

**Charles R. Pierce**  
Regulatory Affairs Director

**Southern Nuclear  
Operating Company, Inc.**  
40 Inverness Center Parkway  
Post Office Box 1295  
Birmingham, Alabama 35201  
  
Tel 205.992.7872  
Fax 205.992.7601



**APR 22 2014**

Docket Nos.: 50-348

NL-14-0634

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

Joseph M. Farley Nuclear Plant – Unit 1  
Response to the Request for Additional Information Regarding  
ISI Program Alternative FNP-ISI-ALT-14, Version 1.0

Ladies and Gentlemen:

By letter dated February 18, 2014, (Agency-Wide Documents Access and Management System (ADAMS) Accession Number ML14050A382) Southern Nuclear Operating Company (SNC) submitted a proposed alternative tendon examination schedule for tendons affected by repair or replacement for Farley Nuclear Plant (FNP) - Unit 1.

Subsequently, by letter dated March 28, 2014, (ADAMS Accession Number ML14085A057), the U. S. Nuclear Regulatory Commission (NRC) submitted a Request for Additional Information (RAI) to enable completion of their review. The enclosure to this letter provides SNC's response to the RAIs.

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

Respectfully submitted,

A handwritten signature in black ink that reads "C. R. Pierce". The signature is written in a cursive style with a large, prominent "P" and "C".

C.R. Pierce  
Regulatory Affairs Director

CRP/JMC/lac

Enclosure: Response to Request for Additional Information

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cc: Southern Nuclear Operating Company  
Mr. S. E. Kuczynski, Chairman, President & CEO  
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer  
Ms. C. A. Gayheart, Vice President – Farley  
Mr. B. L. Ivey, Vice President – Regulatory Affairs  
Mr. D. R. Madison, Vice President – Fleet Operations  
Mr. B. J. Adams, Vice President - Engineering  
RTYPE: CFA04.054 / CVC7000

U. S. Nuclear Regulatory Commission  
Mr. V. M. McCree, Regional Administrator  
Mr. S. A. Williams, NRR Project Manager - Farley  
Mr. P. K. Niebaum, Senior Resident Inspector - Farley  
Mr. J. R. Sowa, Resident Inspector - Farley

**Farley Nuclear Plant - Unit 1  
Response to the Request for Additional Information Regarding  
ISI Program Alternative FNP-ISI-ALT-14, Version 1.0**

**Enclosure**

**Response to Request for Additional Information**

Enclosure to NL-14-0634  
Response to Request for Additional Information

By letter dated February 18, 2014 (Agencywide Documents Access Management System, Accession Number ML14050A382), Southern Nuclear Operating Company, Inc., submitted a proposed alternative tendon examination schedule for tendons affected by repair or replacement for the Joseph M. Farley Nuclear Plant, Unit No. 1, during the fourth inservice inspection interval. In a letter from the NRC dated March 28, 2014, the NRC staff indicated that additional information was needed to perform their review of the proposed alternative. This enclosure contains the requested information.

FNP-ISI-ALT-14-RAI-1:

*“The following ten (10) horizontal tendons: (H7AB, H25AC, H27AC, H28BC, H29AB, H30AC, H33AB, H35AB, H41AB, and H44AB), were affected by post-tensioning repair/replacement activities, as noted in the above Reference. Please provide the required horizontal tendon force, according to the Farley Nuclear Plant (FNP) – Unit 1 current licensing basis, along with the minimum predicted force, expected at the next regularly scheduled FNP – Unit 1, American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, IWL inspection (i.e. 40<sup>th</sup> Year tendon surveillance), for these ten tendons.”*

SNC Response to FNP-ISI-ALT-14-RAI-1:

Per reference 5, (Sheet A5) and reference 7, the required horizontal tendons force is 6.01 Kips/wire or 1021.7 Kips total for one tendon (based on 170 wire tendon). Table 1 shows the minimum predicted force expected at the next regularly scheduled inspection for each of the ten aforementioned tendons.

Table 1  
Minimum Predicted Force for 40<sup>th</sup> Year Tendon Surveillance (July 2016)

<b>Tendon</b>	<b>Minimum Predicted Force (Listed as total in Kips for the tendon)</b>
H7AB	1106.54
H25AC	1070.82
H27AC	1096.48
H28BC	1082.79
H29AB	1078.04
H30AC	1085.03
H33AB	1089.01
H35AB	1070.94
H41AB	1075.99
H44AB	1080.82

Conclusion: All values for predicted force are above minimum value of 1021.7 Kips

FNP-ISI-ALT-14-RAI-2:

*"For the ten horizontal tendons noted in FNP-ISI-ALT-14-RAI-1, please provide any information relative to indications of water intrusion or corrosion in these tendons and discuss any corrective actions taken, if indications of water intrusion or corrosion were observed."*

SNC Response to FNP-ISI-ALT-14-RAI-2:

Table 2 summarizes the inspections performed for water intrusion and corrosion on the tendons affected by the repair/replacement activity. Only the details for the Field End are shown since these were the anchorheads that were replaced.

Also noted below is the corrosion levels utilized during tendon examinations. Level "A" and "B" corrosion is considered acceptable and neither requires a justification.

***Corrosion Levels and Descriptions***

- A - No visible rust (mill oxide coating is in this category).
- B - Rust which appears to have formed prior to initial filler installation and shows no evidence of having progressed in the interim.
- C - New or progressive rust. **NOTE:** A Nonconformance Report SHALL be written.

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 Response to Request for Additional Information

Table 2  
 Water Intrusion and Corrosion Inspection Results for Tendons Affected by  
 Repair/Replacement

Tendon	Water Detected	Corrosion Item/Level (As-Found)	Justification for Water or Corrosion
H7AB	No	No signs of rust on fractured anchorhead pieces	N/A
H25AC	No	Buttonheads / A Anchorhead / A Shims / A Bearing Plate / B	N/A
H27AC	No	Buttonheads / A Anchorhead / A Shims / A Bearing Plate / B	N/A
H28BC	Yes	Buttonheads / A Anchorhead / B Shims / B Bearing Plate / B	12 oz. of water observed during detensioning. Acceptable based on no level "C" corrosion. Will be tracked in database of tendon inspections.
H29AB	No	Buttonheads / A Anchorhead / A Shims / A Bearing Plate / B	N/A
H30AC	No	Buttonheads / B Anchorhead / B Shims / B Bearing Plate / C	NCR FN1097-003 Acceptable since only Bearing Plate level "C". Bearing Plate Restored to level "B" for Post Re-tensioning.
H33AB	No	Buttonheads / B Anchorhead / B Shims / B Bearing Plate / B	N/A
H35AB	No	Buttonheads / B Anchorhead / C Shims / C Bearing Plate / C	NCR FN1078-002 Acceptable since only Shims/Bearing Plate level "C" and Anchor Head will be replaced. Shims/Bearing Plate Restored to level "B" for Post Re-tensioning.
H41AB	No	Buttonheads / A Anchorhead / B Shims / A Bearing Plate / B	N/A
H44AB	No	Buttonheads / B Anchorhead / B Shims / B Bearing Plate / B	N/A