NRR-PMDAPEm Resource

From: Chawla, Mahesh
Sent: Monday, June 09, 2014 1:40 PM
To: ERICKSON, JEFFREY S (JERICKS@entergy.com); MIKSA, JAMES P (jmiksa@entergy.com); DOTSON, BARBARA E (bdotson@entergy.com)
Cc: Tsao, John; Vitto, Steven; Lupold, Timothy; Huang, John; Duncan, Eric; Garmoe, Alex; Scarbeary, April; Lennartz, Jay; Carlson, Robert
Subject: Request for Additional Information - Palisades - RR 4-17, Proposed Alternative, Request for Relief from Immediate ASME Code Flaw Repair of Service Water System Manual Valve MV-SW135 - MF3192

By letter dated December 3, 2013 (Agencywide Documents and Access Management System (ADAMS) Accession No. ML13339A740), Entergy Nuclear Operations, Inc. (the licensee) requested relief from certain requirements of American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, IWD-3000 which established flaw size acceptance standards and provides analytical evaluation criteria. The licensee proposed an alternative to the NRC conditionally approved Code Case N-513-3 to temporarily accept a through wall flaw in a moderate energy Class 3 valve. In order to complete the review, the Nuclear Regulatory Commission (NRC) staff requests additional information as identified in the following requests for additional information (RAIs).

1. Discuss the actual size of the pin hole in the MV-SW135 valve. Discuss the wall thickness at and around the pin hole.

2. Section 5 of the relief request states that "...the requested Code relief shall be used until Code repair/replacement activities are performed on the valve body either during the next scheduled outage or when the predicted flaw size exceeds acceptance criteria..." (a) Clarify exactly what is meant by “Code repair/replacement activities are performed on the valve body". Does this mean that a new valve will replace the degraded valve or repair only the original valve body? If only the valve body is repaired, discuss how this can be performed per the ASME Code, Section XI. (b) Discuss the flaw size that would exceed the acceptance criteria.

3. Page 5 of the Operability Evaluation report in the December 3, 2013 submittal states that "... As a result of this Condition Report, a plan to detect cavitation through UT examinations and replace components with identified wall thinning as necessary is being developed..." (a) Discuss whether this plan has been developed. If yes, provide the detail of how the cavitation will be detected and what is the inspection frequency. If not, when will the plan will be complete. (b) Discuss the compensatory measures to mitigate the cavitation at the subject valve to prevent future degradation. (c) Page 14 of the Operability Evaluation report states that under Long Term Actions, "Work Order 365955-01 will replace MV-SW135 in the next refueling outage (1R23)..." Discuss how cavitation will be mitigated in the subject valve and associated piping system as a long term action because the valve replacement does not mitigate the root cause of the degradation (i.e. cavitation).

4. Page 11 of the Operability Evaluation report states that "...Per section 3.2(b) [of code case N-513-3] the minimum wall thickness (t_{min}) to maintain design requirements was calculated to be 0.020 inches..." The NRC staff finds that the t_{min} equation in Section 3.2(b) of Code Case N-513-3 may not be adequate and applicable to a valve that experiences known cavitation. The corrosion rate of cavitation can be unpredictable and aggressive. Discuss whether 0.020 inches was used as an acceptable criterion to permit the valve to remain in service.

5. In the flaw evaluation by Structural Integrity Associates, Inc, Table 3 (page 9 of 11) presents the allowable and critical flaw lengths with respect to the three valve uniform thickness. Based on Table 3 data, if the valve uniform thickness is reduced to 0.051 inches, the allowable circumference and axial flaw length are 0.41 inches and 0.96 inches, respectively. It is not clear to the NRC staff how these acceptance criteria will be used to disposition the pin hole in the subject valve. (a) If the valve

thickness is not less than 0.051 inches but the pin hole extends to more than 0.41 inches, would the pin hole exceed the acceptance criteria? (b) If the valve thickness is reduced to below 0.051 inches but the pin hole diameter is not more than 0.41 inches, would the valve be acceptable for service? (c) Where should the valve thickness be measured to meet the 0.051 inch criteria, i.e., at the pin hole or anywhere in the valve body? (d) Section 4 of the flaw evaluation states that "...In addition, an allowable through-wall circular opening of 1.5 inches resulted from a branch reinforcement evaluation..." How can this allowable through wall circular opening of 1.5 inches be used to disposition any pin hole expansion with respect to the allowable flaw length listed in Table 3. That is, which allowable flaw length dominates or governs for the disposition of the pin hole in the valve?

Please provide your written response within 30 days of the receipt of this email. In case of any further needed clarification, please arrange a teleconference with the NRC staff. Thanks

Mahesh Chawla
Project Manager
Phone: 301-415-8371
Fax: 301-415-1222
mahesh.chawla@nrc.gov

Hearing Identifier: NRR_PMDA
Email Number: 1346

Mail Envelope Properties (Mahesh.Chawla@nrc.gov20140609133900)

Subject: Request for Additional Information - Palisades - RR 4-17, Proposed Alternative, Request for Relief from Immediate ASME Code Flaw Repair of Service Water System Manual Valve MV-SW135 - MF3192
Sent Date: 6/9/2014 1:39:51 PM
Received Date: 6/9/2014 1:39:00 PM
From: Chawla, Mahesh

Created By: Mahesh.Chawla@nrc.gov

Recipients:
"Tsao, John" <John.Tsao@nrc.gov>
Tracking Status: None
"Vitto, Steven" <Steven.Vitto@nrc.gov>
Tracking Status: None
"Lupold, Timothy" <Timothy.Lupold@nrc.gov>
Tracking Status: None
"Huang, John" <John.Huang@nrc.gov>
Tracking Status: None
"Duncan, Eric" <Eric.Duncan@nrc.gov>
Tracking Status: None
"Garmoe, Alex" <Alex.Garmoe@nrc.gov>
Tracking Status: None
"Scarbeary, April" <April.Scarbeary@nrc.gov>
Tracking Status: None
"Lennartz, Jay" <Jay.Lennartz@nrc.gov>
Tracking Status: None
"Carlson, Robert" <Robert.Carlson@nrc.gov>
Tracking Status: None
"ERICKSON, JEFFREY S (JERICKS@entergy.com)" <JERICKS@entergy.com>
Tracking Status: None
"MIKSA, JAMES P (jmiksa@entergy.com)" <jmiksa@entergy.com>
Tracking Status: None
"DOTSON, BARBARA E (bdotson@entergy.com)" <bdotson@entergy.com>
Tracking Status: None

Post Office:

Files	**Size**	**Date & Time**
MESSAGE	4892	6/9/2014 1:39:00 PM

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received: