October 4, 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. 166 RE: EMERGENCY DIESEL GENERATOR ALLOWED OUTAGE TIME INCREASE (TAC NO. MA6176)

Dear Mr. Dugger:

The Commission issued on July 21, 2000, Amendment No. 166 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 29, 1999, as supplemented by letters dated August 24, 1999, and January 27, May 22, and May 31, 2000. The amendment modified TS 3.8.1.1 and associated Bases by extending the Emergency Diesel Generator allowed outage time from 72 hours to ten days. A copy of our related Safety Evaluation (SE) was also enclosed.

An error was discovered on page 10 of the SE, subsequent to the July 21, 2000, issuance. The error was in the table of Section 3.3.1.2, PRA insights and findings, which summarizes the calculated relevant risk measures associated with the proposed changes. On line two of the table (Revision 1[c]), the values for ICCDP (CM)[a] and ICCDP (PM)[a] should have been 1.9E-6 and 6.6E-7, respectively. A revised page 10 of the SE is enclosed with the correction identified by a marginal vertical bar. Please replace page 10 of the previous submittal with the enclosed, revised sheet.

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

Sincerely,

/RA/

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 10 of the Safety Evaluation

cc w/encls: See next page

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Project Directorate IV & Decommissioning
Division of Licensing Project Management
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Enclosure: Page 10 of the Safety Evaluation

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industry-developed HRA methodology. The staff found this assessment approach to be reasonable.

The staff's detailed evaluation of the SBO portion of the PRA did not identify any shortcomings, other than those identified in the staff SER of the IPE, that could have a significant impact on risk due to the proposed change. Based on the foregoing, the staff finds that the licensee has appropriately addressed the staff-raised PRA quality issues. The licensee's PRA is of sufficient quality, scope, and detail for the proposed application and, therefore, is a valid tool to estimate the risk measures associated with the proposed change in EDG AOT.

3.3.1.2 PRA insights and findings

The calculated relevant risk measures associated with the proposed change are summarized as follows:

	Current CDF	New CDF	ΔCDF	ICCDP (CM)[a]	ICCDP (PM)[a]
Submittal[b]	1.54E-5/yr	1.75E-5/yr	2.1E-6/yr	3.9E-6	1.4E-6
Revision 1[c]	--	--	--	1.9E-6	6.6E-7
Revision 2[d]	--	--	--	2.5E-7	1.8E-7

[a] Its definition is slightly different from that in RG 1.177. Here, it is defined as follows: ICCDP = [(Conditional CDF with an EDG out for service) - (Baseline CDF with one EDG never out for service)] * (proposed AOT duration). It generates a slightly more conservative result than the RG 1.177 formula. PM: preventive maintenance. CM: corrective maintenance.
[b] These are the same values in CE NPSD-996, which were calculated using the IPE.
[c] The licensee recalculated the ICCDPs using the updated PRA.
[d] The licensee recalculated the ICCDPs based on the compensatory measure to install the TEDG for the use of extended AOT.

For the last case (Revision 2), the staff recalculated the ICCDPs using the formula defined in RG 1.177. The resultant ICCDP for a ten-day AOT was approximately 5.75E-8 and 1.3E-7 for a PM and a CM, respectively. The licensee estimated the ICLERP to be below 1E-8 for both a PM and a CM. These ICCDPs and ICLERPs are below the acceptance guideline set forth in RG 1.177. The changes in CDF and LERF would also be well below the acceptance guideline prescribed in RG 1.174. In CE NPSD-996, the changes in CDF and LERF were considered to be small. Furthermore, the revised cases would result in an even smaller impact in risk. Therefore, the staff finds that the licensee's application meets the numerical acceptance guidelines set forth in RGs 1.174 and 1.177.

The staff also considered, qualitatively, the potential risk decrease due to not having an EDG out of service for extended periods during refueling outages. This reduction in shutdown risk has been acknowledged in previous studies, e.g., NUREG/CR-5994 and NUREG/CR-6141. However, a detailed low power/shutdown PRA would generally be required to quantitatively assess the reduction in risk stemming from the proposed change. Nonetheless, this qualitative risk reduction further supports the small risk impact of the proposed change.

The staff's Tier 1 evaluation concludes that the licensee's PRA used in support of the proposed EDG AOT extension is valid, and the risk impact of the change is small; thus, Waterford 3 meets the intent of the Tier 1 requirements in RG 1.177.