

April 20, 2021

Docket No.: 50-366

NL-21-0415

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

Edwin I. Hatch Nuclear Plant Unit 2  
Emergency License Amendment Request for Technical Specification 3.5.1  
Regarding One-Time Extension of Completion Time for 2D RHR Pump – RAI Response

Ladies and Gentlemen:

Pursuant to the provisions of Section 50.90 of Title 10 of the Code of Federal Regulations (CFR), on April 19, 2021, Southern Nuclear Operating Company (SNC) submitted a license amendment request (LAR) to the Technical Specifications (TS) for Hatch Nuclear Plant (HNP) Unit 2 renewed facility operating license NPF-5. The proposed amendment (ADAMS Accession Number ML21109A388), as supplemented on April 20, 2021 (ML21110A652), would revise Condition A of TS 3.5.1, ECCS - Operating, by allowing a one-time increase in the Completion Time from 7 days to 15 days. The increased Completion Time would expire on May 1, 2021 at 0955 eastern daylight time (EDT).

By email dated April 20, 2021, the NRC provided a request for additional information (RAI) in regard to SNC's request. The enclosure to this letter provides the RAI with SNC's response.

The RAI response has no impact on the no significant hazards consideration or the environmental considerations of the original submittal.

This letter contains no NRC commitments. If you have any questions, please contact Jamie Coleman at 205.992.6611.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 20<sup>th</sup> day of April 2021.

Respectfully submitted,



Cheryl A. Gayheart  
Regulatory Affairs Director  
CAG/tle

U.S. Nuclear Regulatory Commission

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Enclosure: RAI Response

cc: NRC Regional Administrator, Region II  
NRC NRR Project Manager – Hatch  
NRC Senior Resident Inspector – Hatch  
Director, Environmental Protection Division – State of Georgia  
RType: CHA02.004

**Edwin I. Hatch Nuclear Plant Unit 2**

**Emergency License Amendment Request for Technical Specification 3.5.1  
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**Enclosure**

**RAI Response**

## **NRC RAI**

*By letter dated April 19, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21010A388), Southern Nuclear Operating Company (SNC, the licensee) submitted a one-time emergency residual heat removal (RHR) license amendment request (LAR) for Edwin I. Hatch Nuclear Plant, Unit 2. The proposed amendment would make a one-time revision to Condition A of Technical Specification 3.5.1, "ECCS [Emergency Core Cooling System] – Operating," to extend the Completion Time (CT) from 7 days to 15 days.*

*To complete its review of the inspection, the U.S. Nuclear Regulatory Commission (NRC) staff requests the following additional information:*

- *Provide a detailed analyses of the performance of the 2A, 2B, and 2C RHR pumps, and*
- *Review of industry operating experience pertaining to Ingersoll-Rand pumps.*

### **Regulatory Requirement**

*Regulatory Guide 1.177, Revision 1*

### **Discussion**

*RG 1.177 Element 2: "Perform Engineering Analysis" reads in part:*

*The licensee should examine the proposed TS change to verify that it meets existing applicable rules and regulations. In addition, the licensee should determine how the change impacts defense-in-depth aspects of the plant's design and operation and should determine the adequacy of safety margins following the proposed change. The licensee should consider how plant and industry operating experience relates to the proposed change, and whether potential compensatory measures could be taken to offset any negative impact from the proposed change.*

*LAR "Emergency Circumstances" Section 2.1 "Why this Situation Could Not be Avoided" provides considerable detail to explain that were no precursors (e.g., pump flow, discharge pressure, differential pressure, vibration analysis, oil analysis, thermography etc.) that could have predicted the failure of the 2D RHR pump.*

*In contrast, the LAR does not provide a similar performance review and analyses (2A, 2B, and 2C RHR pumps) of the RHR redundant train's pumps or residual same train RHR pump.*

*In addition, Enclosure to NL-21-0411 of the LAR does not contain a review of industry or pump vendor (Ingersoll-Rand) operating experience that would support a preface that common mode failure is highly unlikely.*

**SNC Response to RAI**

In addition to the 2D pump, a review of the performance data for the other Unit 2 residual heat removal (RHR) pumps (2E11C002A, B, C) was performed. The data were within Hatch and Fleet standards. The review included pump flow, discharge pressure, and differential pressure from 2016 to present. The data indicated steady trends with no indication of degradation. Vibration measurements were all in the acceptable range, and there were no significant outliers that would indicate adverse trends with relation to pump performance.

During the month of January 2021, the quarterly pump in-service tests (ISTs) were performed for each pump. These tests and the previous ISTs were performed satisfactorily. During the January IST runs, vibration measurements were taken, and all the levels met SNC Fleet vibration standards.

The data for each RHR pump motor was also reviewed as part of the annual pump/motor review preventative maintenance (PM). All environmental qualification (EQ) PM (i.e., thermography, electromagnetic interference (EMI), oil change/sampling, megger, EMAX) has been performed on the RHR motors by the required dates. No degraded conditions or parameters outside acceptable values were observed. In addition, in January 2021, the motor oil samples from each pump motor were analyzed, and all results were satisfactory.

In addition, industry and pump vendor operating experience (OE) was reviewed, as well as NRC Information Notices (INs) (e.g., INs 86-39, 87-59, 93-03). This review did not uncover any OE that would suggest a potential common cause mode failure for the 2A, 2B, or 2C RHR pumps based on the 2D pump overcurrent trip.