

IPRenewal NPEmails

From: Daily, John
Sent: Wednesday, August 01, 2012 9:27 AM
To: rwalpol@entergy.com
Cc: Turk, Sherwin
Subject: Draft RAIs - followup to partial response of June 14, 2012

Bob,
Attached please find three follow-up RAIs resulting from our initial review of your RAI response of June 14, 2012. Please have your staff review these and indicate to me if you desire a conference call to discuss them. As a reminder, the staff typically sends out SER-related RAIs in this format to allow about 7 days for a clarifying conference call, which the applicant can request. Following that, and in any case within about 7-10 days, the formal RAIs will be issued to the applicant.

Also, recall that, as of issuance by the staff of the GALL Report, Revision 2, and the associated Standard Review Plan-License Renewal, Revision 2 (both in December 2010), these are the current standards by which the staff evaluates AMP programs, items requiring further evaluation, associated AMR review line items, and TLAAs. Currently-issued staff ISGs such as ISG-LR-2011-01 (for example) and/or other generic communications should also be consulted by applicants as required, if the document is applicable to the issue being addressed by the applicant.

If you have any questions, please contact me.

Thanks!

John Daily

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Follow-up RAIs- Set
2012-02 IP...

Hearing Identifier: IndianPointUnits2and3NonPublic_EX
Email Number: 3595

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Subject: Draft RAIs - followup to partial response of June 14, 2012
Sent Date: 8/1/2012 9:26:43 AM
Received Date: 8/1/2012 9:26:00 AM
From: Daily, John

Created By: John.Daily@nrc.gov

Recipients:

"Turk, Sherwin" <Sherwin.Turk@nrc.gov>
Tracking Status: None
"rwalpol@entergy.com" <rwalpol@entergy.com>
Tracking Status: None

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Files	Size	Date & Time
MESSAGE	1320	8/1/2012 9:26:00 AM
Follow-up RAIs- Set 2012-02 IP2-3-draft to applicant.docx		34715

Options

Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
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FOLLOW-UP REQUESTS FOR ADDITIONAL INFORMATION (DRAFT)
RELATED TO INDIAN POINT NUCLEAR GENERATING, UNITS 2 AND 3,
LICENSE RENEWAL APPLICATION
DOCKET NUMBERS 50-247 AND 50-286
REACTOR VESSEL INTERNALS PROGRAM AND
THE REACTOR VESSEL INTERNALS INSPECTION PLAN

(Set 2012-02)

RAI 13

The response to RAI 3 clarified that the [ASME Section XI] inservice inspection (ISI) Program is the existing program credited with managing cracking of the “Upper Support Plate, Support Assembly (Including Ring)” in Tables 3.1.2-2-IP2 and 3.1.2-2-IP3 of License Renewal Application (LRA) Amendment 9 (Ref. 1), which provide the results of the aging management review (AMR) of the reactor vessel internals (RVI) for IP2 and IP3. This response prompted the staff to review Tables 3.1.2-2-IP2 and 3.1.2-2-IP3 for consistency with Table 5-4 of the reactor vessel internals (RVI) Inspection Plan (Ref. 2), which identifies the “Existing Programs” components for IPEC corresponding to Table 4-9 of MPR-227-A. This review identified some inconsistencies between Table 5-4, “Existing Program Components at IPEC [Indian Point Energy Center] Units 2 and 3,” of the RVI Inspection Plan and Tables 3.1.2-2-IP2 and 3.1.2-2-IP3, with respect to the existing program credited with managing the aging effect.

The table below compares the aging effects and aging management programs (AMPs) identified in Table 5-4 of the RVI Inspection Plan versus those identified in Tables 3.1.2-2-IP2 and 3.1.2-2-IP3. Further, Table 5-4 of the RVI Inspection Plan identifies the aging mechanism causing the loss of material aging effect as wear, which the Water Chemistry – Primary and Secondary AMP does not address. The staff notes that the aging effects and mechanisms, AMPs, examination methods and coverage identified in Table 5-4 of the RVI Inspection Plan are consistent with those recommended in Table 4-9 of MRP-227-A. The staff also notes that there is a component named “Bottom Mounted Instrumentation - Flux Thimble Tube” in Tables 3.1.2-1-IP2 and 3.1.2-1-IP3, “Reactor Vessel,” of the IPEC LRA.

Item	IPEC Name	Effect/Mechanism – Table 5-4	Aging Effect Requiring Management - Tables 3.1.2-2-IP2 and –IP3	AMP - Table 5-4	AMP - Tables 3.1.2-2-IP2 and – IP3
Bottom Mounted Instrumentation System – Flux Thimble Tubes	Flux Thimble Guide Tube	Loss of Material/Wear	Loss of Material	NUREG-1801, Rev. 1	Water Chemistry – Primary and Secondary
Alignment and Interfacing Components – Clevis Insert Bolts	Lower Internals Assembly – Clevis Insert Bolt	Loss of Material/Wear	Loss of Material	ISI	Water Chemistry – Primary and Secondary

Enclosure

Requested Information

1. Correct the inconsistency between Table 5-4 of the RVI Inspection Plan and the AMR tables, with respect to the two components noted in the table above.
2. Is the component named "Bottom Mounted Instrumentation - flux thimble tube" in Tables 3.1.2-1-IP2 and 3.1.2-1-IP3, "Reactor Vessel," of the IPEC LRA, the same component as the component named "flux thimble guide tube," in Tables 3.1.2-2-IP2 and 3.1.2-2-IP3 of Amendment 9 to the LRA?

RAI 14

MRP-227-A Table 3-3 classifies the guide tube support pins (split pins) in the "Existing Programs" category. MRP-227-A section 4.4.3 indicates the program for split pins is plant-specific, therefore split pins are not included in Table 4-9 or MRP-227-A.

The response to RAI 8 indicates that no inspections are planned for the IP2 and IP3 split pins during the period of extended operation. However, split pins are included under the American Society of Mechanical Engineers (ASME) Code, Section XI, Table IWB-2500-1, Examination Category B-N-3, "Core Support Structures," for which a VT-3 visual examination would be required once per inspection interval. The staff notes that the final safety evaluation of MRP-227-A does not grant relief from any requirements of the ASME Code, for applicants/licensees who reference the report for aging management of reactor vessel internals

Requested Information:

Confirm that the IP2 and IP3 split pins will continue to be inspected as required by ASME Code, Section XI, Examination Category B-N-3, during the period of extended operation. If the split pins are inaccessible for visual examination, or partially accessible, discuss the limitations on accessibility of the split pins including what portions of the split pins are accessible. If the split pins are not completely accessible for visual examination, discuss how cracking in split pins would be detected.

RAI 15

In its response to RAI 12, the applicant indicated that, for RVI components that are not covered by a TLAA analysis, IPEC will use the RVI Program to manage the effects of aging due to fatigue on the reactor vessel internals. The applicant stated that as provided in Section 3.5.1 of the NRC's safety evaluation for MRP-227-A, for locations with a fatigue time-limited aging analysis, IPEC will manage the effects of aging due to fatigue through the Fatigue Monitoring Program in accordance with 10 CFR 54.21(c)(1)(iii).

The applicant further stated that the Fatigue Monitoring Program as described in LRA Section B.1.12 provides assurance that the cumulative usage factor (CUF) remains below the allowable limit of 1.0 and that, consistent with Section 3.5.1 of the safety evaluation for MRP-227-A, prior to entering the period of extended operation the existing RVI fatigue calculations will be reviewed to evaluate the effects of the reactor coolant system water environment on the CUF. The applicant further stated that specifically, under Commitment 43, Entergy will review the IPEC design basis ASME Code Class 1 fatigue evaluations to determine whether the NUREG/CR-6260 locations that have been evaluated for the effects of the reactor coolant environment on fatigue usage are the limiting locations for the IP2 and IP3 configurations.

Finally, the applicant stated this review includes ASME Code Class 1 fatigue evaluations for reactor vessel internals, and that if more limiting locations are identified, the most limiting location will be evaluated for the effects of the reactor coolant environment on fatigue usage. The applicant's response is not clear regarding how the "ASME Code Class 1 fatigue evaluations for reactor vessel internals" will account for the effects of the reactor coolant environment, or what actions will be taken if CUF's for RVI components exceed 1.0.

Requested Information

1. Clarify whether the review described in the response to RAI 12 will include CUF calculations for the RVI that incorporate environmental factors (F_{en}). If such calculations will not be performed, discuss how the effects of the reactor water environment on the existing CUF analyses for RVI will be evaluated.
2. Clarify what action(s) will be taken if the consideration of environmental effects results in a CUF exceeding 1.0 for any RVI component.
3. Clarify the evaluations that are being referenced by the term "ASME Code Class 1 fatigue evaluations for reactor vessel internals," when considering that ASME Code Class 1 components are those designed to ASME Section III, Subsection NB (i.e., reactor coolant pressure boundary components, not reactor vessel internals). Provide necessary revisions to clarify any inconsistency in the response to RAI 12.
4. Justify why the expansion to Commitment No. 43 to include existing RVI fatigue calculations is appropriate to address Applicant/Licensee Action Item 8 of the Staff SE of MRP-227-A. Justify why a revision to Commitment No. 43 and the associated UFSAR Supplements (i.e., LRA Sections A.2.1.11 and A.3.1.11 or LRA Sections A.2.2.2.3 and A.3.2.2.3) to include this expansion to Commitment No.43 is not necessary. In lieu of these justifications, provide a new commitment and an associated new UFSAR Supplement to address the review of reactor vessel internals for environmentally-assisted fatigue as part of the Fatigue Monitoring Program to be performed for Applicant/Licensee Action Item 8 of the Staff SE of MRP-227-A.

References

1. Letter from Fred Dacimo, Entergy, to NRC dated July 14, 2010, Subject: Amendment 9 to License Renewal Application (LRA) – Reactor Vessel Internals Program Indian Point Nuclear Generating, Units 2 and 3 Docket Nos. 50-247 and 50-286 License Nos. DPR-26 and DPR-64 (ADAMS Accession No. ML102010102)
2. Indian Point Energy Center Revised Reactor Vessel Internals Inspection Plan Compliant with MRP-227-A. Attachment 2 to Entergy Letter NL-12-037, Letter from Fred Dacimo to NRC dated February 17, 2012, Subject: License Renewal Application - Revised Reactor Vessel Internals Program and Inspection Plan Compliant with MRP-227-A, Indian Point Nuclear Generating, Units 2 and 3 Docket Nos. 50-247 and 50-286–License Nos. DPR-26 and DPR-64 (ADAMS Accession No. ML1206A312).