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Energy to Serve Your WorldSM

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NL-05-2118

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

Edwin I. Hatch Nuclear Plant
Fourth 10-Year Interval Inservice Inspection (ISI) Program
Request for ISI Alternative

Ladies and Gentlemen:

By letter dated March 30, 2005 Southern Nuclear Operating Company (SNC) submitted the Fourth 10-Year Interval Inservice Inspection (ISI) Program for NRC review and approval. Subsequent review of the American Society of Mechanical Engineers (ASME) Section XI Code requirements has resulted in the need for submittal of another request for alternative. Therefore, enclosed is a Request for ISI Alternative ISI-ALT-7 which deals with the pressure tests and visual examination of buried piping and components. SNC requests NRC review by December 1, 2006 to support Inservice Inspections scheduled for the First Period of the Fourth 10-Year Interval.

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,

H. L. Sumner, Jr.

HLS/IFL/daj

Enclosure: ISI Request for Alternative – ISI-ALT-7, Version 1.0

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. G. R. Frederick, General Manager – Plant Hatch
RTYPE: CHA02.004

U. S. Nuclear Regulatory Commission
Dr. W. D. Travers, Regional Administrator
Mr. C. Gratton, NRR Project Manager – Hatch
Mr. D. S. Simpkins, Senior Resident Inspector – Hatch

Enclosure

**Edwin I. Hatch Nuclear Plant
ISI Request for Alternative – ISI-ALT-7, Version 1.0**

SOUTHERN NUCLEAR OPERATING COMPANY
ISI-ALT-7, VERSION 1.0
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(i)

Plant Site-Unit:	Edwin I. Hatch Nuclear Plant-Units 1 and 2.
Interval-Interval Dates:	4 th ISI Interval, January 1, 2006 through December 31, 2015.
Requested Date for Approval and Basis	Approval is requested by December 1, 2006 to support examinations required during the 1 st Period of the 4 th Interval.
ASME Code Components Affected:	Class 3 Buried Piping
Applicable Code Edition and Addenda:	ASME Section XI, 2001 Edition through the 2003 Addenda
Applicable Code Requirements:	IWA-5244(b)(1) requires either a pressure loss test or a test that determines the change in flow between the ends of the buried components for isolable sections of buried piping. The acceptable rate of pressure loss or flow shall be established by the Owner.
Reason for Request:	<p>Sections of Plant Service Water (PSW) and Residual Heat Removal Service Water (RHRSW) System buried piping were not designed with consideration for isolation valves adequate for performing a pressure loss type test or instrumentation adequate for measuring changes in flow between the ends of the buried piping.</p> <p>The PSW and RHRSW Systems both contain large diameter buried piping (30" PSW and 18" RHRSW) that runs from the River Intake Structure to the Reactor Building which is > 1000 feet in length. The subject piping design did not provide for isolation valves that are capable of supporting a pressure loss type test considering the volume of the piping and the available capacity of test pumps. The system isolation valves were only intended to provide isolation for maintenance activities with only static system pressure.</p> <p>PSW was designed with a single flow indicator located at the discharge of each pump and RHRSW was only designed with a single flow indicator per train located near the RHR Heat Exchanger. Therefore, the installed instrumentation is inadequate for measuring the flow difference at each end of the buried piping. The use of Ultrasonic Flow Instrumentation was considered, but the piping configurations do not provide for the straight runs of piping required for accurate flow measurement.</p> <p>The accident analysis requires a PSW flow rate of 4,428 gpm and a RHRSW flow rate of 4,000 gpm. Both the PSW and RHRSW systems include four pumps each with two pumps designated to each of two independent trains. The PSW pumps have a design flow rate of 8,500 gpm and the RHRSW pumps have a design flow rate of 4,000 gpm. Therefore, to meet accident analysis requirements, only one pump per train is required for both PSW and RHRSW. Therefore, each of the independent trains of both systems can accommodate a large leak and still satisfy the accident analysis requirements.</p>

SOUTHERN NUCLEAR OPERATING COMPANY
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	<p>IWA-5244(b)(1) requires the Owner to establish the acceptance criteria for the buried piping test. Since there is no industry guidance for acceptance criteria, SNC considered that the allowable ASME OM Code instrument accuracy for pump Inservice Testing should be adequate. The ASME OM Code requires flow instruments with a calibration accuracy of $\pm 2\%$. This would allow for a leak of 89 gpm for PSW (i.e., 2% of required accident flow) and 80 gpm for RHRSW (i.e., 2% of required accident flow) which is reasonable for assuring the integrity of the buried piping. Each of the PSW and RHRSW pumps are tested in accordance with the sites IST Program on a quarterly frequency. The PSW pumps are tested at a flow rate of $> 6,000$ gpm and the RHRSW pumps are tested at 4,000 gpm. Each pump test requires approximately thirty-minutes to perform. Therefore, using the 2% acceptance criteria, PSW could experience a leak of $> 2,600$ gallons and RHRSW a leak of $\approx 2,400$ gallons, and still complete a successful pressure test. Previous plant experience with leaks in non-safety related buried piping indicates that leaks much less than these are more readily identified by visual observation of the surrounding ground surface area.</p> <p>At least one PSW pump is required to be in operation at all times during normal plant power operation. At least one RHRSW pump is required to be in operation for extended periods of time at the beginning and end of each refueling outage. Therefore, both systems are inservice for extended periods of time and leaks even smaller than those discussed above would be readily identified by plant personnel performing routine rounds inspections.</p>
Proposed Alternative and Basis for Use:	<p>SNC proposes to perform visual examination of the ground surface area immediately above each buried section of PSW and RHRSW annually in lieu of performing the test required by IWA-5244(b)(1). The visual examinations will be performed only after the subject piping has been in operation at nominal operating conditions for a minimum of 24-hours. The ASME Section XI code only requires a pressure test once each period (40-months). Additionally, Operations personnel will be instructed to be observant of standing water or moist ground above the buried piping during daily routine rounds which are performed at least once per shift (12-hours).</p> <p>Specific annual visual examinations in conjunction with daily Operator observations will provide adequate detection of any leaks in buried PSW or RHRSW piping in adequate time to perform corrective actions. These visual examinations provide an adequate level of quality and safety; therefore, are acceptable per 10 CFR 50.55a(a)(3)(i).</p>
Duration of Proposed Alternative:	The 4 th ISI Interval beginning January 1, 2006 and ending December 31, 2015.
Precedents:	None.
References:	None.
Status:	Awaiting NRC approval.