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W3F1-2010-0072

September 15, 2010

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Subject: Response to Request for Additional Information Associated with Relief Request W3-ISI-017 Alternative to ASME IWA-5211 Regarding Chemical Volume Control System Pipe Visual Inspection
Waterford Steam Electric Station Unit 3
Docket No. 50-382
License No. NPF-38

REFERENCES:
1. W3F1-2010-0018, Request for NRC Alternative to ASME IWA-5211 Regarding Chemical Volume Control System Pipe Visual Inspection, February 22, 2010 [ADAMS Accession Number ML100550134].
2. NRC E-mail, Request for Additional Information Re: Relief Request W3-ISI-017 Alternative to ASME IWA-5211 Regarding Chemical Volume Control System Pipe Visual Inspection, August 4, 2010 [ADAMS Accession Number ML102160231].

Dear Sir or Madam:

In letter W3F1-2010-0018 [Reference 1], Entergy Operations, Inc. (Entergy) requested NRC approval to use an alternative to the requirements of the American Society of Mechanical Engineers (ASME) Code to perform a VT-2 visual examination. During the submittal review process, the Nuclear Regulatory Commission (NRC) determined that a Request for Additional Information (RAI) [Reference 2] was required. The response to the RAI is included in the Attachment to this letter.

This letter contains no new NRC commitments.

Please contact Mr. William J. Steelman, acting Manager, Licensing at (504) 739-6685 if there are any questions regarding this matter.

Sincerely,

Jim Pollock /for WJS

WJS/WAH/ssf

Attachment 1: Response to NRC Request for Additional Information

cc: Mr. Elmo E. Collins, Jr.
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U. S. Nuclear Regulatory Commission
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Attachment 1 to

W3F1-2010-0072

Response to NRC Request for Additional Information

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION

REFERENCES:

1. W3F1-2010-0018, Request for NRC Alternative to ASME IWA-5211 Regarding Chemical Volume Control System Pipe Visual Inspection, February 22, 2010 [ADAMS Accession Number ML100550134].
2. NRC E-Mail, Request for Additional Information Re: Relief Request W3-ISI-017 Alternative to ASME IWA-5211 Regarding Chemical Volume Control System Pipe Visual Inspection, August 4, 2010 [ADAMS Accession Number ML102160231].
3. CNRI-2002-0016, Request for Relief from the Requirements of the American Society Of Mechanical Engineers (ASME) Boiler And Pressure Vessel Code (CODE) to Perform VT-2 Visual Examination at Normal Operating Pressure, May 30, 2002 [ADAMS Accession Number ML021500382].

The following lists the NRC Request for Additional Information (RAI) questions and Waterford 3 responses.

RAI 1

How was the system leakage inspection of the subject piping contained in the vertical pipe chase performed during the previous inspection interval?

RAI 1 Response

The inspection criteria applied for the subject piping was to identify any boric acid residue rather than observing leakage. Waterford was granted relief in the previous inspection interval for this alternative examination per letter CNRI-2002-0016 [Reference 3].

To perform the previous inspection, wall sections in the vertical pipe chase were removed for access during Modes 5 and 6, as Control Ventilation Area system (CVAS) is not required during Modes 5 and 6 per Technical Specification 3/4.7.7. Normal operating pressure for the subject piping during Modes 5 and 6 is elevation head, as the system is normally secured during these Modes. If required to operate during Modes 5 and 6 for emergency boration, normal operation pressure could not be obtained as the reactor coolant system would be operating at shutdown cooling conditions.

RAI 2

What is the length of pipe that is inaccessible?

RAI 2 Response

There are two pipe lines involved in this request (2CH2-53A/B and 2CH2-60A/B) with a combined approximate length of 450 feet.

RAI 3

Does the pipe pressure boundary contain any weld(s)?

RAI 3 Response

Yes. The pipe lines contain approximately 105 total combined welds.

RAI 4

The leakage from the subject piping may be deposited on the surface of pipe chase that is part of a Controlled Ventilation Area System (CVAS) boundary. Why has installation of remote visual equipment or installation of leakage detection system [not] been considered?

RAI 4 Response

The use of remote camera devices to perform the subject examination has been evaluated by Waterford 3. It is not considered a reasonable approach because of TS 3/4.7.7 considerations in crossing the CVAS boundary while maintaining CVAS operable (see RAI 5 Response) and the inability to establish VT-2 examination conditions, including proper illumination, within the pipe chase without opening large access points in the wall due to the crowding of piping and long vertical run within the pipe chase. The long run of piping subject to examination (estimated at 160 ft.) would necessitate numerous access points. No access points are currently installed.

The proposed alternative examination given in this relief request has been successful in the previous inspection intervals.

RAI 5

From the July 9, 2010 discussion, provide a hardship justification on why this relief is needed which includes outage time, CVAS LCO information, and dose.

RAI 5 Response

Breaching of the vertical pipe chase would result in both trains of CVAS being declared INOPERABLE as the required negative pressure in the CVAS boundary could not be maintained. Outage time for the CVAS to perform the examination is estimated to be a minimum of 6 days which significantly exceeds the one (1) hour limiting condition of operation (LCO) allowed. This estimate is based on removing the concrete blocks to access the pipe chase, performance of the examination, restoration of the pipe chase, and performance of the necessary surveillances to demonstrate operability.

Waterford 3 Technical Specification (TS) 3/4.7.7 identifies operability requirements for CVAS. TS Section 4.7.7.d.2 stipulates each CVAS train must be capable of maintaining a negative pressure of 0.25 inch water gage. Where the 0.25 inch water gage negative pressure can not be maintained, the associated train is in an INOPERABLE status and shall be restored to an OPERABLE status within seven (7) days or the plant must be placed in HOT STANDBY within six (6) hours and in COLD SHUTDOWN within the following 30 hours. With both trains INOPERABLE, TS requires entry into TS LCO 3.0.3 which requires restoration of the capability to maintain a negative pressure of 0.25 inch water gage within one (1) hour or the plant must be shut down within the next six (6) hours.

As this system leakage inspection of the subject piping contained in the vertical pipe chase has only been performed using the alternative examination method provided by relief, no dose data exists for the normal method. Therefore, no data for hardship justification for dose is presented.