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Ken Peters
Director, Nuclear Safety Assurance
Waterford 3

W3F1-2002-0110

December 19, 2002

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

SUBJECT: Waterford Steam Electric Station, Unit 3
Docket No. 50-382
Supplement to Amendment Request Regarding Realignment of Refueling Water Storage Pool (RWSP) Boundary Isolation Valves to RWSP Purification System

REFERENCES:
1. Entergy letter dated April 2, 2001, "Request for Review and Approval of Design Basis Change Regarding Realignment of Refueling Water Storage Pool (RWSP) Boundary Isolation Valves to RWSP Purification System" (W3F1-2001-0007)
2. Entergy letter dated September 24, 2001, "Response to Request for Additional Information Regarding Realignment of Refueling Water Storage Pool (RWSP) Boundary Isolation Valves to RWSP Purification System" (W3F1-2001-0087)
3. Entergy letter dated February 27, 2002, "Response to Request for Additional Information Regarding Realignment of Refueling Water Storage Pool (RWSP) Boundary Isolation Valves to RWSP Purification System" (W3F1-2002-0018)
4. Entergy letter dated July 31, 2002, "Supplement to Amendment Request Realignment of Refueling Water Storage Pool (RWSP) Boundary Isolation Valves to RWSP Purification System (W3F1-2002-0071)

Dear Sir or Madam:

By letter (reference 1), Entergy Operations, Inc. (Entergy) proposed a change to the Waterford Steam Electric Station, Unit 3 (Waterford 3) design basis, as described in the Final Safety Analysis Report (FSAR), regarding the realignment of boundary isolation valves. As described in reference 1, the proposed change will revise the design position of two normally closed valves to normally open valves. These manually operated valves act as system boundary isolation valves between the safety related refueling water storage pool (RWSP) and the non-safety related RWSP Purification system. The proposed change was supplemented by references 2, 3, and 4.

On September 6, 2002, Entergy and members of your staff met to discuss the seismic response of the RWSP Purification System, specifically, the analysis results provided to the NRC staff in reference 4. The seismic response performed in support of reference 4 was representative of the RWSP Purification system seismic response but was not considered to be bounding. The NRC staff maintained that a complete seismic analysis

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of the RWSP Purification system piping was necessary for approval of the design basis change proposed in reference 1.

As a result of this meeting, Entergy has completed the seismic evaluation of the remaining non-analyzed portions of the RWSP Purification system piping identified in reference 4. The method of evaluation was the same as described in reference 4 using ASME Code Case N 411 damping. These evaluations show that the RWSP Purification system piping will not experience a catastrophic failure during a seismic event. All pipe stress is below the Code allowable.

The results of the seismic evaluation support the conclusion presented in reference 1 that the RWSP Purification system piping will not experience a catastrophic failure during a seismic event. Therefore, Entergy respectfully requests that the NRC approve the proposed change to the design basis as documented in references 1, 2, 3, and 4.

Because rod hanger uplift was an NRC staff concern during the review of this proposed change, Entergy provides the following additional information. During the recently completed evaluation of piping line number 7FS3-15 (reference 4, Attachment 1, Figure 2), unacceptable hanger uplift was indicated for rod hangers FSRH-28 and FSRH-158. Rod hangers FSRH-28 and FSRH-158 were removed from the model and the piping was shown to be qualified for deadweight and seismic thus ensuring that the adjacent supports are capable of withstanding the maximum loading. In both cases, the pipe stress remained below the Code allowable. Therefore, the existing piping and support installation is acceptable.

During a final review of calculations relied upon to support the conclusion that the RWSP Purification system would not catastrophically fail, Entergy discovered a statement made in references 1, 2, and 4 were unsupported. In reference 1, the following statement was made on page 5 of 17 in Attachment 1 under the Section entitled "Seismic Evaluation":

> *The stress in the analyzed portion of the system was reviewed for moderate energy line cracks and was found to satisfy the criteria for not assuming leakage cracks.*

Similar statements were made in references 2 and 4. The statements were not supported by calculations existing at the time references 1, 2, and 4 were submitted to the NRC staff for review. (This issue has been documented in Entergy's corrective action program.) At the time, two calculations indicated the moderate energy criteria for assuming cracks for line numbers 7FS3-13 (reference 4, Attachment 1, Figure 2) and 7FS3-19 (reference 4, Attachment 1, Figure 3) would be exceeded, but the criteria for assuming catastrophic failure would not be exceeded. However, notwithstanding the statements, Entergy has always postulated a moderate energy line crack in support of the proposed change. The two calculations have been revised to remove conservatism, as allowed by the Code, such that the calculations now support the statements made in references 1, 2, and 4. With the completion of the piping evaluation discussed above and the revision of the two calculations, Entergy continues to conservatively postulate a moderate energy line crack in support of the proposed change.

There are no technical changes proposed in this letter. The original no significant hazards considerations included in reference 1 is not affected by any information contained in this letter.

There are no new commitments contained in this letter.

Once approved, the design basis change shall be implemented within 60 days.

If you have any questions or require additional information, please contact D. Bryan Miller at 504-739-6692.

I declare under penalty of perjury that the foregoing is true and correct. Executed on December 19, 2002.

Sincerely,

K.J. Peters
Director, Nuclear Safety Assurance

KJP/DBM/cbh

cc: E.W. Merschoff, NRC Region IV
N. Kalyanam, NRC-NRR
J. Smith
N.S. Reynolds
NRC Resident Inspectors Office
Louisiana DEQ/Surveillance Division
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