PMBelCOL PEmails

From: Ravindra Joshi
Sent: Thursday, April 23, 2009 12:31 PM
To: andrea sterdis; bob Hirman; Eddie R Grant; Hastings, Peter S; Kim Slays; rgrumbir@gmail.com; Tom Spink
Cc: BelCol Resource; Joseph Sebrosky; Christopher Jackson; Anne-Marie Grady
Subject: Draft RAIs 2644 and 2646 related to SRP 6.2.2 for Bellefonte Units 3 and 4
Attachments: RAI 2644.doc; RAI 2646.doc

To All,

Attached are draft RAIs 2644 and 2646 related to SRP Section 6.2.6 for Bellefonte Units 3 and 4. If you would like to schedule a conference call to discuss these RAIs, please let me know before 5:00 PM on Tuesday April 28, 2008. If no request for a conference call is received, these RAIs will be issued as Final.

Thanks,

Ravindra G. Joshi
Project Manager
AP1000 Project
NRO/DNRL/NWE1
US NRC
301-415-6191.

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Subject: Draft RAIs 2644 and 2646 related to SRP 6.2.2 for Bellefonte Units 3 and 4
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MESSAGE	459	4/23/2009 12:31:12 PM
RAI 2644.doc	30714	
RAI 2646.doc	31738	

Options
Priority: Standard
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Request for Additional Information No. 2644

Bellefonte Units 3 and 4
TVA
Docket No. 52-014 and 52-015
SRP Section: 06.02.06 - Containment Leakage Testing
Application Section: 6.2.6

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

06.02.06-***

BLN has requested an exemption from the requirements of 10 CFR 52, Appendix D, Subsection III.B, from complying with the requirements of the Generic Technical Specifications (TS), specifically Generic TS 5.5.8.c (as provided in the AP1000 DCD, Chapter 16). The request for this change is in TVA letter dated 2 February 2009, Bellefonte Combined License Application – Response to Request for Additional Information - LOCA DBA Dose Analysis. (ML0903504430)

10 CFR 52, Appendix D, Design Certification Rule for the AP1000 Design, subsection III.B requires that an applicant or licensee referencing this appendix incorporate by reference the generic Technical Specifications. The generic TSs, section 5.5.8 (c), Containment Leakage Rate Testing Program, state: The maximum allowable primary containment leakage rate, La, at post accident pressure, Pa, shall be 0.10% of primary containment air weight per day.

BLN requests an exemption from complying with the containment leak rate in the generic TSs in order to reduce the containment maximum allowable leakage leak rate below the SRP minimum value of 0.10%/day to 0.09% primary containment air weight per day. This is intended to be a site specific departure from the AP1000 DCD.

Per 10 CFR 50.12(a)(2), BLN invokes the special circumstances that: applying the AP1000 standard containment leakage rate in the DCD is not necessary to achieve the underlying purpose of the rules; and, compliance with the rule would necessitate expanding the exclusion area boundary, resulting in undue hardship or other costs significantly in excess of those contemplated when the regulation was adopted.

1. BLN is requested to provide additional discussion in support of their statement "application of the AP1000 standard containment leakage rate in the DCD is not necessary to achieve the underlying purpose of the rules." Provide BLN's understanding of the purpose of the rule.

2. The Staff requires a basis for evaluating how any potentially necessary expansion of the exclusion area boundary would result in undue hardship or other costs to BLN. Therefore, provide a quantitative description of the expansion of the exclusion area. Identify and provide an explanation of any associated hardship or other costs in excess of those contemplated when the regulation was adopted.

Request for Additional Information No. 2646

Bellefonte Units 3 and 4
TVA
Docket No. 52-014 and 52-015
SRP Section: 06.02.06 - Containment Leakage Testing
Application Section: 6.2.6

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

06.02.06-***

BLN has requested an exemption from complying with the containment leak rate in the generic TSs containment maximum allowable leakage rate of 0.10%/day. BLN requests to reduce this maximum allowable to 0.09%/day. Standard Review Plan 6.2.6, Containment Leakage Testing, Acceptance Criterion establishes the minimum acceptable leak rate of 0.10% per day. This limit supports the 10 CFR 100.11, Determination of the Exclusion Area, which requires that an applicant assume the expected demonstrable leakage rate from the containment. Nuclear power plant leakage rate testing experience shows that a design leakage rate of 0.10% per day provides adequate margin above typically measured containment leakage rates and is compatible with current leakage rate test methods and test acceptance criteria.

For reactors currently operating in the U.S., the maximum allowable leak rate, La, at accident pressure, Pa, ranges from 0.10 to 1.0% per day for PWRs, and, from 1.0 to 3.0% per day for BWRs.

In order for the staff to evaluate this exemption request, we will need a thorough justification of why this new lower leakage rate is expected and, particularly, how this new lower leakage rate would be demonstrated. Specifically:

1. Identify any AP1000 design features which support the feasibility that this design could demonstrate this new, lower, leak rate. Compare the number of electrical and mechanical penetrations for AP1000 with the penetrations for the currently operating Westinghouse 4-loop plants. Provide the maximum allowable leak rates, La, for those plants.

2. Discuss in detail the pressure, temperature and flow rate test accuracies for the test instruments intended to be used for the BLN types A, B, and C tests. Include a description in the FSAR. Show that these test instrument accuracies, including uncertainties, allow discrimination between 0.09% and 0.10% primary containment air weight per day. Confirm that these instruments are currently available. Also compare the accuracies for these test instruments with those specified in ANSI/ANS-56.8-1994, Containment System Leakage Testing Requirements.

3. Is there operating plant leak rate testing experience for types A, B and C tests that demonstrates the stated accuracey can be achieved? Provide maximum

allowable leak rates and measured leak rates for the operating expeience. Identify whether these are for personnel hatches, type C, or cumulative tests.