November 16, 2000

Mr. Charles M. Dugger
Vice President Operations
Entergy Operations, Inc.
17265 River Road
Killona, LA 70066-0751

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - CORRECTION TO AMENDMENT NO. 167 RE: ADDITION OF MAIN FEEDWATER ISOLATION VALVES TO TECHNICAL SPECIFICATIONS AND REQUEST FOR NRC STAFF REVIEW OF AN UNREVIEWED SAFETY QUESTION (TAC NO. MA6173)

Dear Mr. Dugger:

The Nuclear Regulatory Commission (NRC) issued, on September 5, 2000, Amendment No. 167 to Facility Operating License No. NPF-38 for the Waterford Steam Electric Station, Unit 3. The amendment consisted of changes to the Technical Specifications (TSs) in response to your application dated July 15, 1999, as supplemented by letter dated March 29, 2000. The amendment created a new TS for the Main Feedwater Isolation Valves (MFIV) Section modeled after TS 3.7.3 in NUREG-1432, “Standard Technical Specifications - Combustion Engineering Plants.” Amendment No. 167 also contained the resolution of an unreviewed safety question regarding the crediting of two non-safety related features as assisting the operation of the MFIVs during their required safety function, namely, to close on a Main Steam Isolation Signal. A copy of our related Safety Evaluation (SE) was also enclosed with the September 5, 2000, issuance.

An error was discovered on page 3 of the SE, subsequent to the September 5, 2000, issuance. The error is in the table of Section 3.1, Deterministic Evaluation, which summarizes the results of four postulated scenarios with two non-safety related features in order to estimate the required thrust, available thrust with actual system pressures, and containment peak pressure. On line four of the table, FWLB (AFW), the value for “Available Thrust (lbs) 2 Accumulators” should have been 108,526. Additionally, the purpose of the paragraph following the table was made clear by adding the sentence “Each scenario is discussed below” after the table. A sentence at the end of the paragraph following the table, which summarizes the significance of the contents of the table, has also been added to summarize NRC's conclusion. A revised page 3 of the SE is enclosed with the correction and additions identified by marginal vertical bars. Please replace page 3 of the SE enclosed with the September 5, 2000, issuance with the enclosed, revised sheet.

Please call N. Kalyanam, at (301) 415-1480, with any questions you may have.

Sincerely,

/RA by Jefferey F. Harold for/

N. Kalyanam, Project Manager, Section 1
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosure: Page 3 of the Safety Evaluation

cc w/encl: See next page

Please call N. Kalyanam, at (301) 415-1480, with any questions you may have.

Sincerely,

/RA by Jefferey F. Harold for/

N. Kalyanam, Project Manager, Section 1
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

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Enclosure: Page 3 of the Safety Evaluation

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The results are as follows:

Scenario	Required Thrust (lbs)	Available Thrust (lbs) 2 Accumulators	RTO / AFW Pump Trip Credit?	Closure Time
MSLB (SGFP)	100,398	100,086	No	5 seconds
FWLB (SGFP)	98,478	100,086	Yes	5 seconds
MSLB (AFW)	80,945	100,086	Yes	5 seconds
FWLB (AFW)	106,804	108,526	Yes	30 seconds

Where
lbs = pounds

Each scenario is discussed below:

For the MSLB at 100 percent power, the MFIV will close within five seconds without credit for RTO due to the lower pressure differential pressure across the valve from the residual pressure existing in the ruptured steam generator. RTO will be credited for MFIV closure in all other scenarios and the resulting required thrust is less than the available thrust with two exceptions. The required thrust is slightly greater than the available thrust for the MSLB during SGFP operation, but is considered acceptable due to the use of a conservatively bounding friction coefficient, calculational methods, nitrogen starting pressures, feedwater temperatures, and valve packing assumptions. For the FWLB with AFW pump in operation, MFIV closure with credit for RTO/AFW pump trip will take 30 seconds. The MFIV will experience full differential pressure in this scenario, and will have a longer closure time and continued flow of AFW into the containment. However, the water being pumped into the containment is below the saturation temperature of the containment atmosphere. Therefore, this flow will condense the steam and would not contribute to increased containment pressure. The peak containment pressure is bounded by the MSLB for this plant. The peak pressure for the FWLB is several psi below that for the MSLB. Thus the table demonstrates that RTO and AFW pump high pressure trip instrumentation are required in order to reduce the pressure differential across the MFIV during all accident conditions and therby increase the MFIV closure speed to support the safety analyses.

The MSIV, MFIV, MFRV, and SFRV are designed to receive the same closure signal, MSIS, and they all close within five seconds. The MFRVs do not depend upon RTO and the AFW pump pressure trip instrumentation for their closure time. The MSIS components undergo response time testing, channel functional tests, and relay functional tests every 18 months, per the Waterford 3 TS. In addition, testing of the MFIV, MFRV, and SFRV will be performed in accordance with the inservice testing (IST) program. These TS and IST requirements provide sufficient assurance that, if the MFIV failed to close, the other valves would provide proper isolation of the feedwater system after a reactor trip to prevent over cooling of the reactor coolant system. The RTO and AFW pump high pressure trip are also subjected to a testing program similar to comparable safety related instrumentation to ensure their functionality. The operating history of the RTO and AFW pump trip instrumentation shows high reliability and, thereby, provides assurance that they will meet their functional requirements. Therefore, the staff finds that the non-safety grade instrumentation components in the steam and feedwater systems will function under the required accident conditions for which they are called upon, and are acceptable.

cc:

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