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10 CFR 50.90

W3F1-2021-040

June 24, 2021

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

Subject: Application to Revise Technical Specifications to Adopt TSTF-569,
"Revision of Response Time Testing Definitions"

Waterford Steam Electric Station, Unit 3
NRC Docket No. 50-382
Renewed Facility Operating License No. NPF-38

In accordance with Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Section 50.90, "Application for amendment of license, construction permit, or early site permit," Entergy Operations, Inc. (Entergy) is submitting a request for an amendment to Renewed Facility Operating License, Appendix A, "Technical Specifications" (TSs), for Waterford Steam Electric Station, Unit 3 (Waterford).

Entergy requests to adopt Technical Specification Task Force (TSTF) Traveler TSTF-569, "Revise Response Time Testing Definition," Revision 2, which is an approved change to the Improved Standard Technical Specifications (ISTS), for incorporation into the Waterford TSs. The proposed amendment revises the TS definitions of Engineered Safety Features (ESF) Response Time and Reactor Trip System (RTS) Response Time.

The Enclosure to this letter provides a description and assessment of the proposed changes. Attachment 1 to the Enclosure provides the existing TS pages for Waterford, marked-up to show the proposed changes. Attachment 2 to the Enclosure provides the existing TS Bases pages marked-up to show the proposed changes, and is provided for information only. Attachment 3 to the Enclosure provides the revised (clean) TS pages.

Entergy requests approval of the proposed license amendment by July 24, 2022. The proposed changes would be implemented within 60 days of issuance of the amendment.

This letter contains no new regulatory commitments.

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

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), a copy of this application, with Enclosure and attachments, is being provided to the designated State Official.

I declare under penalty of perjury that the foregoing is true and correct. Executed on June 24, 2021

Respectfully,



Ron Gaston

RWG/cdm

Enclosure: Description and Assessment

Attachments to Enclosure:

1. Markup of Technical Specification (TS) Pages, Waterford Steam Electric Station, Unit 3
2. Markup of Technical Specification (TS) Bases Pages (Information Only), Waterford Steam Electric Station, Unit 3
3. Clean Technical Specification (TS) Pages, Waterford Steam Electric Station, Unit 3

cc: NRC Region IV Regional Administrator
NRC Senior Resident Inspector – Waterford Steam Electric Station, Unit 3
Louisiana Department of Environmental Quality
NRC Project Manager – Waterford Steam Electric Station, Unit 3

Enclosure

W3F1-2021-040

DESCRIPTION AND ASSESSMENT

Application to Adopt TSTF-569, "Revise Response Time Testing Definition"

Waterford Steam Electric Station, Unit 3

(5 Pages)

DESCRIPTION AND ASSESSMENT

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1.0 DESCRIPTION

In accordance with Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Section 50.90, "Application for amendment of license, construction permit, or early site permit," Entergy Operations, Inc. (Entergy) is submitting a request for an amendment to Renewed Facility Operating License, Appendix A, "Technical Specifications" (TSs), for Waterford Steam Electric Station, Unit 3 (Waterford).

Entergy requests to adopt Technical Specification Task Force (TSTF) Traveler TSTF-569, "Revise Response Time Testing Definition," Revision 2 (Enclosure to Reference 1), which is an approved change to the Improved Standard Technical Specifications (ISTS), for incorporation into the Waterford TSs. The proposed amendment revises the TS definitions of Engineered Safety Features (ESF) Response Time and Reactor Trip System (RTS) Response Time.

2.0 ASSESSMENT

2.1 Applicability of Safety Evaluation

Entergy has reviewed the U.S. Nuclear Regulatory Commission (NRC) safety evaluation for TSTF-569 provided to the Technical Specifications Task Force in a letter dated August 14, 2019 (Reference 2). This review included the NRC's evaluations (References 3 and 4), as well as the information provided in TSTF-569. As described herein, Entergy has concluded that the justifications presented in TSTF-569 and the safety evaluation prepared by the NRC are applicable to Waterford and justify this amendment for incorporation of the changes into the Waterford TSs.

2.2 Optional Changes and Variations

Entergy is proposing the following variations from the TS changes described in TSTF-569 and the applicable parts of the NRC's safety evaluation. The Waterford TSs contain requirements that differ from the ISTS on which TSTF-569 was based, such as definition titles and wording, but these differences do not affect the applicability of the TSTF-569 justification.

- a) The Waterford TSs use the definition title, "Engineered Safety Features Response Time," (i.e., "Features" is plural) instead of the ISTS definition title, "Engineered Safety Feature (ESF) Response Time" (i.e., "Feature" is singular). The current Waterford TS definition title is being retained, with no changes.
- b) The Waterford TSs use the definition title, "Reactor Trip System Response Time" instead of the Combustion Engineering ISTS definition title, "Reactor Protection System (RPS) Response Time." The current Waterford TS definition title is being retained, with no changes.
- c) The Waterford TS definition of Reactor Trip System Response Time has differences in word order and control element assembly (CEA) designation, stating: "...until electrical power is interrupted to the CEA drive mechanism," instead of the Combustion Engineering ISTS wording of "...until electrical power to the CEAs drive mechanism is interrupted." Waterford is revising the wording to: "...until electrical power to the CEA drive mechanism is interrupted." This is considered a conforming change. The current designation of "CEA" is retained as indicated in the revised wording.

These differences, including the proposed change described in paragraph "c" (above), are administrative and, as such, do not affect the applicability of TSTF-569 to the Waterford TSs.

3.0 REGULATORY EVALUATION

3.1 No Significant Hazards Consideration Analysis

Entergy Operations, Inc. (Entergy) requests to adopt Technical Specification Task Force (TSTF) Traveler TSTF-569, "Revise Response Time Testing Definition," which is a U.S. Nuclear Regulatory Commission (NRC)-approved change to the Improved Standard Technical Specifications (ISTS), for incorporation into the Waterford Steam Electric Station, Unit 3 (Waterford) Technical Specifications (TSs). The proposed amendment revises the TS definitions of Engineered Safety Features (ESF) Response Time and Reactor Trip System (RTS) Response Time.

Entergy has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in Title 10 of the Code of Federal Regulations (10 CFR) 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The proposed changes revise the TS definitions of the ESF and RTS instrumentation response times to permit the licensee to use an NRC-approved methodology to evaluate and apply a bounding response time for some components in lieu of measurement. The requirement for the instrumentation to actuate within the response time assumed in the accident analysis is unaffected.

The response times associated with the ESF and RTS instrumentation are not an initiator of any accident. Therefore, the proposed changes have no significant effect on the probability of any accident previously evaluated.

The affected ESF and RTS instrumentation are assumed to actuate their respective components within the required response times to mitigate accidents previously evaluated. Revising the TS definitions of the ESF and RTS instrumentation response times to allow an NRC-approved methodology for verifying the response times for some components does not alter the surveillance requirements that verify the ESF and RTS instrumentation response times are within the required limits. As such, the TSs will continue to assure that the ESF and RTS instrumentation actuate their associated components within the specified response times to accomplish the required safety functions assumed in the accident analyses. This in turn assures that the assumptions used in any accidents previously evaluated are unchanged and there is no significant increase in the consequences.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The proposed changes revise the TS definitions of the ESF and RTS instrumentation response times to permit the licensee to use an NRC-approved methodology to evaluate and apply a bounding response time for some components in lieu of measurement. The proposed changes do not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed). The proposed changes do not alter any assumptions made in the safety analyses. The proposed changes do not alter the limiting conditions for operation for the ESF or RTS instrumentation, nor do the changes alter the surveillance requirements that verify the ESF and RTS instrumentation response times are within the required limits. As such, the proposed changes do not alter the operability requirements for the ESF and RTS instrumentation or introduce any new failure modes.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No

The proposed changes revise the TS definition of the ESF and RTS instrumentation response times to permit the licensee to use an NRC-approved methodology to evaluate and apply a bounding response time for some components in lieu of measurement. The proposed changes have no effect on the required ESF and RTS instrumentation response times or setpoints assumed in the safety analyses, nor do the proposed changes affect the TS requirements that verify those response times and setpoints. The proposed changes do not alter any Safety Limits or analytical limits in the safety analyses. The proposed changes do not alter the TS operability requirements for the ESF and RTS instrumentation. The ESF and RTS instrumentation will continue to actuate the required systems and components at the required setpoints and within the specified response times to accomplish the design basis safety functions of the associated systems and components in the same manner as before. As such, the ESF and RTS instrumentation will continue to perform their required safety functions as assumed in the safety analyses for all previously evaluated accidents.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Based on the above, Entergy concludes that the proposed changes present no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

3.2 Conclusion

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

4.0 ENVIRONMENTAL EVALUATION

The proposed changes would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR Part 20, or would change an inspection or surveillance requirement. However, the proposed changes do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed changes.

5.0 REFERENCES

1. Technical Specifications Task Force (TSTF) letter to U.S. Nuclear Regulatory Commission (NRC), "TSTF Comments on Draft Safety Evaluations for Traveler TSTF-569, Revision 1, 'Revise Response Time Testing Definition,'" (ADAMS Accession No. ML19176A034), dated June 25, 2019
2. NRC letter to TSTF, "Final Safety Evaluations of Technical Specifications Task Force Traveler TSTF-569, Revision 2, 'Revise Response Time Testing Definition' (EPID L-2018-PMP-0002)," (ADAMS Accession No. ML19176A189), dated August 14, 2019
3. Final Safety Evaluation by the Office of Nuclear Reactor Regulation Technical Specifications Task Force Traveler TSTF-569, Revision 2, "Revise Response Time Testing Definition" Using the Consolidated Line Item Improvement Process (EPID L-2018-PMP-0002), (ADAMS Accession No. ML19176A191) (Enclosure 1 to Reference 2 letter above)
4. Final Model Safety Evaluation by the Office of Nuclear Reactor Regulation Technical Specifications Task Force Traveler TSTF-569, Revision 2, "Revise Response Time Testing Definition" Using the Consolidated Line Item Improvement Process (EPID L-2018-PMP-0002), (ADAMS Accession No. ML19176A190) (Enclosure 2 to Reference 2 letter above)

Enclosure, Attachment 1

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Markup of Technical Specification (TS) Pages
Waterford Steam Electric Station, Unit 3

TS Pages

1-3

1-6

DEFINITIONS

CORE ALTERATION

1.9 CORE ALTERATION shall be the movement or manipulation of any component within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATION shall not preclude completion of movement of a component to a safe conservative position.

COLR - CORE OPERATING LIMITS REPORT

1.9a The CORE OPERATING LIMITS REPORT is the Waterford 3 specific document that provides core operating limits for the current operating reload cycle. These cycle-specific core operating limits shall be determined for each reload cycle in accordance with Technical Specification 6.9.1.11. Plant operation within these operating limits is addressed in individual specifications.

DOSE EQUIVALENT I-131

1.10 DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in ICRP-30, Supplement to Part 1, Pages 192-212, Tables titled, "Committed Dose Equivalent in Target Organs or Tissue per Intake of Unit Activity." 

\bar{E} – AVERAGE DISINTEGRATION ENERGY

1.11 \bar{E} shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MeV) for isotopes, other than iodines, with half-lives greater than 15 minutes, making up at least 95% of the total noniodine activity in the coolant.

ENGINEERED SAFETY FEATURES RESPONSE TIME

1.12 The ENGINEERED SAFETY FEATURES RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ESF actuation setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays where applicable. The response time may be measured by any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.

, or the components have been evaluated in accordance with an NRC approved methodology

FREQUENCY NOTATION

1.13 The FREQUENCY NOTATION specified for the performance of Surveillance Requirements shall correspond to the intervals defined in Table 1.1.

DEFINITIONS

RATED THERMAL POWER

1.24 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3716 MWt.

REACTOR TRIP SYSTEM RESPONSE TIME

is interrupted

1.25 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until electrical power ~~is interrupted~~ to the CEA drive mechanism. The response time may be measured by any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.

, or the components have been evaluated in accordance with an NRC approved methodology

REPORTABLE EVENT

1.26 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

SHIELD BUILDING INTEGRITY

1.27 SHIELD BUILDING INTEGRITY shall exist when:

- a. Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit, then at least one door shall be closed,
- b. The shield building filtration system is in compliance with the requirements of Specification 3.6.6.1, and
- c. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

SHUTDOWN MARGIN

1.28 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all control element assemblies are fully inserted except for the single assembly of highest reactivity worth which is assumed to be fully withdrawn.

Enclosure, Attachment 2

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Markup of Technical Specification (TS) Bases Pages (Information Only)
Waterford Steam Electric Station, Unit 3

TS Bases Page
B 3/4 3-1d

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The response time may be verified for components that replace the components that were previously evaluated in CE NPSD-1167-A provided that the components have been evaluated in accordance with the NRC approved methodology as discussed in Attachment 1 to TSTF-569, "Methodology to Eliminate Pressure Sensor and Protection Channel (for Westinghouse plants only) Response Time Testing."

3/4 INSTRUMENTATION

BASES (Cont'd)

3/4.3.1 and 3/4.3.2 REACTOR PROTECTIVE AND ENGINEERED SAFETY FEATURE ACTUATION SYSTEMS INSTRUMENTATION (Continued)

>(EC-26338, Ch. 67)

HLP trip bypass occur at the bistable setpoint (nominally 10⁻⁴% power). However, the HLP automatic bypass removal and permissive for CPC trip bypass occur at the reset value of the bistable. Also note if the bistable setpoint is changed as part of the Special Test Exception 3.10.3, the same dead band transition is applicable.

<(EC-26338, Ch. 67)

The measurement of response time at the specified frequencies provides assurance that the protective and ESF action function associated with each channel is completed within the time limit assumed in the safety analyses. No credit was taken in the analyses for those channels with response times indicated as not applicable.

Response time may be verified by any series of sequential, overlapping, or total channel measurements, including allocated sensor response time, such that the response time is verified. Allocations for sensor response times may be obtained from records of test results, vendor test data, or vendor engineering specifications. Topical Report CE NPSD-1167-A, "Elimination of Pressure Sensor Response Time Testing Requirements," provides the basis and methodology for using allocated sensor response times in the overall verification of the channel response time for specific sensors identified in the topical report. Response time verification for other sensor types must be demonstrated by test. The allocation of sensor response times must be verified prior to placing a new component in operation and reverified after maintenance that may adversely affect the sensor response time.

>(EC-26338, Ch. 67)

In the applicable logarithmic power modes, with the Logarithmic Power circuit inoperable or in test, the associated functional units of Local Power Density-High, DNBR-Low, and Reactor Coolant Flow-Low should be placed in the bypassed or tripped condition. With logarithmic power greater than 10⁻⁴% bistable setpoint and Local Power Density-High, DNBR-Low, and Reactor Coolant Flow-Low no longer bypassed (either through automatic or manual action), these functional units may be considered OPERABLE.

<(EC-26338, Ch. 67)

→(LBDCR 16-046, Ch. 86)

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

←(LBDCR 16-046, Ch. 86)

T

R

INSERT (see above)



TABLE 3.3-1, Functional Unit 13, Reactor Trip Breakers

The Reactor Trip Breakers Functional Unit in Table 3.3-1 refers to the reactor trip breaker channels. There are four reactor trip breaker channels. Two reactor trip breaker channels with a coincident trip logic of one-out-of-two taken twice (reactor trip breaker channels A or B, and C or D) are required to produce a trip. Each reactor trip breaker channel consists of two reactor trip breakers. For a reactor trip breaker channel to be considered OPERABLE, both of the reactor trip breakers of that reactor trip breaker channel must be capable of performing their safety function (disrupting the flow of power in its respective trip leg). The safety function is satisfied when the reactor trip breaker is capable of automatically opening, or otherwise opened or racked-out.

If a racked-in reactor trip breaker is not capable of automatically opening, the ACTION for an inoperable reactor trip breaker channel shall be entered. The ACTION shall not be exited unless the reactor trip breaker capability to automatically open is restored, or the reactor trip breaker is opened or racked-out.

Enclosure, Attachment 3

W3F1-2021-040

Clean Technical Specification (TS) Pages
Waterford Steam Electric Station, Unit 3

TS Pages

1-3

1-3a

1-6

DEFINITIONS

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DEFINITIONS

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IDENTIFIED LEAKAGE

1.14 IDENTIFIED LEAKAGE shall be:

- a. Leakage (except CONTROLLED LEAKAGE) into closed systems, such as pump seal or valve packing leaks that are captured, and conducted to a sump or collecting tank, or

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REACTOR TRIP SYSTEM RESPONSE TIME

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- b. The shield building filtration system is in compliance with the requirements of Specification 3.6.6.1, and
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