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Director
Nuclear Safety & Licensing

CNRO-2003-00003

February 11, 2003

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

SUBJECT: Entergy Operations, Inc.
Response to NRC Request for Additional Information Regarding
Proposed Alternative to ASME Examination Requirements for Repairs
Performed on Reactor Vessel Head Penetrations (TAC Nos. MB4264,
MB4290, and MB5653)

Arkansas Nuclear One, Units 1 and 2
Docket Nos. 50-313 and 50-368
License Nos. DPR-51 and NPF-6

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

REFERENCE: 1. Entergy Operations, Inc. Letter No. CNRO-2002-00031 to the
NRC (TAC No. MB4290), dated June 17, 2002
2. Entergy Operations, Inc. Letter No. CNRO-2002-00040 to the
NRC (TAC No. MB5653), dated July 8, 2002
3. Entergy Operations, Inc. Letter No. CNRO-2002-00041 to the
NRC (TAC No. MB4264), dated July 8, 2002

Dear Sir or Madam:

In the above referenced letters, Entergy Operations, Inc., (Entergy) submitted ASME Relief Requests ANO2-R&R-001, ANO1-R&R-001, and W3-R&R-001 for Arkansas Nuclear One, Unit 2 (ANO-2), Arkansas Nuclear One, Unit 1 (ANO-1), and Waterford Steam Electric Station, Unit 3 (Waterford 3), respectively. By these requests, Entergy requested relief from performing examinations of base material weld repairs made to reactor pressure vessel (RPV) head penetration nozzles as required by ASME Section XI IWA-4331(a) and Section III NB-2539.4.

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In recent discussions with Entergy personnel, the NRC staff raised two questions pertaining to follow-up inspections of repairs made to RPV head penetration nozzles and notification to the staff of any repairs needed above a nozzle J-groove weld. Entergy's responses to these questions are contained in Enclosure 1.

Should you have any questions regarding this correspondence, please contact Guy Davant at (601) 368-5756.

This letter contains two new commitments as identified in Enclosure 2.

Very truly yours,



MAK/GHD/baa

Enclosures:

1. Responses to the NRC's Questions Pertaining to Relief Requests ANO1-R&R-001, ANO2-R&R-002, & W3-R&R-001
2. List of Regulatory Commitments

cc: Mr. C. G. Anderson (ANO)
Mr. D. P. Wiles (ECH)
Mr. J. E. Venable (W3)
Mr. G. A. Williams (ECH)

Mr. T. W. Alexion, NRR Project Manager (ANO-2)
Mr. R. L. Bywater, NRC Senior Resident Inspector (ANO)
Mr. M. C. Hay, NRC Senior Resident Inspector (W3)
Mr. N. Kalyanam, NRR Project Manager (W3)
Mr. E. W. Merschoff, NRC Region IV Regional Administrator
Mr. W. D. Reckley, NRR Project Manager (ANO-1)

ENCLOSURE 1

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**RESPONSES TO THE NRC'S QUESTIONS
PERTAINING TO RELIEF REQUESTS ANO1-R&R-001, ANO2-R&R-001, & W3-R&R-001**

**RESPONSES TO THE NRC'S QUESTIONS PERTAINING TO
RELIEF REQUESTS ANO1-R&R-001, ANO2-R&R-001, & W3-R&R-001**

NRC Question 1

Please provide a discussion on successive inspection plans (IWB-2420) for embedded flaw repair welds in the reactor pressure vessel (RPV) head penetration nozzles. The discussion should include the types of nondestructive examination(s) that are planned and the frequency. If successive inspections are not planned, provide technical justification and basis.

Entergy Response

Entergy understands that the successive examination requirements of IWB-2420(b) apply when an analytical evaluation is performed to accept flaws identified during performance of Inservice Inspections (ISI) in accordance with IWB-2000. Conversely, when flaws not identified by ISI are reduced in size and accepted by an analytical evaluation during performance of an IWA-4000 repair activity, IWA-4000 neither refers to IWA-2420(b) nor requires performance of successive examinations.

However, due to concerns about repairs to Alloy 600 RPV nozzles, Entergy understands the importance of performing follow-up inspections to validate the integrity of RPV nozzle repair welds. Therefore, when repairs are performed using the subject relief requests, Entergy will perform follow-up volumetric examinations using the ultrasonic examination method on the repaired RPV nozzles during the refueling outage following the repair provided the RPV head is not replaced during that outage.

NRC Question 2

All three of the relief requests (TAC Nos. MB4264, MB4290, and MB5653) state that the alternatives proposed are specific to localized weld repairs of RPV head penetration nozzle base materials along the inside diameter of the nozzle above, adjacent, and below the J-weld. It also pertains to localized weld repairs of RPV nozzle base materials along the outside diameter of the nozzle below the J-weld. Please discuss NRC notification for repairs above the J-weld area. The discussion should include safety significance of the area and previous licensee commitments for notification.

Entergy Response

Entergy recognizes the safety significance of primary water stress corrosion cracks (PWSCC) above the J-weld, the potential for nozzle ejection due to a through-wall circumferential crack above the J-weld, and the NRC's concerns about the adequacy of RPV nozzle repair methods. Therefore, prior to performing repairs on RPV nozzles above the J-weld that involve using these relief requests, Entergy will notify the NRC of the need to make such repairs. This notification will provide information on (a) examination methods, (b) flaw location, orientation, and critical dimensions, and (c) repair plans. This notification commitment is consistent with Entergy's commitment to the NRC made on October 18, 2002 when the NRC verbally granted use of Relief Request ANO1-R&R-001. No other notification commitments have been made to the NRC.

ENCLOSURE 2

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LIST OF REGULATORY COMMITMENTS

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The following table identifies those actions committed to by Entergy in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
1. Therefore, when repairs are performed using the subject relief requests, Entergy will perform follow-up volumetric examinations using the ultrasonic examination method on the repaired RPV nozzles during the next scheduled refueling outage provided the RPV head is not scheduled for replacement during that outage.		✓	
2. Therefore, prior to performing repairs on RPV nozzles above the J-weld that involve using these relief requests, Entergy will notify the NRC of the need to make such repairs. This notification will provide information on (a) examination methods, (b) flaw location, orientation, and critical dimensions, and (c) repair plans.		✓	