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W3F1-2019-0033

May 17, 2019

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

Subject: Reply to Notice of Violation EA-18-020 Supplement
Waterford Steam Electric Station, Unit 3 (Waterford 3)
NRC Docket No. 50-382
Renewed Facility Operating License No. NPF-38

This letter provides the Entergy Operations, Inc. (EOI) reply to Response to Notice of Violation EA-18-020 (Reference 3), issued by the NRC to the Waterford Steam Electric Station, Unit 3 on November 5, 2018. This information is provided pursuant to the provisions of Title 10 Code of Federal Regulations 2.201.

This letter contains one new regulatory commitment, which is described in Attachment 2 to this letter.

Should you have any questions or require additional information, please contact Paul Wood, Regulatory Assurance Manager, at 504-464-3786.

Respectfully,

A handwritten signature in black ink that reads "P. Wood".

Paul Wood

PIW/jkb

- References:
- 1) NRC Letter, "WATERFORD STEAM ELECTRIC STATION, UNIT 3 – INSPECTION OF THE IMPLEMENTATION OF THE IMPLEMENTATION OF MITIGATION STRATEGIES AND SPENT FUEL INSTRUMENTATION ORDERS AND EMERGENCY PREPAREDNESS COMMUNICATION/STAFFING/MULTI-UNIT DOSE ASSESSMENT PLANS-INSPECTION REPORT 05000382/2017009," July 20, 2018, (ADAMS Accession Number ML18201A492)
 - 2) Waterford Steam Electric Station, Unit 3, REPLY TO NOTICE OF VIOLATION EA-18-020 (INSPECTION REPORT 05000382/2017009)," September 12, 2018, (ADAMS Accession Number ML18255A321)
 - 3) NRC Letter, "Waterford Steam Electric Station, Unit 3, Response TO NOTICE OF VIOLATION EA-18-020 (INSPECTION REPORT 05000382/2017009)," November 5, 2018, (ADAMS Accession Number ML18309A221)
 - 4) NRC Letter, "Waterford Steam Electric Station, Unit 3 – SAFETY EVALUATION REGARDING IMPLEMENTATION OF MITIGATING STRATEGIES AND RELIABLE SPENT FUEL POOL INSTRUMENTATION RELATED TO ORDERS EA-12-049 AND EA-12-051 (CAC NOS. MF0977 AND MF0946)," March 3, 2017, (ADAMS Accession Number ML17045A148)

- Attachments:
- 1) Reply to Notice of Violation EA-18-020 Supplement
 - 2) List of Regulatory Commitments

cc: NRC Region IV Administrator
NRC Director of Reactor Projects
NRC Senior Resident
NRC Project Manager

Attachment 1

to

W3F1-2019-0033

Reply to Notice of Violation EA-18-020 Supplement

**Waterford 3 Steam Electric Station
Reply to Notice of Violation EA-18-020 Supplement**

Planned Corrective Actions and Expected Completion Dates

Entergy is providing the requested supplement to the initial response to Notice of Violation EA-18-020. Entergy has determined the option to restore compliance and has identified corrective actions to complete these activities with expected completion dates and restoration of full compliance.

Restatement of Violation

Violation

During an NRC inspection conducted from September 18, 2017, through June 7, 2018, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigating Strategies for Beyond-Design-Basis External Events," dated March 12, 2012, Section IV.A.2, requires, in part, that all licensees identified in Attachment 1 to this Order comply with the requirements described in Attachment 2 of this Order except to the extent that a more stringent requirement is set forth in the license.

Order EA-12-049, Attachment 1, identified Entergy Operations, Inc., Waterford Steam Electric Station, Unit 3, (Waterford 3) as a power reactor licensee subject to Section IV of the Order.

Order EA-12-049, Attachment 2, requires, in part, that licensees develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment and spent fuel pool cooling capabilities following a beyond-design-basis external event. The transition phase requires providing sufficient, portable, on-site equipment and consumables to maintain or restore these functions until they can be accomplished with resources brought from off site. Licensees must also provide reasonable protection for the associated equipment from external events, and full compliance includes, in part, the staging or installation of equipment needed for the strategies.

ENTGWF081-REPT-001, "Waterford Steam Electric Station Unit 3 Final Integrated Plan," Revision 1, dated July 20, 2016, provides the necessary guidance on strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities following a beyond-design-basis external event.

- Section 2.2, "Strategies," states, in part, that Phase 2 strategies support the transition from installed plant equipment to FLEX equipment which is deployed by the on-shift personnel to maintain essential functions.
- Section 2.3.2, "Phase 2 Strategy," states, in part, that the capability for reactor core cooling is accomplished from a pre-staged FLEX core cooling pump to provide

feedwater to the steam generators in the event the turbine-driven emergency feedwater pump fails or sufficient steam pressure is no longer available to drive the turbine-driven emergency feedwater pump turbine, and that the FLEX core cooling pump is powered by the FLEX diesel generator. Section 2.3.2 also states, in part, that reactor coolant system inventory control involves the use of refueling water storage pool or boric acid makeup tank inventory through a repowered charging pump which receives its power from the FLEX diesel generator. Section 2.3.2 further states, in part, that the FLEX diesel generator is capable of supplying power to a battery charger such that DC power for controls and instrumentation continues to be available to support the reactor coolant system core cooling function.

- Section 2.4.2, "Phase 2 Strategy Modes 1-4," states in part, that the capability to provide spent fuel pool make-up and/or spray during Phase 2 is accomplished using the component cooling water make-up pumps which are powered by the FLEX diesel generator.
- Section 2.7, "Planned Protection of FLEX Equipment," states, in part, that in order to assure reliability and availability of the FLEX equipment required by the FLEX strategy, Waterford 3 has sufficient equipment to address all functions on-site, plus one additional spare (i.e., an "N+1" capability). Section 2.7 further states, in part, that the "N+1" diesel generator provides the capability to restore the "N" function by relocating the "N+1" diesel generator to the reactor auxiliary building from the "N+1" storage building.
- Section 2.15.1, "Method of Storage and Protection of FLEX Equipment," states, in part, that to assist with unanticipated unavailability of the "N" set, evaluations have been performed and pre-planned strategies have been developed to provide reasonable protection of specific "N+1" equipment for predictable external events with pre-warning (i.e., Mississippi River flood and hurricanes) and instances where the "N" set is unavailable for conditions other than conduct of routine maintenance and testing during normal operations.

Contrary to the above, from June 1, 2016, to June 7, 2018, the licensee failed to adequately develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment and spent fuel pool cooling capabilities following a beyond-design basis external event. Specifically, the licensee failed to establish appropriate design and procedures associated with providing electrical power using the "N+1" FLEX diesel generator to support transition phase (Phase 2) strategies necessary to maintain or restore the core cooling and spent fuel pool cooling capabilities in mitigating a beyond-design-basis external event.

This violation is associated with a Green Significance Determination Process finding.

End of Violation

Corrective Actions Completed

Technical Requirements Manual (TRM) Limiting Condition for Operation Action Statement 3/4.13.2 was modified to correctly implement the guidance from Section 3.13 Maintenance and Testing of FLEX Equipment from the NRC Orders EA-12-049 and EA-12-051 Safety Evaluation (Reference 4).

No Periodic Maintenance will be scheduled for the FLEX N and N+1 Diesel Generators (DG) during the Atlantic hurricane season (June 1 through November 30).

Corrective Actions Planned

An engineering change to support relocation and operation of the FLEX N+1 DG to the Q-deck is in-progress. The engineering change will provide technical basis for procedure changes to relocate the N+1 FLEX DG when the N FLEX DG is out of service or when the station is forecast to experience predictable external events. Specifically, the analysis will address reasonable protection, all necessary support equipment, confirmation of fueling capability, and any environmental challenges from the new location on the Q-deck.

Waterford 3 has established the following schedule to implement strategy changes:

- Engineering change - June 28, 2019
- Equipment procured for the revised strategy – July 26, 2019
- Procedure changes necessary to support the revised N+1 FLEX DG strategy – August 8, 2019

Date When Full Compliance Will Be Achieved

Waterford will be in full compliance by November 8, 2019 (Reference 2).

Attachment 2

to

W3F1-2019-0033

List of Regulatory Commitments

Attachment 2
List of Regulatory Commitments

This table identifies actions discussed in this letter for which Entergy commits to perform. Any other actions discussed in this submittal are described for the NRC's information and are **not** commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
Waterford 3 will be in full compliance with NRC Order EA-12-049.	x		November 8, 2019