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

June 30, 2015

Mr. Benjamin C. Waldrep
Site Vice President
Shearon Harris Nuclear Power Plant
Duke Energy
5413 Shearon Harris Road
New Hill, NC 27562-0165

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT (HNP), UNIT 1 - ISSUANCE OF AMENDMENT TO REVISE TECHNICAL SPECIFICATIONS TABLE 3.3-4, ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION (TAC NO. MF4294)

Dear Mr. Waldrep:

The Nuclear Regulatory Commission (NRC) has issued Amendment No. 146 to Renewed Facility Operating License No. NPF-63 for the Shearon Harris Nuclear Power Plant, Unit 1. This amendment changes the Technical Specifications in response to your application dated June 19, 2014, as supplemented by letters dated October 23, 2014, November 13, 2014, January 30, 2015, May 13, 2015, and June 30, 2015.

The amendment modifies Technical Specifications Table 3.3-4, "Engineered Safety Features Actuation System Instrumentation," revising the Functional Unit 9.a, "Loss-of-Offsite Power 6.9 Kilovolt Emergency Bus Undervoltage – Primary," instrumentation trip setpoint and associated allowable value, and adding two notes regarding channel setpoint surveillance.

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

Sincerely,

Martha Barillas, 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. 146 to NPF-63
2. Safety Evaluation

cc w/enclosures: Distribution via Listserv

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

DUKE ENERGY PROGRESS, INC.

DOCKET NO. 50-400

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 146
License No. NPF-63

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Duke Energy Progress, Inc. (the licensee), dated June 19, 2014, as supplemented by letters dated October 23, 2014, November 13, 2014, January 30, 2015, May 13, 2015, and June 30, 2015, 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 TS, 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. 146, are hereby incorporated into this license. Duke Energy Progress, Inc. 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 by November 30, 2016.

FOR THE NUCLEAR REGULATORY COMMISSION

Shanna R. Helton, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed License No. NPF-63
and the Technical Specifications

Date of Issuance: June 30, 2015

ATTACHMENT TO LICENSE AMENDMENT NO. 146

RENEWED FACILITY OPERATING LICENSE NO. NPF-63

DOCKET NO. 50-400

Replace the following page of the renewed facility operating license with the revised page. The revised page is identified by amendment number and contains a line in the margin indicating the area of change.

Remove	Insert
Page 4	Page 4

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

Remove Pages	Insert Pages
3/4 3-34	3/4 3-34
3/4 3-36	3/4 3-36

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, Inc. 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. 146 , are hereby incorporated into this license. Duke Energy Progress, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Antitrust Conditions

Duke Energy Progress, Inc. 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.

[1] The 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.

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
9. Loss of Offsite Power					
a. 6.9 kV Emergency Bus Undervoltage – Primary (Loss of Voltage)	N.A.	N.A.	N.A.	≥ 5454 volts with a ≤ 1.46 second time delay (See NOTES 1,2)	≥ 5329 volts with a ≤ 1.5 second time delay
b. 6.9 kV Emergency Bus Undervoltage – Secondary (Degraded Voltage)	N.A.	N.A.	N.A.	≥ 6420 volts with a ≤ 12.88 second time delay (with Safety Injection).	≥ 6392 volts with a ≤ 13.21 second time delay (with Safety Injection).
				≥ 6420 volts with a ≤ 57.89 second time delay (non-accident).	≥ 6392 volts with a ≤ 59.62 second time delay (non-accident).
10. Engineered Safety Features Actuation System Interlocks					
a. Pressurizer Pressure,					
P-11	N.A.	N.A.	N.A.	≥ 2000 psig	≥ 1988 psig
Not P-11	N.A.	N.A.	N.A.	≤ 2000 psig	≤ 2012 psig
b. Low Low T_{avg}, P-12	N.A.	N.A.	N.A.	≥ 553°F	≥ 549.3°F

TABLE 3.3-4 (Continued)

TABLE NOTATIONS

* Time constants utilized in the lead-lag controller for Steam Line Pressure--Low are $\tau_1 \geq 50$ seconds and $\tau_2 \leq 5$ seconds. CHANNEL CALIBRATION shall ensure that these time constants are adjusted to these values.

** The time constant utilized in the rate-lag controller for Steam Line Pressure-Negative Rate--High is ≥ 50 seconds. CHANNEL CALIBRATION shall ensure that this time constant is adjusted to this value.

\# The indicated values are the effective, cumulative, rate-compensated pressure drops as seen by the comparator.

NOTE 1: If the as-found channel setpoint is outside its predefined as-found tolerance, the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.

NOTE 2: The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Trip Setpoint in Table 3.3-4 (Nominal Trip Setpoint (NTSP)) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the surveillance procedures (field setting) to confirm channel performance. The methodologies used to determine NTSPs and the as-found and the as-left tolerances are specified in EGR-NGGC-0153, "Engineering Instrument Setpoints." The as-found and as-left tolerances are specified in PLP-106, "Technical Specification Equipment List Program and Core Operating Limits Report."

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 146 TO RENEWED FACILITY

OPERATING LICENSE NO. NPF-63

DUKE ENERGY PROGRESS, INC.

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

DOCKET NO. 50-400

1.0 INTRODUCTION

By letter dated June 19, 2014 (the application), as supplemented by letters dated October 23, 2014, November 13, 2014, January 30, 2015, May 13, 2015, and June 30, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML14174A118, ML14296A365, ML14317A449, ML15030A358, ML15133A513, and ML15181A007, respectively), Duke Energy Progress, Inc., the licensee, proposed to amend the Shearon Harris Nuclear Power Plant, Unit 1 (HNP) Technical Specifications (TSs), revising Table 3.3-4 "Engineered Safety Features Actuation System Instrumentation Trip Setpoints." Specifically, the licensee proposed to revise Functional Unit 9.a, Loss-of-Offsite Power [LOOP] 6.9 kV [Kilovolt] Emergency Bus Undervoltage – Primary, instrument trip setpoint and associated allowable value to correct the current nonconservative values. The proposed amendment is in accordance with Technical Specification Task Force Traveler (TSTF) 493, Revision 4, "Clarify Application of Setpoint Methodology for LSSS [Limiting Safety System Setting] Functions."

The proposed change will resolve operability determination issues associated with potentially nonconservative Allowable Values (AVs)[1] calculated using some methods in the Instrument Society of America (ISA) standard ISA-S67.04-1994 Part 2, "Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation." The concern is that when these values are used to assess instrument channel performance during testing, nonconservative decisions about the equipment operability may result. In addition the proposed change will resolve operability determination issues related to relying on AVs associated with

[1] The instrument setting "Allowable Value" is a limiting value of an instrument's as-found trip setting used during surveillances. The AV is more conservative than the Analytical Limit to account for applicable instrument measurement errors consistent with the plant-specific setpoint methodology. If during testing, the actual instrumentation setting is less conservative than the AV, the channel is declared inoperable and actions must be taken consistent with the TS requirements.

TS LSSSs[2] to ensure that TS requirements, not plant procedures, will be used for assessing instrument channel operability.

TSTF-493, Attachment A, contains functions related to those variables that have a significant safety function as defined in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36(c)(1)(ii)(A).

2.0 REGULATORY EVALUATION

The Nuclear Regulatory Commission (NRC) staff reviewed the licensee's application, as supplemented, against the following regulatory requirements and regulatory guidance documents.

2.1 Regulatory Requirements

Title 10 of the CFR Part 50, Section 36, set forth requirements for TSs for operating nuclear plants:

> 10 CFR 50.36(a)(1) states: "Each applicant for a license authorizing operation of a production or utilization facility shall include in his application proposed technical specifications in accordance with the requirements of this section."
>
> 10 CFR 50.36(c)(1)(ii)(A) states: "....Where a limiting safety system setting is specified for a variable on which a safety limit has been placed, the setting must be so chosen that automatic protective action will correct the abnormal situation before a safety limit is exceeded. If, during operation, it is determined that the automatic safety system does not function as required, the licensee shall take appropriate action, which may include shutting down the reactor."
>
> 10 CFR 50.36(c)(2) states, in part: "Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met. When a limiting condition for operation of any process step in the system of a fuel reprocessing plant is not met, the licensee shall shut down that part of the operation or follow any remedial action permitted by the technical specifications until the condition can be met...."
>
> 10 CFR 50.36(c)(3) 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."

---

[2] 10 CFR 50.36(c)(1)(ii)(A) states: "Limiting safety system settings for nuclear reactors are settings for automatic protective devices related to those variables having significant safety functions."

10 CFR 50.36(c)(5) states, in part: "Administrative 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..."

Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 establish the minimum necessary design, fabrication, construction, testing, and performance requirements for structures, systems, and components important to safety; that is, structures, systems, and components that provide reasonable assurance that the facility can be operated without undue risk to the health and safety of the public.

General Design Criterion (GDC) 13, states: "Instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety, including those variables and systems that can affect the fission process, the integrity of the reactor core, the reactor coolant pressure boundary, and the containment and its associated systems. Appropriate controls shall be provided to maintain these variables and systems within prescribed operating ranges.

GDC 20, states: "The protection system shall be designed (1) to initiate automatically the operation of appropriate systems including the reactivity control systems, to assure that specified acceptable fuel design limits are not exceeded as a result of anticipated operational occurrences and (2) to sense accident conditions and to initiate the operation of systems and components important to safety."

GDC 17, states in part: "An onsite electric power system and an offsite electric power system shall be provided to permit functioning of structures, systems, and components important to safety. The safety function for each system (assuming the other system is not functioning) shall be to provide sufficient capacity and capability to assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents."

2.2 Regulatory Guidance

In addition to the regulatory requirements stated above, the NRC staff also considered regulatory guidance conveyed in various documents.

Regulatory Guide (RG) 1.105, Revision 3, "Setpoints for Safety-Related Instrumentation," describes a method acceptable to the NRC staff for complying with the NRC's regulations for ensuring that setpoints for safety-related instrumentation are initially within and remains within the TS limits. The RG endorses Part 1 of ISA -S67.04-1994, "Setpoints for Nuclear Safety-Related Instrumentation," subject to NRC staff clarifications. The ISA standard provides a basis for establishing setpoints for nuclear instrumentation for safety systems and addresses known contributing errors in the channel. Part 1 establishes a framework for ensuring that setpoints for nuclear safety-related instrumentation are established and maintained within specified limits.

NUREG-1431, Revision 4, "Standard Technical Specifications, Westinghouse Plants," dated April 2012.

NUREG-0800, "Standard Review Plan," Chapter 8, Branch Technical Position (BTP) 8-6, originally issued as PSB-1, July 1981, "Adequacy of Station Electrical Distribution System Voltages."

Regulatory Issue Summary (RIS) 2006-17, "NRC Staff Position on the Requirements of 10 CFR 50.36, 'Technical Specifications,' Regarding Limiting Safety System Settings During Periodic Testing and Calibration of Instrument Channels," dated August 24, 2006 (ADAMS Accession No. ML051810077), addresses requirements on LSSSs that are assessed during the periodic testing and calibration of instrumentation.

The Pressurized-Water Reactor and Boiling-Water Reactor Owners' Groups' Technical Specification Task Force (TSTF) change traveler TSTF-493, Revision 4, dated January 5, 2010 (ADAMS Accession No. ML100060064), and an errata sheet dated April 23, 2010 (ADAMS Accession No. ML101160026), addresses the NRC staff's concerns stated in RIS 2006-17. On May 11, 2010, the NRC published a notice in the *Federal Register* "Notice of Availability of the Models for Plant-Specific Adoption of Technical Specifications Task Force Traveler TSTF-493, Revision 4, 'Clarify Application of Setpoint Methodology for LSSS Functions'" (75 FR 26294), setting forth its position on the adoption of TSTF-493, Revision 4.

3.0 TECHNICAL EVALUATION

3.1 Instrumentation and Controls Evaluation

3.1.1 Primary Undervoltage Protection

The 6.9 kV buses (designated 1A-SA and 1B-SB) supply power to safety-related loads, downstream power centers, motor control centers, and panels. They are provided with two sets of undervoltage (UV) protection; one is the Primary Undervoltage Relay (i.e., Loss of Voltage (LOV)), and the other is the Degraded Voltage Relay (DGVR). Each set of these UV protection functions receives input from three UV relays (i.e., three for Primary UV and three for DGVR) and is actuated by a two-out-of-three trip coincidence logic.

The Primary Undervoltage protection function is to protect the emergency power system against loss of voltage. Upon actuation, the Primary UV protection logic automatically initiates the following: separation of the emergency power system from the balance-of-plant buses (i.e., the offsite source), load shedding, and starting of the Emergency Diesel Generators (EDGs). When the EDGs attain adequate voltage and speed, the EDG supply breakers to the 6.9 kV Emergency Buses close and safety-related loads are connected to the buses automatically by the emergency load sequencer. Once EDG loading begins, the Primary UV protection scheme logic is blocked. The dropout setting of the Primary UV protection scheme is such that bus voltage does not drop below the setpoint during "normal" transient conditions, such as during motor starting.

The time delay associated with the Primary UV protection prevents damage to equipment and/or tripping of equipment protective relays during expected short duration transients (e.g., system disturbances).

3.1.2 Secondary Level Undervoltage

The second level UV (also called Degraded Voltage) relays are set to ensure motor terminal voltage does not go below 90 percent for more than 60 seconds. The DGVR settings should be established to ensure functional separation from the primary UV functions.

3.1.3 Setting Requirements

To ensure full protection of the motors, the HNP Primary UV relay drop-out setting must be high enough (minimum drop out voltage or lower analytical limit) to ensure a minimum of 75 percent terminal voltage at all connected motors.

During a Component Design Basis Inspection performed in 2011 (ADAMS Accession No. ML112220337), the NRC inspection team identified a green (i.e., non-cited) violation relating to the Primary UV and secondary DGVR UV relay settings and time delay setpoints. The team determined the trip setpoint and allowable value specified in the TSs for the time delay of the Primary Undervoltage Relays could allow motors to be subjected to voltage levels below 75 percent for up to one minute, which is in excess of the capability cited in the Shearon Harris Updated Final Safety Analysis Report (UFSAR).

The licensee has determined that TS Table 3.3-4, Functional Unit 9.a, identified as "Loss-of-Offsite Power, 6.9 kV Emergency Bus Undervoltage – Primary (Loss of Voltage)," trip setpoint and allowable value minimum voltage limits, as well as the associated field settings, should be increased. The new higher setpoints will ensure the trip of the safety-related alternating current (AC) bus will occur at a voltage level that is at or above the minimum voltage necessary to operate the applicable safety-related loads. Functional Unit 9.b, identified as "6.9 kV Emergency Bus Undervoltage – Secondary (Degraded Voltage)," relay setting will remain unchanged.

The licensee provided its Calculation # 0054-JRG, "PSB-1 Loss of Offsite Power [LOOP] Relay Settings," dated November 8; 2013, to support this license amendment. The NRC staff reviewed the calculations for Total LOOP Uncertainty (TLU), Trip Setpoint, Allowable Value (AV), As-Found Tolerance (AFT), and As-Left Tolerance (ALT) for the Primary UV relay.

The licensee calculated the TLU, AFT, and ALT using the square-root-of-the-sum of the squares method for all independent variables. No dependent variables were required for this calculation. In its November 13, 2014, letter the licensee provided additional details regarding the magnitude and confidence level of the uncertainties used in the calculations of the new trip setpoints.

Calculation # 0054-JRG provides the following values for estimating the new settings for the UV relay.

- Total Loop Uncertainty (TLU) = 2.91V [volt],
- Nominal Trip Setpoint (NTSP) = 92.1V, (5526V BUS)
- Analytical Limit (AL) between 87.98V (5279V BUS) and 96.2V. (5773V BUS)
- Allowable Value (AV) between 88.82V and 95.4V. (5329.2V to 5723.8V BUS)
- As Found Tolerance (AFT) between 90.01V and 94.19V, (5400.6 to 5651V BUS)
- As Left Tolerance (ALT) between 91.18V and 93.02V, (5500 to 5581.2V BUS)

This calculation establishes a margin of 4.1V between the NTSP voltage and the established analytical limits, which is 40.9 percent greater than the calculated TLU. This added margin provides reasonable assurance the AV's will not be exceeded during plant operations. The NRC staff finds this setting to be acceptable because it provides an adequate margin beyond the established TLU instrument uncertainty.

The licensee provided plant test data on ALT and AFT for the Primary Undervoltage relay dropout and pickup. The NRC staff noted, generally, the observed drift was well below the vendor-provided drift value of 2 percent of the setpoint and the ALT was below $\pm$1 percent of the setpoint value assumed by the licensee. In four out of 36 cases, however, the drift was greater than $\pm$2 percent. The licensee investigated those cases and found the excess drift was caused by the inadequate setup of test equipment. Based on evaluation of field data, the NRC staff determined the drift and the reference accuracy used by the licensee in the setpoint calculations for operation of the primary UV relay to be acceptable.

The licensee also calculated the maximum pickup of the Primary Undervoltage. As per the vendor's manual, the pickup voltage of the Primary Undervoltage relay is 110 percent or less of the dropout setpoint. With this condition, the licensee stated that the maximum pickup of the Primary Undervoltage relay can be as high as 105.23V. This was calculated by multiplying the maximum ALT by a factor of 1.1 (110 percent) and adding the TLU. The licensee provided additional explanation for establishing the maximum pickup voltage in its May 13, 2015, supplement (ADAMS Accession No. ML15133A513). The NRC staff concurs with the value calculated, which shows the primary UV relay operation will not interfere with the degraded voltage relay operation.

The NRC staff noted that tolerance values used in calculating TLU, AFT, and ALT are either vendor-provided or supported by equipment performance test results and the selected NTSP includes additional margin beyond that provided by the calculated TLU. Therefore, the NRC staff concludes that the UV relays have demonstrated performance of 95/95 reliability and confidence levels as specified in RG 1.105. Furthermore, the licensee's continued surveillance testing will monitor relay performance such that degraded performance or reduced reliability of the UV relays will be identified and addressed under the licensee's corrective action programs.

3.1.4 Primary UV Time Delay Settings

The licensee calculated TLU to be 0.0431 second(s). Based on a field setpoint of 1.2s, the licensee calculated the AFT to be between 1.16s and 1.24s, and the ALT to be between 1.188s and 1.212s. This establishes an upper margin of 0.26 and a lower margin of 0.282s between the time delay AFT and the TS AVs. Tolerance values used in calculating TLU, AFT, and ALT are either vendor-provided or supported by equipment performance test results and the selected

NTSP includes additional margin beyond that provided by the calculated TLU. Therefore, the NRC staff agrees that the UV relays have demonstrated performance of 95/95 reliability and confidence levels as specified in RG 1.105. The NRC staff finds this setting to be acceptable because it provides an adequate margin beyond the established TLU instrument uncertainty.

3.1.5 TSTF 493-A Implementation

As part of this application for amendment, the licensee is incorporating TSTF-493-A, Revision 4, Option A, to this function in the TSs. This change is made by the addition of individual surveillance note requirements to applicable instrument functions. The licensee included the channel performance Surveillance Notes as specified by TSTF-493-A for the modification to Table 3.3.-4 for functional Unit 9.a. The second note identifies that the values for the as-found and the as-left tolerances be specified in PLP-106, "Technical Specification Equipment List Program and Core Operating Limits Report," and the Setpoint Methodology to calculate these tolerances is described in EGR-NGGC-0153, "Engineering Instrument Setpoints." The licensee provided a summary of the setpoint calculation, which was based on the methodology described in EGR-NGGC-0153. The NRC staff finds the licensee has initiated adequate plant procedures to demonstrate compliance with TSTF-493.

3.1.6 Summary of Instrumentation and Controls Evaluation

Based on the review of the licensee's application, as supplemented, the NRC staff concludes that the systems will continue to meet the requirements of GDC 13 of Appendix A to 10 CFR Part 50. The NRC staff determined that the revised primary UV relay settings to be sufficient to ensure minimum required voltage levels on the 6.9 KV buses are maintained. The NRC staff finds the licensee has performed the necessary setpoint calculations in conformance with RG 1.105, TSTF-493, and RIS 2006-17. The NRC staff further concludes the proposed Technical Specification changes meet the requirements of 10 CFR 50.36(c)(1)(ii)(A) and are, therefore, acceptable.

The addition of surveillance notes to Functional Unit 9.a will ensure instrument function operability will be controlled in the TSs rather than in the procedures. Also, additional uncertainties have been included in the AFT calculation in a manner acceptable to the NRC staff. Therefore, there will be reasonable assurance of adequate protection capabilities for the subject instrument channel.

3.2 Electrical System Evaluation

The subject application for amendment was submitted by the licensee in response to deficiencies identified during a Component Design Basis Inspection (CDBI). See Section 3.1.3 above for details of this finding of degraded voltage time delay and LOV relay setpoints. Specifically, the HNP UFSAR Section 8.3.1.1.3 states that motors can operate at 75 percent voltage for 1 minute without damage. TS Table 3.3-4 establishes the setpoint for the Secondary LOOP (degraded voltage) relay non-accident time delay as ≤ 60 seconds. It also established the setpoint for the Primary LOOP LOV relay as ≥ 4692V (68 percent of 6900V). This scheme would allow motors to be subjected to voltage below 75 percent for up to one minute, which is in

excess of the capability claimed in the UFSAR. The licensee was not able to provide a calculation to justify this condition.

To address the CDBI finding, the licensee proposed changes to correct a non-conservative TS by revising the trip setpoint and AVs specified in Table 3.3-4, "Engineered Safety Feature Actuation System Instrumentation Trip Setpoints," for the LOV relay.

In the application, the licensee stated that the two 6.9 kV buses (designated 1A-SA and 1B-SB) supply power to safety-related loads, downstream power centers, motor control centers, and panels. Each bus is provided with two sets of UV protection; 1) Degraded Voltage Relaying (i.e., secondary UV protection), and 2) LOV relaying (i.e., primary UV protection). Each set of UV protection receives an input signal from three UV relays (i.e., the primary UV protection set is comprised of three primary UV relays and the secondary UV protection set is comprised of three secondary UV relays). Each UV relay monitors the voltage on the 6.9 kV buses and will separate them from the offsite electrical power source if the bus voltage sensed remains below the UV relay setpoint for a specific time delay. The UV protection scheme uses a two-out-of-three trip logic.

The primary UV protection scheme consists of LOV Relays 27-1, 27-2, and 27-3 along with Time Delay Relay 2. Its function is to protect the emergency power system against LOV utilizing voltage and time delay trip settings. Upon actuation, the primary UV protection logic automatically initiates separation of the emergency power system from the upstream balance-of-plant buses (i.e., the offsite power source), load shedding, and starting of the EDGs. When the EDGs attain adequate voltage and speed, the EDG supply breakers to the 6.9 kV Emergency Buses close and the safety-related loads are automatically connected by the emergency load sequencer. .Once EDG loading begins, the primary UV protection scheme logic is blocked. The dropout setting of the primary UV protection scheme is such that bus voltage does not drop below the setpoint during "normal" transient conditions (e.g., during motor starting). The 6.9 kV bus UV protection is described in the HNP UFSAR Sections 8.3.1.1.2.8 and 8.3.1.1.2.11. Following the review of this information, the NRC staff found that the application did not specify whether the primary UV protection (LOV) protection logic is unblocked after the EDG loading is completed, and issued a Request for Additional Information (RAI).

In its January 30, 2015, letter the licensee stated that the LOV logic is blocked both during and after sequencing. The blocking circuit is "sealed-in" until the operators restore offsite power to the emergency power system by re-closing the tie breakers to the balance-of-plant system, opening the EDG breaker, and resetting safety injection (if applicable). The trip function is only active if the Emergency Load Sequencer is not running either Program A (LOOP) or Program B (LOOP with loss-of-coolant accident (LOCA)). Based on this information, the NRC staff understands that LOV protection logic is active only when the safety-related buses are fed from offsite power system. Therefore, the licensee's position is acceptable since the Class 1E bus load shedding scheme automatically prevents load shedding during sequencing of the emergency loads to the bus as described in BTP PSB-1, Position 2.

On page 2 of the application, the licensee stated the following:

> Specifically, the team determined that the trip setpoint and allowable value specified in the TS for the second time delay for the ***degraded voltage relays (i.e., the primary undervoltage protection)*** would allow motors to be subjected to voltage below 75 % for up to one minute, which is in excess of the capability cited in the FSAR. (emphasis added)

The NRC staff found that elsewhere in the application, the term "primary undervoltage protection" was used for LOV protection. Since, the degraded voltage protection is typically considered secondary UV protection, the NRC staff asked the licensee to revise the application to correct the discrepancy.

In its January 30, 2015, letter the licensee stated that it agreed with the NRC staff that primary UV refers to LOV, and secondary UV refers to degraded voltage. The licensee provided a corrected page 2 of the application. The NRC staff finds the response acceptable.

To address the CDBI finding, the licensee determined that the Table 3.3-4 Functional Unit 9.a (Loss-of-Offsite Power, 6.9 kV Emergency Bus Undervoltage – Primary) trip setpoint and allowable value should be increased to ensure that the trip of the safety-related AC bus will occur at a voltage at or above the minimum voltage necessary to operate the applicable safety-related loads.

The licensee proposed the following TS changes:

1. Functional Unit 9.a, Loss-of-Offsite Power, 6.9 kV Emergency Bus Undervoltage – Primary, trip setpoint specified in Table 3.3-4 is revised from "≥ 4830 volts with a ≤ 1.0 second time delay" to "≥ 5454 volts with a ≤ 1.46 second time delay. See NOTES 1, 2."

2. Functional Unit 9.a, Loss-of-Offsite Power, 6.9 kV Emergency Bus Undervoltage – Primary, allowable value specified in Table 3.3-4 is revised from "≥ 4692 volts with a time delay ≤ 1.5 seconds" to "≥ 5329 volts with a ≤ 1.5 second time delay."

3. Two notes are added to Table 3.3-4. Note 1 states:

   "If the as-found channel setpoint is outside its predefined as-found tolerance, the channel shall be evaluated to verify that it is functioning as required before returning the channel to service."

   Note 2 states:

   "The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Trip Setpoint in Table 3.3-4 (Nominal Trip Setpoint (NTSP)) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in

> the surveillance procedures (field setting) to confirm channel performance. The methodologies used to determine NTSPs and the as-found and the as-left tolerances are specified in EGR-NGGC-0153, 'Engineering Instrument Setpoints.' The as-found and as-left tolerances are specified in PLP-106, 'Technical Specification Equipment List Program and Core Operating Limits Report'."

The revised values proposed in Items 1 and 2 above are based on the calculations provided in Attachment 4 to the application. The trip setpoints and AVs are derived from the analytical limits.

3.2.1 Evaluation of Analytical Voltage Limits of LOV Relays

Attachment 4 of the licensee's application depicts the drop-out Lower Analytical Voltage Limit as 5279 V, and the drop-out Upper Analytical Voltage Limit as 5773 V.

The licensee stated that the existing TS trip setpoint for the subject UV relays is 4830 V with an allowable value of 4692 V on the 6.9 kV safety buses 1A-SA and 1B-SB. This equates to a trip setpoint of 70 percent with an allowable value of 68 percent of bus nominal voltage rating (6900 V). On a motor rated-voltage base (which is 6600V), this equates to 73.2 percent for the trip setpoint and 71.1 percent for the allowable setpoint. Safety-related (Class 1E) 6.9 kV motors are designed to start at 75 percent of motor rated voltage and have a transient running voltage rating of 75 percent (for 1 minute) at the motor terminals. Seventy-five percent (75 percent) of motor rated voltage is 4950 V. Therefore, the UV relay setpoint should be based on 4950 V at the motor terminals in consideration of protecting the motors against low voltage. The existing settings are less than the motor voltage ratings and, therefore, do not assure adequate motor voltage under low system voltage conditions. The licensee calculated drop-out Lower Analytical Voltage Limit of LOV relays as 5279 V based on 4950 V at the motor terminals, voltage drop in the feeder cable from 6.9 kV bus to the motor terminals. The voltage drop calculation included the following considerations: the feeder cables had a maximum voltage drop of 0.5 percent between 6.9 kV Class 1E buses and equipment terminals, 1 percent between 480 V Class 1E motor control center and equipment terminals, and 2 percent between 480 V Class 1E load centers and equipment terminals. This is the new Lower Analytical Limit for the LOV relays.

The NRC staff identified an issue with the licensee's derivation of the lower analytical voltage limit for the LOV relays. At lower voltage, the current increase will be in proportion to the decrease in voltage. However, the motors will be able to handle lower voltages (up to the motor stalling voltage) for shorter durations (i.e., a few seconds) considering constant thermal capacity of motors for the short duration. The NRC staff was concerned that raising the lower analytic voltage limit for the LOV relays could result in unnecessary separation from the offsite electrical power source (e.g., grid). The NRC staff issued an RAI requesting the licensee to describe why this consideration was not accounted for while deriving the Lower Analytical Voltage Limit for the LOV relays.

In its January 30, 2015, letter the licensee stated that for the Lower Analytical Voltage Limit for the LOV relay setpoint was chosen to ensure the terminal voltage at the "worst case motor," considering the voltage drop throughout the emergency power system, would not be below

75 percent of rated (4950 V for motors rated 6600 V supplied from the 6.9 kV system and 345 V for motors rated 460 V supplied from the 480 V system). The licensee also stated that the worst case electrical distribution system loading was included in the evaluation. The NRC staff found that the methodology considered by the licensee to calculate analytical voltage values resulted in voltage values that are high as compared to typical LOV settings. The NRC staff issued a follow-up RAI requesting the licensee to confirm that LOV relay settings meet the following voltage criteria:

(a) The lower analytical voltage limit for LOV relay is such that none of the safety-related, normally running motors, would stall when subjected to this voltage, and

(b) The upper analytical voltage limit for LOV relay is such that the minimum expected voltage during LOCA start of all safety-related loads remains above this voltage.

In its May 13, 2015, letter the licensee stated that the motors have the capability to run at 75 percent of rated voltage for 60 seconds. This value was a key design input to the LOV settings. The associated motor specifications do not specifically list a motor stall voltage requirement. However, one can correlate that, since the motors are specified to start and run at 75 percent of rated voltage, the stall voltage would have to be less than 75 percent. The licensee also explained that it is noted that some other nuclear power plant sites have used the motor stall value within their LOV calculation to specify a lower setting than HNP. Since HNP does not use an inverse time relay, the protection mechanism that the safety-related motors have when the voltage is in the region between the DGV [Degraded Voltage] setting and the LOV setting is to ensure the equipment has adequate voltage for the entire duration of a DGV condition. At HNP, the DGV time delay is set at 54 s. To ensure a motor will never see 75 percent voltage for longer than 60 s, the LOV setting must ensure that the safety-related motors have adequate voltage for the entire duration of the condition. The licensee stated that it selected 75 percent rated voltage as a minimum allowed voltage at the motor terminals to ensure that the motors will not stall. The licensee stated that the Lower Analytical Voltage Limit for the LOV relay is such that none of the normally running safety-related motors would stall, and therefore, meet the voltage criteria (a) cited above.

For the Upper Analytical Voltage Limit value (proposed as 5773 V), the licensee stated that the worst-case minimum voltage is calculated as 6370 V during LOCA sequencing. The licensee stated that since the 5773 V is lower than the worst case minimum voltage of 6370 V, the above cited criterion (b) for Upper Analytical Voltage Limit is also satisfied. The licensee also provided a diagram confirming that the safety-related bus voltages seen by LOV relay during LOCA sequencing remain above the LOV dropout value with adequate margin (approximately 10 percent, and also remain above the LOV relay reset voltage).

The NRC staff finds the Lower and Upper Analytical Voltage values acceptable, since the lower analytical voltage limit for LOV relay is such that none of the safety-related, normally running motors, would stall when subjected to this voltage, and the upper analytical voltage limit for LOV relay is such that the minimum expected voltage during LOCA start of all safety-related loads remains above this voltage.

3.2.2 Evaluation of Analytical Time Delay Limits of LOV Relays

In Attachment 4 of the application, the licensee provided the Time Delay Lower Analytical Limit as 0.875 second, and the Upper Analytical Limit as 1.503 second.

For the time delay analytical limits, the NRC staff issued an RAI to the licensee requesting confirmation that a momentary voltage dip lasting to clear a fault, lightning strike, or switching transient in the grid will not cause spurious separation of safety buses from offsite power.

In its May 13, 2015, letter the licensee stated that its UFSAR, Section 8.2.2.3 "Analysis of Operating Voltages," discusses the acceptability of expected HNP 230 kV Switchyard voltage and frequency fluctuations which could occur under transient conditions caused by worst-case analyzed Transmission System grid disturbances. This evaluation is based upon a postulated "worst case" fault event in conjunction with the assumed failure of the primary protective relaying. In the analyzed case, the primary protective relaying would remove the faulted circuit in approximately 4 cycles (there are 60 cycles in a second). However, if the primary protective relaying is not functional, the secondary protective relaying would remove the faulted circuit in approximately 10 cycles.

The licensee also stated that the existing TS-allowed value for LOV scheme time delay is $\leq$ 1.5 s. The allowed value is NOT being changed. The existing TS setpoint for time delay is $\leq$ 1.0 s. The setpoint value is proposed to be increased from $\leq$ 1.0 s to $\leq$ 1.46 s which remains within the allowed value. This will increase the margin with respect to ensuring that spurious actuation will not occur during Transmission System grid disturbances. Based on the information in the May 13, 2015, letter, the NRC staff agrees that in the event of a voltage dip low enough to actuate the LOV relays, the associated time delay is long enough to prevent nuisance tripping. Thus, the NRC staff finds that Analytical Time Delays of LOV relays as reasonable, and therefore acceptable.

The NRC staff determined that the proposed LOV relay settings in Table 3.3-4, Functional Unit 9.a will continue to perform its intended safety function to meet the requirements of 10 CFR 50.36 and GDC 17.

3.2.3 Summary of Electrical System Evaluation

The NRC staff has reviewed the licensee's proposed changes and supporting documentation. Based on the evaluation discussed above, the NRC staff determined that the proposed amendment to Table 3.3-4 will continue to ensure that safety equipment will remain available to perform its function to meet the requirements of 10 CFR 50.36 and GDC 17. Therefore, the NRC staff finds the proposed changes acceptable.

3.3 Evaluation of Changes to Table 3.3-4

As stated previously, the licensee proposed to make changes to Functional Unit 9.a, identified as "Loss of Offsite Power, 6.9 kV Emergency Bus Undervoltage – Primary (Loss of Voltage)."

3.3.1 Nominal Trip Setpoints

The licensee added the term Nominal Trip Setpoint (NTSP) as terminology for the setpoint value calculated by means of the plant-specific setpoint methodology documented in EGR-NGGC-0153, "Engineering Instrument Setpoints" procedure.

The licensee stated that the NTSP is more conservative than the AV and is the least conservative value to which the instrument channel is adjusted following surveillance testing. The NTSP is the limiting setting for the channel trip setpoint considering all credible instrument errors associated with the instrument channel. The NTSP is the least conservative value (with an ALT) to which the channel must be reset at the conclusion of periodic testing to ensure that the analytical limit will not be exceeded during an anticipated operational occurrence or accident before the next periodic surveillance or calibration. It is impossible to set a physical instrument channel to an exact value, so a calibration tolerance is established around the NTSP. Therefore, the NTSP adjustment is considered successful if the as-left instrument setting is within the ALT (i.e., a range of values around the NTSP) and the field setting also is within the ALT (i.e., a range of values around the NTSP). The field setting is the NTSP with margin added. The field setting is equal to or more conservative than the NTSP.

The AV may still be the only value included in the TSs to indicate the least conservative value that the as-found trip point may have during testing for the channel to be operable. In this case the NTSP values in the UFSAR or any document incorporated into the UFSAR by reference, and the title of this document are identified in surveillance Note 2 in order to satisfy the 10 CFR 50.36 requirements that the LSSS be in the TSs. Additionally, to ensure proper use of the AV, NTSP, and field setting, the methodology for calculating the as-left and as-found tolerances are also included in a document incorporated by reference in the UFSAR and listed in surveillance Note 2. See Section 3.3.2 (below) evaluation of Surveillance Note 2 for specifics of these documents.

3.3.2 Addition of Surveillance Notes to TS Functions

Setpoint calculations calculate an NTSP based on the analytical limit of the safety analysis to ensure that trips or protective actions will occur prior to exceeding the process parameter value assumed by the safety analysis calculations. These setpoint calculations may also calculate an allowable limit of change to be expected (i.e., the AFT) between performance of the surveillance tests for assessing the value of the setpoint setting. The least conservative as-found instrument setting value that a channel can have during calibration without requiring performance of a TS remedial action is the setpoint AV. Discovering an instrument setting to be less conservative than the setting AV indicates that there may not be sufficient margin between the NTSP setting and the AL. TSs channel calibrations and trip actuating device operational tests (with setpoint verification), are performed to verify channels are operating within the assumptions of the setpoint methodology used to calculate the NTSP and that channel settings have not exceeded the TS AVs. When the measured as-found setpoint is nonconservative with respect to the AV, the channel is inoperable and the actions identified in the TSs must be taken.

Surveillance Note 1

Surveillance Note 1 states, "If the as-found channel setpoint is outside its predefined as-found tolerance, the channel shall be evaluated to verify that it is functioning as required before returning the channel to service."

The Note requires evaluation of channel performance for the condition where the as-found setting for the channel setpoint is outside its AFT but conservative with respect to the AV. Evaluation of channel performance will verify that the channel will continue to function in accordance with safety analysis assumptions and the channel performance assumptions in the HNP setpoint methodology and establishes a high confidence of acceptable channel performance in the future. Because the AFT allows for both conservative and nonconservative deviation from the NTSP, changes in channel performance that are conservative with respect to the NTSP will also be detected and evaluated for possible effects on expected performance. The purpose of the assessment is to ensure confidence in the channel performance prior to returning the channel to service. For channels determined to be OPERABLE but degraded, after returning the channel to service the channels will be evaluated under the HNP Corrective Action Program (CAP). Entry into the CAP will ensure required review and documentation of the condition to establish a reasonable expectation for continued operability.

Verifying that a trip setting is conservative with respect to the AV when a surveillance is performed does not by itself verify the instrument channel will operate properly in the future because setpoint drift is a concern. Although the channel was operable during the previous surveillance interval, if it is discovered that channel performance is outside the performance predicted by the plant setpoint calculations for the test interval, then the design basis for the channel may not be met, and proper operation of the channel for a future demand cannot be assured. Surveillance Note 1 formalizes the establishment of the appropriate AFT for each channel. This AFT is applied about the NTSP or about any other more conservative field setting. The as-found setting tolerance ensures that channel operation is consistent with the assumptions or design inputs used in the setpoint calculations and establishes a high confidence of acceptable channel performance in the future. Because the setting tolerance allows for both conservative and non-conservative deviation from the NTSP, changes in channel performance that are conservative with respect to the NTSP will also be detected and evaluated for possible effects on expected performance.

Implementation of surveillance Note 1 requires the licensee to calculate an AFT. See Section 3.1.3 above for evaluation of this issue.

Surveillance Note 2

Surveillance Note 2 states:

> The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Trip Setpoint in Table 3.3-4 (Nominal Trip Setpoint (NTSP)) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the Surveillance

procedures (field setting) to confirm channel performance. The methodologies used to determine NTSP's and the as-found and the as-left tolerances are specified in EGR-NGGC-0153, "Engineering Instrument Setpoints." The as-found and as-left tolerances are specified in PLP-106 "Technical Specification Equipment List Program and Core Operating Limits Report."

This Surveillance Note requires that the as-left setting for the channel be returned to within the ALT of the NTSP. Where a setpoint more conservative than the NTSP is used in the plant surveillance procedures, the ALT and AFT, as applicable, will be applied to the surveillance procedure setpoint. This will ensure that sufficient margin to the Safety Limit and Analytical Limit is maintained. If the as-left channel setting cannot be returned to a setting within the ALT of the NTSP, then the channel would be declared inoperable. The second surveillance Note also requires that the methodologies for calculating the ALT and the AFT be included in EGR-NGGC-0153, "Engineering Instrument Setpoints."

To implement surveillance Note 2 the ALT for some instrumentation Function channels is established to ensure that realistic values are used that do not mask instrument performance. The licensee stated that setpoint calculations assume that the instrument setpoint is left at the NTSP within a specific ALT (e.g., 25 pounds per square inch gauge (psig) + 2 psig). A tolerance is necessary because it is not possible to read and adjust a setting to an absolute value due to the readability and/or accuracy of the test instruments or the ability to adjust potentiometers. The licensee stated that the ALT is normally as small as possible considering the tools and the objective to meet an as low as reasonably achievable calibration setting of the instruments. The ALT is considered in the setpoint calculation. Failure to set the actual plant trip setpoint to the NTSP and within the ALT would invalidate the assumptions in the setpoint calculation because any subsequent instrument drift would not start from the expected as-left setpoint.

3.3.3 Evaluation of Exclusion Criterion

Exclusion criteria are used to determine which functions do not need to receive the additional surveillance test requirements. Instruments are excluded from the additional requirements when their functional purpose can be described as (1) a manual actuation circuit, (2) an automatic actuation logic circuit, or (3) an instrument function that derives input from contacts, which have no associated sensor or adjustable device. Many permissives or interlocks are excluded if they derive input from a sensor or adjustable device that is tested as part of another TS function. Functional Unit 9.a, subject of this proposed amendment, does not meet the exclusion criteria described above.

3.3.4 Summary of Evaluation of Changes to Table 3.3-4

The licensee proposed to add surveillance Notes to Functional Unit 9.a. The licensee stated that the determination to include surveillance Notes for the specific Function in this Table is based on this function being an automatic protective device related to variables having significant safety functions as delineated by 10 CFR 50.36(c)(1)(ii)(A). Furthermore, the licensee stated that if during calibration testing the setpoint is found to be conservative with respect to the AV but outside its predefined AFT band, then the channel shall be brought back

to within its predefined calibration tolerance before returning the channel to service. The calibration tolerances are specified in EGR-NGGC-0153, "Engineering Instrument Setpoints." Changes to the values will be controlled by 10 CFR 50.59.

The proposed surveillance notes will add the requirement to address operability of the subject functions in the TS as discussed in TSTF-493, Revision 4, Option A. The NRC staff reviewed the affected TS function and finds the licensee's proposed change acceptable. The proposed surveillance notes will ensure instrument operability will be maintained and that uncertainties will be included in the AFT calculations in an acceptable manner. By establishing the TS requirements in the surveillance notes, the licensee will ensure that there will be a reasonable expectation that these instruments will perform their safety function, if required. Therefore, the NRC staff finds the addition of the notes to be acceptable. The NRC staff further concludes that the proposed TS changes are acceptable since they meet the requirements of 10 CFR 50.36(c)(3) in that the surveillance requirements will ensure that the necessary quality of systems are maintained, that the facility will be maintained within safety limits, and the LCOs will continue to be met.

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. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes requirements with respect to use of a facility component located within the restricted area, as defined in 10 CFR Part 20, and an inspection or surveillance requirement. 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 (79 FR 52061). 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 Contributors Kristy A. Bucholtz
Tania Martinez-Navedo
Richard Stattel

Date: June 30, 2015

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

Sincerely,

/RA by PTam for/

Martha Barillas, 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. 146 to NPF-63
2. Safety Evaluation

cc w/enclosures: Distribution via Listserv

DISTRIBUTION:

PUBLIC	LPLI2-2 R/F
RidsNrrDorlLpl2-2	RidsNrrDeEicb
RidsNrrLABClayton	RidsNrrDeEeeb
RidsNrrDorlDpr	KBucholtz, NRR
RidsNrrPMShearonHarris	TMartinez-Navedo, NRR
RidsRgn2MailCenter	RStattel, NRR
RidsNrrDssStsb	RGrover, NRR
RidsACRS_MailCTR	

ADAMS Accession No.: ML15163A056
***Memo dated 12/1/2014 (Accession No. ML14301A248)**
****Memo dated 5/28/15 (Accession No. ML15146A078)**
*****Memo dated 6/2/15 (Accession No. ML15148A470)**

OFFICE	DORL/LPL2-2/PM	DORL/LPL2-2/LA	DSS/STSB/BC *	DE/EICB/BC **
NAME	MBarillas (PTam for)	BClayton	REIliott	JThorp
DATE	6/11/15	6/30/15	12/1/14	5/28/15
OFFICE	DE/EEEB/BC ***	OGC	DORL/LPL2-2/BC	DORL/LPL2-2/PM
NAME	JZimmerman	AGhosh	SHelton	MBarillas (PTam for)
DATE	6/2/15	6/25/15	6/30/15	6/30/15

OFFICIAL RECORD COPY