

David B. Hamilton
Vice President

440-280-5382

June 20, 2017
L-17-089

10 CFR 50.90

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

Perry Nuclear Power Plant
Docket No. 50-440, License No. NPF-58
License Amendment Request for Adoption of Technical Specifications Task Force (TSTF)
Traveler TSTF-400-A, Revision 1, "Clarify SR on Bypass of DG Automatic Trips"

Pursuant to 10 CFR 50.90, FirstEnergy Nuclear Operating Company (FENOC) hereby requests an amendment to the facility operating license for the Perry Nuclear Power Plant. The proposed amendment would revise a surveillance requirement (SR) within Technical Specification (TS) 3.8.1, "AC Sources – Operating." The proposed changes would modify SR 3.8.1.13 and the associated TS Bases to clarify the intent of the SR, which is to verify that only the non-critical diesel generator (DG) trips are bypassed on an emergency core cooling system (ECCS) initiation signal. The proposed changes are consistent with Nuclear Regulatory Commission (NRC)-approved Technical Specification Task Force (TSTF) Improved Standard Technical Specifications Change Traveler TSTF-400-A, Revision 1, "Clarify SR on Bypass of DG Automatic Trips."

An evaluation of the proposed license amendment is enclosed. FENOC requests NRC staff approval of the proposed amendment by June 29, 2018. The amendment will be implemented within 60 days of approval.

There are no regulatory commitments contained in this submittal. If there are any questions or if additional information is required, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing, at (330) 315-6810.

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I declare under penalty of perjury that the foregoing is true and correct. Executed on June 20, 2017.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Hamilton', with a stylized flourish at the end.

David B. Hamilton

Enclosure: Evaluation of Proposed Change

cc: NRC Region III Administrator
NRC Resident Inspector
NRC Project Manager
Branch Chief, Ohio Emergency Management Agency,
State of Ohio (NRC Liaison)
Utility Radiological Safety Board

Evaluation of Proposed Change
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License Amendment Request for Adoption of TSTF-400-A, "Clarify SR on Bypass of DG Automatic Trips"

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3. Proposed Technical Specification Bases Changes (Mark-Up)

1.0 SUMMARY DESCRIPTION

This evaluation supports a FirstEnergy Nuclear Operating Company (FENOC) request to amend Operating License NPF-58 for the Perry Nuclear Power Plant (PNPP).

The proposed changes will revise PNPP Technical Specification (TS) Surveillance Requirement (SR) 3.8.1.13 and the associated TS Bases to clarify the intent of the SR. The proposed changes are consistent with Nuclear Regulatory Commission (NRC) approved Technical Specification Task Force (TSTF) Improved Standard Technical Specifications (ISTS) Change Traveler TSTF-400-A, Revision 1, "Clarify SR on Bypass of DG [Diesel Generator] Automatic Trips" (Reference 1).

2.0 DETAILED DESCRIPTION

SR 3.8.1.13 will be revised to make clear the purpose of the surveillance. SR 3.8.1.13 currently states, in part, the following:

Verify each DG's automatic trips are bypassed on an actual or simulated ECCS [emergency core cooling system] initiation signal except:

- a. Engine overspeed; and
- b. Generator differential current

The proposed revision of SR 3.8.1.13 is as follows:

Verify each DG's non-critical automatic trips are bypassed on an actual or simulated ECCS initiation signal.

The Bases of SR 3.8.1.13 currently state, in part, the following:

This Surveillance demonstrates that DG non-critical protective functions (e.g., high jacket water temperature) are bypassed on an ECCS initiation test signal and critical protective functions trip the DG to avert substantial damage to the DG unit. The non-critical trips are bypassed during DBAs and provide alarms on abnormal engine conditions.

The proposed revision to the Bases of SR 3.8.1.13 is as follows:

This Surveillance demonstrates that DG non-critical protective functions (e.g., high jacket water temperature) are bypassed on an ECCS initiation test signal. Non-critical automatic trips are all automatic trips except: a) engine overspeed and b) generator differential current. The non-critical trips are bypassed during DBAs and provide alarms on abnormal engine conditions.

The current SR and associated TS Bases imply that two tests are required: 1) verification that DG non-critical trips are bypassed and 2) verification that DG critical trips are not bypassed. This is incorrect and has led to confusion at plants relative to the implementation of this SR. The proposed change clarifies SR 3.8.1.13 and the associated TS Bases to state that the SR only verifies that non-critical trips are bypassed on an actual or simulated ECCS initiation signal. The NRC Safety Evaluation for TSTF-400 (Reference 2) concluded that this change was acceptable because it was editorial and did not materially alter the requirements of the STS.

Except for a minor editorial difference (adding a hyphen to the word "non-critical"), there are no intended deviations from the approved TSTF traveler.

The proposed TS changes are marked in Attachment 1 and the re-typed TS pages are provided in Attachment 2. The planned TS Bases changes are provided in Attachment 3. Attachments 2 and 3 are provided for information only.

3.0 TECHNICAL EVALUATION

The purpose of the proposed change is to clarify the specific functions that the SR is intended to verify. From Revision 1 of TSTF-400-A:

Branch Technical Position ICSB-17, "Diesel Generator Protective Trip Circuit Bypasses," was replaced in 1981 by Reg Guide 1.9, Rev. 2 (December 1979), Position C.7. Reg Guide 1.9, Rev. 3, Position C.1.8, is essentially unchanged from the 1979 position. The Regulatory Guide only requires verification that the noncritical trips are bypassed and does not require verification that the critical trips are not bypassed. Regulatory Guide 1.9, Rev. 3, Section 2.2.12 states, "Protective Trip Bypass Test: Demonstrate that all automatic diesel generator trips (except engine overspeed, generator differential, and those retained with coincidental logic) are automatically bypassed on an SIAS [safety injection actuation signal]." Therefore, this test was intended to verify that the noncritical trips are bypassed so that a spurious actuation of a noncritical trip does not take a DG out of service during an emergency.

The Branch Technical Position states that if bypasses of non-critical DG trips are used in the DG design, "the design of the bypass circuitry should include the capability for testing the status and operability of the bypass circuits." This requirement is the source of SR 3.8.1.13. However, as the SR and Bases are currently written, it is implied that it is not only necessary to verify that the bypasses are operable, but to verify the other channels are not bypassed. Therefore, SR 3.8.1.13 and the associated Bases are revised to clarify the purpose of the SR. Testing to verify that critical DG trips are not bypassed is not required to satisfy the requirements of 10 CFR 50.36(c)(3).

TSTF-400-A, Revision 1, was approved by the NRC staff in a letter dated November 13, 2004 (Reference 2).

Although the proposed changes will be consistent with the NRC-approved TSTF-400-A, Revision 1, the NRC staff has previously identified concerns with other industry requested adoptions of TSTF-400-A. Concerns identified that the deletion of the critical trips from SR 3.8.1.13 may result in: [1] potentially not testing DG critical trips (Reference 7); and [2] that this could result in future changes to DG trips and the associated testing requirements without appropriate NRC review, since the proposed TS change would relocate the list of DG critical trips and associated testing requirements to the TS Bases and not the Updated Safety Analysis Report (USAR) (Reference 5). Relocation of selected TS information to the USAR has been deemed acceptable to the NRC, since this action would ensure that any subsequent changes to the relocated information would be subject to evaluation under the 10 CFR 50.59 process (Reference 3).

As a result, licensee actions associated with the adoption of TSTF-400-A changes have been recommended to address these concerns, as follows:

- (1) To periodically test the diesel generator critical and non-critical trips as part of the preventive maintenance program or commit to add a statement to that effect to the UFSAR, and
- (2) The list of DG critical and non-critical trips is in, or will be added to, the UFSAR.

Relative to action (1) above, Section c.2.2.11 in Revision 4 of Regulatory Guide 1.9 indicates that periodic-trip bypass testing should demonstrate “that [non-critical] automatic diesel generator unit trips are automatically bypassed as designed” and that testing “should also verify that the critical protective trips that are not automatically bypassed perform their intended function.” The critical DG protective trip functions (engine overspeed and generator differential current) are tested periodically by plant procedures to verify proper functioning. PNPP procedures also verify that the DG non-critical trips are bypassed and that the DG critical trips are not bypassed during simulated ECCS initiation signals. Therefore, changes to the PNPP USAR are not necessary.

Relative to action (2) above, the PNPP USAR already identifies the DG critical and non-critical tripping devices. However, it was discovered that the USAR list of DG non-critical trips is incomplete and needs to be revised to accurately identify all of the non-critical trip devices that exist. This issue has been entered into the FENOC corrective action program for resolution.

4.0 REGULATORY EVALUATION

FirstEnergy Nuclear Operating Company (FENOC) proposes an amendment to Operating License NPF-58 for the Perry Nuclear Power Plant (PNPP). The proposed amendment would revise PNPP Technical Specification (TS) Surveillance Requirement (SR) 3.8.1.13 and the associated TS Bases to clarify the intent of the SR. The changes will be consistent with Nuclear Regulatory Commission (NRC) approved Technical Specification Task Force (TSTF) Improved Standard Technical Specifications (ISTS) Change Traveler TSTF-400-A, Revision 1, "Clarify SR on Bypass of DG [Diesel Generator] Automatic Trips."

4.1 Significant Hazards Consideration

FENOC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 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 change clarifies the purpose of SR 3.8.1.13, which is to verify that non-critical automatic diesel generator (DG) trips are bypassed in an accident. The DG automatic trips and their bypasses are not initiators of any accident previously evaluated. Therefore, the probability of any accident is not significantly increased. The function of the DGs in mitigating accidents is not changed. The revised SR continues to ensure the DGs will operate as assumed in the accident analyses. Therefore, the consequences of any accident previously evaluated are not affected.

Therefore, the proposed change does 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 change clarifies the purpose of SR 3.8.1.13, which is to verify that non-critical automatic DG trips are bypassed in an accident. The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Thus, this change does 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 change clarifies the purpose of SR 3.8.1.13, which is to verify that non-critical automatic DG trips are bypassed in an accident. Performance of the clarified SR will verify that the non-critical trips are bypassed on simulated ECCS actuation signals to ensure that actuation of a non-critical trip does not take a DG out of service during an emergency. The bypassing of the non-critical automatic DG trips will maintain DG availability during an emergency so that it will be able to perform its assumed safety function. As such, the safety function of the DGs remains unaffected, so the change does not affect the margin of safety. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, FENOC concludes that the proposed amendment does not involve a 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.

4.2 Applicable Regulatory Requirements/Criteria

Title 10 of the Code of Federal Regulations (10 CFR), Part 50, Paragraph 36(c)(3), “Surveillance Requirements,” states:

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 changes clarify the intent of SR 3.8.1.13 and the associated TS Bases to indicate that the SR only verifies that non-critical emergency DG trips are bypassed. The non-critical emergency DG trips are designed to be bypassed during an accident and provide an alarm on an abnormal engine condition. Testing to verify that non-critical trips are bypassed on simulated ECCS actuation signals will verify that actuation of a non-critical trip will not take a DG out of service during an emergency, where it will be relied upon to perform its assumed safety function. The performance of this SR supports the objective of 10 CFR 50.36(c)(3). Testing to verify critical emergency DG trips are not bypassed is not required to satisfy the requirements of 10 CFR 50.36(c)(3). The proposed changes provide clarification and are consistent with NUREG-1434.

Therefore, 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 approval of the proposed amendment will not be inimical to the common defense and security or the health and safety of the public.

4.3 Precedent

Other industry requests for TS changes that adopt TSTF-400-A have been previously submitted for NRC review. This PNPP amendment request is similar to the other industry requests, as documented in the following listed submittals and associated approved amendments. Although each of the precedence examples listed below included multiple TSTF travelers, the specific aspects related to TSTF-400-A are relevant to this request with no significant differences.

- On August 7, 2008, Exelon Generation Company, LLC (EGC), on behalf of the Peach Bottom Atomic Power Station (PBAPS), submitted an amendment request that involved the requested adoption of several TSTF travelers, including TSTF-400-A (Reference 4). The NRC subsequently approved the request and issued Amendments 275 and 279 on April 30, 2010 for PBAPS Units 2 and 3, respectively (Reference 5).
- On March 30, 2005, Entergy Operations, Inc. (Entergy), on behalf of the Grand Gulf Nuclear Station, Unit 1 (GGNS), submitted an amendment request that involved the requested adoption of several TSTF travelers, including TSTF-400-A (Reference 6). The NRC subsequently approved the request and issued Amendment 169 on February 1, 2006 for GGNS, Unit 1 (Reference 7).
- On October 10, 2014, Southern Nuclear Operating Company (SNC), on behalf of the Edwin I. Hatch Nuclear Plant (HNP), submitted an amendment request that involved the requested adoption of multiple TSTF travelers, including TSTF-400-A (Reference 8). The NRC subsequently approved the request and issued Amendments 279 and 223 on September 29, 2016 for HNP Units 1 and 2, respectively (Reference 9).

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

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment 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 amendment.

6.0 REFERENCES

1. Technical Specification Task Force (TSTF) Improved Standard Technical Specifications Change Traveler, TSTF-400-A, Revision 1, "Clarify SR on Bypass of DG Automatic Trips," dated November 30, 2004.
2. Letter from Thomas H. Boyce (U.S. NRC) to Technical Specification Task Force, "Safety Evaluation by the Office of Nuclear Reactor Regulation, Technical Specification Task Force-400, Rev. 1, Clarification of Surveillance Requirements on Bypass of Noncritical DG Automatic Trips," dated November 13, 2004 (ADAMS Accession Number ML043200067).
3. Generic Letter 95-10, "Relocation of Selected Technical Specifications Requirements Related to Instrumentation," dated December 15, 1995 (ADAMS Accession Number ML031070178).
4. Letter from Pamela B. Cowan (Exelon Generation Company, LLC) to U.S. NRC, "License Amendment Request to Incorporate Previously NRC-Approved TSTFs and Other Administrative Technical Specifications Changes," dated August 7, 2008 (ADAMS Accession Number ML082240520).
5. Letter from John D. Hughey (U.S. NRC) to Charles G. Pardee (Exelon Generation Company, LLC), "Peach Bottom Atomic Power Station, Units 2 and 3 - Issuance of Amendments Re: Adoption of Technical Specification Task Force (TSTF) Traveler 400-A, Revision 1, Clarify SR [Surveillance Requirement] on Bypass of DG [Diesel Generator] Automatic Trips (TAC Nos. MD9447 and MD9448)," dated April 30, 2010 (ADAMS Accession Number ML100900319).6.
6. Letter from George A. Williams (Entergy Operations, Inc.) to U.S. NRC, "License Amendment Request, Adoption of NRC Approved Generic Changes to the Improved Technical Specifications, Grand Gulf Nuclear Station, Unit 1," dated March 30, 2005 (ADAMS Accession Number ML051030299).
7. Letter from Bhalchandra Vaidya (U.S. NRC) to George A. Williams (Entergy Operations, Inc.), "Grand Gulf Nuclear Station, Unit 1 - Issuance of Amendment Re: Adoption of Approved Generic Changes to the Technical Specifications (TAC No. MC6651)," dated February 1, 2006 (ADAMS Accession Number ML060520052).
8. Letter from Charles R. Pierce (Southern Nuclear Operating Company) to U.S. NRC, "Edwin I. Hatch Nuclear Plant, Request for Technical Specification Amendment, Adoption of Previously Approved Generic Technical Specification Changes and Other Changes," dated October 10, 2014 (ADAMS Accession Number ML14288A226).

9. Letter from Michael D. Orenak (U.S. NRC) to Charles R. Pierce (Southern Nuclear Operating Company), "Edwin I. Hatch Nuclear Plant, Unit Nos. 1 and 2 - Issuance of Amendments Regarding Multiple Technical Specification Changes (CAC Nos. MF5026 and MF5027)," dated September 29, 2016 (ADAMS Accession Number ML16231A041).

Attachment 1

**Proposed Technical Specification Changes (Mark-Up)
(1 page follows)**

SURVEILLANCE REQUIREMENTS (continued)

| SURVEILLANCE | FREQUENCY |
|--|--|
| <p>SR 3.8.1.12</p> <p style="text-align: center;">NOTES</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1 or 2 (not applicable to Division 3). However, credit may be taken for unplanned events that satisfy this SR. <hr/> <p>Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each DG auto-starts from standby condition and:</p> <ol style="list-style-type: none"> a. In ≤ 10 seconds for Division 1 and 2, and ≤ 13 seconds for Division 3, after auto-start and during tests, achieves voltage ≥ 3900 V and frequency ≥ 58.8 Hz; and b. Achieves steady state voltage ≥ 3900 V and ≤ 4400 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and c. Operates for ≥ 5 minutes. | <p>In accordance with the Surveillance Frequency Control Program</p> |
| <p>SR 3.8.1.13</p> <p style="text-align: center;">NOTE</p> <p>This Surveillance shall not be performed in MODE 1, 2, or 3 (not applicable to Division 3). However, credit may be taken for unplanned events that satisfy this SR.</p> <hr/> <p>Verify each DG's <u>non-critical</u> automatic trips are bypassed on an actual or simulated ECCS initiation signal, except:</p> <ol style="list-style-type: none"> a. Engine overspeed; and b. Generator differential current | <p>In accordance with the Surveillance Frequency Control Program</p> |

(continued)

Attachment 2

**Proposed Technical Specification Changes (Re-typed)
(1 page follows)**

FOR INFORMATION ONLY

AC Sources - Operating
3.8.1

SURVEILLANCE REQUIREMENTS (continued)

| SURVEILLANCE | FREQUENCY |
|--|--|
| <p>SR 3.8.1.12</p> <p style="text-align: center;">NOTES</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1 or 2 (not applicable to Division 3). However, credit may be taken for unplanned events that satisfy this SR. <hr/> <p>Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each DG auto-starts from standby condition and:</p> <ol style="list-style-type: none"> a. In ≤ 10 seconds for Division 1 and 2, and ≤ 13 seconds for Division 3, after auto-start and during tests, achieves voltage ≥ 3900 V and frequency ≥ 58.8 Hz; and b. Achieves steady state voltage ≥ 3900 V and ≤ 4400 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and c. Operates for ≥ 5 minutes. | <p>In accordance with the Surveillance Frequency Control Program</p> |
| <p>SR 3.8.1.13</p> <p style="text-align: center;">NOTE</p> <p>This Surveillance shall not be performed in MODE 1, 2, or 3 (not applicable to Division 3). However, credit may be taken for unplanned events that satisfy this SR.</p> <hr/> <p>Verify each DG's non-critical automatic trips are bypassed on an actual or simulated ECCS initiation signal.</p> | <p>In accordance with the Surveillance Frequency Control Program</p> |

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Attachment 3

Proposed Technical Specification Bases Changes (Mark-Up)
(1 page follows)

FOR INFORMATION ONLY

AC Sources - Operating
B 3.8.1

BASES

SURVEILLANCE REQUIREMENTS SR 3.8.1.13

(continued)

This Surveillance demonstrates that DG non-critical protective functions (e.g., high jacket water temperature) are bypassed on an ECCS initiation test signal. ~~Non-critical automatic trips are all automatic trips except: a) engine overspeed and b) generator differential current and critical protective functions trip the DG to avert substantial damage to the DG unit.~~ The non-critical trips are bypassed during DBAs and provide alarms on abnormal engine conditions. These alarms provide the operator with necessary information to react appropriately. The DG availability to mitigate the DBA is more critical than protecting the engine against minor problems that are not immediately detrimental to emergency operation of the DG.

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

This SR is modified by a Note. This Note is not applicable to Division 3. The reason for the Note is that performing the Surveillance removes a required DG from service. Credit may be taken for unplanned events that satisfy this SR. Examples of unplanned events may include:

- 1) Unexpected operational events which cause the equipment to perform the function specified by this Surveillance, for which adequate documentation of the required performance is available; and
- 3) Post maintenance testing that requires performance of this Surveillance in order to restore the component to OPERABLE, provided the maintenance was required, or performed in conjunction with maintenance required to reestablish OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns). Performance of this Surveillance is allowed provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed Surveillance, a successful Surveillance, and a perturbation of the offsite or onsite system when they are tied together

(continued)
