UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 17, 2008

Mr. J. Randy Johnson
Vice President – Farley
Joseph M. Farley Nuclear Plant
7388 North State Highway 95
Columbia, AL 36319

SUBJECT: JOSEPH M FARLEY NUCLEAR PLANT, UNIT 2, SAFETY EVALUATION FOR ALTERNATIVE FNP-ISI-ALT-01, VERSION 1.0 RELIEF REQUEST FROM ASME CODE REQUIREMENTS (TAC NO. MD8130).

Dear Mr. Johnson:

By letter dated October 8, 2007, to the U.S. Nuclear Regulatory Commission (NRC) (Agencywide Document Access and Management System (ADAMS) Accession No. ML072820172), as supplemented by letters dated June 27, 2008 (ADAMS Accession No. ML081790357) and September 12, 2008 (ADAMS Accession No. ML082560828). Southern Nuclear Operating Company, Inc. (SNC, the licensee) submitted Relief Request FNP-ISI-ALT-01, Version 1.0, for Joseph M. Farley Nuclear Plant (FNP), Units 1 and 2. FNP-ISI-ALT-01, Version 1.0, proposed an alternative to certain American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI requirements.

The licensee requested relief to the requirements pursuant to Title 10 of the *Code of Federal Regulations* 50.55a(a)(3)(i). The proposed alternative, FNP-ISI-ALT-01, was submitted for the purpose of synchronizing the fourth 10-year inservice inspection (ISI) interval at Farley Nuclear Plant (FNP), Units 1 and 2. Specifically, the proposed alternative would alter FNP Unit 2's ISI interval dates to correspond with FNP Unit 1's ISI interval dates.

The NRC staff completed its review and evaluation of the relief request FNP-ISI-ALT-01. As documented in the enclosed safety evaluation, the NRC staff concludes that the proposed alternative, FNP-ISI-ALT-01, provides an acceptable level of quality and safety.

If you have any questions, please contact the Project Manager, Karl Feintuch via e-mail at Karl.Feintuch@nrc.gov or by phone at 301-415-3079.

Sincerely,

Melanie C. Wong, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No.: 50-364

Enclosure: Safety Evaluation

cc w/encl: Distribution Via ListServ

October 17, 2008

If you have any questions, please contact the Project Manager, Karl Feintuch via e-mail at Karl.Feintuch@nrc.gov or by phone at 301-415-3079.

Sincerely,

/RA/

Melanie C. Wong, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No.: 50-364

Enclosure: Safety Evaluation

cc w/encl: Distribution via ListServ

DISTRIBUTION:
Public
LPL2-1 R/F
RidsNrrDorlLpl2-Resource
RidsRgn2MailCenter Resource
RidsOgcRp Resource
RidsAcrsAcnwMailCenter Resource
RidsNrrLAGLappert Resource
RidsNrrPMKFeintuch Resource

Accession Number: ML082940114 *By Memo dated: 10/1/2008

OFFICE	NRR/LPL2-1/PM	NRR/LPL2-1/LA	DCI/CPNB	OGC	LPL2-1/BC
NAME	KFeintuch	GLappert	TChan*	AJones	MWong
DATE	10/7/08	10/6/08	10/1/08	10/17/08	10/17/08

OFFICIAL RECORD COPY

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION REPORT BY THE OFFICE OF NUCLEAR REACTOR REGULATION

ALTERNATIVE FNP-ISI-ALT-01, VERSION 1.0

ALTERATION OF UNIT 2's ISI INTERVAL DATES TO CORRESPOND TO THOSE OF UNIT 1

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 2

SOUTHERN NUCLEAR OPERATING COMPANY

DOCKET NUMBER 50-364

1.0 INTRODUCTION

By letter dated October 8, 2007, to the U.S. Nuclear Regulatory Commission (NRC) (Agencywide Document Access and Management System (ADAMS) Accession No. ML072820172), as supplemented by letters dated June 27, 2008 (ADAMS Accession No. ML081790357) and September 12, 2008 (ADAMS Accession No. ML082560828). Southern Nuclear Operating Company, Inc. (SNC, the licensee) submitted a relief request proposing an alternative to certain American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI requirements. The licensee submitted a request to implement a proposed alternative, FNP-ISI-ALT-01, to synchronize the fourth 10-year inservice inspection (ISI) interval at Farley Nuclear Plant (FNP), Units 1 and 2. Specifically, the licensee's proposal alters FNP Unit 2's ISI interval dates to correspond with FNP Unit 1's ISI interval dates for the remainder of FNP Unit 2's licensed life by terminating the current third 10-year ISI interval approximately three and one half years early. The approval would also truncate Unit 2's risk-informed inservice inspection (RI-ISI) program for the third interval.

2.0 REGULATORY EVALUATION

Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a(g)(4), ASME Boiler and Pressure Code Class 1, 2, and 3 components (including supports) must meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection (ISI) of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The ISI code of record for Farley Nuclear Plant, Units 1 and 2, fourth 10-year ISI interval is the 2001 Edition, through the 2003 Addenda of Section XI of the ASME Code.

Pursuant to 10 CFR 50.55a(a)(3), alternatives to requirements may be authorized by the NRC if the licensee demonstrates that: (i) the proposed alternatives provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The licensee sets forth FNP-ISI-ALT-01 as a proposed alternative that provides an acceptable level of quality and safety. 10 CFR 50.55a(a)(3)(i) provides a suitable regulatory basis to evaluate the proposed modification.

3.0 TECHNICAL REVIEW

3.1 APPLICABLE CODE REQUIREMENTS

ASME Section XI, paragraph IWA-2432, 2001 Edition through 2003 Addenda requires the first inspection interval to be 10 years following initial start of plant service with successive inspection intervals of 10 years following the previous inspection interval, except as modified by IWA-2430(d)

3.2 Licensee's Proposed Alternative

The licensee proposed the implementation of alternative FNP-ISI-ALT-01 to terminate FNP, Unit 2, third 10-year ISI interval by November 30, 2007, shorting the interval by three and one half years. The new fourth ISI interval, using the 2001 Edition through 2003 Addenda of ASME Section XI, would start on December 1, 2007 and end on November 30, 2017.

3.3 COMPONENTS FOR WHICH RELIEF IS REQUESTED

Relief is being requested for ASME Code Class 1, 2, and 3 components (including supports).

CLASS	CATEGORY		
Class 1 (Components)	B-A B-B B-D B-E B-F	B-G-1 B-J B-K B-N-1 B-N-2	B-N-3 B-O B-P B-Q
Class 2 (Components)	C-A C-B C-C C-D	C-F-1 C-F-2 C-G C-H	
Class 3 (Components)	D-A D-B		
Class 1, 2, and 3 (Component Supports)	F-A R-A* (substitutes B-F, B-J, C-F-1 and C-F-2)		

* RI-ISI renewal application will be submitted in 2009.

3.3 LICENSEE'S BASIS FOR PROPOSED ALTERNATIVE AND STAFF EVALUATION

In a letter dated January 9, 1997, SNC requested approval to update their ASME Code Section XI used by FNP Unit 2 to a later edition and addenda to coincide with FNP Unit 1's code of record. The request was authorized by a letter dated March 20, 1997. The approved update was given approximately 44 months earlier than required, and updated both FNP units to the 1989 Edition of Section XI (No Addenda) for the third 10-year ISI interval. However, the ISI interval dates for FNP Unit 1 and Unit 2 did not coincide with one another. In order to align the ISI interval dates, SNC requested approval of alternative FNP-ISI-ALT-01 for early termination of FNP Unit 2's third ISI interval to November 30, 2007 (approximately three and one half years early). The 2001 edition through 2003 addenda of the ASME Section XI would be used for the fourth ISI interval, which would commence on December 1, 2007 and end on November 30, 2017.

Paragraph IWA-2432, "Inspection Program B," of ASME Code, Section XI, states that the plant's first inspection interval shall occur 10 years following initial start of plant commercial service, and the successive inspection intervals shall be 10 years following the previous inspection interval. The licensee assured that an early start of the fourth ISI interval (as proposed by FNP-ISI-ALT-01) will not result in the change in scope of examinations scheduled for the prior interval, but might cause a change in the total number of examinations that need to be performed. The licensee completed a re-evaluation of the previously schedule examinations for the third ISI interval which were to be performed per Section XI of the 1989 Edition of the ASME Code. Categories re-evaluated included all ASME Code Class 1, 2, 3 and MC components. The NRC staff reviewed the licensee's proposed inspection scope and found it to be acceptable.

3.4.1 Risk-Informed Inservice Inspection

In a letter dated March 9, 2004, FNP received approval to use a risk-informed Inservice Inspection (RI-ISI) program for Units 1 and 2 through the remainder of FNP's third interval. On August 27, 2008, the NRC staff held a call with the licensee to discuss the fact that approval of alternative FNP-ISI-ALT-01 would also terminate FNP's RI-ISI program early, and will no longer be a valid alternative to perform any of the FNP Unit 2's risk-informed examinations that were schedule during the third period of the third interval. By a letter dated September 12, 2008, the licensee provided a response to the NRC staff of the actions to be taken by FNP due to the termination of their RI-ISI program for the third interval. The licensee stated that they understood the approval of the RI-ISI program for FNP Unit 2 would elapse, and as a result, they will schedule a sufficient number of examinations for Section XI category B-F, B-J, C-F-1 and C-F-2 to meet the requirements of a conventional ISI program for the first period of the fourth interval. Further the licensee plans to submit a relief request to extend the FNP Unit 2's RI-ISI program in 2009, such that NRC's review could be completed prior to FNP Unit 2's last outage in the first period of the fourth interval.

The NRC staff finds this approach to be acceptable since the number of exams scheduled to be performed is sufficient to meet ASME code requirements.

3.4.2 Re-evaluated Examinations with No Changes

For categories B-A, B-B, B-D, B-G-1, B-K, B-N-I, B-N-2, B-N-3, B-O, C-A, and B-Q the number of examinations remained the same when moved to the first period of the fourth interval. Pressure test categories B-P, C-H, and D-B require a hydrostatic test at or near the end on the interval. The licensee stated that a leakage test equivalent to that of a hydrostatic test using Code Case N-498-4, "Alternative Requirements for 10-Year System Hydrostatic Testing for Class 1, 2, and 3 Systems, Section XI, Division 1," which has been approved for use by Regulatory Guide 1.147, Rev 15, will be performed during the first period of the fourth interval. Inspection categories C-D and C-G are not applicable to FNP.

The NRC staff reviewed tables 1 through 6 provided in the licensee's June 27, 2008 letter, and concluded that the scope and number of examinations are consistent with the examinations scheduled for the remainder of the third interval.

3.4.3 Re-evaluated Examinations with Changes

For category C-B, one Residual Heat Removal (RHR) heat exchanger examination was removed by the implementation of ASME Code Case N-706, "Alternative Examination Requirements of Table IWB-2500-1 and Table IWC-2500-1 for PWR Stainless Steel Residual and Regenerative Heat Exchangers, Section XI, Division 1." This code case has been approved for use in Regulatory Guide 1.147, Rev 15, and its use will eliminate the RHR heat exchanger volumetric examination during the fourth interval, if the conditions of the Code Case are satisfied. Category B-E, an examination category requirement in the 1989 Edition of the ASME Code, is no longer referenced in the 2001 Edition through 2003 Addenda of the ASME Code and therefore is no longer required.

A total of 31 examinations for categories C-C, D-A, and F-A were deleted as a result of the licensee's re-evaluation of their ISI program. The licensee stated that the re-evaluation demonstrated that the scheduled examinations exceeded the number of inspection required. ASME Code Case N-598, "Alternative Requirements to Required Percentages of Examinations, Section XI, Division 1," which has been approved for use in Regulatory Guide 1.147, Rev 15, requires that at least 25% of the examinations need to be completed in the third period. The licensee demonstrated that the scheduled examinations to be performed during the first period of the fourth interval will satisfy the third interval requirements. Consequently, the number of examinations being performed also satisfies the 16% to 50% examination requirement for the first period of the fourth interval. The NRC staff reviewed the number of examinations in order to determine that the licensee met the percent completion requirements.

The NRC staff finds that the changes to the licensee's inspection requirements by implementing the fourth ISI interval at FNP, Unit 2 as defined by the proposed alternative are warranted.

4.0 CONCLUSION

The staff has reviewed the licensee's submittal and determined that the proposed alternative to terminate FNP Unit 2's third 10-year ISI interval by November 30, 2007 (approximately three and one half years early) and commence the fourth 10-year ISI interval at that time will provide an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the NRC staff authorizes the use of FNP-ISI-ALT-01 as an alternative to the requirements in

paragraph IWA-2432, "Inspection Program B," of the 2001 Edition through 2003 Addenda of ASME Code, Section XI.

All other ASME Code, Section XI requirements for which relief was not specifically requested and approved in this relief request remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

Principal Contributor: Isaac Anchondo

Date: October 17, 2008