

**From:** "wilbur jackson" <JacksonWR@msn.com>  
**To:** "James Davis" <JAD@nrc.gov>  
**Date:** 06/25/2006 9:04:33 AM  
**Subject:** Additional AMR Question -- Section 3.1.1

Jim --

Please see the attached, new question.

The question, as written, is lengthy because I am trying to get all the details that I would like to see included in the applicant's first response. The question is not hard; and I have an expectation of what the answer should be.

The short answer would be something like:

Jet pump sensing lines inside the RPV may be subject to the aging effect/mechanism of cracking due to cyclic loading (high cycle fatigue cause by flow-induced vibrations); however, that part of the jet pump sensing lines is not in scope for license renewal. Also, any failure of the in-core sensing lines would be noticed by change in instrument readings and tech specs will require shutdown per the applicable LCO.

Jet pump sensing lines outside the RPV are subject to the aging effect/mechanism of cracking due to thermal fatigue, SCC or IGSCC (but not high cycle fatigue -- since they are not in a flow stream). In these components, aging management of this aging effects due to these mechanisms is provided by TLAA - metal fatigue (Line Item 3.1.1-3) or by Water Chemistry and One-Time Inspection (Line Item 3.1.1-48) -- which is consistent with the GALL's recommendations for other, similar components.

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The AMPs that the applicant proposes are acceptable for this component. However, the applicant did not provide much detail of their critical thinking in the LRA; and I failed to notice any additional information from supporting documents that I reviewed while on site.

Please forward the question to the applicant and ask them to include a response in their e-mail scheduled for June 30.

Thanks,

Bob Jackson  
615-826-7542

**CC:** "Peter Wen" <PXW@nrc.gov>, "Erach Patel" <erachp@comcast.net>

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**Subject:** Additional AMR Question -- Section 3.1.1  
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AMR Question Set #03 -- Jackson.wpd		7372
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**Questions Related to PNPS Aging Management Review Results  
for LRA Section 3.1.1 (Reactor Vessel, Internals and Reactor Coolant System)  
Prepared by Bob Jackson**

**Question Number:**

**Question**

**NEW QUESTION: (Submitted after site audit)**

**3.1.1-33:**

GALL Report, Volume 1, Table 1, Line ID 25, is applicable for the stainless steel jet pump sensing line and has the aging effect of cracking due to the aging mechanism of cyclic loading. In the LRA, the discussion of Table 3.1.1, Line Item 3.1.1-25, the applicant states that "jet pump instrumentation lines inside the reactor vessel are not subject to aging management review"; and the applicant states that the lines outside the vessel "... are included as piping and fittings <4" nominal pipe size (NSP) and cracking of these lines is addressed by [LRA] Line Item 3.1.1-48." The discussion also points to LRA Section 3.1.2.2.8 item 1 for additional information.

LRA Section 3.1.2.2.8 states that the jet pump sensing lines inside the reactor vessel have no license renewal intended function. Although this is a brief statement, it does provide an explanation for the line item discussion which says that the sensing lines inside the vessel are not subject to aging management review. However, the LRA does not provide any explanation of why or whether the AMPs in LRA Line Item 3.1.1-48 (water chemistry and one time inspection) are suitable to provide management of the aging effect of cracking due to cyclic loading for the jet pump sensing lines outside the reactor vessel, which are in scope for license renewal.

**Question:**

Please provide a discussion of why the AMPs water chemistry and one time inspection are adequate to manage aging of the in-scope jet pump sensing lines that are outside the vessel. Include specific discussion of the aging effect of cracking due to the aging mechanism of cyclic loading on these lines. Please address whether the aging mechanism is applicable for the portion of the jet pump sensing lines outside the vessel. Considering that the aging effect due to this mechanism is cumulative over time, please explain how a one-time inspection, rather than a periodic inspection, provides adequate management of the aging effect. Please provide either a detailed discussion (or reference to publicly available technical literature) to support any statement that the aging effect of cracking due to cyclic loading is not applicable for the jet pump sensing lines that are outside the vessel.

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