Charles R. Pierce
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SOUTHERN COMPANY

JUL 23 2014

Docket Nos.: 50-321
50-366

NL-14-1067

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

Edwin I. Hatch Nuclear Plant – Units 1 and 2
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

Ladies and Gentlemen:

By letter dated March 24, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14084A201), Southern Nuclear Operating Company (SNC), a licensee of Edwin I. Hatch Nuclear Plant, Units 1 and 2 (HNP), submitted a license amendment request pursuant to the requirements of Title 10 of the *Code of Federal Regulations* Parts 50 and 73. SNC requested that the U.S. Nuclear Regulatory Commission (NRC) review and approve a revision to the HNP Technical Specification (TS) Section 2.1.1 to reflect a lower reactor steam dome pressure for Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2. SNC stated that the revision is needed to address the potential to exceed the low pressure TS safety limit.

By letter dated June 23, 2014, the NRC sent SNC a Request for Additional Information (RAI) letter, with three RAI questions. The Enclosure provides the SNC response to the NRC RAI questions.

This letter contains no NRC commitments. If you have any questions, please contact Ken McElroy at (205) 992-7369.

Mr. C. R. Pierce states he is Regulatory Affairs Director of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and, to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

C. R. Pierce

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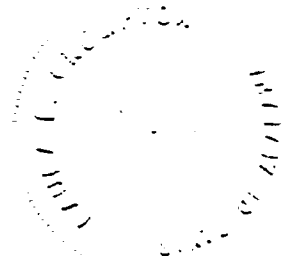
Regulatory Affairs Director



CRP/RMJ/lac

Sworn to and subscribed before me this 23 *day of* July, *2014.*

Laura L. Crook
Notary Public

My commission expires: 10/8/2017

Enclosure: SNC Response to NRC RAI Questions

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Mr. D. R. Vineyard, Vice President – Hatch
Mr. B. L. Ivey, Vice President – Regulatory Affairs
Mr. D. R. Madison, Vice President – Fleet Operations
Mr. B. J. Adams, Vice President – Engineering
Mr. G. L. Johnson, Regulatory Affairs Manager - Hatch
RType: CHA02.004

U. S. Nuclear Regulatory Commission
Mr. V. M. McCree, Regional Administrator
Mr. R. E. Martin, NRR Senior Project Manager – Hatch
Mr. D. H. Hardage, Senior Resident Inspector – Hatch

State of Georgia
Mr. J. H. Turner, Environmental Director Protection Division

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Enclosure

SNC Response to NRC RAI Questions

NRC RAI # 1

Since the proposed approach by SNC is a plant-specific resolution of the Title 10 of the Code of Federal Regulations (10 CFR) Part 21 issue discussed in the LAR, please provide the following additional information:

1. *Discuss how SNC plans to address the 10 CFR Part 21 issue when the HNP core may be a mixed core design consisting of more than one fuel design whose Critical Power Ratio (CPR) correlations have different lower-bound pressures.*

   SNC Response

   Each of the fuel designs in both the Hatch Unit 1 core and the Unit 2 core has a Critical Power Ratio (CPR) lower bound pressure of less than or equal to the requested value in SL 2.1.1.1 and 2.1.1.2.

2. *When the HNP core transitions from the current fuel design to fuel design whose lower bound pressure for the CPR correlation is higher (or lower) than that of the current CPR correlation, discuss how SNC plans to address the change affecting the reactor steam dome pressure safety limits specified in the TS. SNC's response should address whether SNC will submit such changes in a further LAR for the NRC staff review and approval.*

   SNC Response

   If SNC decides to switch to a different fuel design from those currently in use in the Hatch Unit 1 and Unit 2 reactor cores, the CPR correlation will be reviewed as part of the normal fuel design change and reload licensing processes. If the CPR correlation for the new fuel design has a lower bound pressure which is higher than the limit specified in the Technical Specifications, then an LAR will be submitted for staff review and approval. If the CPR correlation has a lower bound pressure which is lower than the Technical Specifications limit, then no LAR will be required since the Technical Specifications would set a conservative lower bound.

NRC RAI # 2

In page E1-8 of the LAR, it is stated:

> *Evaluation of the 10 CFR Part 21 condition by General Electric [GE] determined that since the Minimum Critical Power Ratio improves during the PRFO [Pressure Regulator Failure Maximum Demand] transient, there is no decrease in the safety margin and therefore there is not a threat to fuel cladding integrity.*

The U.S. Nuclear Regulatory Commission (NRC) staff understands that, although this 10 CFR Part 21 issue may not be an actual safety hazard, by lowering the

dome pressure in TS 2.1.1 from the current value of 785 per square inch grade (psig) to the proposed value of 685 psig that may enable avoidance of an unnecessary reactor shutdown that would otherwise be required by the current TS 2.2.2 if dome pressure goes below 785 psig during a transient.

Discuss if there are any other operational and/or safety benefits of lowering dome pressure from the current value of 785 psig to 685 psig.

SNC Response

Lowering the value of reactor steam dome pressure in the TS has no physical effect on plant equipment and therefore, no impact on the course of plant transients. The change is an analytical exercise to demonstrate the applicability of correlations and methodologies. There are no known operational or safety benefits.

NRC RAI#3

In page E1-2, Note 2 of the submittal, it was stated:

> *The GE14 fuel type is currently in use at both HNP units, with the exception of four Westinghouse Lead Use Assemblies (LUAs) currently in the Unit 1 core. These LUAs are modeled as GE14, and are placed in non-limiting locations.*

Further, in page E1-4, Note 6, of the submittal, it was stated:

> *In accordance with 10 CFR 50.59, only fuel which has an NRC-approved critical power correlation with a lower-bound pressure less than or equal to the reactor steam dome pressure specified in the safety limit may be loaded into the core.*

Please provide the lower-bound pressure of the CPR correlation for the LUAs. If it is higher than 685 psig, then provide the following additional information:

SNC Response

The Westinghouse SVEA-96 Optima 2 LUAs lower-bound CPR correlation pressure is less than 685 psig. Please see Chapter 8, Conclusions, page 8-1 of WCAP-16081-P-A, "10x10 SVEA Fuel Critical Power Experiments and CPR Correlation: SVEA-96 Optima2," March 2005 for the lower-bound pressure range for the LUAs.