

## NRR-PMDAPEm Resource

---

**From:** Sreenivas, V  
**Sent:** Thursday, December 26, 2013 12:03 PM  
**To:** gkmcclro@southernco.com; crpierce@southernco.com  
**Cc:** Martin, Robert; Rezai, Ali; Kulesa, Gloria; Pascarelli, Robert  
**Subject:** EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2: REQUEST FOR INFORMATION: ALTERNATIVE HNP-ISI-ALT-18, VERSION 1, LEAKAGE TEST OF REACTOR PRESSURE VESSEL FLANGE LEAK-OFF PIPING

REQUEST FOR ADDITIONAL INFORMATION  
REQUEST FOR ALTERNATIVE HNP-ISI-ALT-18, VERSION 1, REGARDING SYSTEM LEAKAGE TEST OF  
REACTOR PRESSURE VESSEL FLANGE LEAK-OFF PIPING  
SOUTHERN NUCLEAR OPERATING COMPANY  
EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2  
DOCKET NUMBERS 50-321 AND 50-366

By letter dated December 16, 2013 (Agencywide Documents Access and Management Systems (ADAMS) Accession No. ML13351A424), Southern Nuclear Operating Company (the licensee) submitted for the U.S. Nuclear Regulatory Commission (NRC) approval request for alternative (RFA) HNP-ISI-ALT-18. The licensee proposed an alternative to a certain requirement of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI. RFA HNP-ISI-ALT-18 relates to the inservice inspection (ISI) requirement of the ASME Code, Section XI, for the system leakage test of the reactor pressure vessel (RPV) flange leak-off piping. The licensee submitted the request for the Edwin I. Hatch Nuclear Plant (Hatch), Units 1 and 2.

The NRC staff requests the following additional information.

1. The NRC requires deviations from the ASME Code, Section XI, in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(a)(3)(ii) be pre-approved. RFA HNP-ISI-ALT-18 was submitted for the fourth 10-year ISI interval which commenced on January 1, 2006, and will end on December 31, 2015, for Hatch, Units 1 and 2. The RPV flange leak-off piping is required to be subject to system leakage test each refueling outage in accordance with Table IWB-2500-1, Examination Category B-P, Item No. B15.10 of the ASME Code, Section XI. Had the licensee performed the test in the previous refueling outages of the fourth 10-year ISI interval in accordance with IWB-5220 as specified in Table IWB-2500-1? If the answer is No, discuss the reason(s) for not obtaining the NRC prior authorization for deviation from the requirement in the previous outage(s) of the fourth 10-year ISI interval? If the answer is Yes, discuss why the required test cannot be performed in the upcoming outage of the fourth 10-year ISI interval.
2. Could the subject piping be pressurized and inspected in the beginning of a refueling outage before removing the RPV head? Discuss the hardship and potential personnel radiation exposure including an estimate for person-roentgen equivalent man (rem) exposure with consideration of as low as reasonably achievable (ALARA) for the system leakage test performed in accordance with IWB-5220 before removing the RPV head.
3. In Section titled "Background and Reason for Request" of the Enclosure to RFA HNP-ISI-ALT-18, the licensee stated that "...This monitor connects to a pressure switch that will alarm to the main control room if pressure increases to 600 pounds per square inch gauge (psig)...". Discuss how the pressure switch operates if the leakoff has a 100 percent through wall flaw and if the RPV inner O-ring seal fails. Would there be a scenario that the pressure would not reach to 600 psig to trigger the alarm in the control room? Discuss the likelihood of this scenario.
4. Provide the maximum pressure the leakoff line would be exposed if the RPV inner O-ring fails. If the maximum pressure inside the leakoff line is greater than the design pressure which is 600 psig for Unit

1 and 900 psig for Unit 2, discuss how the pressure in the leakoff line would be kept below design pressure to ensure the structural integrity of the subject pipe if the inner O-ring fails.

5. In Section titled "Background and Reason for Request" of the Enclosure to RFA HNP-ISI-ALT-18, the licensee stated that "The option to intentionally fail the inner seal of the vessel flange to establish normal operating pressure and temperature on the leak-off piping is not considered a viable option due to the increased dose that would result from the need to replace the inner seal." Provide an estimate for person-rem exposure with consideration of ALARA.

The purpose of this email letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's detailed technical review of this request. Please submit the additional information in order to complete its detailed technical review. Due to outage related and requesting NRC for expedited review, on December 26, 2013, the licensee has agreed to respond to these RAIs by January 10, 2014 or earlier.

Please submit RAI responses by January 10, 2014. If you have any questions please contact me or Robert Martin, Senior PM at your earliest.

---

V. Sreenivas, PH.D., C.P.M.,  
Project Manager, Rm.#O8F6, LPL2-1  
Division of Operating Reactor Licensing-NRR  
(301) 415-2597, [v.sreenivas@nrc.gov](mailto:v.sreenivas@nrc.gov)

*\*\*\*This email message, and any files transmitted with it, may contain confidential, non-public, sensitive and proprietary data intended solely for the person(s) to whom this email message is directly addressed. Unauthorized use of the data contained in this message is prohibited. If you are not the intended recipient of this message or have received this message in error, please notify the sender immediately by telephone or email Reply and delete the original message and any attachments without keeping a copy\*\*\**

**Hearing Identifier:** NRR\_PMDA  
**Email Number:** 973

**Mail Envelope Properties** (V.Sreenivas@nrc.gov20131226120300)

**Subject:** EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2: REQUEST FOR INFORMATION: ALTERNATIVE HNP-ISI-ALT-18, VERSION 1, LEAKAGE TEST OF REACTOR PRESSURE VESSEL FLANGE LEAK-OFF PIPING

**Sent Date:** 12/26/2013 12:03:04 PM  
**Received Date:** 12/26/2013 12:03:00 PM  
**From:** Sreenivas, V

**Created By:** V.Sreenivas@nrc.gov

**Recipients:**

"Martin, Robert" <Robert.Martin@nrc.gov>  
Tracking Status: None  
"Rezai, Ali" <Ali.Rezai@nrc.gov>  
Tracking Status: None  
"Kulesa, Gloria" <Gloria.Kulesa@nrc.gov>  
Tracking Status: None  
"Pascarelli, Robert" <Robert.Pascarelli@nrc.gov>  
Tracking Status: None  
"gkmcclro@southernco.com" <gkmcclro@southernco.com>  
Tracking Status: None  
"crpierce@southernco.com" <crpierce@southernco.com>  
Tracking Status: None

**Post Office:**

| <b>Files</b> | <b>Size</b> | <b>Date &amp; Time</b> |
|--------------|-------------|------------------------|
| MESSAGE      | 5424        | 12/26/2013 12:03:00 PM |

**Options**

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