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W3F1-2024-0011 10 CFR 50.90

May 8, 2024

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

Subject: Licensee Amendment Request to Modify Surveillance Requirements in Support of Surveillance Frequency Control Program

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

In accordance with 10 CFR 50.90, Entergy Operations, Inc. (Entergy), hereby requests Nuclear Regulatory Commission (NRC) approval to amend the Frequencies associated with specific Waterford Steam Electric Station, Unit 3 (WF3), Technical Specification Surveillances. As described in enclosure to this letter, four surveillance frequencies are proposed to be performed in accordance with the Surveillance Frequency Control Program (SFCP). These changes were originally intended to have been addressed in the WF3 license amendment request for TSTF-425, "Relocate Surveillance Frequencies to Licensee Control – Risk-Informed Technical Specification Task Force (RITSTF) Initiative 5b" (Reference 1). One surveillance frequency, associated with containment purge and exhaust valve actuation testing, is proposed to be removed from the SFCP and replaced with the pre-SFCP frequency for this test.

The enclosure provides a description and assessment of the proposed change. Attachment 1 of the enclosure provides the existing TS pages marked up to show the proposed changes. Attachment 2 of the enclosure provides revised (retyped) TS pages.

Approval of the proposed amendment is requested by March 1, 2025, to support the 26th WF3 refueling outage (RFO26) currently scheduled for the spring of 2025. The approved amendment will be implemented within 60 days of issuance. This request is similar to that approved for the Palo Verde Nuclear Generating Station on September 9, 2014 (Reference 2).

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), a copy of this license amendment request, with enclosure, is being provided to the designated State Officials.

There are no new commitments contained in this submittal. Should you have any questions concerning this issue, please contact John R. Twarog, Manager, Regulatory Assurance, at 504-739-6747.

I declare under penalty of perjury, that the foregoing is true and correct.
Executed on May 8, 2024.

Respectfully,

Philip Couture
Digitally signed by Philip Couture
Date: 2024.05.08 06:57:46 -05'00'

Phil Couture

pc/dbb/chm

Enclosure: Evaluation of the Proposed Change

Attachments to Enclosure:

1. Technical Specification Page Markups
2. Retyped Technical Specification Pages

References:

1) NRC letter to WF3, "Waterford Steam Electric Station, Unit 3 - Issuance of Amendment Re: Adoption of TSTF-425, Revision 3 'Relocate Surveillance Frequencies to Licensee Control – RITSTF Initiative 5b'" (ML16159A419), dated July 26, 2016
2) NRC letter to Arizona Public Service Company, "Palo Verde Nuclear Generating Station, Units 1, 2, and 3 – Issuance of Amendments RE: Request to Amend Technical Specifications 3.3.3, 'Control Element Assembly Calculators (CEACS),' and 3.3.6, 'Engineered Safety Features Actuation System (ESFAS) Logic and Manual Trip,'" (ML14202A378), dated September 9, 2014

cc: NRC Region IV Regional Administrator
NRC Senior Resident Inspector – WF3
NRC Project Manager – WF3
Designated State Official – Louisiana

Enclosure to

W3F1-2024-0011

Evaluation of the Proposed Change

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EVALUATION OF THE PROPOSED CHANGE

1.0 SUMMARY DESCRIPTION

In accordance with 10 CFR 50.90, Entergy Operations, Inc. (Entergy), hereby requests Nuclear Regulatory Commission (NRC) approval to amend the Frequencies associated with specific Waterford Steam Electric Station, Unit 3 (WF3), Technical Specification Surveillances. Four surveillance frequencies are proposed to be performed in accordance with the Surveillance Frequency Control Program (SFCP). These changes were originally intended to have been addressed in the WF3 license amendment request for TSTF-425, "Relocate Surveillance Frequencies to Licensee Control – Risk-Informed Technical Specification Task Force (RITSTF) Initiative 5b" (Reference 1). One surveillance frequency, associated with containment purge and exhaust valve actuation testing, is proposed to be removed from the SFCP and replaced with the pre-SFCP frequency for this test.

2.0 DETAILED DESCRIPTION

2.1 System Design and Operation

2.1.1 Engineered Safety Features Actuation System (ESFAS)

The ESFAS contains devices and circuitry that generate signals to actuate accident mitigating equipment when monitored variables reach levels that are indicative of conditions requiring protective action. Each of the ESFAS instrumentation systems is segmented into three interconnected modules. These modules are:

Measurement channels,

Bistable trip units, and

ESFAS Logic:

- Matrix Logic,
- Initiation Logic (trip paths), and
- Actuation Logic

The ESFAS logic employs a scheme that provides an actuation of both trains when bistables in any two of the four channels sense the same input parameter trip. This is called a two-out-of-four trip logic. Bistable relay contact outputs from the four channels are configured into six Matrix Logics. Each Matrix Logic checks for a coincident trip in the same parameter in two bistable channels. The matrices are designated the AB, AC, AD, BC, BD, and CD matrices, to reflect the bistable channels being monitored. Each Matrix Logic contains four normally energized matrix relays. When a coincidence is detected in the two channels being monitored by the Matrix Logic, all four matrix relays deenergize.

The matrix relay contacts are arranged into trip paths, with one relay contact from each matrix relay in each of the four trip paths. Each trip path controls two initiation relays. Each of the two initiation relays in each trip path controls contacts in the Actuation Logic for one train of Engineered Safety Features (ESF).

Each of the two channels of Actuation Logic is responsible for actuating one train of ESFAS equipment. This logic controls ESFAS subgroup relays, which are normally energized. Contacts from these relays, when de-energized, actuate specific ESFAS equipment.

2.1.2 Operational Leakage

During plant life, the joint and valve interfaces associated with the Reactor Coolant System (RCS) can produce varying amounts of reactor coolant leakage, through either normal operational wear or mechanical deterioration. The purpose of the RCS Operational Leakage SRs is to limit system operation in the presence of leakage from these sources to amounts that do not compromise safety. This includes leakage past RCS pressure isolation valves (PIVs).

2.1.3 Primary Containment

The isolation devices for the penetrations in the containment boundary are a part of the containment leak tight barrier. In this respect, it is necessary to ensure non-automatic isolation devices be maintained in the closed position during operation (except when opened under administrative controls). These include manual valves, blind flanges, and deactivated automatic valves which act to isolate various containment penetrations.

2.1.4 Containment Purge and Exhaust

The containment purge and exhaust isolation valves must be closed or operable during core alterations or movement of irradiated fuel. An operable containment purge and exhaust isolation system consists of containment purge valves capable of isolating on an actual or simulated actuation signal from containment purge isolation from each of the required radiation monitoring instrumentation channels. The containment purge lines are automatically closed upon a containment purge isolation signal (CPIS). Closure of at least one of the containment purge isolation valves is sufficient to provide closure of the penetration.

2.2 Current TS Requirements

2.2.1 TS Table 4.3-2, ESFAS Instrumentation SR, Table Notation (3)

TS Table 4.3-2, Table Notation (3), is associated with the Channel Functional Test of all ESFAS Actuation Subgroup Relays and states, in part, that relays exempt from testing during power operation shall be tested in accordance with the SFCP and during each cold shutdown unless tested within the previous 62 days.

2.2.2 TS Table 4.3-2, ESFAS Instrumentation SR, Table Notation (5)

TS Table 4.3-2, Table Notation (5), is associated with the Channel Functional Test of the wide range Steam Generator (SG) – Low Control Valve Logic and states, in part, that in addition to performing the test in accordance with the SFCP, the test is also to be performed during each cold shutdown if not performed in the previous 6 months.

2.2.3 TS 3.4.5.2, Reactor Coolant System Operational Leakage

TS 3.4.5.2, SR 4.4.5.2.3.b, requires each RCS PIV specified in TS Table 3.4-1, Section A and Section B, to be demonstrated operable by verifying leakage to be within its limit prior to entering Mode 2 whenever the plant has been in cold shutdown for 7 days or more, if leakage testing has not been performed in the previous 9 months.

2.2.4 TS 3.6.1.1, Primary Containment Integrity

TS 3.6.1.1, SR 4.6.1.1.a, states that primary containment integrity shall be demonstrated in accordance with the SFCP by verifying that all penetrations* not capable of being closed by operable containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in the isolated position, except for valves that are open under administrative control as permitted by Specification 3.6.3. Note * states: "Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each cold shutdown except that such verification need not be performed more often than once per 92 days."

2.2.5 TS 3.9.4, Containment Building Penetrations

TS 3.9.4, SR 4.9.4.2, requires verification that each required containment purge and exhaust valve actuates to the isolation position on an actual or simulated actuation signal in accordance with the SFCP or load movements with or over irradiated fuel within containment.

2.3 Reason for the Proposed Change

2.3.1 TS Table 4.3-2, ESFAS Instrumentation SR, Table Notation (3)

A SFCP was approved for WF3 in letter dated July 26, 2016 (Reference 1). The relays listed in Table Notation (3) are exempt from being tested during power operations; therefore, the note states these relays are to be tested, not only in accordance with the SFCP, but also during each cold shutdown unless tested within the previous 62 days. The 62-day cold shutdown frequency requirement inadvertently eliminates the purpose of the SFCP. For example, if a surveillance frequency extension evaluation under the SFCP determined a revised test frequency for these relays of every other refueling outage, the current 62-day cold shutdown requirement would nullify such an extension. Therefore, it is necessary to eliminate the portion of TS Table 4.3-2, Table Notation (3) associated with the exempt relays.

The note has a list of seven relays that "are exempt from testing during power operation…." The listing of these relays was appropriate prior to implementation of TSTF-425 since the required testing frequency for Actuation Subgroup Relays was Monthly. These seven relays have a logic of 1 out of 1 (1/1) and testing during power operation was not possible. With TSTF-425 and the implementation of the SFCP, calling out these seven relays as exempt is not required. The testing frequency will be controlled by the SFCP. This was an oversight by Entergy during the submittal and approval of TSTF-425 for WF3.

Therefore, the last sentence of Note (3) is proposed to be removed which will provide for the testing frequency to be performed only in accordance with the SFCP.

2.3.2 TS Table 4.3-2, ESFAS Instrumentation SR, Table Notation (5)

Likewise, the requirement to perform a Channel Functional Test of the wide range SG – Low Control Valve Logic during each cold shutdown if not performed in the previous 6 months (TS Table 4.3-2, Table Notation (5)) would also nullify any SR frequency extension shown to be acceptable in accordance with the SFCP.

The frequency is proposed to be revised to be performed only in accordance with the SFCP.

2.3.3 TS 3.4.5.2, Reactor Coolant System Operational Leakage

The TS 3.4.5.2, SR 4.4.5.2.3.b, requirement to verify PIV leakage prior to entering Mode 2 whenever the plant has been in cold shutdown for 7 days or more, if leakage testing has not been performed in the previous 9 months would also nullify any SR frequency extension shown to be acceptable in accordance with the SFCP (the normal frequency is in accordance with the SFCP as stated in SR 4.4.5.2.3.a).

The frequency is proposed to be revised to be performed only in accordance with the SFCP.

2.3.4 TS 3.6.1.1, Primary Containment Integrity

Finally, the TS 3.6.1.1, SR 4.6.1.1.a, to verify that valves, blind flanges, and deactivated automatic valves inside containment are closed during each cold shutdown, except that such verification need not be performed more often than once per 92 days, would also nullify any SR frequency extension shown to be acceptable in accordance with the SFCP.

The frequency is proposed to be revised to be performed only in accordance with the SFCP.

2.3.5 TS 3.9.4, Containment Building Penetrations

TS 3.9.4, SR 4.9.4.2, was revised to be performed in accordance with the SFCP in the WF3 TS Amendment 249 (Reference 1). The previous frequency stated the actuation test of the containment purge and exhaust valves was to be performed 72 hours prior to performing initial core alterations or load movements with or over irradiated fuel within containment. WF3 Condition Report (CR)-WF3-2023-16804 identified that the pre-SFCP amendment wording to be more appropriate as the frequency appears to be event-driven. This was an oversight by Entergy during the submittal and approval of TSTF-425 for WF3. Subsequently, Entergy proposes to remove this SR from the SFCP.

2.4 Description of the Proposed Change

Proposed changes are presented below as blue underline for additions and ~~red strikethrough~~ for deletions.

2.4.1 TS Table 4.3-2, ESFAS Instrumentation SR, Table Notation (3) and (5)

Entergy proposes to delete the cold shutdown requirement for testing of exempt actuation subgroup relays when not performed within the previous 62 days and the cold shutdown testing of the wide range SG level – low control valve logic if not performed in the previous 6 months as follows (TS Table 4.3-2, Table Notation (3) and (5)):

Table 4.3-2

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
7. EMERGENCY FEEDWATER (EFAS)				
d. Automatic Actuation logic (except subgroup relays)	N.A.	N.A.	SFCP(2)	1, 2, 3
Actuation Subgroup Relays	N.A.	N.A.	SFCP(1)(3)	1, 2, 3
e. Control Valve Logic (Wide Range SG Level – Low)	SFCP	SFCP	SFCP~~(5)~~	1, 2, 3

(3) A subgroup relay test shall be performed which shall include the energization/deenergization of each subgroup relay and verification of the OPERABILITY of each subgroup relay. ~~Relays K109, K114, K202, K301, K305, K308 and K313 are exempt from testing during power operation but shall be tested in accordance with the Surveillance Frequency Control Program and during each COLD SHUTDOWN condition unless tested within the previous 62 days~~.

(5) Not used ~~To be performed during each COLD SHUTDOWN if not performed in the previous 6 months.~~

The exempt relays and wide range SG level – low control valve logic will continue to be tested in accordance with the SFCP, as stated in TS Table 4.3-2. The initial test frequency for the subject components in the WF3 SFCP will be in accordance with the current TS requirement.

2.4.2 TS 3.4.5.2, Reactor Coolant System Operational Leakage

Entergy proposes to delete the requirement to verify Pressure Isolation Valve (PIV) leakage prior to entering Mode 2 whenever the plant has been in cold shutdown for 7 days or more and if leakage testing has not been performed in the previous 9 months as follows:

4.4.5.2.3 Each Reactor Coolant System pressure isolation valve specified in Table 3.4-1, Section A and Section B, shall be demonstrated OPERABLE by verifying leakage to be within its limit:

a. In accordance with the Surveillance Frequency Control Program,

b. Not used ~~Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 7 days or more and if leakage testing has not been performed in the previous 9 months,~~

c. Prior to returning the valve to service following maintenance, repair, or replacement work on the valve,

d. Following valve actuation for valves in Section B due to automatic or manual action or flow through the valve:

1. Within 24 hours by verifying valve closure, and

2. Within 31 days by verifying leakage rate.

PIV leakage tests will continue to be performed in accordance with the SFCP as stated in SR 4.4.5.2.3.a. The initial leakage test frequency for the subject PIVs in the WF3 SFCP will be in accordance with the current TS requirement.

2.4.3 TS 3.6.1.1, Primary Containment Integrity

Entergy proposes to delete the requirement to verify closed containment penetration valves, blind flanges, or deactivated automatic valves inside containment during each cold shutdown except that such verification need not be performed more often than once per 92 days as follows:

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. In accordance with the Surveillance Frequency Control Program by verifying that all penetrations~~*~~ not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.

~~*Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.~~

All subject penetrations will continue to be verified closed in accordance with the SFCP as stated in SR 4.6.1.1.a. The initial test frequency for verification of the subject component positions in the WF3 SFCP will be in accordance with the current TS requirement.

2.4.4 TS 3.9.4, Containment Building Penetrations

Entergy proposes to reinstate the pre-SFCP frequency requirements for containment purge and exhaust valves as follows:

4.9.4.2 Verify each required containment purge and exhaust valve actuates to the isolation position on an actual or simulated actuation signal within 72 hours prior to performing initial CORE ALTERATIONS ~~in accordance with the Surveillance Frequency Control Program~~ or load movements with or over irradiated fuel within containment.

This reinstatement is appropriate as discussed in Section 3.0 of this letter.

3.0 TECHNICAL EVALUATION

3.1.1 SFCP Guidance

As stated previously, a SFCP was approved for WF3 in Reference 1. In accordance with TSTF-425, surveillance frequencies may be placed under the SFCP except those frequencies that:

- Reference other approved programs for the specific interval (such as the In-Service Testing Program);

- Are purely event-driven;
- Are event-driven, but have a time component for performing the surveillance on a one-time basis once the event occurs;
- Are related to specific conditions (e.g., battery degradation, age and capacity) or conditions for the performance of a surveillance requirement (e.g., "drywell to suppression chamber differential pressure decrease").

An "event-driven" frequency is intended to describe conditions that are significant for test performance. For example, it is important to verify the Iodine 131 specific activity of the RCS within a specified time frame following a change in thermal power of ≥ 15% in a one-hour period because the iodine levels peak during this time following iodine spike initiation. While some testing can only be performed during certain plant modes to avoid operational transients that could challenge safe operation, such conditions are a consequence of plant design and are not considered "event-driven". For example, many tests are performed in Modes 5 or 6 during routine refueling outages to avoid plant upsets; however, these tests are not considered "event-driven".

The controls established by NEI 04-10, "Risk-informed Method for Control of Surveillance Frequencies," Revision 1, will be applied to the surveillance test frequencies proposed for revision under the SFCP. In addition, WF3 will continue to meet the regulatory requirement of 10 CFR 50.36(c)(3) by having surveillance requirements to ensure necessary quality of systems and components are maintained, the plant operation is within safety limits, and that the limiting conditions for operation are met.

3.1.2 TS Table 4.3-2, ESFAS Instrumentation SR, Table Notation (3) and (5)

The purpose of the current 62-day and 6-month cold shutdown test frequency requirement of TS Table 4.3-2, Table Notation (3) and (5), for exempt ESFAS subgroup relays and wide range SG level – low control valve logic, respectively, is to prevent duplicate testing of these components should a shutdown to cold shutdown occur shortly after an outage in which the relays are normally tested (i.e., refueling outage). Therefore, these Notes do not meet the intent of "event-driven" as referred to in the SFCP guidance.

Although WF3 is a custom TS plant, the associated SR 3.3.6.2 in NUREG-1432, Revision 5, contains a similar Note related to the subgroup relays (NUREG-1432 does not contain a separate SR for wide range SG level – low control valve logic):

> *Relays exempt from testing during operation shall be tested during each MODE 5 entry exceeding 24 hours unless tested during the previous 6 months.*

Again, this Note is intended to prevent duplicate testing of the relays and is not considered "event-driven". The NRC approved Combustion Engineering Owners Group (CEOG) Topical Report CEN-403, "ESFAS Subgroup Relay Test Interval Extension," Revision 1-A, (Reference 3) which justified the extension of the surveillance test intervals for each ESFAS subgroup relay based on efforts to:

1. Reduce over-testing of plant equipment,
2. Reduce the potential for inadvertent Engineered Safety Features (ESF) actuations, and

3. Establish test frequencies based on the demonstrated reliability of the ESFAS subgroup relays.

The NRC safety evaluation for CEN-403 included in Reference 3, identified four items that justified surveillance interval extension:

a) *Licensee documentation shows that all pre-1990 Potter and Brumfield (P&B) MDR dc relays and all pre-1992 P&B MDR ac relays have been removed from ESFAS applications.* Entergy confirmed that WF3 continues to meet this position.

b) *Licensee documented maintenance and work controls are in place that effectively prevent any installation of any pre-1990 P&B MDR dc relay or any pre-1992 P&B MDR ac relay in any safety-related application, including ESFAS circuitry.* Entergy confirmed that WF3 continues to meet this position.

c) *The licensee's plant commercial grade equipment certification program includes the necessary controls to successfully detect the over-sized coil problems that were discussed in Combustion Engineering TechNote No. 92-05, "Potter and Brumfield MDR-series Relay Deficiencies," (Ref. 11) as well as controls to detect the over-sized coil problem that is discussed in the 10 CFR Part 21 report on P&B relay failures (Ref. 9), and ABB-CE Infobulletin 93-02, "Potter & Brumfield MDR Relay Defect" (Ref. 12).* Entergy confirmed that WF3 continues to meet this position.

d) *The licensee's plant commercial grade equipment certification program includes the necessary controls to identify the presence of rotor return springs that are susceptible to the chloride stress corrosion cracking that is discussed in the January 13, 1993, 10 CFR Part 21 report on P&B MDR Model 170-1, 7032, 7033, and 7034 relays (Ref. 8).* Entergy confirmed that WF3 continues to meet this position.

As documented in the Topical Report and summarized in the related NRC safety evaluation, the mean time between failures (MTBF) for ESFAS subgroup relays through 1992 (for WF3) was 24 months. Entergy has reviewed the testing of these relays for 13 years and determined that no failure to actuate occurred. This supports the position presented in CEN-403 for MTBF a of 24 months. The NRC safety evaluation states that the data supports the conclusion that the small number of failures of the ESFAS subgroup relays justifies extending the surveillance interval. This change in frequency was solely based upon time and not event-driven, controlled by an existing program, or condition-based. In addition, the NRC safety evaluation acknowledged that WF3 had replaced its relays with an approved version and expected that the test frequency would increase as the time in service of the new relays increased. Entergy has concluded that the subject Topical Report is applicable to WF3. In addition, the SFCP ensures that setpoint calculations account for any increase in drift when extending surveillance test intervals.

Additional for Note (5), the note has a list of seven relays that "are exempt from testing during power operation…." The listing of these relays was appropriate prior to implementation of TSTF-425 since the required testing frequency for Actuation Subgroup Relays was Monthly. These seven relays have a logic of 1 out of 1 (1/1) and testing during power operation was not possible. With TSTF-425 and the

implementation of the SFCP, calling out these seven relays as exempt is not required. The testing frequency will be controlled by the SFCP.

3.1.3 TS 3.4.5.2, Reactor Coolant System Operational Leakage

The purpose of the current requirement to verify PIV leakage prior to entering Mode 2 whenever the plant has been in cold shutdown for 7 days or more and if leakage testing has not been performed in the previous 9 months of TS SR 4.4.5.2.3.b is to prevent duplicate leak testing should a shutdown to cold shutdown occur between outages in which the PIVs are normally tested (i.e., refueling outage). Therefore, this requirement does not meet the intent of "event-driven" as referred to in the SFCP guidance. The PIVs will continue to be leak tested in accordance with the SFCP as required by SR 4.4.5.2.3.a.

3.1.4 TS 3.6.1.1, Primary Containment Integrity

The purpose of the current requirement to verify that all penetrations not capable of being closed by operable containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in the isolated position located within containment during each cold shutdown (not required to be performed more often than once per 92 days) is to prevent duplicate verifications should a shutdown to cold shutdown occur between outages in which the penetrations inside containment are normally verified (i.e., refueling outage). Therefore, this requirement does not meet the intent of "event-driven" as referred to in the SFCP guidance. The subject components will continue to be verified in the closed position in accordance with the SFCP as required by SR 4.6.1.1.a. In addition, administrative controls are normally established during outages which may occur between refueling outages to ensure penetration valves inside containment are strictly controlled. Placing the frequency of these verifications under the SFCP does not prevent performance of the SR during any cold shutdown period when general containment access is granted or significant maintenance activities within the containment occur, as appropriate.

3.1.5 TS 3.9.4, Containment Building Penetrations

As illustrated in Section 2.4 of this letter, Entergy proposes to reinstate the pre-SFCP frequency requirements for containment purge and exhaust valves. The requirement to verify each required containment purge and exhaust valve actuates to the isolation position on an actual or simulated actuation signal "72 hours prior to performing initial CORE ALTERATIONS" was revised to "in accordance with the Surveillance Frequency Control Program" by WF3 TS Amendment 249 (Reference 1). However, Entergy believes the "72 hours prior to performing initial CORE ALTERATIONS" frequency meets the intent of an event-driven frequency as described in TSTF-425 and, therefore, should be reinstated. The pre-SFCP frequency is significant because the potential for radiological events, such as a fuel handling accident, are increased upon initiation of core alterations or the movement of irradiated fuel assemblies. The revised SR 4.9.4.2 is proposed to read (emphasis added):

> Verify each required containment purge and exhaust valve actuates to the isolation position on an actual or simulated actuation signal *within 72 hours prior to performing initial CORE ALTERATIONS* or load movements with or over irradiated fuel within containment.

The revised wording of SR 4.9.4.2 meets the intent of TSF-425 by maintaining event-driven frequencies within the TSs. The term "within" was not in the pre-SFCP SR but is added here for clarity. The addition of "within" is administrative in nature and does not result in a change to the Frequency in which the SR is commonly performed.

The proposed changes are consistent with the criteria for relocation of surveillance frequencies specified in TSTF-425. The proposed changes to the TSs do not affect how plant equipment is operated or maintained. No changes to the physical plant, analytical methods, or testing methods are proposed and there are no impacts to the WF3 Updated Final Safety Analysis Report (UFSAR) accident analysis.

3.1.6 Conclusion

Based on the above, Entergy concludes that the proposed changes conform to TSTF-425, in that time-based surveillance frequencies and does not meet any of the surveillance frequency exceptions, i.e., surveillance frequencies that are event-driven, controlled by an existing program, or are condition-based, with the exception of SR 4.9.4.2. On that basis, Entergy proposes that the subject surveillance frequencies, with the exception of SR 4.9.4.2, be changed to solely be in accordance with the SFCP, consistent with the intent of TSTF-425.

Attachment 1 of this enclosure includes a markup of the affected TS pages. Attachment 2 of this enclosure includes a retyped (clean) copy of the affected TS pages. The formatting of the retyped pages has been slightly modified for professional appearance and is considered administrative only (i.e., reformatting involved no technical change to the pages). The proposed changes do not result in a change to the WF3 TS Bases which do not contain detail similar to that of NUREG 1432, Revision 5.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

WF3 TS 6.5.18 establishes the requirements for the SFCP. The program is required to be implemented in accordance with NEI 04-10, "Risk-informed Method for Control of Surveillance Frequencies," Revision 1.

10 CFR 50.36(c), "Technical specifications," describes Surveillance requirements as follows:

> (3) Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.

The proposed amendment has no impact on the continued conformance with the requirements of 10 CFR 50.36.

The proposed changes do not affect compliance with these regulations or guidance and will ensure that the lowest functional capabilities or performance levels of equipment required for safe operation are met.

4.2 Precedent

This amendment request is based most closely on that approved License Amendment Request (LAR) for the Palo Verde Nuclear Generating Station dated September 9, 2014

(Reference 2), which removed the cold shutdown surveillance frequency restriction for ESFAS subgroup relays. Both WF3 and Palo Verde are digital Combustion Engineering plants with similar ESFAS designs.

4.3 No Significant Hazards Consideration Analysis

Entergy Operations, Inc. (Entergy) has evaluated the proposed changes to the Technical Specifications (TSs) using the criteria in 10 CFR 50.92 and has determined that the proposed changes do not involve a significant hazards consideration.

Entergy proposes a change to revise test frequencies within the Waterford Steam Electric Station, Unit 3 (WF3), TSs associated with Engineered Safety Features Actuation System (ESFAS) Instrumentation subgroup relays, ESFAS steam generator level control valve logic, Reactor Coolant System pressure isolation valve leak testing, verification of penetration isolation device positions inside containment, and actuation testing of containment purge and exhaust valves.

Basis for no significant hazards consideration determination: As required by 10 CFR 50.91(a), Entergy analysis of the issue of no significant hazards consideration is presented below:

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

   Response: No

   The revision to the testing frequencies relocates the specified frequencies to licensee control under the Surveillance Frequency Control Program (SFCP). Surveillance frequencies are not an initiator to any accident previously evaluated. As a result, the probability of any accident previously evaluated is not significantly increased. The systems and components required by the TSs for which this frequency is being relocated are still required to be operable, meet the acceptance criteria for the surveillance requirement, and be capable of performing any mitigation function assumed in the accident analysis.

   Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   Response: No

   No new or different accidents result from the revision to the subject testing frequencies. The change does not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. In addition, this change does not impose any new or different requirements. This change does not alter assumptions made in the safety analysis. This change is consistent with the safety analysis assumptions and current plant operating practice.

   Therefore, this change does not create the possibility of a new or different kind of accident from an accident previously evaluated.

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

   Response: No

The design, operation, testing methods, and acceptance criteria for systems, structures, and components (SSCs) specified in applicable codes and standards (or alternatives approved for use by the NRC) will continue to be met as described in the plant licensing basis (including the Updated Final Safety Analysis Report and TS Bases), since these are not affected by the proposed change which will revise the subject testing frequencies. Similarly, there is no impact to safety analysis acceptance criteria as described in the plant licensing basis.

Therefore, this change does not involve a significant reduction in a margin of safety.

Based upon the reasoning presented above, Entergy concludes that the requested change involves no significant hazards consideration, as set forth in 10 CFR 50.92(c), "Issuance of Amendment."

4.4 Conclusions

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.

5.0 ENVIRONMENTAL CONSIDERATION

The proposed change 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, and would change an inspection or surveillance requirement. However, the proposed change does 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 change meets 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 change.

6.0 REFERENCES

1. NRC letter to WF3, "Waterford Steam Electric Station, Unit 3 - Issuance of Amendment Re: Adoption of TSTF-425, Revision 3 'Relocate Surveillance Frequencies to Licensee Control – RITSTF Initiative 5b,'" (ML16159A419), dated July 26, 2016
2. NRC letter to Arizona Public Service Company, "Palo Verde Nuclear Generating Station, Units 1, 2, and 3 – Issuance of Amendments RE: 'Request to Amend Technical Specifications 3.3.3, Control Element Assembly Calculators (CEACS),' and 3.3.6, 'Engineered Safety Features Actuation System (ESFAS) Logic and Manual Trip,'" (ML14202A378), dated September 9, 2014
3. CEOG letter to NRC, "C-E Owners Group Submittal of [Topical Report] CEN-403, Revision 1-A, "ESFAS Subgroup Relay Test Interval Extension," (NRC Accession No. 9604030252), dated March 27, 1996

7.0 ATTACHMENTS

1. Technical Specification Page Markups
2. Retyped Technical Specification Pages

Enclosure, Attachment 1

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Technical Specification Page Markups

(4 pages)

TABLE 4.3.-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
7. EMERGENCY FEEDWATER (EFAS)				
a. Manual (Trip Buttons)	N.A.	N.A.	SFCP	1, 2, 3
b. SG Level (1/2) - Low and ΔP (1/2) - High	SFCP	SFCP	SFCP	1, 2, 3
c. SG Level (1/2) - Low and No Pressure - Low Trip (1/2)	SFCP	SFCP	SFCP	1, 2, 3
d. Automatic Actuation Logic (except subgroup relays)	N.A.	N.A.	SFCP(2)	1, 2, 3
Actuation Subgroup Relays	N.A.	N.A	SFCP(1) (3)	1, 2, 3
e. Control Valve Logic (Wide Range SG Level - Low)	SFCP	SFCP	SFCP~~(5)~~	1, 2, 3

TABLE NOTATION

(1) Each train or logic channel shall be tested in accordance with the Surveillance Frequency Control Program.

(2) Testing of Automatic Actuation Logic shall include the energization/deenergization of each initiation relay and verification of the OPERABILITY of each initiation relay.

(3) A subgroup relay test shall be performed which shall include the energization/deenergization of each subgroup relay and verification of the OPERABILITY of each subgroup relay. ~~Relays K109, K114, K202, K301, K305, K308 and K313 are exempt from testing during power operation but shall be tested in accordance with the Surveillance Frequency Control Program and during each COLD SHUTDOWN condition unless tested within the previous 62 days~~.

(4) Using installed test switches.

(5) Not used ~~To be performed during each COLD SHUTDOWN if not performed in the previous 6 months.~~

(6) Each train shall be tested, with the exemption of relays, K110, K410 and K412, in accordance with the Surveillance Frequency Control Program. Relays K110, K410 and K412 shall be tested in accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

NOTE: Not required to be performed until 12 hours after establishment of steady state operation.

4.4.5.2.1 Reactor Coolant System leakages, except for primary to secondary leakage, shall be demonstrated to be within each of the above limits by performance of a Reactor Coolant System water inventory balance in accordance with the Surveillance Frequency Control Program.

4.4.5.2.2 Primary to secondary leakage shall be verified to be ≤75 gallons per day through any one SG in accordance with the Surveillance Frequency Control Program.

4.4.5.2.3 Each Reactor Coolant System pressure isolation valve specified in Table 3.4-1, Section A and Section B, shall be demonstrated OPERABLE by verifying leakage to be within its limit:

a. In accordance with the Surveillance Frequency Control Program,

b. Not used ~~Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 7 days or more and if leakage testing has not been performed in the previous 9 months,~~

c. Prior to returning the valve to service following maintenance, repair, or replacement work on the valve,

d. Following valve actuation for valves in Section B due to automatic or manual action or flow through the valve:

   1. Within 24 hours by verifying valve closure, and

   2. Within 31 days by verifying leakage rate.

The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

4.4.5.2.4 Each Reactor Coolant System pressure isolation valve power-operated valve specified in Table 3.4-1, Section C, shall be demonstrated OPERABLE by verifying leakage to be within its limit:

a. In accordance with the Surveillance Frequency Control Program, and

b. Prior to returning the valve to service following maintenance, repair, or replacement work on the valve.

The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. In accordance with the Surveillance Frequency Control Program by verifying that all penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

c. After each closing of each penetration subject to Type B testing, except containment air locks, if opened following a Type A or B test, by leak rate testing the seal in accordance with the Containment Leakage Rate Testing Program.

~~*Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.~~

REFUELING OPERATIONS

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

a. The equipment door is closed,

b. A minimum of one door in each airlock is capable of being closed, and

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by a manual or automatic isolation valve, blind flange, or equivalent, or

2. Capable of being closed by an OPERABLE containment purge and exhaust isolation system.

Note: Penetration flow path(s) described in a, b, and c above, that provides direct access from the containment atmosphere to the outside atmosphere may be unisolated under administrative controls.

APPLICABILITY: During CORE ALTERATIONS or load movements with or over irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS or load movements with or over irradiated fuel in the containment building.

SURVEILLANCE REQUIREMENTS

4.9.4.1 Verify each required containment penetration is in the required status prior to the start of and in accordance with the Surveillance Frequency Control Program during CORE ALTERATIONS or load movements with or over irradiated fuel within containment.

4.9.4.2 Verify each required containment purge and exhaust valve actuates to the isolation position on an actual or simulated actuation signal within 72 hours prior to performing initial CORE ALTERATIONS ~~in accordance with the Surveillance Frequency Control Program~~ or load movements with or over irradiated fuel within containment.

NOTE - SR 4.9.4.2 is not required to be met for containment purge and exhaust valve(s) in penetrations closed to comply with LCO 3.9.4.c.1.

Enclosure, Attachment 2

W3F1-2024-0011

Retyped Technical Specification Pages

(4 pages)

TABLE 4.3.-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
7. EMERGENCY FEEDWATER (EFAS)				
a. Manual (Trip Buttons)	N.A.	N.A.	SFCP	1, 2, 3
b. SG Level (1/2) – Low and ΔP (1/2) – High	SFCP	SFCP	SFCP	1, 2, 3
c. SG Level (1/2) – Low and No Pressure – Low Trip (1/2)	SFCP	SFCP	SFCP	1, 2, 3
d. Automatic Actuation Logic (except subgroup relays)	N.A.	N.A.	SFCP(2)	1, 2, 3
Actuation Subgroup Relays	N.A.	N.A	SFCP(1) (3)	1, 2, 3
e. Control Valve Logic (Wide Range SG Level – Low)	SFCP	SFCP	SFCP	1, 2, 3

TABLE NOTATION

(1) Each train or logic channel shall be tested in accordance with the Surveillance Frequency Control Program.

(2) Testing of Automatic Actuation Logic shall include the energization/deenergization of each initiation relay and verification of the OPERABILITY of each initiation relay.

(3) A subgroup relay test shall be performed which shall include the energization/deenergization of each subgroup relay and verification of the OPERABILITY of each subgroup relay.

(4) Using installed test switches.

(5) Not used

(6) Each train shall be tested, with the exemption of relays, K110, K410 and K412, in accordance with the Surveillance Frequency Control Program. Relays K110, K410 and K412 shall be tested in accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

NOTE: Not required to be performed until 12 hours after establishment of steady state operation.

4.4.5.2.1 Reactor Coolant System leakages, except for primary to secondary leakage, shall be demonstrated to be within each of the above limits by performance of a Reactor Coolant System water inventory balance in accordance with the Surveillance Frequency Control Program.

4.4.5.2.2 Primary to secondary leakage shall be verified to be ≤ 75 gallons per day through any one SG in accordance with the Surveillance Frequency Control Program.

4.4.5.2.3 Each Reactor Coolant System pressure isolation valve specified in Table 3.4-1, Section A and Section B, shall be demonstrated OPERABLE by verifying leakage to be within its limit:

a. In accordance with the Surveillance Frequency Control Program,

b. Not used

c. Prior to returning the valve to service following maintenance, repair, or replacement work on the valve,

d. Following valve actuation for valves in Section B due to automatic or manual action or flow through the valve:

1. Within 24 hours by verifying valve closure, and

2. Within 31 days by verifying leakage rate.

The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

4.4.5.2.4 Each Reactor Coolant System pressure isolation valve power-operated valve specified in Table 3.4-1, Section C, shall be demonstrated OPERABLE by verifying leakage to be within its limit:

a. In accordance with the Surveillance Frequency Control Program, and

b. Prior to returning the valve to service following maintenance, repair, or replacement work on the valve.

The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. In accordance with the Surveillance Frequency Control Program by verifying that all penetrations not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

c. After each closing of each penetration subject to Type B testing, except containment air locks, if opened following a Type A or B test, by leak rate testing the seal in accordance with the Containment Leakage Rate Testing Program.

REFUELING OPERATIONS

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

a. The equipment door is closed,

b. A minimum of one door in each airlock is capable of being closed, and

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by a manual or automatic isolation valve, blind flange, or equivalent, or

2. Capable of being closed by an OPERABLE containment purge and exhaust isolation system.

Note: Penetration flow path(s) described in a, b, and c above, that provides direct access from the containment atmosphere to the outside atmosphere may be unisolated under administrative controls.

APPLICABILITY: During CORE ALTERATIONS or load movements with or over irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS or load movements with or over irradiated fuel in the containment building.

SURVEILLANCE REQUIREMENTS

4.9.4.1 Verify each required containment penetration is in the required status prior to the start of and in accordance with the Surveillance Frequency Control Program during CORE ALTERATIONS or load movements with or over irradiated fuel within containment.

4.9.4.2 Verify each required containment purge and exhaust valve actuates to the isolation position on an actual or simulated actuation signal within 72 hours prior to performing initial CORE ALTERATIONS or load movements with or over irradiated fuel within containment.

NOTE – SR 4.9.4.2 is not required to be met for containment purge and exhaust valve(s) in penetrations closed to comply with LCO 3.9.4.c.1.