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Docket Nos.: 50-321  
50-366

NL-07-1201

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

**Edwin I. Hatch Nuclear Plant**  
**Application for Technical Specification Improvement to Revise**  
**Control Rod Scram Time Testing Frequency – Revised Enclosure 1**

Ladies and Gentlemen:

On June 5, 2007, Southern Nuclear Operating Company submitted a change to the Unit 1 and 2 Hatch Technical Specifications (TS) to revise the frequency of a scram time testing surveillance requirement. The changes were based on Technical Specifications Task Force (TSTF) change traveler TSTF-460. A notice announcing the availability of this proposed TS change using the consolidated line item improvement process (CLIIP) was published in the Federal Register on August 23, 2004 (69 FR 51854).

The June 5<sup>th</sup> letter inadvertently omitted Section 4.0, "Regulatory Requirements and Guidance" from Enclosure 1, "Description and Verification of Applicability." Accordingly, the revised Enclosure 1 to this letter completely replaces and supercedes Enclosure 1 of SNC's June 5, 2007 letter. Enclosures 2, 3 and 4 are not affected by this revision.

SNC requests approval of the license amendment by December 15, 2007, with the amendment being implemented within 45 days of issuance.

(Affirmation and signature are provided on the following page.)

Mr. L. M. Stinson states he is a Vice President 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.

This letter contains no new NRC commitments. Commitments associated with the proposed TS amendment request are contained in Enclosure 4 of the June 5<sup>th</sup> letter.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



L. M. Stinson  
Vice President Fleet Operations Support

Sworn to and subscribed before me this 11<sup>th</sup> day of June, 2007.

  
Notary Public

My commission expires: July 5, 2010

LMS/OCV/daj

Enclosure: 1. Description and Verification of Applicability

cc: Southern Nuclear Operating Company  
Mr. J. T. Gasser, Executive Vice President  
Mr. D. R. Madison, Vice President – Hatch  
Mr. D. H. Jones, Vice President – Engineering  
RType: CHA02.004

U. S. Nuclear Regulatory Commission  
Dr. W. D. Travers, Regional Administrator  
Mr. R. E. Martin, NRR Project Manager – Hatch  
Mr. J. A. Hickey, Senior Resident Inspector – Hatch

State of Georgia  
Mr. N. Holcomb, Commissioner – Department of Natural Resources

**Enclosure 1**  
**Edwin I. Hatch Nuclear Plant, Units 1 and 2**  
**Technical Specifications Amendment request to Revise Control Rod**  
**Scram Time Testing Surveillance Frequency**  
**Description and Verification of Applicability**

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Description and Verification of Applicability

**1.0 Introduction**

The proposed license amendment revises the required testing frequency for the surveillance requirement (SR) in Technical Specification (TS) 3.1.4, "Control Rod Scram Times." A notice announcing the availability of this proposed TS change using the consolidated line item improvement process (CLIIP) was published in the *Federal Register* on August 23, 2004.

**2.0 Proposed Change**

These changes are based on TS Task Force (TSTF) change traveler TSTF-460 (Revision 0), that has been approved generically for the boiling water reactor (BWR) Standard TS, NUREG-1433 (BWR/4). The required frequency of SR 3.1.4.2 is changed from "120 days cumulative operation in MODE 1" to "200 days cumulative operation in MODE 1."

**3.0 Background**

The background for this application is adequately addressed by the CLIIP Notice of Availability published on August 23, 2004 (69 FR 51854) and TSTF-460.

**4.0 Regulatory Requirements and Guidance**

The applicable regulatory requirements and guidance associated with this application are adequately addressed by the CLIIP Notice of Availability published on August 23, 2004 (69 FR 51854) and TSTF-460.

**5.0 Technical Analysis**

Southern Nuclear has reviewed the safety analysis (SE) published on August 23, 2004 (69 FR 51854) as part of the CLIIP Notice of Availability. This verification included a review of the NRC staff's SE and the supporting information provided to support TSTF-460. Southern Nuclear has concluded that the justifications presented in the TSTF proposal and the SE prepared by the NRC staff are applicable to Plant Hatch, Units 1 and 2, and justify this amendment for the incorporation of the changes to the Hatch Plant Technical Specifications.

As described in the CLIIP model SE, part of the justification for the change in surveillance frequency is the high reliability of the Plant Hatch Control Rod Drive System. As requested in the Notice of Availability published on August 23, 2004 (69 FR 51854), the historical performance of the Control Rod Drive system at Plant Hatch is as follows:

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The Hatch Units 1 and 2 cores each contain 137 control rods with the full-in position being 00 and full-out being 48.

The Hatch Unit 1 and 2 Technical Specifications are consistent with the BWR/4 Standard Technical Specifications (TS). The scram time TS requirements are as follows:

Surveillance Requirement (SR) 3.1.3.4 of Limiting Condition for Operation (LCO) 3.1.3, "Control Rod Operability" requires that each control rod have a scram time less than or equal to seven seconds to notch position 06, from the full-out position of 48. This is an Operability requirement for each control rod. Consequently, a scram time of greater than seven seconds to notch 06 requires declaring the control rod inoperable.

Additionally, TS LCO 3.1.4, "Control Rod Scram Times," requires that no more than 10 Operable control rods be slow and that no more than 2 "slow" Operable control rods occupy adjacent locations.

A slow control rod is one which does not meet one of the following scram time criteria: 0.44 seconds to notch 46, 1.08 seconds to notch 36, 1.83 seconds to notch 26 and 3.35 seconds to notch 06.

Scram time testing at Hatch is performed for each control rod at the beginning of each operating cycle (BOC) per TS SR 3.1.4.1, and for 10% of the control rods after every 120 days of cumulative operation in MODE 1 per SR 3.1.4.2. Also, a control rod must be scram time tested after work on the control rod or on the control rod drive that could affect its scram time per SRs 3.1.4.3 and 3.1.4.4. Most scram time tests are required to be performed at reactor pressures greater than or equal to 800 psig. However, SR 3.1.4.3 requires a scram time test for control rods following maintenance before the rod may be declared Operable, therefore, it provides for testing at pressures less than 800 psig. In those cases, only notch 06 limits apply, and the acceptance criterion is adjusted for the low pressure.

Individual control rod scrams are performed to test the rods at the beginning of each cycle. For the 120 day test, individual rod tests are performed as well. However, control rods are usually configured into a scram time recorder so that, if a reactor scram were to occur, scram data could be obtained and used to satisfy SR 3.1.4.2. This would not necessarily result in a test of all 137 control rods since during the majority of the operating cycle, some control rods are only partially withdrawn. Individual rod scrams are used to satisfy the requirements of SR 3.1.4.3 and 3.1.4.4 following control rod or drive maintenance.

Hatch scram time testing data packages were reviewed for the years 2002 to the beginning of cycle in 2006 for Unit 1 and 2003 to the beginning of cycle in 2007 for

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Unit 2. Included are the results of the complete beginning of cycle scram time data for Unit 1 cycles 21, 22, and 23, and for Unit 2 cycles 18, 19, and 20.

The below data demonstrates the reliability of the Hatch Units 1 and 2 Control Rod Drive system with respect to scram times. This data represents a total of 1920 individual control rod scram tests (1005 for Unit 1 and 915 for Unit 2) with no rods inoperable and only 2 slow rods. These data also indicate that Hatch should have no problem meeting the more restrictive 7.5% slow rod criteria required by the CLIIP.

**Unit 1**

In April of 2002, one control rod was tested following a control rod drive repair. The rod met its acceptance criterion. Also in April of 2002, 137 control rods were tested. All rods met the seven second criteria and no rods were slow.

Again in April of 2002, 88 control rods were tested. All rods met the seven second criteria and no rods were slow.

In July of 2002, 17 control rods were tested. All rods met the seven second criteria and no rods were slow.

In December of 2002, 17 control rods were tested. All rods met the seven second criteria and no rods were slow.

In February of 2003, 19 control rods were tested. All rods met the seven second criteria and no rods were slow.

In April of 2003, 96 control rods were tested. All rods met the seven second criteria and no rods were slow.

In August of 2003, 16 control rods were tested. All rods met the seven second criteria and no rods were slow.

In November of 2003, 15 control rods were tested. All rods met the seven second criteria and no rods were slow.

In March of 2004, 137 control rods were tested. All rods met the seven second criteria and no rods were slow.

Also in March of 2004, 2 control rods were tested following maintenance. Both rods met their low and high pressure acceptance criteria.

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In June of 2004, 16 control rods were tested. All rods met the seven second criteria and no rods were slow.

In August of 2004, 16 control rods were tested. All rods met the seven second criteria and no rods were slow.

In November of 2004, 19 control rods were tested. All rods met the seven second criteria and no rods were slow.

In January of 2005, 93 control rods were tested. All rods met the seven second criteria and no rods were slow.

In April of 2005, 18 control rods were tested. All rods met the seven second criteria and no rods were slow.

In July of 2005, 16 control rods were tested. All rods met the seven second criteria and no rods were slow.

In October of 2005, 16 control rods were tested. All rods met the seven second criteria and no rods were slow.

In October of 2005, 129 control rods were tested. All rods met the seven second criteria and no rods were slow.

In March of 2006, 137 control rods were tested. All rods met the seven second criteria and no rods were slow.

**Unit 2**

In March of 2003, 137 control rods were scram time tested. All rods met the seven second criteria and no rods were slow.

In August of 2003, 16 rods were tested. All rods met the seven second criteria and no rods were slow.

In June of 2003, 18 control rods were tested. All rods met the seven second criteria and no rods were slow.

In November of 2003, 16 control rods were tested. All rods met the seven second criteria and no rods were slow.

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In February of 2004, 16 control rods were tested. All rods met the seven second criteria and no rods were slow.

In April of 2004, 15 control rods were tested. All rods met the seven second criteria and no rods were slow.

In July of 2004, 16 control rods were tested. All rods met the seven second criteria and no rods were slow.

In September of 2004, 111 control rods were tested. All rods met the seven second criteria and no rods were slow.

Also in September of 2004, 1 control rod was tested at low pressure. It met its acceptance criterion.

In October of 2004, 1 control rod was tested. It met its seven second criteria and it was not slow.

In March of 2005, 1 control rod was tested at low pressure following maintenance. The rod met its acceptance criterion.

Also in March of 2005, 137 control rods were tested. All rods met the seven second criteria and one rod was declared slow.

Again in March of 2005, 116 control rods were tested. All rods met the seven second criteria and no rods were slow.

In April of 2005, 1 control rod was tested. It met its seven second criteria and was not slow.

In May of 2005, 1 control rod was tested. The rod that had been declared slow in the March of 2005 testing was re-tested and passed all the acceptance criteria.

In August of 2005, 17 control rods were tested. All rods met the seven second criteria and no rods were slow.

In November of 2005, 16 control rods were tested. All rods met the seven second criteria and one rod was declared slow.

In February of 2006, 16 control rods were tested. All rods met the seven second criteria and no rods were slow.



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In April of 2006, 111 control rods were tested. All rods met the seven second criteria and no rods were slow.

In August of 2006, 15 control rods were tested. All rods met the seven second criteria and no rods were slow.

In March of 2007, 137 control rods were tested. All rods met the seven second criteria and no rods were slow.

At the beginning of Unit 2 cycle 20 (March 2007) 12 Westinghouse control rod blades were loaded in the core. Westinghouse type blades are not included in the listed scram time data before March of 2007. These 12 blades were successfully tested, however, in the beginning of cycle 20 testing for Hatch Unit 2 in March of 2007. Westinghouse blades are also planned to be loaded in the next Unit 1 cycle beginning in March of 2008. There have been no other changes to the control rods, control rod drive system, or scram time testing practices that would invalidate the results or conclusions of this data.

### **6.0 Commitments**

As discussed in the CLIIP model SE published in the Federal Register for this TS improvement, Plant Hatch is making the following Regulatory Commitment with the understanding that the NRC will make it as a condition for the issuance of this requested amendment:

Plant Hatch will incorporate the revised acceptance criteria value of 7.5 percent into the TS Bases for Plant Hatch Units 1 and 2 in accordance with the Bases Control Program described in TS section 5.5.14.

### **7.0 No Significant Hazards Consideration**

Plant Hatch has reviewed the proposed no significant hazards consideration determination published on August 23, 2004 (69 FR 51854) as part of the CLIIP. Plant Hatch has concluded that the proposed determination presented in the notice is applicable to Plant Hatch and the determination is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

### **8.0 Environmental Evaluation**

Plant Hatch has reviewed the environmental evaluation included in the model SE as part of the CLIIP. Plant Hatch has concluded that the staff's findings presented in that evaluation are applicable to Plant Hatch and the evaluation is hereby incorporated by reference for this application.

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**9.0 Precedent**

This application is being made in accordance with the CLIIP. Plant Hatch is not proposing variations or deviations from the TS changes described in TSTF-460 or the NRC staff's model SE published on August 23, 2004 (69 FR 51854).

**10.0 References**

Federal Register Notice: Notice of Availability of Model Application Concerning Technical Specifications Improvement Regarding Revision to the Control Rod Scram Time Testing frequency in STS 3.1.4, "Control Rod Scram Times" for General Electric Boiling Water Reactors Using the Consolidated Line Item Improvement Process, published August 23, 2004 (60 FR 51854).