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

October 20, 2014

Mr. C. R. Pierce
Regulatory Affairs Director
Southern Nuclear Operating Company, Inc.
Post Office Box 1295, Bin - 038
Birmingham, AL 35201-1295

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT, UNIT NOS. 1 AND 2, ISSUANCE OF AMENDMENTS REDUCING THE REACTOR STEAM DOME PRESSURE IN THE REACTOR CORE SAFETY LIMITS (TAC NOS. MF3722 AND MF3723)

Dear Mr. Pierce:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 269 to Renewed Facility Operating License DPR-57 and Amendment No. 213 to Renewed Facility Operating License NPF-5 for the Edwin I. Hatch Nuclear Plant, Unit Nos. 1 and 2, respectively. The amendments revise the Technical Specifications (TSs) in response to your application dated March 24, 2014, as supplemented on July 23, 2014.

These amendments revise the TS Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2 reactor steam dome pressure from 785 to 685 psig. Your application stated that this change responds to a 10 CFR Part 21 (Reporting of Defects and Noncompliance) notification concerning the potential to momentarily violate Reactor Core Safety Limit 2.1.1.1 and 2.1.1.2 during a Pressure Regulator Failure Maximum Demand (Open) (PRFO) transient.

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

Sincerely,

Robert Martin

Robert Martin, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-321 and 50-366

Enclosures:
1. Amendment No. 269 to DPR-57
2. Amendment No. 213 to NPF-5
3. Safety Evaluation

cc w/encls: Distribution via Listserv

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

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

GEORGIA POWER COMPANY

OGLETHORPE POWER CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

DOCKET NO. 50-321

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 269
Renewed License No. DPR-57

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

    A. The application for amendment to the Edwin I. Hatch Nuclear Plant, Unit No. 1 (the facility) Renewed Facility Operating License No. DPR-57 filed by Southern Nuclear Operating Company, Inc. (the licensee), acting for itself, Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the owners), dated March 24, 2014, as supplemented by letter dated July 23, 2014, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;

    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 hereby amended by page 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. DPR-57 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 269, are hereby incorporated in the license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Robert Pascarelli, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to Renewed Facility
Operating License No. DPR-57
and the Technical Specifications

Date of Issuance: October 20, 2014

ATTACHMENT TO LICENSE AMENDMENT NO. 269

RENEWED FACILITY OPERATING LICENSE NO. DPR-57

DOCKET NO. 50-321

Replace the following pages of the License and the Appendix A Technical Specifications (TSs) 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
License DPR 57, Page 4	License DPR-57, Page 4
TSs 2.0-1	TSs 2.0-1

for sample analysis or instrument calibration, or associated with radioactive apparatus or components;

(6) Southern Nuclear, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 of Part 50, and Section 70.32 of Part 70; all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and the additional conditions specified or incorporated below:

(1) Maximum Power Level

Southern Nuclear is authorized to operate the facility at steady state reactor core power levels not in excess of 2804 megawatts thermal.

(2) Technical Specifications

The Technical Specifications (Appendix A) and the Environmental Protection Plan (Appendix B), as revised through Amendment No. 269 are hereby incorporated in the renewed license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

The Surveillance Requirement (SR) contained in the Technical Specifications and listed below, is not required to be performed immediately upon implementation of Amendment No. 195. The SR listed below shall be successfully demonstrated before the time and condition specified:

SR 3.8.1.18 shall be successfully demonstrated at its next regularly scheduled performance.

(3) Fire Protection

Southern Nuclear shall implement and maintain in effect all provisions of the fire protection program, which is referenced in the Updated Final Safety Analysis Report for the facility, as contained in the updated Fire Hazards Analysis and Fire Protection Program for the Edwin I. Hatch Nuclear Plant, Units 1 and 2, which was originally submitted by letter dated July 22, 1986. Southern Nuclear may make changes to the fire protection program without prior Commission approval only if the changes

2.0 SAFETY LIMITS (SLs)

2.1 SLs

2.1.1 Reactor Core SLs

2.1.1.1 With the reactor steam dome pressure < 685 psig or core flow < 10% rated core flow:

THERMAL POWER shall be ≤ 24% RTP.

2.1.1.2 With the reactor steam dome pressure ≥ 685 psig and core flow ≥ 10% rated core flow:

MCPR shall be ≥ 1.07 for two recirculation loop operation or ≥ 1.09 for single recirculation loop operation.

2.1.1.3 Reactor vessel water level shall be greater than the top of active irradiated fuel.

2.1.2 Reactor Coolant System (RCS) Pressure SL

Reactor steam dome pressure shall be ≤ 1325 psig.

2.2 SL Violations

With any SL violation, the following actions shall be completed within 2 hours:

2.2.1 Restore compliance with all SLs; and

2.2.2 Insert all insertable control rods.

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

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

GEORGIA POWER COMPANY

OGLETHORPE POWER CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

DOCKET NO. 50-366

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 213
Renewed License No. NPF-5

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

   A. The application for amendment to the Edwin I. Hatch Nuclear Plant, Unit No. 2 (the facility) Renewed Facility Operating License No. NPF-5 filed by Southern Nuclear Operating Company, Inc. (the licensee), acting for itself, Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the owners), dated March 24, 2014, as supplemented by letter dated July 23, 2014, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;

   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 hereby amended by page 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-5 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 213 are hereby incorporated in the license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Robert Pascarelli, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to Renewed Facility
Operating License No. NPF-5
and the Technical Specifications

Date of Issuance: October 20, 2014

ATTACHMENT TO LICENSE AMENDMENT NO. 213

RENEWED FACILITY OPERATING LICENSE NO. NPF-5

DOCKET NO. 50-366

Replace the following pages of the License and the Appendix A Technical Specifications (TSs) 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
License NPF-5, Page 4	License NPF-5, Page 4
TSs 2.0-1	TSs 2.0-1

(6) Southern Nuclear, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed license shall be deemed to contain, and is subject to, the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 of Part 50, and Section 70.32 of Part 70; all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and the additional conditions[2] specified or incorporated below:

(1) Maximum Power Level

Southern Nuclear is authorized to operate the facility at steady state reactor core power levels not in excess of 2,804 megawatts thermal, in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications (Appendix A) and the Environmental Protection Plan (Appendix B), as revised through Amendment No. 213 are hereby incorporated in the renewed license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Additional Conditions

The matters specified in the following conditions shall be completed to the satisfaction of the Commission within the stated time periods following the issuance of the renewed license or within the operational restrictions indicated. The removal of these conditions shall be made by an amendment to the license supported by a favorable evaluation by the Commission.

(a) Fire Protection

Southern Nuclear shall implement and maintain in effect all provisions of the fire protection program, which is referenced in the Updated Final Safety Analysis Report for the facility, as contained

[2] The original licensee authorized to possess, use, and operate the facility was Georgia Power Company (GPC). Consequently, certain historical references to GPC remain in certain license conditions.

2.0 SAFETY LIMITS (SLs)

2.1 SLs

2.1.1 Reactor Core SLs

2.1.1.1 With the reactor steam dome pressure < 685 psig or core flow < 10% rated core flow:

THERMAL POWER shall be ≤ 24% RTP.

2.1.1.2 With the reactor steam dome pressure ≥ 685 psig and core flow ≥ 10% rated core flow:

MCPR shall be ≥ 1.08 for two recirculation loop operation or ≥ 1.10 for single recirculation loop operation.

2.1.1.3 Reactor vessel water level shall be greater than the top of active irradiated fuel.

2.1.2 Reactor Coolant System (RCS) Pressure SL

Reactor steam dome pressure shall be ≤ 1325 psig.

2.2 SL Violations

With any SL violation, the following actions shall be completed within 2 hours:

2.2.1 Restore compliance with all SLs; and

2.2.2 Insert all insertable control rods.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

AMENDMENT NO. 269 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-57

AMENDMENT NO. 213 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-5

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

EDWIN I. HATCH NUCLEAR PLANT, UNIT NOS. 1 AND 2

LICENSE AMENDMENT REQUEST TO REDUCE REACTOR STEAM DOME PRESSURE

DOCKET NOS. 50-321 AND 50-366

1.0. INTRODUCTION

By license amendment request (LAR) dated March 24, 2014 (Reference 1), as supplemented on July 23, 2014 (Reference 2), Southern Nuclear Operating Company, Inc. (SNC, the licensee), requested changes to the Technical Specification (TS) for the Edwin I. Hatch Nuclear Plant, Unit Nos. 1 and 2 (HNP). The LAR would reduce the reactor steam dome pressure specified within Reactor Core Safety Limits Specification 2.1.1, in the TS. This change resolves a 10 CFR Part 21 condition concerning a potential to momentarily violate Reactor Core Safety Limit 2.1.1.1 and 2.1.1.2 during a Pressure Regulator Failure Maximum Demand (Open) (PRFO) transient.

The supplement dated July 23, 2014, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on June 24, 2014 (79 FR 35806).

In 2005, General Electric (GE) submitted a 10 CFR Part 21 notification, SC05-03, "Potential to Exceed Low Pressure Technical Specification Safety Limit" to the NRC [Ref. 3]. This Part 21 notification identified that applying newer computer analysis codes to a PRFO transient could result in a condition where the reactor steam dome pressure could potentially, momentarily, decrease below 785 psig while rated thermal power (RTP) was above the plant-specific thermal power limit specified in the TS 2.1.1.1 (24% RTP), violating Reactor Core Safety Limit 2.1.1.1. Initially the Boiling Water Reactor Owners' Group (BWROG) attempted to resolve the Part 21 issue. On July 18, 2006, the Technical Specifications Task Force (TSTF) and the BWROG submitted TSTF-495, Revision 0, "Bases Change to Address GE Part 21 SC05-03" [Ref. 4], proposing a modification to the "Applicable Safety Analysis" portion of the Reactor Core Safety Limit TS Bases (B 2.1.1). This change proposed to clarify that the safety limit was considered not to apply to momentary depressurization transients. In the NRC safety evaluation (SE) input for TSTF-495, dated August 14, 2007 [Ref. 5], the NRC staff stated that although the technical

arguments presented in TSTF-495 had some merit, the NRC staff found the proposed change not acceptable because it would set a precedent which could lead to erosion of safety margins protected by Safety Limits. The NRC staff further stated in the SE that from a regulatory standpoint, the proposed change to the TS Bases was also not acceptable. Consequently in April 2012, the BWROG discontinued the effort to resolve the issue generically and recommended that plants lower their Low Pressure Safety Limit to meet the lower range of their critical power correlation on plant-specific basis. Therefore, the licensee has submitted this LAR to lower their lower-bound pressure for HNP.

Some advanced fuel designs have an NRC-approved critical power correlation with a lower-bound pressure significantly below the 785 psig reactor steam dome pressure specified in TS Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2. The licensee proposes to utilize this fact and reduce the reactor steam dome pressure consistent with the approved lower-bound pressure for the critical power correlation for the GE14 fuel currently comprising the HNP core. Commencing Unit 1 Cycle 28 (spring 2016 startup) and Unit 2 Cycle 24 (spring 2015 startup), SNC intends to transition from GE14 fuel to GNF2 fuel. GE14 and GNF2 fuels utilize the GEXL14 and GEXL17 critical power correlations, respectively, with approved pressure range from 700 to 1400 psia. Revising the reactor steam dome pressure specified in Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2 to 685 psig resolves this 10 CFR Part 21 condition concerning the potential to violate a safety limit during a PRFO transient.

2.0 PROPOSED CHANGES

The licensee's proposed amendment would reduce the reactor steam dome pressure specified within Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2 from 785 to 685 psig. The Reactor Core Safety Limits for HNP Unit 1 would then read:

2.1.1.1 With the reactor steam dome pressure < 685 psig or core flow < 10% rated core flow:

THERMAL POWER shall be $\leq$ 24% RTP.

2.1.1.2 With the reactor steam dome pressure $\geq$ 685 psig and core flow $\geq$ 10% rated core flow:

MCPR shall be $\geq$ 1.07 for two recirculation loop operation or $\geq$ 1.09 for single recirculation loop operation.

The Unit 2 Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2 would then read:

2.1.1.1 With the reactor steam dome pressure < 685 psig or core flow < 10% rated core flow:

THERMAL POWER shall be $\leq$ 24% RTP.

2.1.1.2 With reactor steam dome pressure $\geq$ 685 psig and core flow $\geq$ 10% rated core flow:

MCPR shall be $\geq$ 1.08 for two recirculation loop operation or $\geq$ 1.10 for single recirculation loop operation.

3.0 REGULATORY EVALUATION

The regulatory requirements and guidance documents the NRC staff considered in its review of the proposed amendment included the following:

10 CFR 50.36, "Technical Specifications," provides the regulatory requirements for the content required in the TSs. As stated in 10 CFR 50.36(c)(1)(i)(A),

> "Safety limits for nuclear reactors are limits upon important process variables that are found to be necessary to reasonably protect the integrity of certain of the physical barriers that guard against the uncontrolled release of radioactivity. If any safety limit is exceeded, the reactor must be shut down. The licensee shall notify the Commission, review the matter, and record the results of the review, including the cause of the condition and the basis for corrective action taken to preclude recurrence. Operation must not be resumed until authorized by the Commission."

Compliance with the fuel licensing criteria of 10 CFR 50 Appendix A, General Design Criteria (GDC) 10, "Reactor design," is achieved by preventing the violation of fuel design limits. GDC 10 states:

> "The reactor core and associated coolant, control, and protection systems shall be designed with appropriate margin to assure that specified acceptable fuel design limits (SAFDLs) are not exceeded during any condition of normal operation, including the effects of anticipated operational occurrences."

NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," provides guidance on the acceptability of the reactivity control systems, the reactor core and fuel system design. Specifically, Section 4.2, "Fuel System Design," specifies all fuel damage criteria for evaluation of whether fuel designs meet the SAFDLs. Section 4.4, "Thermal and Hydraulic Design," provides guidance on the review of thermal-hydraulic design in meeting the requirement of GDC-10 and the fuel design criteria established in Section 4.2. It states that the critical power ratio (CPR) is to be established such that at least 99.9 percent of fuel rods in the core would not be expected to experience departure from nucleate boiling or Onset of Transition Boiling (OTB) during normal operation or anticipated operational occurrences (AOOs).

4.0 STAFF SAFETY EVALUATION

In its March 24, 2014 submittal [Ref. 1], the licensee stated that the GE14 fuel type is currently in use at both HNP units, with the exception of four Westinghouse Optima 2 Lead Use Assemblies (LUAs) currently in the Unit 1 core. These LUAs are modeled as GE14, and are placed in non-limiting locations. Commencing Unit 1 Cycle 28 (spring 2016 startup) and Unit 2 Cycle 24 (spring 2015 startup), SNC intends to transition from GE14 fuel to GNF2 fuel. As stated earlier, both fuel types (GE14 and GNF2) have an approved pressure range from 700 to 1400 psia for its CPR correlations.

Each fuel vendor has developed correlations valid over specified pressure and flow ranges (mass flow rates) that are approved by the NRC. These critical power correlations have become increasingly fuel design dependent as advanced fuel designs evolved. This has resulted in an extension of the NRC-approved pressure range to lower pressures as additional test data became available to demonstrate the validity of revised or new correlation(s) for performance of critical power calculations. The critical power correlations for some advanced fuel designs have received NRC approval down to a lower pressure than those approved previously. The lower-bound of the extended pressure ranges for these advanced fuel designs can be used to establish a lower reactor steam dome pressure than the 785 psig value currently specified in Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2. SNC proposes to utilize the fact that the GE14 and GNF2 fuel, comprising the HNP Unit 1 and Unit 2 cores, utilize critical power correlations that have an approved pressure range from 700 to 1400 psia. Therefore a wider pressure range is available for transients to demonstrate compliance with MCPR limits. Thus, the proposed change offers a greater pressure margin for a PRFO transient than what is currently available.

In 10 CFR Part 21 [Ref. 3], GE concluded that since during the PRFO, the CPR increases during depressurization, so that the initial CPR is the limiting CPR condition during the entire transient, and that the conditions that exceed the low pressure TS safety limit exist for only a few seconds, fuel cladding integrity is not threatened. Nevertheless, GE considered the PRFO to be a known AOO that could contribute to the exceeding of a safety limit. While this condition had been determined to not involve an actual safety hazard, the potential for violation of a Reactor Core Safety Limit had been identified, and restoration to comply with the safety limit is required for the PRFO event. As a result, SNC is revising the reactor steam dome pressure TS Safety Limit consistent with the NRC-approved pressure range of critical power correlations for the current and anticipated HNP fuel designs. Lowering the reactor steam dome pressure specification in this fashion provides margin to ensure Reactor Core Safety Limit 2.1.1.1 is not violated and resolves this 10 CFR Part 21 issue involving a potential to violate the low pressure TS Safety Limit during a PRFO transient.

In response to the NRC staff questions regarding the Lead Use Assemblies (LUAs), the licensee stated [Ref. 2] that the Westinghouse SVEA-96 Optima 2 fuels are used as LUAs in HNP, and that its lower bound CPR correlation pressure is less than 685 psig, as documented in WCAP-16081-P-A, "10x10 SVEA Fuel Critical Power Experiments and CPR Correlation: SVEA-SG Optima2," March 2005. The NRC staff reviewed the subject WCAP to confirm the CPR correlation pressure range for the LUAs and found it acceptable because the lower bound pressure for SVEA-96 Optima 2 fuel is less than 685 psig.

The NRC staff reviewed the licensee's submittal [Ref. 1], supplemental information provided in response to the NRC staff's questions [Ref. 2], related documentation (e.g., TS, UFSAR, GE Part 21, TSTF-495 and related staff SEs). The NRC staff concluded that reactor depressurization transients, such as PRFO, are non-limiting for fuel cladding integrity. Although this condition does not involve an actual safety hazard, the potential for violation of a TS Reactor Core Safety Limit was identified by the Part 21, and restoration to comply with the safety limit was required; hence, the licensee proposed the amendment in order to address the Part 21 issue.

The NRC staff determined that revising the Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2 reactor steam dome pressure from 785 to 685 psig resolves the reported 10 CFR Part 21 condition concerning the potential to violate Reactor Core Safety Limit 2.1.1.1 during a PRFO transient. TS Safety Limits are specified to ensure that SAFDLS are not exceeded during steady state

operation, normal operational transients, and anticipated operational occurrences. The Reactor Core Safety Limits are set such that fuel cladding integrity is maintained and no significant fuel damage is calculated to occur due to OTB if the Safety Limits are not exceeded.

The NRC staff confirmed that the GEXL14 critical power correlation which applies to GE14 fuel was approved [Ref. 6]. The pressure range over which the GEXL14 correlation is approved for performance of critical power calculations is from 700 psia to 1400 psia. The reactor steam dome pressure of 685 psig is established from the lower bound pressure (700.0 psia - 14.7 psia = 685.3 psig $\simeq$ 685 psig). As a result, the staff concluded that proposed change to the Reactor Core Safety Limits continues to ensure that a valid CPR calculation is performed for the AOOs described in the UFSAR, including the PRFO transient, and that with the value of 685 psig proposed for the reactor steam dome pressure would not result in a violation of Reactor Core Safety Limit 2.1.1.1 during a PRFO transient. In addition, the GEXL17 correlation for GNF2 fuel was approved for use per NEDE-24011-PA "General Electric Standard Application for Reactor Fuel (GESTAR II)" [Ref. 7] for performance of critical power calculations from 700 psia to 1400 psia. Furthermore, the proposed change will continue to provide protection during startup conditions to insure that operation at less than 685 psig or less than 10% core flow while greater than 24% RTP would not occur. Since this approach follows, and is consistent with, the way the reactor steam dome pressure has been established, and valid CPR calculations will continue to be performed, it is a safe and appropriate method to address the 10 CFR Part 21 condition, and therefore, acceptable. If the plant transitions to different fuel design(s), then the licensee should reevaluate this Part 21 issue to determine whether NRC approval is required to change the TS Safety Limits. As long as the lower bound of the fuel's CPR correlation is less than the reactor steam dome pressure specified in the TS Reactor Core Safety Limits, no TS change is required. If the lower bound of the fuel design(s) CPR correlation is not less than the TS specified value, a license amendment would be required.

The NRC staff evaluated the proposed changes against the applicable regulatory requirements and acceptance criteria. The NRC staff concluded that as long as the core pressure and flow are within the range of validity of the specified CPR correlation (GEXL14 and GEXL17 correlations for HNP) the proposed reactor steam dome pressure change to Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2 will continue to ensure that 99.9 percent of the fuel rods in the core are not expected to experience OTB. This satisfies the regulatory requirements regarding acceptable fuel design limits and continues to assure that the underlying criteria of the safety limit is met consistent with GDC 10 and 10 CFR 50.36(c)(1)(i)(A); and therefore, the proposed amendment is acceptable. The staff further concludes that there is reasonable assurance that the health and safety of the public, following approval of this TS change, is unaffected.

5.0 SUMMARY

The proposed license amendment request was evaluated by the NRC staff. It was determined that the applicable regulatory requirements will continue to be met, adequate defense-in-depth will be maintained, and sufficient safety margins will be maintained. The NRC staff, therefore, concludes that this license amendment request is acceptable.

6.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Georgia State official was notified of the proposed issuance of the amendments. The State official had no comments.

7.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards considerations, and there has been no public comment on the finding (79 FR 35806, June 24, 2014). Accordingly, the amendments meet 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 amendments.

8.0 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

9.0 REFERENCES

1.0 Pierce, C.R. (SNC) to USNRC, "License Amendment Request to Reduce the Reactor Steam Dome Pressure Specified in the Reactor Core Safety Limits," Edwin I. Hatch Nuclear Plant, dated March 24, 2014 (Agencywide Documents Access and Management System (ADAMS), Accession No. ML14084A201.

2.0 Pierce, C.R. (SNC) to USNRC, "Response to Request for Additional Information Regarding Lower Reactor Steam Dome Pressure for Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2," Edwin I. Hatch Nuclear Plant - Units 1 and 2, July 23, 2014 ADAMS Accession No. ML14204A634.

3.0 GE letter to the NRC GENE SC05-03, "Potential to Exceed Low Pressure Technical Specification Safety Limit," Reportable condition pursuant to 10 CFR 21, dated 3/29/2005.

4.0 Technical Specifications Task Force letter (TSTF-06-20) transmitting TSTF-495, Revision 0, "Bases Change to Address GE Part 21 SC05-03," dated July 18, 2006.

5.0 Safety Evaluation Input for TSTF-495, Revision 0, "Bases Change to Address GE Part 21 SC05-03," (TAC NO. MD2672), dated August 14, 2007 (ADAMS Accession No. ML072280007).

6.0 NRC letter to GNF, "Final Safety Evaluation for Global Nuclear Fuel (GNF) Topical Report (TR) NEDC-32851P, Revision 2, "GEXL14 Correlation for GE14 Fuel" (TAC No. MD5486), dated August 3, 2007" (ADAMS Accession No. ML072080365). (Non-Proprietary)

7.0 Mendiola, A. J. (NRC) to S. L. Rosenberg (NRC), "Staff Findings Regarding Supplemental Information Pertaining to the Compliance of the GNF2 Fuel Design to the General Electric Standard Application for Reactor Fuel (GESTAR II)," August 4, 2009. [ML092080499]

Principal Contributor: M. M. Razzaque, DSS/SRXB

Date: October 20, 2014

October 20, 2014

Mr. C. R. Pierce
Regulatory Affairs Director
Southern Nuclear Operating Company, Inc.
Post Office Box 1295, Bin - 038
Birmingham, AL 35201-1295

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT, UNIT NOS. 1 AND 2, ISSUANCE OF AMENDMENTS REDUCING THE REACTOR STEAM DOME PRESSURE IN THE REACTOR CORE SAFETY LIMITS (TAC NOS. MF3722 AND MF3723)

Dear Mr. Pierce:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 269 to Renewed Facility Operating License DPR-57 and Amendment No. 213 to Renewed Facility Operating License NPF-5 for the Edwin I. Hatch Nuclear Plant, Unit Nos. 1 and 2, respectively. The amendments revise the Technical Specifications (TSs) in response to your application dated March 24, 2014, as supplemented on July 23, 2014.

These amendments revise the TS Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2 reactor steam dome pressure from 785 to 685 psig. Your application stated that this change responds to a 10 CFR Part 21 (Reporting of Defects and Noncompliance) notification concerning the potential to momentarily violate Reactor Core Safety Limit 2.1.1.1 and 2.1.1.2 during a Pressure Regulator Failure Maximum Demand (Open) (PRFO) transient.

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

Sincerely,
/RA/
Robert Martin, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-321 and 50-366

Enclosures:
1. Amendment No. 269 to DPR-57
2. Amendment No. 213 to NPF-5
3. Safety Evaluation

cc w/encls: Distribution via Listserv

DISTRIBUTION:
PUBLIC
LPL2-1 R/F
RidsAcnw_MailCTR Resource
RidsNrrDorlDpr Resource
RidsNrrDorlLpl2-1 Resource
RidsNrrDssSrxb Resource
RidsNrrPMHatch Resource
RidsRgn2MailCenter Resource

ADAMS Accession No. ML14276A634 *SE transmitted by memo dated

OFFICE	NRR/LPL2-1/PM	NRR/LPL2-1/LA	NRR/DSS/SRXB/BC	NRR/DSS/STSB/BC
NAME	RMartin	SFigueroa	UShoop	RElliot (MChernoff for)
DATE	10/06/14	10/06/14	09/25/14	10/14/14

OFFICE	OGC /NLO	NRR/LPL2-1/BC	NRR/LPL2-1/PM
NAME	DRoth	RPascarelli	RMartin
DATE	10/08/14	10/20/14	10/20/14

OFFICIAL RECORD COPY