



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

June 29, 2020

Ms. Kim Maza
Site Vice President
Shearon Harris Nuclear Power Plant
Mail Code NHP01
5413 Shearon Harris Road
New Hill, NC 27562-9300

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1 - ISSUANCE OF AMENDMENT NO. 177 REGARDING ELIMINATION OF CERTAIN TECHNICAL SPECIFICATION REQUIREMENTS IN ALIGNMENT WITH IMPROVED STANDARD TECHNICAL SPECIFICATIONS (EPID L-2019-LLA-0160)

Dear Ms. Maza:

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 177 to Renewed Facility Operating License No. NPF-63 for the Shearon Harris Nuclear Power Plant, Unit 1. This amendment is in response to your application dated July 25, 2019, as supplemented by letters dated November 8, 2019, and May 27, 2020.

The amendment revises Technical Specification (TS) 3/4.10.3, "Special Test Exceptions, Physics Tests," and TS 3/4.10.4, "Special Test Exceptions, Reactor Coolant Loops," to eliminate the "within 12 hours" restriction from Surveillance Requirement (SR) 4.10.3.2 for performing an Analog Channel Operational Test on the intermediate and power range neutron monitors prior to initiating physics tests and to eliminate the "within 12 hours" restriction from SR 4.10.4.2 for performing an Analog Channel Operational Test on the intermediate range monitors, power range monitors, and P-7 interlock prior to initiating startup or physics tests, respectively.

A copy of our related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's regular biweekly *Federal Register* notice.

Sincerely,

/RA/

Tanya E. Hood, Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-400

Enclosures:

1. Amendment No. 177 to NPF-63
2. Safety Evaluation

cc: Listserv



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

DUKE ENERGY PROGRESS, LLC

DOCKET NO. 50-400

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 177
Renewed License No. NPF-63

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Duke Energy Progress, LLC (the licensee), dated July 25, 2019, as supplemented by letters dated November 8, 2019, and May 27, 2020, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-63 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, as revised through Amendment No. 177, are hereby incorporated into this license. Duke Energy Progress, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 90 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Undine Shoop, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed License
and Technical Specifications

Date of Issuance: June 29, 2020

ATTACHMENT TO LICENSE AMENDMENT NO. 177
SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1
RENEWED FACILITY OPERATING LICENSE NO. NPF-63
DOCKET NO. 50-400

Replace page 4 of Renewed Facility Operating License No. NPF-63 with the attached revised page 4.

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove Pages

3/4 1-4
3/4 4-11
3/4 4-40
3/4 5-3
3/4 5-7
3/4 6-8
3/4 7-25
3/4 7-26
3/4 8-1
3/4 8-2
3/4 8-3
3/4 10-3
3/4 10-4
5-6
6-1
6-16
6-27
6-28

Insert Pages

3/4 1-4
3/4 4-11
3/4 4-40
3/4 5-3
3/4 5-7
3/4 6-8
3/4 7-25
3/4 7-26
3/4 8-1
3/4 8-2
3/4 8-3
3/4 10-3
3/4 10-4
5-6
6-1
6-16
6-27
6-28

- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect, and is subject to the additional conditions specified or incorporated below.

(1) Maximum Power Level

Duke Energy Progress, LLC, is authorized to operate the facility at reactor Core power levels not in excess of 2948 megawatts thermal (100 percent rated core power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, as revised through Amendment No. 177, are hereby incorporated into this license. Duke Energy Progress, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Antitrust Conditions

Duke Energy Progress, LLC. shall comply with the antitrust conditions delineated in Appendix C to this license.

(4) Initial Startup Test Program (Section 14)¹

Any changes to the Initial Test Program described in Section 14 of the FSAR made in accordance with the provisions of 10 CFR 50.59 shall be reported in accordance with 50.59(b) within one month of such change.

(5) Steam Generator Tube Rupture (Section 15.6.3)

Prior to startup following the first refueling outage, Carolina Power & Light Company* shall submit for NRC review and receive approval if a steam generator tube rupture analysis, including the assumed operator actions, which demonstrates that the consequences of the design basis steam generator tube rupture event for the Shearon Harris Nuclear Power Plant are less than the acceptance criteria specified in the Standard Review Plan, NUREG-0800, at 15.6.3 Subparts II (1) and (2) for calculated doses from radiological releases. In preparing their analysis Carolina Power & Light Company* will not assume that operators will complete corrective actions within the first thirty minutes after a steam generator tube rupture.

¹The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report and/or its supplements wherein the license condition is discussed.

* On April 29, 2013, the name of "Carolina Power & Light Company" (CP&L) was changed to "Duke Energy Progress, Inc." On August 1, 2015, the name "Duke Energy Progress, Inc." was changed to "Duke Energy Progress, LLC."



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 177

TO RENEWED FACILITY OPERATING LICENSE NO. NPF-63

DUKE ENERGY PROGRESS, LLC

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

DOCKET NO. 50-400

1.0 INTRODUCTION

By letter dated July 25, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19206A599), as supplemented by letters dated November 8, 2019, and May 27, 2020 (ADAMS Accession Nos. ML19312C572 and ML20148M252, respectively), Duke Energy Progress, LLC (the licensee) submitted a request for changes to the Shearon Harris Nuclear Power Plant, Unit 1 (Shearon Harris), Technical Specifications (TSs). The requested changes would revise TS 3/4.10.3, "Special Test Exceptions, Physics Tests," and TS 3/4.10.4, "Special Test Exceptions, Reactor Coolant Loops," to eliminate the "within 12 hours" restriction from Surveillance Requirement (SR) 4.10.3.2 for performing an Analog Channel Operational Test (ACOT) on the intermediate and power range neutron monitors prior to initiating physics tests and to eliminate the "within 12 hours" restriction from SR 4.10.4.2 for performing an ACOT on the intermediate range monitors, power range monitors, and P-7 interlock prior to initiating startup or physics tests, respectively. Additionally, the licensee proposed to delete certain reporting requirements from TS, provide clarification to required actions of TS 3/4.4.4, "Relief Valves," eliminate a second completion time associated with TS 3/4.8.1.1, "A.C. Sources – Operating," and reflect the title changes of the Plant Nuclear Safety Committee (PNSC) to the On-Site Review Committee (OCR) and the Plant General Manager to the plant manager.

The licensee stated that the proposed changes which eliminate the time restriction from SR 4.10.3.2 and SR 4.10.4.2 are consistent with U.S. Nuclear Regulatory Commission (NRC)-approved Technical Specifications Task Force (TSTF) Traveler TSTF-108, Revision 1, "Eliminate the 12 hour COT [Channel Operational Test] on power range and intermediate range channels for Physics Test Exceptions" (ADAMS Accession No. ML040480061), the proposed change to eliminate the second completion time in TS 3/4.8.1.1 is aligned with the justification provided in NRC-approved TSTF Traveler TSTF-439, Revision 2, "Eliminate Second Completion Times Limiting Time from Discovery of Failure to Meet an LCO [limiting conditions for operation]" (ADAMS Accession No. ML051860296), and these changes are consistent with Revision 4 of NUREG-1431, "Standard Technical Specifications [STS] – Westinghouse Plants" (ADAMS Accession No. ML12100A222).

The supplements dated November 8, 2019, and May 27, 2020, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's initial proposed no significant hazards consideration determination as published in the *Federal Register* on December 31, 2019 (84 FR 72387).

2.0 REGULATORY EVALUATION

2.1 System Descriptions

2.1.1 Alternating Current Sources

The unit Class 1E Alternating Current (A.C.) electrical power distribution system A.C. sources consist of the two offsite power sources and the onsite standby power sources. The onsite standby power sources for each emergency bus is a dedicated diesel generator. TS 3/4.8.1.1, "A.C. Sources – Operating," requires two operable diesel generators and two qualified circuits between the offsite transmission network and the onsite Class 1E A.C. electrical power distribution system.

The onsite Class 1E A.C. and direct current electrical power distribution system ensures that sufficient power will be available to the structures, systems, and components required to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence or a postulated design basis accident.

2.1.2 Nuclear Instrumentation System

The excore Nuclear Instrumentation System (NIS) has a safety function to protect the reactor by monitoring the neutron flux level and generating appropriate trips to the Reactor Trip System (RTS). The NIS will initiate reactor trip signals or alarms if preset limits are exceeded indicating unsafe conditions during various phases of reactor operations and during shutdown conditions. The NIS uses three types of instrumentation channels to provide three discrete, overlapping protection levels: Source, Intermediate and Power. Each range provides necessary overpower reactor trip protection required during operation in that range, with permissive conditions that overlap to provide continuous protection. The three types of detectors indicated in the excore NIS can monitor neutron flux leakage from completely shut down to 120 percent of full power.

A number of permissives and interlocks are associated with the RTS/Engineering Safety Feature Actuation System. These interlocks allow the operator or a system to perform a function only when certain specific conditions have been met.

Permissive P-7 impacts the "at power" trips and allows for orderly shutdown and startup operations without a reactor trip. It is switched by 3-of-4 power range nuclear instruments above setpoint and 2-of-2 turbine impulse chamber pressure channels (P-13) signals below setpoint. The trip functions are restored when 2-of-4 NIS power range (P-10) or 1-of-2 turbine impulse chamber pressure signals exceed the setpoint.

2.1.3 Power-Operated Relief Valves

In Modes 1, 2, and 3, the power-operated relief valves (PORVs) provide a pressure boundary for the reactor coolant system (RCS) and manual RCS pressure control for mitigation of accidents, both of which are safety-related functions. They additionally provide an automatic

RCS pressure relief to minimize challenges to the safety valves. The capability of the PORV to provide an RCS pressure boundary requires that the PORV, or its associated block valve, be closed. The capability of the PORV to perform manual RCS pressure control for mitigation of a steam generator tube rupture accident is based on manual actuation and does not require the automatic RCS pressure control function. As such, the automatic RCS pressure control function of the PORVs is not a safety-related function. While the automatic RCS pressure control function limits the number of challenges to the safety valves, the safety valves perform the safety function of RCS overpressure protection.

2.2 Description of Changes

The following TS changes are proposed:

- Action a.3 is deleted from TS 3/4.1.1.3, “Moderator Temperature Coefficient.”
- Additional clarification is added to TS 3/4.4.4, “Relief Valves,” Action c.
- Action d is deleted from TS 3/4.4.9.4, “Overpressure Protection Systems,” and Action e is re-lettered d.
- Action b is deleted from TS 3/4.5.2, “ECCS [emergency core cooling systems] Subsystems – T_{avg} [average temperature] Greater Than or Equal to 350 [degrees Fahrenheit] °F.”
- Action c is deleted from TS 3/4.5.3, “ECCS Subsystems – T_{avg} Less Than 350°F.”
- SR 4.6.1.6.2 is deleted from TS 3/4.6.1.6, “Containment Vessel Structural Integrity.”
- SR 4.7.9.3 is deleted from TS 3/4.7.9, “Sealed Source Contamination.”
- Action g is deleted from TS 3/4.8.1.1, “A.C. Sources – Operating.”
- The restriction of “within 12 hours” is deleted from both SR 4.10.3.2 and SR 4.10.4.2 from TS 3/4.10.3, “Physics Tests,” and TS 3/4.10.4, “Reactor Coolant Loops,” respectively.
- The special report is deleted from TS 5.3.1, “Fuel Assemblies.”
- TS 6.9.1.1, “Startup Report” and TS 6.9.1.2, “Annual Reports” are deleted from TS 6.9.1, “Routine Reports,” and deleted from the TS index.
- Reference to the Plant General Manager is replaced with the plant manager in TS 6.1, “Responsibility,” TS 6.13, “Process Control Program (PCP),” and TS 6.14, “Offsite Dose Calculation Manual (ODCM).”
- Reference to the Plant Nuclear Safety Committee is replaced with the On-Site Review Committee TS 6.6, “Reportable Event Action,” TS 6.13, “Process Control Program (PCP),” and TS 6.14, “Offsite Dose Calculation Manual (ODCM).”

In addition, the licensee submitted TS Bases changes for TS 3.8.1.1 that adds language that is similar to that provided in TSTF-439.

2.3 Regulatory Requirements and Guidance

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TSs as part of the application. The regulation at Title 10 of the *Code of Federal Regulations* (10 CFR) 50.36(a)(1) requires an applicant for an operating license to include in the application proposed TS in accordance with the requirements of 10 CFR 50.36. The applicant must include in the application, a “summary statement of the bases or reasons for such specifications, other than those covering administrative controls.” However, per 10 CFR 50.36(a)(1), these technical specification bases “shall not become part of the technical specifications.”

Paragraph 50.36(b), requires, in part, that each license authorizing reactor operation include TSs derived from the analyses and evaluation included in the safety analysis report and amendments thereto.

Paragraph 50.36(c)(2) requires, in part, that TSs include items in the category of LCOs, which are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When an LCO of a nuclear reactor is not met, the licensee is required to shut down the reactor or follow any remedial action permitted by the TSs until the LCO can be met.

Paragraph 50.36(c)(3), requires, in part, that TSs include items in the category of SRs, which 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 LCOs will be met.

Paragraph 50.36(c)(4), requires, in part, that TSs include items in the category of Design Features, which are those features of the facility such as materials of construction and geometric arrangements, which if altered or modified, would have a significant effect on safety and are not covered in categories described in 10 CFR 50.36(c)(1), 10 CFR 50.36(c)(2), and 10 CFR 50.36(c)(3).

Paragraph 50.36(c)(5), requires, in part, that TSs include items in the category of Administrative Controls, which are the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner.

The licensee proposed to reduce the number of surveillance requirements performed on the nuclear instrumentation by eliminating the redundant testing of the intermediate range, power range, and P-7 interlocks required by the TSs for special test exceptions. The NRC staff's evaluation of the proposed TS changes was based on continued compliance with 10 CFR 50.36.

The licensee proposed to delete the second completion time in TS 3.8.1.1 Action g, consistent with the proposed change to TS 3.8.1 in TSTF-439, Revision 2. On June 20, 2005 the TSTF submitted a proposed change, TSTF-439, Revision 2, to the STSs on behalf of the industry. TSTF-439, Revision 2, was approved by the NRC in a letter dated January 11, 2006 (ADAMS Accession No. ML060120272), to the TSTF. TSTF-439, Revision 2, deletes the second

completion times from the affected required actions from the STSs. TSTF-439 was incorporated into the most recent revision of NUREG-1433, Revision 4.

The NRC staff reviewed the proposed change to eliminate the TS second completion time against the criteria of 10 CFR 50.36 and the guidance, as established in NUREG-1431, Revision 4. Within Shearon Harris TSs, the term ACTION is defined as that part of a TS which prescribes remedial measures required under designated conditions. The term ACTION refers to remedial actions which are also known as required actions. The completion time is the amount of time allowed for completing a required action. A second completion time was included in the STSs for certain required actions to establish a limit on the maximum time allowed for any combination of conditions that result in a single continuous failure to meet the LCO. The intent of the second completion time was to preclude entry into and out of the actions for an indefinite period of time without meeting the LCO. The second completion time provides a limit on the amount of time that an LCO would not be met for various combinations of conditions.

The NRC staff's guidance for review of TSs is in Chapter 16, Technical Specifications, of NUREG-0800, Revision 3, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," dated March 2010 (ADAMS Accession No. ML100351425).

3.0 TECHNICAL EVALUATION

The NRC staff evaluated the licensee's application to determine if the proposed changes are consistent with the guidance, regulations, and plant-specific design and licensing basis information discussed in Section 2.3 of this safety evaluation.

3.1 Evaluation of the Licensee's Proposed Changes

Change to TS 3/4.1.1.3, "Moderator Temperature Coefficient [MTC]."

Shearon Harris TS 3.1.1.3 Action a.3 currently states:

A Special Report is prepared and submitted to the Commission, pursuant to Specification 6.9.2, within 10 days, describing the value of the measured MTC, the interim control rod withdrawal limits, and the predicted average core burnup necessary for restoring the positive MTC to within its limit for the all rods withdrawn condition.

The licensee proposed to delete the above Action a.3. The special report provides information to the NRC but does not seek any approval nor does it ensure the safe operation of the facility during, or after, the 10 days provided to submit the report. Should the MTC be more positive than the beginning-of-cycle-life limit specified in the Core Operating Limits Report, the remaining Actions (a.1 and a.2) ensure that the MTC is restored to within the limits by requiring: (1) control rod withdrawal limits be established and maintained sufficient to restore the MTC to less positive or equal to the limit specified in the Core Operating Limit Report, and (2) the control rods be maintained within the withdrawal limits established, until a subsequent calculation verifies that the MTC has been restored to within its limit for the all-rods-withdrawn condition.

The NRC staff finds that this proposed change is consistent with STS 3.1.3, "Moderator Temperature Coefficient (MTC)," in NUREG-1431 Revision 4.0. Further, the NRC staff finds

that TS 3.1.1.3 Actions a.1 and a.2 are sufficient to provide reasonable assurance that the MTC will be restored to within limits for the all-rods-withdrawn condition and that the core operates within the assumptions of the accident analyses. As such, the licensee will continue to meet the requirements of 10 CFR 50.36(c)(2). Therefore, the NRC staff concludes that it is acceptable to delete TS 3.1.1.3 Action a.3. The corresponding deletion of “; and” and addition of a period to Action a.2 reflects the deletion of ACTION a.3 is editorial in nature and is, therefore, acceptable.

Change to TS 3/4.4.4, “Relief Valves.”

The licensee proposed to revise Shearon Harris TS 3/4.4.4 Action c to clarify which portions of Action b apply when entry is made into Action c. Proposed TS 3/4.4.4 Action c states (added text is in bold and deleted text is in strikeout):

With one or more block valve(s) inoperable, within 1 hour: (1) restore the block valve(s) to OPERABLE status, or close the block valve(s) and remove power from the block valve(s), or close the PORV and remove power from its associated solenoid valve; and (2) apply ~~the ACTION b.~~**b.1 or b.2**, above, as appropriate, for the isolated PORV(s).

Currently, the Shearon Harris TS 3/4.4.4 Action c indicates that the licensee is to apply Action b, as appropriate, for the isolated PORVs. However, in the event of an inoperable block valve being stuck open, an improper application of Action b would result in entrance into TS LCO 3.0.3 due to the licensee being unable to satisfy the requirement to restore the PORV within 1 hour or close the block valve. This would be an unnecessary entrance into TS LCO 3.0.3, which requires the licensee to initiate action within 1 hour to place the unit in a Mode in which the specification does not apply by placing it, as applicable, in at least hot standby (Mode 3) within the next 6 hours, at least hot shutdown (Mode 4) within the following 6 hours, and at least cold shutdown (Mode 5) within the subsequent 24 hours. The intent of Action c is to apply the restoration times associated with Actions b.1 and b.2, dependent on the number of inoperable PORVs. Therefore, the licensee has proposed replacing the reference to Action b with the reference to Action b.1 or b.2 in TS 3/4.4.4 Action c.

The NRC staff finds that if one or more block valves are inoperable, then it is necessary to either restore the block valves to operable status within the completion time of 1 hour or place the associated PORV in the closed position. The prime importance for the capability to close the block valves is to isolate a stuck open PORV. Therefore, if the block valves cannot be restored to operable status within 1 hour as stated in Action c, the required action is to either close the block valves and remove power from the block valves or to close the PORV and remove power from its associated solenoid valve. These actions limit the potential for a small break loss of coolant accident through the flow path. Once the potential for a small break loss of coolant accident is limited the time allowed to restore the block valves to operable status is based on the number of safety grade PORVs that remain operable. When at least one safety grade PORV remains operable, the operator is permitted a completion time of 72 hours to restore the inoperable block valves to operable status. The time allowed to restore the block valves is based upon the completion time for restoring an inoperable PORV (Action b), because the PORVs may not be capable of mitigating an event if the inoperable block valves are not full open. This is represented in Action b.1. If no safety grade PORVs are operable, then the completion time for restoring an inoperable PORV is one hour and if it cannot be restored within this additional time, the plant must be brought to a Mode in which the LCO does not apply. This is represented in Action b.2.

The clarification proposed by the licensee in TS 3/4.4.4 Action c would avoid the potential of unnecessarily entering TS LCO 3.0.3 and would continue to afford the appropriate amount of time to restore the block valves and associated isolated PORVs to operable status. In the event of not meeting the completion time, Shearon Harris would continue to be required to place the unit in a Mode in which the LCO does not apply. Therefore, the NRC staff concludes that there is reasonable assurance that 10 CFR 50.36(c)(2) is met because when the LCO is not met, the licensee is required to shut down the reactor or follow any remedial actions permitted by the TSs until the LCO can be met.

Change to TS 3/4.4.9.4, "Overpressure Protection Systems."

Shearon Harris TS 3.4.9.4, Action d, currently states:

In the event either the PORVs [power-operated relief valves] or the RCS vent(s) are used to mitigate an RCS [reactor coolant system] pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs or RCS vent(s) on the transient, and any corrective action necessary to prevent recurrence.

The licensee proposed to delete the above Action d and proposed to re-letter Action e to Action d. TSTF-258, Revision 4, "Changes to Section 5.0, Administrative Controls," revised STS 5.6.4, "Monthly Operating Reports," to be consistent with Generic Letter (GL) 97-02, "Revised Contents of the Monthly Operating Report," by removing the requirement to provide the NRC with documentation of all challenges to the pressurizer PORVs or pressurizer safety relief valves (SRVs). The reporting of pressurizer safety and relief valve failures and challenges is based on the guidance in NUREG-0694, "TMI [Three Mile Island]-Related Requirements for New Operating Licenses." The guidance of NUREG-0694 in Section II.K.3 states that licensees shall, "[a]ssure that any failure of a PORV or safety valve to close will be reported to the NRC promptly. All challenges to the PORVs or safety valves should be documented in the annual report." Subsequently, the NRC issued GL 97-02 which requests the submittal of less information in the monthly operating report. The GL identifies what needs to be reported to support the NRC Performance Indicator Program, and availability and capacity statistics. The GL does not specifically identify the need to report challenges to the pressurizer PORVs or SRVs. Given that the NRC no longer requires the reporting of this information for the Performance Indicator Program, it is acceptable to delete the requirement to provide documentation of all challenges to the pressurizer PORVs or SRVs.

As a result, the NRC approved TSTF-258, Revision 4, in a letter dated June 29, 1999 (ADAMS Accession No. ML16237A030), which deleted the requirement to provide documentation of all challenges to the PORVs and safety valves. The regulation at 10 CFR 50.73, "License Event Report System," requires a licensee to submit a license event report for any event of the type described in the regulation within 60 days after the discovery of the event. The information needed by the NRC staff to evaluate a challenge to a PORV is adequately addressed by the reporting requirements in this regulation. Further, the licensee stated that a low temperature over-pressure transient that violates the TS pressure-temperature limits would be immediately reportable under 10 CFR 50.72, "Immediate Notification Requirements for Operating Nuclear Power Reactors."

The NRC staff finds that the reporting requirements in 10 CFR 50.72 and 10 CFR 50.73 adequately address the reporting of low temperature over-pressure transients and therefore,

concludes that deletion of the reporting requirement in TS 3.4.9.4, Action d, is acceptable. The NRC staff concludes that the proposed TSs continue to meet the requirements of 10 CFR 50.36(c)(2). As a result of deleting TS 3.4.9.4, Action d, the licensee proposed to re-letter Action e to Action d. This change is administrative in nature and is, therefore, acceptable.

Change to TS 3/4.5.2, "ECCS Subsystems – T_{avg} Greater Than or Equal to 350°F," and TS 3/4.5.3, "ECCS Subsystems – T_{avg} Less Than 350°F."

Shearon Harris TS 3.5.2, Action b and TS 3.5.3, Action c, currently state:

In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected Safety Injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

The licensee proposed to delete the above TS 3.5.2, Action b and TS 3.5.3, Action c based on consistency with NUREG-1431 STS 3.5.2, "ECCS - Operating," and STS 3.5.3, "ECCS - Shutdown," and the requirements in 10 CFR 50.73(a)(2)(iv) and 10 CFR 50.72(b)(2)(iv). Specifically, 10 CFR 50.73(a)(2)(iv) requires a licensee, with some exceptions, to submit a license event report in the event of an ECCS actuation. Additionally, in accordance with 10 CFR 50.73(a), the license event report must be submitted within 60 days after the discovery of the event which, is timelier than the 90-day report requirement in TS 3.5.2 and TS 3.5.3. The regulation at 10 CFR 50.72(b)(2)(iv) requires licensees to notify the NRC within 4 hours for an ECCS actuation that results in, or should have resulted in, ECCS discharge into the RCS in response to a valid signal. This requirement excludes actuations that result from, and are part of, a pre-planned sequence during testing or reactor operation.

Currently, TS 3.5.2, Action b, and TS 3.5.3, Action c, require the licensee to provide the "total accumulated actuation cycles to date. The current value of the usage factor for each affected Safety Injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70," as part of the Special Report, which is not required to be included as part of a license event report submitted in accordance with the regulations at 10 CFR 50.73. The purpose of this TS requirement is to provide assurance of the integrity of the components in the reactor coolant pressure boundary for the design life of the plant due to thermal cycles (i.e., injection of water into the reactor vessel by the ECCS results in a thermal cycle). As discussed in Shearon Harris Updated Final Safety Analysis Report, Section 3.9.1.1, "Design Transients," Table 3.9.1-1, "Summary of Limiting Reactor Coolant System Design Transients" (ADAMS Accession No. ML19102A104), provides the limiting design transients and the number of cycles of each transient that is normally used for fatigue evaluations. The licensee stated that Shearon Harris procedure OMM-013, "Cycle and Transient Monitoring Program," establishes a tracking program for component cycles and performance of design transients to prevent exceeding design cyclic or transient limits. The licensee further stated that it initiates corrective actions when the rate of accumulation of any transient or cycle is such that the cyclic or transient limit would be reached before the design lifetime of the plant.

The NRC staff finds that this proposed change is consistent with STS 3.5.2 and STS 3.5.3 in NUREG-1431 Revision 4.0. Additionally, the NRC staff finds that the reporting requirements in 10 CFR 50.72 and 10 CFR 50.73 adequately address the reporting of ECCS actuations and therefore, concludes that deletion of the reporting requirement in TS 3.5.2, Action b and

TS 3.5.3, Action c, is acceptable. The NRC staff concludes that the proposed TSs continue to meet the requirements of 10 CFR 50.36(c)(2).

Change to TS 3/4.6.1.6, "Containment Vessel Structural Integrity."

Shearon Harris SR 4.6.1.6.2 in TS 3.6.1.6 currently states:

Reports. Any abnormal degradation of the containment vessel structure detected during the above required inspections shall be reported to the Commission in a Special Report pursuant to Specification 6.9.2 within 15 days. This report shall include a description of the condition of the concrete, the inspection procedure, the tolerances on cracking, and the corrective actions taken.

The licensee proposed to delete the above SR 4.6.1.6.2. The requirement for SRs is provided in 10 CFR 50.36(c)(3), which states that SRs "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." TS LCO 3.6.1.6 associated with SR 4.6.1.6.2 requires:

The structural integrity of the containment vessel shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.1.

Shearon Harris SR 4.6.1.6.1 provides the test requirement to inspect the containment vessel surfaces to ensure that the LCO requirements are met. Specifically, Shearon Harris SR 4.6.1.6.1 requires the structural integrity of the exposed accessible interior and exterior surfaces of the containment vessel, including the liner plate, to be determined during the shutdown for each Type A containment leakage rate test by visual inspection performed in accordance with the Containment Leakage Rate Testing Program, as described in Shearon Harris TS 6.8.4.k. This program implements the requirements of 10 CFR 50.54(o) and 10 CFR Part 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," Option B which only requires that the results of the containment integrated leak rate testing, including the visual inspection, be documented and readily available on site for inspection by the NRC. Additional inspections shall be conducted in accordance with Subsections IWE and IWL of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI.

The NRC staff finds that all reportable events are addressed under the American Society of Mechanical Engineers Code, as required by 10 CFR 50.55a. Because the reporting requirements are in accordance with 10 CFR 50.55a(b)(2)(viii), the requirements in TS 3.6.1.6 SR 4.6.1.6.2, to submit a Special Report to the NRC are no longer necessary. The NRC staff finds that SR 4.6.1.6.1 is sufficient to provide reasonable assurance that TS LCO 3.6.1.6 will continue to be met after the proposed change. The NRC staff further finds that because the reporting requirements in SR 4.6.1.6.2 do not relate to tests, calibrations, or inspections, they are not appropriate to meet the requirements in 10 CFR 50.36(c)(3). On this basis, the NRC staff concludes that deletion of SR 4.6.1.6.2 from TS 3.6.1.6 is acceptable.

Change to TS 3/4.7.9, "Sealed Source Contamination."

Shearon Harris SR 4.7.9.3 currently states:

Reports - A report shall be prepared and submitted to the Commission on an annual basis if sealed source or fission detector leakage tests reveal the presence of greater than or equal to 0.005 microCurie of removable contamination.

The licensee proposed to delete the above SR 4.7.9.3. The requirement for SRs is provided in 10 CFR 50.36(c)(3), which states that SRs "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." TS LCO 3.7.9 associated with SR 4.7.9.3 requires:

Each sealed source (excluding startup sources and fission detectors previously subjected to core flux) containing radioactive material either in excess of 100 microCuries of beta and/or gamma emitting material or 10 microCuries of alpha emitting material shall be free of greater than or equal to 0.005 microCurie of removable contamination.

Action a for TS 3.7.9 states:

- a. With a sealed source having removable contamination in excess of the above limits, immediately withdraw the sealed source from use and either:
 1. Decontaminate and repair the sealed source, or
 2. Dispose of the sealed source in accordance with Commission Regulations.

SRs 4.7.9.1 and 4.7.9.2 provide the test requirements and test frequencies, respectively, to ensure that the LCO requirements are met. With respect to test requirements, SR 4.7.9.1 states that, "[...] each sealed source shall be tested for leakage and/or contamination" and that the method of testing shall have a detection sensitivity of at least 0.005 microCuries per test sample. With respect to test frequencies, SR 4.7.9.2, provides specific test frequencies for sources in use, stored sources not in use, and startup sources and fission detectors. Also, should the licensee identify a source exceeding the allowable limits, the source would be entered into the corrective action program, which is subject to inspection by the NRC staff.

The NRC staff finds that SRs 4.7.9.1 and 4.7.9.2 are sufficient to provide reasonable assurance that TS LCO 3.7.9 will continue to be met after the proposed change. The NRC staff further finds that because the reporting requirements in SR 4.7.9.3 do not relate to tests, calibrations, or inspections, they are not appropriate to meet the requirements in 10 CFR 50.36(c)(3). On this basis, the NRC staff concludes that deletion of SR 4.7.9.3 from TS 3.7.9 is acceptable.

Change to TSs SR 4.10.3.2 and SR 4.10.4.2

The SRs for the intermediate range, power range, and P-7 interlock are addressed, in part, in TS 3/4.3.1, "Reactor Trip System Instrumentation," which includes the following:

- For the intermediate range monitors, SR 4.3.1.1 requires an ACOT prior to each reactor startup, if not performed in the previous 31 days, while the unit is in Modes 2 or Mode 1 when below the low setpoint power range neutron flux interlock setpoint (P-10).
- For the power range monitors, SR 4.3.1.1 requires an ACOT for the high setpoint, in accordance with the surveillance frequency control program (SFCP) while the unit is in Modes 1 or 2 and requires an ACOT for the low setpoint, prior to each reactor startup, if not performed in the previous 31 days, while the unit is in Modes 2 or Mode 1 when below the low setpoint power range neutron flux interlock setpoint (P-10).
- For the P-7 interlock, SR 4.3.1.1 requires the logic to be demonstrated Operable (which encompasses an ACOT) while the unit is in Mode 1.

In addition to the above SRs, the Shearon Harris TSs contain SRs that must be performed within a certain time period before specific plant evolutions. The licensee proposed to delete the time period, stating that the SRs described above are sufficient to demonstrate the operability of the NIS. The licensee proposed two changes as follows:

1. TS 3/4.10.3, "Special Test Exceptions, Physics Tests," includes SR 4.10.3.2, which requires an ACOT on each intermediate range and power range channel within 12 hours prior to initiating physics tests in Mode 2. The licensee proposed to delete the restriction of "within 12 hours."
2. TS 3/4.10.4, "Special Test Exceptions, Reactor Coolant Loops," includes SR 4.10.4.2, which requires an ACOT on each intermediate and power range monitor, and on the P-7 interlock, within 12 hours prior to initiating startup and physics tests during operation below the P-7 interlock setpoint. The licensee proposed to delete the restriction of "within 12 hours."

The revised wording requires the ACOTs to be performed if they are not current (e.g., have not already been performed in accordance with SR 4.3.1.1 on the required frequencies). This means that an ACOT on the power range monitors will have been performed within the frequency specified by the SFCP for the high setpoint and prior to each startup for the low setpoint (if not performed within the previous 31 days) while the unit is in Modes 1 or 2, an ACOT on the intermediate range monitors will have been performed prior to each reactor startup (if not performed in previous 31 days) while the unit is in Modes 1 or 2, and an ACOT on the P-7 interlock will have been performed within the frequency specified by the SFCP while the unit is in Mode 1. The licensee stated that the initiation of startup or physics tests, does not impact the ability of the monitors to perform their required function, does not affect the trip setpoints or reactor trip system trip capability, and does not invalidate previous SRs. Therefore, the licensee concluded that the "within 12 hours" restriction, which can require additional ACOT, is unnecessary.

The licensee stated that the elimination of the redundant SRs will not diminish the required level of testing for the NIS monitors and interlock and that the monitors and interlock will continue to

be tested at appropriate frequencies, within the intervals that have been accepted for Shearon Harris.

On May 2, 1997, the NRC approved TSTF-108, Revision 1, to allow the deletion of the "within 12 hours" prior to the initiation of physics tests for the channel operational tests required by STS (NUREG-1431 revision 1) SR 3.1.10.1 and SR 3.4.19.2. The industry initiated TSTF-108 due to the scheduling difficulties created by the time limit. The NRC staff approved TSTF-108 because, with the proposed TS wording, the SRs would still be required to be performed (e.g., to be current) prior to initiation of startup and physics tests, and the initiation of startup and physics tests does not impact the ability of the monitors to perform their required function, does not affect the trip setpoints or reactor trip system trip capability, and does not invalidate previous SRs. The NRC staff has reviewed the licensee's proposed changes and determined that they meet the intent of TSTF-108, Revision 1.

The NRC staff has reviewed the licensee's request and determined that the TS SRs are sufficient to demonstrate that the NIS channels will perform their intended functions. The proposed TSs provide an approach that is similar to TSTF-108 and NUREG-1431 in that the SRs will be performed within the interval that has been accepted for Shearon Harris, prior to the plant evolutions addressed by the above TSs. The proposed change has no impact on the assumptions of any transient or accident analysis in the Shearon Harris Updated Final Safety Analysis Report and SRs will continue to assure that the necessary quality of systems and components are maintained, that facility operation will be within safety limits, and that the LCOs will be met. Therefore, the NRC staff finds that the proposed changes meet 10 CFR 50.36(c)(3) and are acceptable.

Change to TS 5.3.1

Shearon Harris TS 5.3.1 currently states, in part:

Should more than a total of 30 fuel rods or more than 10 fuel rods in any one assembly be replaced per refueling, a Special Report describing the number of rods replaced will be submitted to the Commission, pursuant to Specification 6.9.2, within 30 days after cycle startup.

The licensee proposes to delete the above TS reporting requirement. Each cycle-specific core reload is implemented using NRC-approved methodologies and the licensee's design change process. Cycle-specific values are calculated and their impact on plant and safety analyses is evaluated prior to each cycle. Information regarding cycle-specific changes made to core design during refueling, which includes documentation prepared in accordance with the regulations at 10 CFR 50.59, is available for inspection by the NRC staff. In addition, STS 4.2.1, "Fuel Assemblies," does not require licensees to prepare a similar report.

The NRC staff finds that the proposed change is consistent with NUREG-1431. Therefore, the NRC staff concludes that the deletion of the requirement to submit a 30-day report would not have a significant effect on safety and that the licensee will continue to meet the requirements of 10 CFR 50.36(c)(4) and that the proposed change is acceptable.

Change to TS 6.9.1.1 and the TS index

Shearon Harris TS 6.9.1.1, "Startup Report," currently states:

A summary report of plant startup and power escalation testing shall be submitted following: (1) receipt of an Operating License, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the unit.

The Startup Report shall address each of the tests identified in the Final Safety Analysis Report and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

Startup Reports shall be submitted within: (1) 90 days following completion of the Startup Test Program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of Startup Test Program, and resumption or commencement of commercial operation), supplementary reports shall be submitted at least every 3 months until all three events have been completed.

The licensee proposed to delete the above TS 6.9.1.1. The NRC's regulation at 10 CFR 50.36(c)(5) states, that "[a]dministrative controls are the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner." In general, Shearon Harris TS Section 6.0, "Administrative Controls," contains those requirements not covered by other TS sections, but which are necessary to ensure the safe operation of the facility.

In October 1971, the U.S. Atomic Energy Commission, the predecessor to the NRC, published Regulatory Guide (RG) 1.16 (formerly Safety Guide 16), "Reporting of Operating Information." The purpose of RG 1.16 was to provide an acceptable basis for implementing the reporting requirements of 10 CFR and the TSs. The Startup Report information in RG 1.16 is nearly identical to that in Shearon Harris TS 6.9.1.1.

On August 11, 2009 (74 FR 40244), the NRC withdrew RG 1.16, because it was no longer needed. Specifically, the notice stated that TS reporting requirements for licensees are contained in 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," as well as other parts of 10 CFR Chapter I, "Nuclear Regulatory Commission." In addition, the *Federal Register* notice stated that guidance on the content and frequency of required reports is provided in Chapter 5, "Administrative Controls," of the STS contained in the applicable NUREG (i.e., NUREG-1431 for Shearon Harris).

Shearon Harris TS 6.9.1.1 provides the time frames for submittal of the reports (i.e., 90 days following completion of the startup test program, 90 days following resumption or commencement of commercial power operation, or 9 months following initial criticality). Given

these time frames, report completion and submittal are not necessary to assure safe operation of the facility for the time frame between completion of the testing and submittal of the report. In addition, there is no requirement for NRC approval of the information provided in the report after it is submitted. These reports merely provide the NRC a mechanism to review the appropriateness of the licensee activities after-the-fact.

The NRC staff has determined that the proposed elimination of the Startup Report requirements would not eliminate the need to perform the necessary testing. Appropriate startup testing and documentation of startup testing will continue to be performed in accordance with the requirements of 10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," Criterion XI, "Test Control." Specifically, Criterion XI requires that testing be performed to demonstrate that structures, systems, and components will perform satisfactorily in service and that test results be documented and evaluated to assure that test requirements have been satisfied. The licensee stated that information provided in the plant startup report is readily available to the NRC for inspection. Based on the testing, documentation and retention requirements stated above, the NRC staff may review the test results onsite, as needed.

On the basis that the Startup Report requirements in TS 6.9.1.1 are not necessary to assure operation of the facility in a safe manner, the NRC staff finds that deletion of these TS requirements is consistent with 10 CFR 50.36(c)(5). Therefore, the NRC staff concludes that deletion of TS 6.9.1.1 is acceptable. As a result of this change, the licensee proposed to update the TS Index page to reflect the deletion of TS 6.9.1.1. This change is editorial in nature and is, therefore, acceptable.

Change to TS 6.9.1.2 and the TS index

Shearon Harris TS 6.9.1.2, "Annual Reports," currently states:

Annual Reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

Reports required on an annual basis shall include:

- a. The results of specific activity analyses in which the reactor coolant exceeded the limits of Specification 3.4.8. The following information shall be included: (1) reactor power history starting 48 hours prior to the first sample in which the limit was exceeded (in graphic and tabular format); (2) results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) cleanup flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) graph of the I-131 concentration ($\mu\text{Ci/gm}$) and one other radio-iodine isotope concentration ($\mu\text{Ci/gm}$) as a function of time for the duration of the specific activity above the steady-state level; and (5) the time duration when the specific activity of the reactor coolant exceeded the radioiodine limit.

The licensee proposed to delete the above TS 6.9.1.2. The above TS reporting requirement is based on the model TSs provided in Generic Letter 85-19, "Reporting Requirements on Primary Coolant Iodine Spikes," dated September 27, 1985 (ADAMS Accession No. ML031150725).

The licensee's application stated that specific activity analysis pertaining to primary coolant limits is reported to the NRC by means of the Performance Indicators Program, under the Reactor Oversight Process. As part of this program, the licensee provides to the NRC, on a quarterly basis, monthly reactor coolant specific activity data. This is done in accordance with Regulatory Issue Summary 2000-08, Revision 1, "Voluntary Submission of Performance Indicator Data" (ADAMS Accession No. ML083290153), and follows the guidelines provided in Nuclear Energy Institute 99-02, Revision 6, "Regulatory Assessment Performance Indicator Guideline," dated October 2009 (ADAMS Accession No. ML12167A098). The reactor coolant specific activity concentration is provided more frequently than required by the current TS annual report, regardless of whether or not the TS limit is exceeded.

As discussed in Section 2.3 of Nuclear Energy Institute 99-02, the purpose of the performance indicator related to RCS specific activity is to monitor the integrity of the fuel cladding, the first of the three barriers to prevent the release of fission products. In accordance with the regulations at 10 CFR 50.72, licensees are required, in part, to provide notification to the NRC within 8 hours regarding "Any event or condition that results in [...] [t]he condition of the nuclear power plant, including its principal safety barriers, being seriously degraded [...]." The same condition needs to be reported to the NRC within 60 days via a licensee event report, in accordance with 10 CFR 50.73.

In addition to the above reporting requirements, Shearon Harris TS 3/4.4.8, "Specific Activity," puts limitations on the specific activity of the reactor coolant. These limitations ensure that in the event of a release of any radioactive material to the environment during a design basis accident, radiation doses are maintained within the limits of 10 CFR 50.67. TS LCO 3.4.8 requires that the specific activity of the primary coolant be limited to less than or equal to 1 microCurie per gram dose-equivalent iodine 131. In the event that the specific activity of the primary coolant exceeds the limits of TS LCO 3.4.8, the TS Actions require, in part, that the licensee perform sampling and analysis until the specific activity is restored to within its limit.

Based on the reporting requirements in 10 CFR 50.72 and 50.73, the specific activity reporting provided under the Performance Indicator Program, and the requirements in TS LCO 3.4.8, the NRC staff finds that the reporting requirements in TS 6.9.1.2 are not necessary to assure operation of the facility in a safe manner. Therefore, the NRC staff finds that deletion of TS 6.9.1.2 is consistent with 10 CFR 50.36(c)(5) and is acceptable. As a result of this change, the licensee proposed to update the TS Index page to reflect the deletion of TS 6.9.1.2. This change is editorial in nature and is, therefore, acceptable.

Change to TSs 6.1, TS 6.6, TS 6.13, and TS 6.14

Shearon Harris TS 6.1.1 currently states:

The Plant General Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

Shearon Harris TS 6.6.1.b currently states:

Each REPORTABLE EVENT shall be reviewed by the PNSC [Plant Nuclear Safety Committee], and the results of this review shall be submitted to the Manager – Nuclear Assessment Section and the Vice President – Harris Nuclear Plant.

Shearon Harris TS 6.13.b currently states:

Shall become effective after review and acceptance by the PNSC and the approval of the Plant General Manager.

Shearon Harris TS 6.14.b currently states:

Shall become effective after review and acceptance by the PNSC and the approval of the Plant General Manager.

The licensee stated that Duke Energy has moved to a fleet model regarding the development of a multi-disciplined committee responsible for review of activities that have the potential to affect nuclear safety and that the On-Site Review Committee replaces the previously established PNSC, maintaining the responsibility of conducting independent cross-functional review of items related to nuclear safety, safe operation and overall performance and advising the plant manager on these matters. Therefore, the licensee proposed to change “PNSC” to “On-Site Review Committee (ORC)”.

In addition, Duke Energy stated that the title Plant General Manager was a plant-specific position title that has since been updated to reflect a move to a fleet-wide naming convention and that there is no change to, or reassignment of, the responsibility for overall operation of the unit. Therefore, the licensee proposed to change “Plant General Manager” to “plant manager”.

The proposed changes are editorial in nature and do not involve a change in responsibility. Therefore, the proposed changes are acceptable because they are consistent with the requirements of 10 CFR 50.36(c)(5).

Change to TS 3/4.8.1.1, “A.C. Sources – Operating.”

TS 3.8.1.1 Action g states:

With contiguous events of either an offsite or onsite A.C. source becoming inoperable and resulting in failure to meet the LCO:

1. Within 6 days, restore all A.C. sources required by 3.8.1.1 or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The licensee proposed to delete TS 3.8.1.1 Action g, consistent with the intent of TSTF-439, Revision 2.

Additional secondary completion times (such as limits on the period of time from discovery of the failure to meet the LCO) were specified for these instances to prevent repeated entry and

exit from alternating TS Actions. Administrative controls will replace second completion times. The licensee stated in the application that:

[T]here is an existing action in the Duke Energy action tracking system for revision of OMM-014, "Operation of the Work Coordination Center," to implement the guidance contained in TSTF-439, Revision 2. Specifically:

It is possible to alternate between Technical Specification Conditions in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. However, doing so would be inconsistent with the basis of the Completion Times. Therefore, the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO shall be limited. The Completion Times for those Conditions shall not be inappropriately extended.

OMM-014 provides instructions to track inoperable equipment and to ensure compliance with the LCO, including guidance for the identification, evaluation, tracking and initiation of reports required by LCOs and for use of the LCO Tracking Records as one method to document compliance with LCOs. This change will be part of the implementation process for this TS change.

In addition, two programs provide a strong disincentive to licensees continuing operation with alternating required Actions as described above. These programs are the maintenance rule (10 CFR 50.65 "Requirements for monitoring the effectiveness of maintenance at nuclear power plants") program and the reactor oversight process (ROP).

The licensee's application dated July 25, 2019 states the following regarding the maintenance rule:

Under 10 CFR 50.65(a)(4), the risk impact of all inoperable risk-significant equipment is assessed and managed when performing preventative or corrective maintenance. The risk assessments are conducted using the procedures and guidance endorsed by Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants" ... Regulatory Guide 1.160 endorses the Revision 4A of NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants" ... These documents address general guidance for conduct of the risk assessment, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to:

- plan and conduct other activities in a manner that controls overall risk,
- increased risk awareness by shift and management personnel,
- reduce the duration of the condition,
- minimize the magnitude of risk increases through the establishment of backup success paths or compensatory measures,
- and determination that the proposed maintenance is acceptable.

The TSs are part of the operating license and set forth requirements governing operations, including what equipment must normally be in service, how long equipment can be out of service, compensatory actions, and surveillance testing to demonstrate equipment readiness.

The TSs provide adequate assurance of the availability and reliability of equipment needed to prevent and, if necessary, mitigate accidents and transients.

The maintenance rule requires that commercial nuclear power plant licensees perform certain assessments of the status of plant equipment before performing proposed maintenance activities. The maintenance rule also requires that licensees assess and manage the increase in risk that may result from the proposed maintenance activities. The NRC believes that proper implementation of the rule will reduce the likelihood and consequences of an accidental release of radioactive material caused by imprudently prioritized, planned, or scheduled maintenance.

Under the TSs, the completion time for one system within an LCO is not generally affected by inoperable equipment in another LCO. However, the second completion time influenced the completion time for one system based on the condition of another system, but only if the two systems were required by the same LCO.

Plant maintenance rule programs implement risk-based configuration management programs that augment the deterministic completion times in the TSs. The NRC resident inspectors also monitor the licensee's corrective action process and could take action within the bounds of the ROP if the licensee's maintenance program allowed the systems required by a single LCO to become concurrently inoperable multiple times. The performance and condition monitoring activities required by 10 CFR 50.65 identify maintenance practices that would result from multiple alternating overlapping entries into and out of different Actions of the same TSs which contribute to unacceptable cumulative unavailability of these structures, systems and components.

The licensee's application states the following regarding the ROP:

Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," describes the tracking and reporting of performance indicators to support the NRC's Reactor Oversight Process (ROP)... The NEI document is endorsed by Regulatory Information Summary (RIS) 2001-11, "Voluntary Submission of Performance Indicator Data" ... Section 2.2 of NEI 99-02 describes the Mitigating Systems Cornerstone and addresses Emergency AC Sources, which encompasses the AC Sources LCOs. Extended unavailability of these systems due to multiple entries into the ACTIONS would affect the NRC's evaluation of the licensee's performance under the ROP.

The objective of this mitigating systems cornerstone is to monitor the availability, reliability, and capability of systems that mitigate the effects of initiating events to prevent core damage. Licensees also reduce the likelihood of reactor accidents by maintaining the availability and reliability of mitigating systems. Mitigating systems include those systems associated with safety injection, decay heat removal, and their support systems, such as emergency A.C. power systems, and the auxiliary feedwater system. Inputs to the mitigating systems cornerstone include both inspection procedures and performance indicators to ensure that all ROP objectives are being met. Satisfactory licensee performance within the mitigation systems ROP cornerstone provides reasonable assurance in monitoring the inappropriate use of TS Action completion times.

NRC inspection findings for each plant are documented in inspection reports in accordance with Inspection Manual Chapter (IMC) 0612 and summarized in plant issues matrices. Inspection

findings are evaluated using the significance determination process in accordance with IMC 0609 to evaluate the safety significance of the findings.

Shearon Harris TSs are based on the format and content contained in NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors," and therefore does not contain Section 1.3, "Completion Times," which is found in the improved STS in NUREG-1431, Revision 4.0. TSTF-439 revises STS example 1.3-3 to eliminate the second completion time for required actions A.1 and B.1 and replaces the discussion regarding second completion time. In addition to placing administrative controls in procedure OMM-014 and because Shearon Harris TSs does not include STS example 1.3-3, the licensee is updating the TS Bases for TS 3/4.8.1, 3/4.8.2 and 3/4.8.3 to include the following:

It is possible to alternate between Technical Specification Conditions in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. However, doing so would be inconsistent with the basis for Completion Times. Therefore, the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO shall be limited. The Completion Times for those Conditions shall not be inappropriately extended.

The Shearon Harris TS Bases changes are done by the licensee in accordance with the TS Bases Control Program in Shearon Harris TS 6.8.4(n).

TS 3.8.1.1 Action g, "With contiguous events of either an offsite or onsite A.C. Source becoming inoperable and resulting in failure to meet the LCO," currently provides a limit (6 days) on the time allowed in the Action after discovery of failure to meet the LCO. This limit was considered reasonable for situations in which Actions a and b are entered concurrently prior to NRC staff approval of TSTF-439.

As described above, administrative controls will limit the maximum time allowed for any combination of Actions that result in a single contiguous occurrence of failing to meet the LCO. Therefore, the NRC staff finds that the proposed change is acceptable.

In addition, the NRC staff finds that assessment of the licensee's performance within the mitigation systems ROP cornerstone provides reasonable assurance in monitoring the inappropriate use of TS Action completion times.

Finally, the NRC staff concludes that the TS, as modified by the proposed change, continue to meet the regulatory requirements of 10 CFR 50.36 for the following reasons. In accordance with 10 CFR 50.36(c)(2)(i), when a LCO is not met, the licensee is required to shut down the reactor or follow any remedial action permitted by the TSs until the LCO can be met. The license amendment request would remove part of the permissible remedial actions from TS LCO 3.8.1.1. Under the Commission's regulations at 50.92 and 50.57, to issue the amended TS the Commission must be able to find, among other things, that operation with the remedial actions (i.e. without the additional completion times) provides reasonable assurance of public health and safety.

TS 3.8.1.1 Action a provides reasonable assurance of public health and safety because with one offsite circuit inoperable, TS Action a.2 still requires that the offsite circuit be restored to operable status with a completion time of "72 hours." The NRC staff finds this Action acceptable because the completion time takes into account the capacity and capability of the remaining

A.C. sources, reasonable time for repairs, and the low probability of a design basis accident occurring during this period.

TS 3.8.1.1 Action b provides reasonable assurance of public health and safety because with one diesel generator inoperable, TS Action b.3 still requires that the diesel generator be restored to operable status with a completion time of “72 hours.” The NRC staff finds this Action acceptable because the completion time takes into account the capacity and capability of the remaining A.C. sources, reasonable time for repairs, and the low probability of a design basis accident occurring during this period.

Based on the above, the NRC staff concludes that multiple, continuous entries into TS Actions, without meeting the LCO, will be adequately controlled by the licensee’s administrative controls and configuration risk management programs, which were implemented to meet the requirements of the maintenance rule to assess and manage risk. In addition, the NRC staff finds that the ROP coupled with maintenance rule provide adequate assurance against inappropriate use of combinations of TS Actions that result in a single contiguous occurrence of failing to meet the LCO. Accordingly, consistent with TSTF-439, the NRC staff finds the proposed TS change to Shearon Harris acceptable.

TS Bases

The regulation at 10 CFR 50.36(a)(1) states, in part: “A summary statement of the bases or reasons for such specifications ... shall also be included in the application, but shall not become part of the technical specifications.” Accordingly, along with the proposed TS changes, the licensee also submitted TS Bases changes that correspond to the proposed TS changes for information only. The Shearon Harris TS Bases changes are done by the licensee in accordance with the TS Bases Control Program in Shearon Harris TS 6.8.4(n).

3.2 Technical Conclusion

The NRC staff reviewed the proposed changes and determined that changes to the TSs meet the standards for TSs in 10 CFR 50.36(b). The proposed SRs assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met, and satisfy 10 CFR 50.36(c)(2) and (c)(3). Additionally, the changes to the TSs were reviewed for technical clarity and consistency with customary terminology and format in accordance with Standard Review Plan Chapter 16.

4.0 STATE CONSULTATION

In accordance with the Commission’s regulations, the State of North Carolina official was notified of the proposed issuance of the amendment on June 3, 2020. The State official provided a comment that State assumes that NRC staff views lifting the 12-hour notification as having no safety significance. As discussed above, the NRC staff found that the proposed change has no impact on the assumptions of any transient or accident analysis in the Shearon Harris Updated Final Safety Analysis Report and the SRs will continue to assure that the necessary quality of systems and components are maintained, that facility operation will be within safety limits, and that the LCOs will continue to be met.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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 changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on December 31, 2019 (84 FR 72387). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that 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.

Principal Contributor: K. Bucholtz

Date: June 29, 2020

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1 - ISSUANCE OF AMENDMENT NO. 177 REGARDING ELIMINATION OF CERTAIN TECHNICAL SPECIFICATION REQUIRMENTS IN ALIGNMENT WITH IMPROVED STANDARD TECHNICAL SPECIFICATIONS (EPID L-2019-LLA-0160) DATED JUNE 29, 2020

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