Entergy

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W3F1-2004-0031

April 29, 2004

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

Subject: Reporting of Information under 10 CFR 50.46, Newly Identified Single Failure for Small Break LOCA Analysis of Record
Waterford 3 Steam Electric Station
Docket No. 50-382
License No. NPF-38

Dear Sir or Madam:

The purpose of this letter is to report information pursuant to 10 CFR 50.46(a)(3)(ii) regarding an error discovered on March 31, 2004 in the Waterford 3 small break LOCA analysis of record. This letter describes the nature of the error, its effect on the Waterford 3 ECCS analysis of record, immediate actions taken to demonstrate compliance, and the schedule for demonstrating compliance with 10 CFR 50.46.

On March 31, 2004, Waterford 3 identified a new worst case single failure for the small break LOCA analysis of record that would likely result in the peak cladding temperature to exceed the acceptance criterion of 2200°F in10 CFR 50.46. On March 31, 2004, Entergy made an 8 hour report to the NRC for Waterford 3 Steam Electric Station pursuant to 10 CFR 50.46 and 10 CFR 50.72(b)(3)(ii)(B). This condition was identified as part of the Corrective Action Program and is being resolved under this process and NRC Generic Letter 91-18.

The Waterford 3 small break LOCA analysis of record assumes the failure of an Emergency Diesel Generator (EDG) as the worst case single failure. The analysis credits the flow from one charging pump. The new worst case single failure discovered was the failure of a DC power bus. The failure of a DC power bus results in the loss of one EDG to start and the failure of a charging loop isolation valve to remain open. With the consequential failure of a charging loop isolation valve to remain open, one RCS pump discharge leg receives 100% of the charging flow. If that leg is postulated to be the location of the break, then the ECCS Performance Evaluation Model requires that all injection flow be assumed to spill out the break. Thus no charging flow would be assumed to reach the reactor vessel in the analysis. This condition is contrary to the current small break LOCA analysis of record which credits 50% of the flow from one charging pump.

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Waterford 3 took immediate actions to demonstrate the safe operation of Waterford 3. Waterford 3 entered the procedural process for evaluating the safety and operability of the plant, Procedure W4.101. The evaluation conducted under Procedure W4.101 demonstrated that the identified condition did not adversely impact the safe operation of Waterford 3 nor the public health and safety. This evaluation was reviewed and approved by the Waterford 3 Onsite Safety Review Committee (OSRC) on April 1, 2004. In summary, alternate small break LOCA analyses and conservatisms in the existing analysis provided reasonable assurance that the 10 CFR 50.46 acceptance criteria could be met. Scoping studies using the NRC approved Westinghouse NOTRUMP model showed significantly lower peak clad temperatures without charging flow relative to the current analysis model Supplement 2 version, referred to as the S2M or the Supplement 2 Model, of the Westinghouse small break LOCA evaluation model for Combustion Engineering (CE) designed PWRs. Therefore, there is reasonable assurance that acceptable results could be obtained with a re-analysis of the small break LOCA and that continued compliance with 10 CFR 50.46 exists, and therefore safety is assured.

On April 2, 2004, Entergy personnel held a conference call with NRC NRR and Region IV personnel to communicate information regarding the nature of the error and its affect, the immediate actions taken, and the proposed schedule for re-analysis.

Entergy believes it is important to promptly update the small break LOCA analysis of record to demonstrate compliance with 10 CFR 50.46. Accordingly, we are pursuing the small break re-analysis with the utmost urgency. The re-analysis uses the Westinghouse S2M analysis model, the same methodology as the analysis of record. The re-analysis utilizes a more realistic HPSI pump curve and does not credit charging flow. The re-analysis will conform to the ECCS acceptance criteria of 10 CFR 50.46. Waterford 3 will by May 31, 2004 submit to the NRC the small break LOCA re-analysis results to demonstrate compliance with 10 CFR 50.46.

This letter contains commitments as documented in Attachment 1.

Please contact Robert J. Murillo at (504) 739-6715 should there be any questions regarding this matter.

Sincerely,

Gautam Sen

G. Sen
Licensing Manager

GS/RJM/ssf

Attachment(s)

cc: Mr. Bruce S. Mallett
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Attachment 1

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Entergy / Waterford 3

Regulatory Commitment

List of Regulatory Commitments

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	
Waterford 3 will by May 31, 2004 submit to the NRC the small break LOCA re-analysis to demonstrate compliance with 10 CFR 50.46.	✓		05/31/04