

## **NRR-PMDAPEm Resource**

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**From:** Feintuch, Karl  
**Sent:** Sunday, July 29, 2012 8:47 PM  
**To:** Feintuch, Karl  
**Subject:** ME8503 verbal relief script for May 5, 2012 - Re: Socket Weld Repair  
**Attachments:** ME8503 verbal scripts used on 2012-05-05.docx

Attached is the script used on May 5, 2012, to authorized use of an alternative repair method associated with ME8503. The licensee successfully completed the repair.

**Hearing Identifier:** NRR\_PMDA  
**Email Number:** 427

**Mail Envelope Properties** (26E42474DB238C408C94990815A02F0996A50DEC6A)

**Subject:** ME8503 verbal relief script for May 5, 2012 - Re: Socket Weld Repair  
**Sent Date:** 7/29/2012 8:46:34 PM  
**Received Date:** 7/29/2012 8:46:00 PM  
**From:** Feintuch, Karl

**Created By:** Karl.Feintuch@nrc.gov

**Recipients:**  
"Feintuch, Karl" <Karl.Feintuch@nrc.gov>  
Tracking Status: None

**Post Office:** HQCLSTR01.nrc.gov

Files	Size	Date & Time
MESSAGE	168	7/29/2012 8:46:00 PM
ME8503 verbal scripts used on 2012-05-05.docx		27496

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

**===== Verbal Script read by David Alley on behalf of the EPNB Branch Chief =====**

*By letter dated May 3, 2012, as supplemented by letter dated May 4, 2012, Dominion Energy Kewaunee, Inc., the licensee, submitted proposed alternative **RR-2-4** to the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Appendix IX, incorporated by reference in Title 10 of the Code of Federal Regulations, Part 50 (10 CFR 50). Specifically, the licensee requests relief from the requirements of Article IX-1000(c)(2) to allow installation of two mechanical clamps on the ¾" diameter pipe segment at valve RHR-600, a portion of the containment pressure boundary, and Article IX-6000(a) to relieve the examination extent and frequency requirements. The licensee proposes this alternative during the current spring 2012 refueling outage at the Kewaunee Power Station to create the conditions necessary to effect a Code-compliant repair of the leaking pipe. The licensee states that conformance with the ASME Code requirements would constitute a hardship as the result of radiological dose and has requested authorization of their proposed alternative by the NRC under the requirements of 10 CFR 50 55a(a)(3)(ii), hardship without a compensating increase in the level of quality or safety.*

*The licensee has identified two methods to make a code compliant repair to the leaking socket weld. The first method involves changing modes from the plant's current condition, mode 5, to mode 6 and offloading the core. This process will permit draining the RCS system sufficiently so as to allow the repair to the weld. This approach is code compliant, however it involves heavy lifting, moving nuclear fuel, and an estimated dose of 8 REM. The second method involves changing modes from the plant's current condition, mode 5, to mode 4 and isolating the affected section of RHR piping. This approach is not code compliant. Relief from Section XI, Article IX-1000(c)(2) and IX-6000(a) is required. No heavy lifts or other hazardous evolutions are required. The dose estimation for this method is 350 mREM. The licensee proposes that the code compliant repair constitutes a hardship without a compensating increase in quality or safety.*

*In its evaluation of the licensee's claim of hardship, the staff finds that the licensee's estimates of radiation dose are reasonable. Based on ALARA considerations, the staff finds that the excess dose incurred through the use of the code compliant repair does constitute a hardship.*

*In its evaluation of the licensee's request for relief from ASME Code, Section XI, Article IX-1000(c)(2), the staff notes that the location in which the proposed clamps will be placed are classified as containment. The staff also notes that this article prohibits the use of mechanical clamps on this category of piping. This prohibition carries with it a presumption that in these locations code compliant repairs do provide a compensating increase in quality or safety when compared to the use of mechanical clamps. In the present instance, however, the staff notes that: a) the clamps will be designed in accordance with code requirements; b) the clamps have been injected with sealant to curtail leakage; c) the clamps will be installed for a very short time; d) the system pressure is low, providing significant margin in the clamp design; e) the licensee has established a detailed plan to identify and monitor leakage through valves isolating the*

*affected piping/weld to ensure that a code compliant repair can be made; and f) the licensee has identified and staged a plugging device at the repair location and that, through the use of this device the plant can safely be transitioned to mode 6 to make permanent repairs in the event that unexpected leakage occurs. Based on the above, the staff finds the quality and safety of the two repair techniques identified by the licensee to be equivalent and therefore finds no compensating increase in quality and safety due to the use of the code compliant method.*

*In its evaluation of the licensee's request for relief from ASME Code, Section XI, Article IX-6000(a), the staff notes that periodic examinations of piping upon which mechanical clamps are used is required. The staff also notes that the licensee has stated that, due to the configuration of the clamps installed, such examinations cannot be performed. The staff further notes that: a) the clamps will be installed for a very short period of time so that degradation of the piping beneath and surrounding the clamps is not expected; b) the licensee has committed to inspecting the clamps for leakage at a frequency of not less than one inspection in every 12 hours; and c) the licensee has inspected the piping around the clamps and has found no degradation. Based on the above, the staff finds the quality and safety of the two repair techniques identified by the licensee to be equivalent and therefore finds no compensating increase in quality and safety due to the use of the code compliant method.*

*On the basis of the above evaluation, the NRC staff finds that the proposed alternative will provide reasonable assurance that the structural integrity and leakage integrity of the degraded socket weld will be maintained during Mode 4 and Mode 5. In addition, the staff finds that the licensee has demonstrated that performing a Code-compliant repair will result in a hardship and that performing such a repair does not result in compensating increase in quality and safety.*

**----- abbreviations and notes -----**

EPNB = Piping and NDE Branch

NDE = non-destructive examination

EPNB Branch Chief = Tim Lupold

REM = measure of absorbed radiation dose (Roentgen Equivalent Man)

mREM = milliREM (0.001 REM)

ALARA = concept of As Low As Reasonably Achievable

**===== Verbal Script read by Istvan "Steve" Frankl =====**

*As Acting Chief of the Office of Nuclear Reactor Regulation's Plant Licensing Branch III-1, I concur with the conclusions of the Piping and Nondestructive Examination Branch (EPNB).*

*Based on these conclusions, I conclude that the alternative proposed in the licensee's letter dated May 3, 2012 as supplemented by letter dated May 4, 2012, provides reasonable assurance of structural integrity and leak tightness of the subject component and that complying with the specified requirement would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.*

*Therefore, the licensee's proposed alternative, RR 2-4, is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) at Kewaunee Power Station until May 12, 2012, while the plant is in Modes 5 and 4 only.*

*All other ASME Code, Section XI requirements for which relief was not specifically requested and approved in this relief request remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.*

*We expect to follow up formally in writing in the near future.*

**===== end Frankl script =====**