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W3F1-2004-0078

Ken Peters
Director, Nuclear Safety Assurance
Waterford 3

September 14, 2004

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

SUBJECT: Supplement to Amendment Request NPF-38-249,
Extended Power Uprate
Waterford Steam Electric Station, Unit 3
Docket No. 50-382
License No. NPF-38

REFERENCES: 1. Entergy Letter dated November 13, 2003, "License Amendment Request NPF-38-249 Extended Power Uprate"
2. Entergy Letter dated July 15, 2004, "License Amendment Request NPF-38-256 Alternate Source Term"
3. Entergy Letter dated May 7, 2004, "Supplement to Amendment Request NPF-38-249 Extended Power Uprate"
4. Entergy Letter dated July 14, 2004, "Supplement to Amendment Request NPF-38-249 Extended Power Uprate"
5. NRC Meeting Summary dated August 26, 2004, "Summary of August 12, 2004, Meeting with Entergy Operations, Inc. on Extended Power Uprate (EPU) and Alternate Source Term (AST) Issues (TAC No. MC1355)"

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) Operating License and Technical Specifications to increase the unit's rated thermal power level from 3441 megawatts thermal (MWt) to 3716 MWt.

In Reference 1 Entergy deferred addressing control room habitability for FSAR Chapter 15 non-Loss of Coolant Accident transient events to Generic Letter (GL) 2003-01, *Control Room Habitability* and only reported control room dose results for the Large Break LOCA and the Fuel Handling Accident (FHA) in accordance with the current licensing basis. Since making the initial Extended Power Uprate (EPU) submittal (Reference 1), Entergy has completed control room inleakage testing in response to GL 2003-01. Based on the results of the inleakage testing, Entergy has determined that an Alternative Source Term (AST), in accordance with 10 CFR 50.67, must be applied to achieve acceptable control room dose results for EPU. By Reference 2, Entergy submitted a license amendment request for approval to credit AST. Therefore, the control room dose results presented in Reference 2 and its supplements supersede the control room dose results submitted in Reference 1 and its supplements. The dose results for the Exclusion Area Boundary (EAB) and Low-Population Zone (LPZ) submitted in Reference 1 and its supplements continue to support the EPU. Note it is Entergy's intent, as discussed in Reference 2, to adopt AST methodology for

AD01

EAB and LPZ doses upon approval of Reference 2 and its supplements. The need to apply AST for the EPU was discussed with members of the NRC staff during a meeting held in Rockville, MD on August 12, 2004 as documented in Reference 5.

In response to Question 11 in Attachment 2 of Reference 3, Entergy stated the following.

"A pending calculation constitutes the basis for concluding that the SBCS will actuate prior to the ADVs in the event of a load rejection from 100% power. The probability that the SBCS will actuate prior to the ADVs in the event of a load rejection decreases as the initial power level decreases. However, when completed, the calculation is expected to demonstrate that the likelihood that the SBCS will actuate prior to the ADVs in the event of a load rejection will be less after EPU than currently for all initial power conditions. Additionally, reanalysis of the EPU SBLOCA is currently underway (see response to Question 3 above) and the ADV actuation setpoint may increase thus providing additional margin."

While reviewing the above response, in preparation to close this item, Entergy identified that the third sentence was incorrect. It should have stated:

However, when completed, the calculation is expected to demonstrate that the likelihood that the ADVs will actuate prior to the SBCS in the event of a load rejection will be less after EPU than currently for all initial power conditions.

This error has been entered into the Entergy 10 CFR 50 Appendix B corrective action program at Waterford 3.

The calculation and the reanalysis of the Small Break LOCA referenced in the response to Question 11 have been completed. The results of the Small Break LOCA reanalysis were provided to the NRC staff in Reference 4. Based upon the reanalysis, the analytical limit for the Atmospheric Dump Valve (ADV) setpoint was increased from the 1000 psia proposed in Reference 1 to 1040 psia. When instrument inaccuracies are accounted for, the proposed indicated ADV setpoint was increased from 970 psig to 992 psig.

The setpoint calculation that was completed established a limit for the separation between the ADV and Steam Bypass Control System (SBCS) setpoints. This limit provides reasonable confidence that the SBCS will actuate in response to a load rejection before the ADVs actuate (i.e. the separation limit is greater than or equal to the combined random uncertainty between the ADV control setpoint and the SBCS, including the relevant process measurement effect terms). Additionally, the calculation evaluated the Pre-EPU vs. Post-EPU SBCS and ADV setpoint configuration. The calculation concluded that, with the EPU upgrades, the specified setpoints provide a higher level of assurance that the ADVs will not actuate before the SBCS than existed under the pre-EPU conditions.

As discussed with members of the NRC staff on September 2, 2004, the heat balance used to assess the impact of EPU on Flow Accelerated Corrosion (FAC) has been revised to incorporate precision pressure measurements for the throttle steam pressure and reheater heating steam pressures. Also, to better bound expected operating conditions, the heat balance has been run at a circulating water temperature of 42 °F in addition to the circulating water temperature of 92 °F used previously. Running with a low circulating water temperature maximizes extraction steam flow in the low point feedwater heaters and therefore maximizes

flow in the associated heater drain lines. As a result, minor impacts may be seen on components enclosed inside the condenser. Therefore, Entergy will update the FAC program with the revised heat balance and reassess the EPU impact on FAC prior to EPU implementation.

The no significant hazards consideration included in Reference 4 is not affected by any information contained in the supplemental letter. There is one new commitment contained in this letter as summarized in the attachment to this letter.

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 September 14, 2004.

Sincerely,



KJP/DBM/cbh

Attachment:
List of Regulatory Commitments

cc: Dr. Bruce S. Mallett
U. S. Nuclear Regulatory Commission
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Washington, DC 20555-0001

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Louisiana Department of Environmental Quality
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American Nuclear Insurers
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Attachment

To

W3F1-2004-0078

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	
Entergy will update the FAC program with the revised heat balance and reassess the EPU impact on FAC prior to EPU implementation.	X		EPU Implementation