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W3F1-2022-0031 10 CFR 50 App H

April 25, 2022

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

Subject: Proposed Revision to Reactor Vessel Surveillance Capsule Withdrawal Schedule to Reflect Location of Standby Capsules 3/W-104 and 6/W-284

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

The Waterford Steam Electric Station, Unit 3 (Waterford 3) Updated Final Safety Analysis Report (UFSAR) Table 5.3-10 provides the Waterford 3 reactor vessel surveillance capsule withdrawal schedule. In accordance with the provisions of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix H, "Reactor Vessel Material Surveillance Program Requirements," Section III.B.3, Entergy Operations, Inc. (Entergy) requests Nuclear Regulatory Commission (NRC) approval of a revision to the surveillance capsule withdrawal schedule. The reason for this change is to reflect the current locations of the capsules following a relocation attempt performed during Refueling Outage 24 (RF24).

By letter dated November 30, 2021 (Reference 2), Entergy requested revision of the reactor vessel surveillance capsule withdrawal schedule for Waterford 3. The purpose was to support relocation of standby capsules 3/W-104 and 6/W-284 to support demonstration of reactor vessel integrity through potential subsequent license renewal(s) for Waterford 3.

By letter dated March 15, 2022 (Reference 3), the NRC provided its safety evaluation of the request, concluding that Entergy had provided the information required by the regulations and that the revised surveillance capsule withdrawal schedule and associated capsule relocations for capsules 3/W-104 and 6/W-284 for Waterford 3 were acceptable, thereby approving the revised surveillance capsule withdrawal schedule.

Subsequently, Waterford 3 has completed the planned attempt to relocate capsules 3/W-104 and 6/W-284 during RF24. It was not possible to reinsert capsule 3/W-104 into the proposed location due to the physical configuration of the capsule combined with access limitations due to the insertion angle. Entergy management elected to discontinue the relocation attempt and execute a contingency to store capsule 3/W-104 in the spent fuel pool for potential reinsertion

during a future outage. As part of this contingency, no attempt was made to relocate capsule 6/W-284; therefore, it remains in its original location in the reactor vessel.

Attachment 1 to this letter provides the withdrawal schedule approved by Reference 3 which reflects the anticipated configuration following the relocation attempt. Attachment 2 to this letter provides a revised withdrawal schedule that incorporates the proposed changes. As stated above, Capsule 3/W-104 is in the spent fuel pool and Capsule 6/W-284 remains in its original location. The revised information for these capsules in Attachment 2 reverts it to that which was approved by the NRC in Reference 1. Note (d) has been revised to identify that Capsule 3/W-104 was removed from the reactor vessel and is stored in the spent fuel pool and to describe the standby designation.

The proposed schedule changes do not amend the surveillance activities supporting implementation of ASTM E185-82 for the current license period; therefore, the schedule's compliance with ASTM E185-82 and 10 CFR 50, Appendix H, is unchanged.

The proposed schedule reflects the location of the standby capsules for Waterford 3 Cycle 25. Based on this, Entergy requests approval of the proposed changes by May 16, 2022, to support reactor restart following RF24.

This letter contains no new regulatory commitments.

If you have any questions or require additional information, please contact John Lewis, Regulatory Assurance Manager, at 504-739-6028.

Respectfully,

Philip Couture

Digitally signed by Philip Couture
Date: 2022.04.25 17:06:53 -05'00'

Philip Couture

PC/mmz

Attachments:
1) Approved Waterford 3 Updated Final Safety Analysis Report Table 5.3-10, Capsule Assembly Removal Schedule
2) Proposed Revision to Waterford 3 Updated Final Safety Analysis Report Table 5.3-10, Capsule Assembly Removal Schedule

References:

1) U. S. Nuclear Regulatory Commission (NRC) Letter to Entergy Operations, Inc. (Entergy), "Waterford Steam Electric Station, Unit 3 – Revision to Reactor Vessel Surveillance Capsule Withdrawal Schedule (EPID L-2019-LLL-0017)," (ADAMS Accession Number ML19282D892), dated October 15, 2019

2) Entergy letter to NRC, "W3F1-2021-0064, "Proposed Revision to Reactor Vessel Surveillance Capsule Withdrawal Schedule to Support Relocation of Capsules 104° and 284°," (ADAMS Accession No. ML21335A085), dated November 30, 2021

3) NRC letter to Entergy, "Waterford Steam Electric Station, Unit 3 – Revision to the Reactor Vessel Material Surveillance Capsule Withdrawal Schedule (EPID L-2021-LLL-0025)," (ADAMS Accession No. ML22061A217), dated March 15, 2022

cc: NRC Region IV Regional Administrator
NRC Senior Resident Inspector, Waterford 3
NRC Project Manager, Waterford 3

**Attachment 1**

**W3F1-2022-0031**

**Approved Waterford 3 Updated Final Safety Analysis Report Table 5.3-10, Capsule Assembly Removal Schedule**

(1 Page to Follow)

**TABLE 5.3-10**

**CAPSULE ASSEMBLY REMOVAL SCHEDULE**

| Capsule No. / ID | Azimuthal Location (deg.) | Lead Factor[a] | Removal Time (EFPY)[b] | Target Fluence ($n/cm^2$) |
|---|---|---|---|---|
| 1/W-83[c] | 83 | 1.20 | 24.66 | 2.42E+19 |
| 2/W-97[c] | 97 | 1.19 | 4.41 | 6.31E+18 |
| 3/W-104[d] | 104 / 97 | 1.02 | Standby (71) | Standby (5.61E+19) |
| 4/W-263[c] | 263 | 1.19 | 13.83 | 1.45E+19 |
| 5/W-277 | 277 | 1.20 | 48 | 4.51E+19 |
| 6/W-284[d] | 284 / 263 | 1.02 | Standby (71) | Standby (5.61E+19) |

Notes:

[a] Lead factor is the ratio of the capsule fluence to the peak reactor vessel fluence at the time of withdrawal.

[b] EFPY - Effective Full Power Years, withdrawal time may be modified to coincide with those refueling outages or plant shutdowns most closely approaching the withdrawal schedule.

[c] Values represent actual data on removed capsule.

[d] Capsule was relocated during Refueling Outage 24 in order to experience higher lead factors in support of future operation. The capsules are identified as Standby; thus, there is no requirement to withdraw and test the capsules at the identified EFPY in parentheses. The withdrawal EFPY identifies the time at which the capsule will reach a fluence equivalent to 80 years of operation (72 EFPY).

NOTE: As required by 10 CFR 50, Appendix H, Section III.B.3, submit a proposed withdrawal schedule with technical justification as specified in 10 CFR 50.4 for NRC approval prior to implementation.

**Attachment 2**

**W3F1-2022-0031**

**Proposed Revision to Waterford 3 Updated Final Safety Analysis Report Table 5.3-10, Capsule Assembly Removal Schedule**

(1 Page to Follow)

**TABLE 5.3-10**

**CAPSULE ASSEMBLY REMOVAL SCHEDULE**

| Capsule No. / ID | Azimuthal Location (deg.) | Lead Factor[a] | Removal Time (EFPY)[b] | Target Fluence ($n/cm^2$) |
|---|---|---|---|---|
| 1/W-83[c] | 83 | 1.20 | 24.66 | 2.42E+19 |
| 2/W-97[c] | 97 | 1.19 | 4.41 | 6.31E+18 |
| 3/W-104[d] | 104 | 0.83 | Standby | -- |
| 4/W-263[c] | 263 | 1.19 | 13.83 | 1.45E+19 |
| 5/W-277 | 277 | 1.20 | 48 | 4.51E+19 |
| 6/W-284[d] | 284 | 0.83 | Standby | -- |

Notes:

[a] Lead factor is the ratio of the capsule fluence to the peak reactor vessel fluence at the time of withdrawal.

[b] EFPY - Effective Full Power Years, withdrawal time may be modified to coincide with those refueling outages or plant shutdowns most closely approaching the withdrawal schedule.

[c] Values represent actual data on removed capsule.

[d] Capsule 3/W-104 was removed from the reactor vessel during Refueling Outage 24 and is stored in the spent fuel pool. Capsules 3/W-104 and 6/W-284 are identified as Standby; thus, there is no requirement to withdraw and test the capsules. These capsules are available to support future operation.

NOTE: As required by 10 CFR 50, Appendix H, Section III.B.3, submit a proposed withdrawal schedule with technical justification as specified in 10 CFR 50.4 for NRC approval prior to implementation.