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

Joseph M. Farley Nuclear Plant  
Fourth Ten-Year Interval Inservice Testing (IST) Program  
Submittal of Response to NRC Questions from April 13, 2012 Conference Call

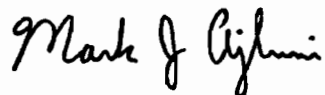
Ladies and Gentlemen:

By letter dated October 28, 2011 (Agencywide Documents Access and Management System (ADAMS), Accession No. ML113010346), Southern Nuclear Operating Company (SNC), submitted a request for relief (relief request RR-P-3, Version 2) from the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, Subsection ISTB quarterly inservice testing (IST) requirements for the Joseph M. Farley Nuclear Plant (FNP) motor driven auxiliary feedwater (MDAFW) pumps. The U.S. Nuclear Regulatory Commission staff (NRC) reviewed the information and identified that additional information was needed to complete the review. A request for additional information (RAI) was issued to SNC in letter dated February 2, 2012 (ML12024A027). SNC responded to this RAI by letter dated March 30, 2012 (ML12093A046).

A conference call was held on April 13, 2012, between NRC and SNC representatives, to discuss further NRC questions related to the SNC RAI response provided by letter dated March 30, 2012. The conference call concluded with SNC agreeing to provide the NRC further information to complete the review. This information is provided in Enclosures 1 and 2 of this letter. Based on this call, SNC is requesting approval of RR-P-3, Version 2, through December 31, 2012.

This letter contains no NRC commitments. If you have any questions, please contact Jack Stringfellow at (205) 992-7037.

Sincerely,



M. J. Ajluni  
Nuclear Licensing Director

MJA/RMJ/lac

- Enclosures:
1. SNC Responses to NRC Questions/Issues from April 13, 2012 Conference Call
  2. MDAFW System Minimum/Maximum Design Curves and FNP Modified Impeller Pump Curve

cc: Southern Nuclear Operating Company  
Mr. S. E. Kuczynski, Chairman, President & CEO  
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer  
Mr. T. A. Lynch, Vice President – Farley  
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U. S. Nuclear Regulatory Commission  
Mr. V. M. McCree, Regional Administrator  
Mr. R. E. Martin, NRR Project Manager – Farley  
Mr. E. L. Crowe, Senior Resident Inspector – Farley

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**Enclosure 1**

**SNC Responses to NRC Questions/Issues from April 13, 2012 Conference Call**

### **NRC Question #1**

For the response to RAI #2, SNC says that they are going to measure the flow through the mini flow line. In their Relief Request, they say that until the end of 2012, they will only measure flow and differential pressure. Which parameters will be measured by SNC?

### **SNC Response #1**

Flowrate is currently being measured at FNP, but it is not being trended as required by the ASME OM Code. FNP is currently evaluating the use of ultrasonic flow measurement equipment (e.g., Fuji Flow Meter or equivalent) in order to acquire data for two successive tests for each pump to ensure accuracy and repeatability. After two successive and successful tests in which flowrate, differential pressure and vibration are measured, FNP will update the applicable surveillance procedures to perform IST that meets the ASME OM Code, Subsection ISTB requirements. Once these requirements are met, relief request RR-P-3 Version 2 will no longer be needed. It is fully anticipated that all requirements will be met no later than December 31, 2012. All IST for the FNP MDAFW pumps will be in compliance with the ASME OM Code, Subsection ISTB beginning January 1, 2013.

### **NRC Question #2**

The figure provided during the conference call on April 13, 2012, shows system minimum and maximum acceptability curves and four intermediate pump performance curves which are all within the bounds of the minimum and maximum curves. However, the four intermediate pump curves are labeled with identification numbers that do not correspond to the MDAFW pump identification numbers. Please explain the identification numbers included on the subject figure.

### **SNC Response #2**

Note: The referenced figure is included as Enclosure 2 to this submittal letter.

The four intermediate curves were developed during testing on the vendor's flow loop prior to being shipped to FNP. FNP then installed the four rotating assemblies into the existing pump casings. The curve labeled HS-2366 has been verified to correspond to MDAFW Pump Q2N23P001B-B. However, based on review of pump record documents, it is not possible to verify which of the other three pump performance curves (HS-2273, HS-2578 and HS-2681) corresponds to the three other MDAFW Pumps (Q1N23P001A-A, Q1N23P001B-B and Q2N23P001A-A). This issue was entered into the FNP corrective action program on November 3, 2011.

Review of the pumps' performance curves reveals that the three unidentified curves are all relatively equivalent through the operational range of concern, i.e., 50 gpm to 350 gpm. In fact, at the flowrate of most concern, i.e., maximum required accident flowrate, all the performance curves are virtually indistinguishable. Therefore, specific linkage to an individual pump is not absolutely necessary, since quarterly IST is performed at nominally 50 gpm and the comprehensive pump test is performed at a reference flowrate of 340 gpm. As a result, tracking and trending of IST performance data will be possible to monitor for pump degradation.

The subject pump curves are used for reference and engineering evaluation only. When these rotating assemblies were installed into the existing pump casings, there was no IST requirement to develop a pump curve during pre-service testing. IST reference values were established in accordance with ISTB-3300(a) (ASME OM Code 2001 Edition through 2003 Addenda). ISTB-3300(a) allows establishing reference values from the results of the first IST for pumps in an operating plant. Therefore, FNP utilizes reference values for flow, differential pressure and vibration for comparison to subsequent IST data to determine acceptability and trend degradation.

#### **ADDITIONAL INFORMATION**

During a follow-up telephone conversation between the NRC and SNC on May 2, 2012, the NRC asked a question about the Code referenced in the Reason for Request section of RR-P-3 Version 2. RR-P-3 Version 2 references ANSI B31.10, Class III Non-Nuclear for the piping and supports downstream of the isolation valve in the 4" test line to the condensate storage tank. The NRC requested this be changed to simply ANSI B31.1 if this would not have a technical impact on the relief request. SNC agreed that this change would not have a technical impact on the relief request. Therefore, the final version of relief request RR-P-3 will reference ANSI B31.1 only. The NRC indicated that it was not necessary to resubmit the relief request.

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**Enclosure 2**

**MDAFW System Minimum/Maximum Design Curves and FNP Modified Impeller Pump  
Curve**

