis assumptions (e.g., initial power level, decay heat, delayed reactor trip, etc.), will operation of the passive RHR system establish reactor coolant system temperature and pressure conditions that allow transition to long-term residual heat removal cooling at 72 hours using the RTNSS systems? In the analysis, for the most limiting transient event, what are reactor coolant system temperature and pressure at the 72 hour transition time? Also, how is the transition to long-term residual heat removal cooling accomplished at that time? (i.e., What are the required operator actions?)	Duke/Westinghouse and Staff (DSRS)