




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

June 6, 2018

MEMORANDUM TO: Michael T. Markley, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

FROM: James R. Hall, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation 

SUBJECT: HATCH NUCLEAR PLANT, UNIT 1 – VERBAL AUTHORIZATION
OF REQUEST FOR ALTERNATIVE HNP-ISI-ALT-05-08 FOR THE
PLANT SERVICE WATER SYSTEM (EPID L-2018-LLR-0073)

By letter dated May, 17, 2018 Agencywide Documents Access and Management System (ADAMS) Accession No. ML18137A406), Southern Nuclear Operating Company (SNC or the licensee) submitted Request for Alternative HNP-ISI-ALT-05-08 for approval by the U.S. Nuclear Regulatory Commission (NRC) in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(2), for the Edwin I. Hatch Nuclear Plant (HNP), Unit 1. The requested alternative would allow SNC to utilize American Society of Mechanical Engineers (ASME) Code Case N-513-4, "Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping Section XI, Division 1," for evaluation of a leak identified on a 30-inch, Class 3 piping elbow in the HNP Unit 1 Plant Service Water system.

SNC cited 10 CFR 50.55a(z)(2), which states, in part, "...hardship or unusual difficulty without a compensating increase in the level of quality and safety," as the basis for the request for alternative. The licensee requested NRC approval of the alternative by May 18, 2018, in order to allow additional time for examination and assessment of affected systems and evaluation of long-term repair options, while not incurring the increased plant risk associated with a plant shutdown.

On May 18, 2018, in a conference call with SNC, the NRC staff verbally authorized the licensee's proposed alternative HNP-ISI-ALT-05-08. As discussed in the enclosure, the NRC found that the licensee's proposed alternative provides reasonable assurance that the structural integrity of the subject plant service water piping and that its intended safety function will be maintained until the next scheduled refueling outage; or until the temporary acceptance criteria of Code Case N-513-4 are exceeded; or until the leak rate exceeds 20 gallons per minute, whichever event occurs first. The NRC staff also found that complying with the ASME Code requirements to perform a repair would require the plant to shut down, which would lead to transients and potential risk, thus constituting a hardship or unusual difficulty without a compensating increase in the level of quality and safety.

The enclosed verbal authorization script provides the NRC staff's basis for approving the proposed alternative, and specifies the limitations of that approval. The NRC staff will transmit a final written safety evaluation for this action to the licensee at a later date.

The following staff participated in the May 18, 2018 conference call:

NRC

Michael Markley
Steve Ruffin
Bob Davis
Steve Cumblidge
John Tsao
Alan Blamey
Clinton Jones
Randy Hall

SNC

Chuck Vonier
Ryan Joyce
Dharmesh Patel
JeNaye Bailey
Scott Walker

Docket No. 50-321

Enclosure: Verbal Authorization Script

cc: Listserv

VERBAL AUTHORIZATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
FOR
PROPOSED ALTERNATIVE HNP-ISI-ALT-05-08
USE OF ASME CODE CASE N-513-4
EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 1
DOCKET NO. 50-321
MAY 18, 2018

Technical Evaluation read by Steve Ruffin, Chief of the Piping and Head Penetrations Branch, Office of Nuclear Reactor Regulation

By letter dated May 17, 2018, as supplemented by an e-mail dated May 18, 2018, Southern Nuclear Operating Company (SNC, the licensee), submitted a proposed alternative to the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, IWA-4000, at Edwin I. Hatch Nuclear Plant, Unit 1.

Pursuant to Title 10 of the Code of Federal Regulations (10 CFR) 50.55a(z)(2), the licensee submitted proposed alternative HNP-ISI-ALT-05-08 to implement ASME Code Case N-513-4 "Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping, Section XI, Division 1," to disposition a pinhole leak in lieu of performing an ASME Code repair of a 30-inch ASME Code Class 3 elbow in "A" Loop of the Plant Service Water System.

On May 14, 2018, the licensee discovered the leakage rate to be 3 gallons per minute. The licensee has requested to use Code Case N-513-4 to evaluate the flaw in lieu of repair in accordance with ASME Code Section XI, IWA-4000. In addition to following all of the requirements of Code Case N-513-4, to ensure structural integrity of the subject elbow, the licensee determined that, after applying a safety factor of four to the critical leakage rate, the maximum allowable leakage rate permitted during the duration of the proposed alternative is 20 gallons per minute.

The U. S. Nuclear Regulatory Commission (NRC) staff notes that Code Case N-513-4 requires frequent periodic inspections to determine if flaws are growing. The licensee stated that it will follow the Code case which requires daily monitoring to confirm the analysis conditions used in the evaluation remain valid, thus ensuring that the structural integrity of the subject component is maintained. The NRC staff determines that the licensee's approach of applying a safety factor of four to the critical leakage rate, to determine the maximum allowable leakage rate, is acceptable because it will provide sufficient time for corrective measures to be taken before significant increases in leakage erodes defense-in-depth, which could lead to adverse consequences.

The NRC staff finds that performing an ASME Code repair will require the plant to shut down, which would lead to transients and potential risk without a compensating increase in the level of quality and safety.

The NRC finds that the licensee's proposed alternative provides reasonable assurance that the structural integrity of the subject plant service water piping and its intended safety function will be maintained until the next scheduled refueling outage; or until the temporary acceptance criteria of Code Case N-513-4 are exceeded, or until the leak rate exceeds 20 gallons per minute, whichever event occurs first.

Enclosure

Authorization read by Michael Markley, Chief of the Plant Licensing Branch II-1, NRR

As Chief of the Plant Licensing Branch II-1, Office of Nuclear Reactor Regulation, I concur with the conclusions of the Piping and Head Penetrations Branch.

The NRC staff determines that the proposed alternative provides reasonable assurance of structural integrity of the subject plant service water piping. The NRC staff finds that complying with IWA-4000 of the ASME Code, Section XI, would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(z)(2). Therefore, on May 18, 2018, the NRC authorizes the use of proposed alternative HNP-ISI-ALT-05-08 at Hatch Unit 1 until the end of the spring 2020 refueling outage, or until the temporary acceptance criteria of Code Case N-513-4 are exceeded, or until the leak rate exceeds 20 gallons per minute, whichever event occurs first.

All other requirements in ASME Code, Section XI, 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.

This verbal authorization does not preclude the NRC staff from asking additional clarification questions regarding the alternative while preparing subsequent written safety evaluation.

SUBJECT: HATCH NUCLEAR PLANT, UNIT 1 – VERBAL AUTHORIZATION OF REQUEST FOR ALTERNATIVE HNP-ISI-ALT-05-08 FOR THE PLANT SERVICE WATER SYSTEM (EPID L-2018-LLR-0073) DATED JUNE 6, 2018

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