

June 14, 2002

MEMORANDUM TO: File

FROM: Jack N. Donohew, Project Manager, Section 2
Project Directorate IV **/RA/**
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR RELIEF REQUEST
12R-27, INSERVICE INSPECTION PROGRAM - WOLF CREEK
GENERATING STATION (TAC NO. MB4079)

The enclosed request for additional information (Attachment 1) was sent by e-mail dated March 26, 2002, to Wolf Creek Nuclear Operating Corporation, the licensee for Wolf Creek Generating Station. The additional information was needed to clarify the licensee's application dated February 12, 2002 (ET 02-0004), for Relief Request 12R-27 for the use of an alternative to the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Inservice Inspection Program.

The first e-mail (Attachment 2) provides the licensee's responses to the three questions. The second e-mail (Attachment 3) provides the licensee's agreement for the staff to docket the attached responses.

Docket No. 50-482

Enclosure: 1. Request for Additional Information
2. E-mail dated May 10, 2002
3. E-mail dated May 14, 2002

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JDonohew

EPeyton

PPatnaik (EMCB)

ADAMS Accession No.: ML021610398

OFFICE	PDIV-2/PM	PDIV-2/LA	PDIV-2/SC
NAME	JDonohew: eh	EPeyton	SDembek
DATE	6/13/02	6/13/02	6/13/02

OFFICIAL RECORD COPY

March 26, 2002

**REQUEST FOR ADDITIONAL INFORMATION
WOLF CREEK RELIEF REQUEST 12R-27**

The licensee has requested relief from the Code-required volumetric coverage (> 90%) for three welds located within the "no break zone" associated with high energy piping in the containment penetration area. The licensee's basis for relief states that due to the configuration and the geometry of the welds, the Code-required volumetric coverage cannot be obtained. The following three questions clarify the licensee's application for relief dated February 12, 2002:

1. In regard to the above request for relief, the regulations on Appendix VIII specimen set and qualification requirements in 10 CFR 50.55a(b)(2)(xv)(A)(2) states "Where examination from both sides is not possible, full coverage credit may be claimed from a single side for ferritic welds." Discuss how this regulation has been applied for performance demonstration of ultrasonic testing (UT) procedure, equipment, and personnel.
2. The examination of welds in question are covered under an augmented inspection program for high energy piping. Discuss if the components adjoining the welds are examined for flow accelerated corrosion? Also, provide the risk category for each of the three welds under your risk-informed inservice inspection program.
3. Provide an estimate of stress and the cumulative usage factor for each of the three welds.

Attachment 1

E-MAIL DATED MAY 10, 2002

From: Fellers Steven G <stfelle@WCNOC.com>
To: "JND@nrc.gov" <JND@nrc.gov>
Date: 5/10/02 12:57PM
Subject: FW: NRR Questions on RAI on Relief Request No. 12R-27

Jack, the attached Word document (RAI on Wol.doc) provides Wolf Creek Nuclear Operating Corporation's responses to the questions. The document is in Microsoft Word 6.0/95.

The information contained in this electronic correspondence is informally submitted to the NRC and is not considered as docketed correspondence by Wolf Creek Nuclear Operating Corporation (WCNOC). Should the NRC wish to assign a docket number to this correspondence, WCNOC requests it be contacted to obtain concurrence. [See the second attached e-mail.]

Should you have difficulty opening the attached document or need additional information, please contact Jennifer Yunk, Supervisor Licensing.

SGF

-----Original Message-----

From: Jack Donohew [mailto:JND@nrc.gov]
Sent: Tuesday, March 26, 2002 9:00 AM
To: jeyunk@wcnoc.com; stwidem@wcnoc.com
Subject: RAI on Relief Request No. 12R-27

Attached is a file with the three questions. Respond by email. <JND>

CC: Yunk Jennifer L <jeyunk@WCNOC.com>, Wideman Steven G <stwidem@WCNOC.com>, Makar John B <jomakar@WCNOC.com>, Tougaw Dennis E <detouga@WCNOC.com>

**[LICENSEE'S RESPONSE TO] REQUEST FOR ADDITIONAL INFORMATION
WOLF CREEK RELIEF REQUEST I2R-27**

The licensee has requested relief from the Code-required volumetric coverage (> 90%) for three welds located within the "no break zone" associated with high energy piping in the containment penetration area. The licensee's basis for relief states that due to the configuration and the geometry of the welds, the Code-required volumetric coverage cannot be obtained. The following three questions clarify the licensee's application for relief dated February 12, 2002:

QUESTION 1: In regard to the above request for relief, the regulations on Appendix VIII specimen set and qualification requirements in 10 CFR 50.55a(b)(2)(xv)(A)(2) states "Where examination from both sides is not possible, full coverage credit may be claimed from a single side for ferritic welds." Discuss how this regulation has been applied for performance demonstration of ultrasonic testing (UT) procedure, equipment and personnel.

RESPONSE: Wolf Creek uses the industry Performance Demonstration Initiative (PDI) program to meet the Appendix VIII requirements. 10 CFR 50.55a(b)(2)(xvi)(B) states "Examinations performed from one side of a ferritic or stainless steel pipe weld must be conducted with equipment, procedures and personnel that have demonstrated proficiency with single side examinations. To demonstrate equivalency to two sided examinations the demonstration must be performed to the requirements of Appendix VIII as modified by this paragraph and Sec. 50.55a(b)(2)(xv)(A)." The "PDI Generic Procedure for the Ultrasonic Examination of Ferritic Pipe Welds", PDI-UT-1, has been demonstrated in accordance with the requirements of Appendix VIII and 10 CFR 50.55a. Equipment that has been demonstrated to be suitable is listed in the tables for this procedure. Personnel performing exams must have current PDI qualification for the material type, diameter, thickness, and access limitation for the component being examined. The Performance Demonstration Qualification Summary (PDQS) for each qualified individual lists the qualification ranges and limitations.

PDI-UT-1 is qualified for detection of circumferentially oriented flaws (perpendicular scans) on the far side of a weld when only single side access is available. PDI-UT-1 is not qualified for detection of axially oriented flaws (parallel scans) on the far side of single side configurations. This is a generic limitation of the procedure. As stated in the relief request, it is the parallel scan (looking for axially oriented flaws) that did not obtain the code required coverage.

QUESTION 2: The examination of welds in question are covered under an augmented inspection program for high energy piping. Discuss if the components adjoining the welds are examined for flow accelerated corrosion? Also, provide the risk category for each of the three welds under your risk-informed inservice inspection program.

RESPONSE: The components, which are joined by the welds, are included in Wolf Creek's flow accelerated corrosion (FAC) program. However, FAC exams have not been performed on these particular components since they are categorized as low susceptibility in the FAC susceptibility analysis.

Weld AE-04-F043 is a 3-inch branch connection off of the 14-inch Main Feedwater piping and is used to provide a wet lay-up connection for the associated steam generator. As such, it has

low usage (less than one month per 36 months) and a low temperature during this use. The components joined by this weld are thus considered to have low susceptibility to FAC.

Weld AE-04-F033 is on a 4-inch branch line from the 14-inch Main Feedwater piping and connects to the Auxiliary Feedwater system. This line is also considered to have low susceptibility to FAC, due to low usage (used during surveillances and emergency plant trips) and a low operating temperature.

Weld AB-01-F035 is on a 4-inch line coming off the 28-inch Main Steam header. This line provides steam flow to the Turbine Driven Auxiliary Feedwater pump. It is considered to have low susceptibility to FAC due to low usage (i.e., used only during surveillances and emergency plant trips).

Wolf Creek's risk-informed inservice inspection (RI-ISI) program encompasses American Society of Mechanical Engineers (ASME) Section XI Class 1 (B-F, B-J) and Class 2 (C-F-1, C-F-2) welds. Due to their size, the welds in question are exempt from Section XI, thus are not part of the RI-ISI program. However, they are examined as part of an augmented high energy line break (HELB) program in which no risk informed categorization method has been applied. The lines on which the welds are located are connected to piping which is in the RI-ISI program. The sections of RI-ISI piping to which these lines are connected are all Category "6" in the Electric Power Research Institute (EPRI) approach to Risk Characterization which corresponds to a rank of "Low Risk".

QUESTION 3: Provide an estimate of stress and the cumulative usage factor for each of the three welds.

RESPONSE: The three welds are located on ASME Code Class 2 piping. A fatigue evaluation is not required by ASME Section III for Class 2 piping; therefore, the cumulative usage factor has not been calculated.

The table below contains data on the stresses for each of the three welds. The data listed for welds AB-01-F035 and AE-04-F033 are from node points where each weld is located. The data listed for weld AE-04-F043 are the maximum stresses on the piping run where this weld is located.

<u>Weld No.</u>	<u>Primary Stress, psi</u>						<u>Secondary Stress, psi</u>	
	<u>Normal</u>	<u>Allowable</u>	<u>Upset</u>	<u>Allowable</u>	<u>Faulted</u>	<u>Allowable</u>	<u>Thermal</u>	<u>Allowable</u>
AB-01-F035	4874	15000	11651	18000	12943	36000	7450	22500
AE-04-F033	3893	15000	7127	18000	8375	36000	6612	22500
AE-04-F043	7344	15000	10808	18000	11797	36000	9125	22500

From this table, one can conclude that there is significant margin between the calculated stress values and the Code allowable values.

E-MAIL DATED MAY 14, 2002

From: Yunk Jennifer L <jeyunk@WCNOC.com>
To: "Jack Donohew" <JND@nrc.gov>
Date: 5/14/02 5:19PM
Subject: RE: I Need to talk to You About ...

No problem docketing the relief request additional information provided by Steve Fellers.

Jennifer Yunk
Supervisor Licensing
Wolf Creek Generating Station

-----Original Message-----

From: Jack Donohew [mailto:JND@nrc.gov]
Sent: Tuesday, May 14, 2002 8:30 AM
To: jeyunk@WCNOC.com
Subject: I Need to talk to You About ...

1. The information sent by Steve Fellers on 05/10/02 by email in response to questions on relief request 12R-27. The responses are acceptable. I want to docket the responses in a memo-to-docket-file. We here believe the clarification does not warrant a letter from you. Do you agree that I may docket this information?

<JND>