UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 25, 2021

Site Vice President
Entergy Operations, Inc.
Waterford Steam Electric Station, Unit 3
17265 River Road
Killona, LA 70057-3093

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – SUPPLEMENTAL INFORMATION NEEDED FOR ACCEPTANCE OF REQUESTED LICENSING ACTION REGARDING ADOPTING RISK-INFORMED COMPLETION TIMES (EPID L-2021-LLA-0014)

Dear Sir or Madam:

By letter W3F1-2021-0003 dated February 8, 2020 [sic] (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21039A648), Entergy Operations, Inc. (the licensee) requested a license amendment to Renewed Facility Operating License No. NPF-38 for the Waterford Steam Electric Station, Unit 3. The licensee requested to modify technical specification (TS) requirements to permit the use of risk-informed completion times with the implementation of Nuclear Energy Institute (NEI) 06-09, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines."

The U.S. Nuclear Regulatory Commission (NRC) staff performs acceptance reviews of applications to determine if the scope and depth of technical information is sufficient for the staff to complete its technical reviews. The NRC staff also performs an acceptance review to identify whether an application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant. The purpose of this letter is to provide the results of the NRC staff's acceptance review of this amendment request.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an application for an amendment to a license (including the technical specifications) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required and stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has reviewed the licensee's application and concluded that the information delineated in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment request in terms of regulatory requirements for the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests the licensee to supplement the application to address the information requested in the enclosure on or by April 9, 2021. This will enable the NRC staff to begin its detailed technical review. If the information

responsive to the NRC staff's request is not received by the above date, then the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The NRC staff discussed the information requested and associated schedule in this letter with Mr. Remy Devoe and other licensee staff during a meeting held on March 23, 2021. As discussed during that meeting, the NRC staff removed draft items 5 through 9 pertaining to typographical errors from the list of those items that are not required for NRC to complete its acceptance review.

If you have any questions, please contact me at (301) 415-1383 or Perry.Buckberg@nrc.gov.

Sincerely,

/RA/

Perry H. Buckberg, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosure:
Supplemental Information Needed

cc: Listserv

SUPPLEMENTAL INFORMATION NEEDED

IN SUPPORT OF REVIEW OF LICENSE AMENDMENT REQUEST

TO ADOPT RISK-INFORMED ALLOWED OUTAGE TIMES

ENTERGY OPERATIONS, INC.

WATERFORD STEAM ELECTRIC STATION, UNIT 3

DOCKET NO. 50-382

By letter W3F1-2021-0003 dated February 8, 2020 [sic] (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21039A648), Entergy Operations, Inc. (the licensee) requested a license amendment for the Waterford Steam Electric Station, Unit 3 (Waterford 3). The licensee requested to adopt risk-informed allowed outage times in its technical specifications (TSs). The U.S. Nuclear Regulatory Commission (NRC) staff identified the following information insufficiencies that the licensee will need to address for the NRC to complete its acceptance review of the application.

Acceptance Review Information Insufficiencies

1. Technical information included for proposed changes to TS Action 3.6.1.3.b lacks justification that a containment air lock inoperable for reasons other than an inoperable air lock door is not a condition in which all required trains or subsystems of a TS required system are inoperable, as discussed in Table 1, "Conditions Requiring Additional Technical Justification," of Technical Specifications Task Force (TSTF) Traveler 505 TSTF-505, Revision 2, "Provide Risk-Informed Extended Completion Times – RITSTF [Risk-Informed TSTF] Initiative 4b."

2. Technical information included for proposed changes to TS Action 3.7.1.2.b, which are beyond the scope of TSTF-505, Revision 2, lacks justification that the safety function of delivering feedwater to an intact steam generator could be accomplished at the rate specified for the limiting small feedwater system pipe break accident described in Section 15.2.3, "Limiting Faults," and Table 15.2-9a, "Assumptions for the Large Feedwater System Pipe Break," of the Waterford 3 Updated Final Safety Analysis Report.

3. Technical information included for proposed changes to TS Action 3.7.1.3, which are beyond the scope of TSTF-505, Revision 2, lacks justification that the safety function of delivering adequate condensate to the emergency feedwater pumps' suctions could be accomplished in the required time with makeup to the condensate storage pool (CSP) from the cooling tower basin(s) without an alternate specified minimum CSP volume.

4. Technical information included for proposed changes to TS Action 3.7.1.6, which are beyond the scope of TSTF-505, Revision 2, lacks justification that the safety function of isolating main feedwater flow could be accomplished without reliance on components (i.e., main feedwater regulatory valves or feedwater pump trip) not controlled by TSs.

The NRC staff also identified the following requests that, although not required for the NRC to complete its acceptance review, the staff would provide the licensee if the staff ultimately accepts the application for review.

1. The application is not clear as to whether the licensee is requesting to adopt Nuclear Energy Institute (NEI) 06-09, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS)," TSTF-505, Revision 2, or some combination of the two documents. The NRC staff requests this clarification on the proposed action terminology to better understand the scope for its review of the application.

2. The NRC staff requests the licensee to provide the TS Bases pages for the proposed TS changes.

3. The licensee's application uses seismic bounding analysis to evaluate seismic risk. In Enclosure 4, "Information Supporting Justification of Excluding Sources of Risk Not Addressed by the PRA Models," to the license amendment request (LAR), the licensee stated that plant high confidence low probability of failure (HCLPF) was taken from Table 2 of the Electric Power Research Institute (EPRI) document, "Fleet Seismic Core Damage Frequency Estimates for Central and Eastern U.S. Nuclear Power Plants Using New Site-Specific Seismic Hazard Estimates" (ADAMS Accession No. ML14080A589) with a value of 0.25 gravitational force equivalent (g). However, this value in the EPRI document is the median capacity (C50) of 0.25 g, not HCLPF. This median capacity of 0.25 g corresponds to an HCLPF of 0.1, which is consistent with Table C-2, "Plant-Level Fragility Data," of Generic Issue-199 (ADAMS Accession No. ML100270582).

   Because the Waterford 3 seismic core damage frequency was estimated based on an HCLPF of 0.25 g instead of 0.1 g, as shown in Generic Issue - 199, the licensee may have significantly underestimated the calculated seismic core damage frequency. This could have negative impacts on the seismic alternative approach and risk-informed completion time calculation because seismic risk might no longer be low when compared with the total risk in the licensee's LAR to adopt 10 CFR 50.69 (ADAMS Accession No. ML20353A433). Also, a seismic penalty increase could significantly reduce risk-informed completion times. The NRC requests the licensee to explain, with supporting references, how it evaluated and justified an HCLPF value of 0.25 g. If the value cannot be justified, then the NRC requests the licensee to provide an updated value for HCLPF and make the necessary changes for the estimated seismic core damage frequency and seismic large early release frequency values in the LAR dated February 8, 2021, which may also impact the licensee's LAR to adopt 10 CFR 50.69.

4. The NRC staff requests additional justification related to defense-in-depth for the proposed changes to TS 3.3.1 and TS 3.3.2, as discussed in Section 3.1.2.3, "Evaluation of Instrumentation and Control Systems," of TSTF-505, Revision 2. The NRC staff also requests this additional justification to include a discussion on the guidance in on Section C.2.1.1, "Defense-in-Depth," of NRC Regulatory Guide 1.174 Revision 2, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant Specific Changes to the Licensing Basis," pertaining to avoiding over-reliance on programmatic activities as compensatory measures associated with the change in the licensing basis.

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ADAMS Accession No. ML21069A211

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