



Entergy Operations, Inc.
1340 Echeion Parkway
Jackson, MS 39213-8298
Tel 601 368 5758

Michael A. Krupa
Director
Nuclear Safety & Licensing

October 8, 2001

U. S. Nuclear Regulatory Commission
Attn.: Document Control Desk
Mail Stop OP1-17
Washington, DC 20555-0001

Subject: Entergy Operations, Inc.
Request for Relief from 10CFR50.55a Examination Requirements

Waterford Steam Electric Station – Unit 3
Docket No. 50-382
License No. NPF-38

CNRO-2001-00045

Ladies and Gentlemen:

Pursuant to 10CFR50.55a(a)(3)(i), Entergy Operations, Inc. (Entergy) requests relief from the ASME Code requirement to perform VT-2 visual examination at normal operating pressure and proposes an alternative examination method. As documented in Request for Alternative W3-ISI-001, Rev. 0 (see attachment), this request pertains to portions of two charging lines that are enclosed in a vertical pipe chase.

Entergy proposes to perform the VT-2 visual examination during an outage with no pressure or temperature requirements. Entergy believes that the proposed alternative provides reasonable assurance that any through-wall leakage occurring during the operating cycle will be found. As such, Entergy believes the proposed alternative provides an acceptable level of quality and safety.

Entergy requests the NRC approve W3-ISI-001, Rev. 0 by May 31, 2002. ***Following NRC approval, Entergy will incorporate the alternative into the Waterford 3 Inservice Inspection (ISI) Plan.***

This letter contains one commitment as denoted above in bold, italics text.

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Should you have any questions regarding this request or its intended use, please contact
Guy Davant at (601) 368-5756.

Very truly yours,

A handwritten signature in black ink that reads "M. A. Krupa". The signature is written in a cursive style with a large, stylized "K".

MAK/GHD/baa

attachment

cc:

Mr. J. T. Herron (W3)

Mr. G. R. Taylor (ECH)

Mr. T. R. Farnholtz, NRC Senior Resident Inspector (W3)

Mr. N. Kalyanam, NRC Project Manager (W3)

Mr. E. W. Merschoff, NRC Region IV Regional Administrator

**REQUEST FOR ALTERNATIVE
W3-ISI-001, Rev. 0**

Components/Numbers: Line 2CH2-60 A/B and 2CH2-53 A/B in the vertical pipe chase.

Code Class: 2

References: ASME Section XI, 1992 Edition, 1993 Addenda, Table IWC-2500-1
ASME Section XI, 1992 Edition, IWA-5211

Examination Category: C-H

Item Numbers: C7.30 and C7.70

Description: Periodic system leakage test of piping contained in a vertical pipe chase

Unit / Inspection Interval Applicability: Waterford 3 second (2nd) 10-year interval

I. Code Requirement(s)

ASME Section XI, Table IWC-2500-1, Examination Category C-H, Item Nos. C7.30 and C7.70 require the subject lines to be VT-2 visually examined during a system leakage test each inspection period. IWA-5211 requires that the VT-2 visual examination be performed while the item being tested is at normal operating pressure.

II. Requested Alternative

Pursuant to 10 CFR 50.55a(a)(3)(i), Entergy requests authorization to perform a VT-2 visual examination of the subject lines and the surrounding areas once each period during a refueling outage with no pressure/temperature requirements. This alternative will be performed in lieu of the requirements of IWA-5211 for the subject lines inside the vertical pipe chase. This examination will be performed prior to any maintenance being performed inside the pipe chase or on the subject lines.

III. Basis for Relief

ASME Section XI, IWA-5211 and 5213(a) require that a non-insulated component be at system operating pressure for 10 minutes and a VT-2 visual examination performed while at pressure. IWA-5241(b) allows an examination of the surrounding area (including floor areas or equipment surfaces located underneath the components) for evidence of leakage for non-insulated components that are inaccessible for direct VT-2 visual examination. IWA-5245 allows the pressure to be lowered to a level

corresponding to a temperature of 200°F after the required hold time but prior to the VT-2 visual examination for systems that operate above 200°F.

Therefore, the Code allows a non-insulated, non-borated standby system to be VT-2 examined by inspecting surfaces below the piping after being at test pressure for 10 minutes. In addition, the Code allows owners to perform this VT-2 examination after the pressure has been reduced to a pressure corresponding to a temperature of 200°F.

Letdown line 2CH2-60 A/B and charging line 2CH2-53 A/B are located in a pipe chase (the vertical L-wall pipe chase) that is part of a Controlled Ventilation Area System (CVAS) boundary. Waterford 3 utilizes the CVAS to provide high efficiency particulate filtration and iodine adsorption in the controlled ventilation area. The system must exhaust air from the controlled ventilation area at a rate required to create and maintain a negative pressure below 0.25-inch water gage relative to surrounding areas. CVAS is composed of two independent trains, each capable of creating and maintaining the 0.25-inch water gage negative pressure. (See further discussions of CVAS operation in Waterford 3 Final Safety Analysis Report Section 6.5.1.)

The Waterford 3 Technical Specification (TS) 3/4.7.7 provides the OPERABILITY requirements for CVAS. TS Section 4.7.7.d.2 requires that each CVAS train be capable of maintaining a negative pressure of 0.25-inch water gage. In the event this condition cannot be met, TS requires the associated train to be declared INOPERABLE and restored to OPERABLE status within 7 days or the plant must be placed in HOT STANDBY within the next six hours and in COLD SHUTDOWN within the following 30 hours. With both trains INOPERABLE, TS requires entry into TS LCO 3.0.3. LCO 3.0.3 requires the appropriate LCO to be met within one hour or the plant must be shut down within the next six hours.

Temporary access to the pipe chase is provided through special block-out sections consisting of multiple layers of solid concrete blocks. Except for the temporary access block-outs, the pipe chase is totally enclosed by reinforced concrete walls. The blocks are mortared in place. The block-out sections penetrate into the CVAS boundary. Removing the block wall during normal operation (Modes 1, 2, 3, or 4) violates the CVAS boundary placing both CVAS trains in INOPERABLE status in accordance with TS. Approximately six days are required to remove and re-install the block wall.

The subject piping is inaccessible during normal operation without deliberate entry into a TS action statement requiring plant shutdown. When the pipe is accessible during plant shutdown (Modes 5 and 6), the system cannot be operated to obtain the required test conditions. Therefore, Entergy proposes the alternative described in Section II. Entergy believes the alternative provides an acceptable level of quality and safety based on the following:

- 1) If leakage from the subject sections of charging and letdown piping were to occur, it would show up as unidentified leakage in the reactor coolant system inventory balance. Operations personnel perform this balance at least once every 72 hours per TS Surveillance 4.4.5.2.1.d in Modes 1, 2, 3, and 4. The TS limit for unidentified leakage is 1 gpm. If the 1-gpm TS limit is exceeded, TS requires a plant shutdown if leakage is not restored below the limit within 4 hours.
- 2) These two non-insulated sections of piping in the vertical pipe chase do not see leakage test conditions during Modes 5 and 6. However, they do experience significant operation while at normal plant conditions during plant operation. For example, between refueling outages from April 2, 1999 to October 19, 2000, the subject charging line was in service for approximately 97% of the time, or approximately 551 days. For the same period of time, the subject letdown line was in service for approximately 96% of the time, or approximately 545 days. These percentages are equivalent to 13,224 and 13,080 hours, respectively. Since there are two refueling outages each period, this operating time equates to approximately half of the run time between examinations. Therefore, these lines operate at system pressure for a substantial time during the period (>20,000 hours).
- 3) The subject charging and letdown lines are part of the charging and volume control system. This system is borated for the purpose of controlling reactivity. The boric acid provides a chemical marker that leaves behind a white stain when very small amounts of leakage occur. As this leakage occurs over a period of time this boric acid residue builds allowing discovery of very small leaks.
- 4) The time at pressure since the last VT-2 visual examination is in excess of 20,000 hours, far greater than the Code-required 10-minute hold time. Since these lines are borated and non-insulated, sufficient time is available for boric acid to build-up on the piping or adjacent surfaces. A subsequent VT-2 visual examination, after the block wall has been removed and prior to any maintenance activities, is adequate to discover any leakage.

IV. Conclusion

10CFR50.55a(a)(3) states:

“Proposed alternatives to the requirements of (c), (d), (e), (f), (g), and (h) of this section or portions thereof may be used when authorized by the Director of the Office of Nuclear Reactor Regulation. The applicant shall demonstrate that:

- (i) The proposed alternatives would provide an acceptable level of quality and safety, or
- (ii) Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.”

As discussed in Section III above, the subject lines are in service for long periods of time between outages. These periods are many factors of time larger than the Code-required 10-minute hold time. These long periods of time in addition to the system being borated will provide positive indication of leakage regardless of system pressure. Entergy believes that performing the proposed alternative will provide a better indication of the condition of the lines than the minimum Code requirement and provides an acceptable level of quality and safety. Therefore, we request authorization to perform the requested alternative to the Code requirement pursuant to 10CFR50.55a(a)(3)(i).