

NRR-PMDAPem Resource

From: Mahoney, Michael
Sent: Friday, March 03, 2017 11:00 AM
To: Jeff Thomas (Jeff.Thomas@duke-energy.com)
Cc: George Murphy
Subject: Verbal Authorization for Relief Request 17-MN-001

Jeff,

Below is the script for the verbal authorization of relief request 17-MN-001 that was provided at approximately 10:30 AM EDT on March 3, 2017 by David Alley and Michael Markley.

VERBAL AUTHORIZATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELIEF REQUEST 17-MN-001
ALTERNATIVE REPAIR FOR CLASS 1 PIPING
MCGUIRE NUCLEAR STATION UNIT 2
DUKE ENERGY
DOCKET NO. 50-370
MARCH 3, 2017

Technical Evaluation read by David Alley, Chief of the Component Performance, Non-Destructive Examination, and Testing Branch, Division of Engineering, Office of Nuclear Reactor Regulation:

By letter dated March 2, 2017, Duke Energy (the licensee) requested relief from the certain requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, IWA-4420, at McGuire Nuclear Station, Unit 2.

Pursuant to Title 10 of the *Code of Federal Regulations* (CFR), Section 50.55a(z)(2), the licensee requested to use an alternative, as described in Relief Request 17-MN-001, on the basis that compliance with the specified ASME requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Relief Request 17-MN-001 provides an alternative for the temporary repair of degraded boron injection line to 2D reactor coolant system cold leg.

On February 23, 2017, the licensee detected an unisolable pressure boundary leak in the boron injection line to 2D reactor coolant system cold leg. Upon inspection the licensee found a flawed area of piping, located approximately 5.75 inches from the pipe to nozzle weld 2NC2FW45-5, on the intrados of the 5D elbow bend. The flaw was observed to have a through wall length of approximately 0.6 inches. Adjacent to the through wall flaw, two additional low amplitude indications were observed. Although the final root cause cannot be determined until the section of flawed pipe is removed for analysis during the upcoming refueling outage (scheduled to start the end of March, 2017), the licensee has made a preliminary finding that torsional stress at the nozzle and bend may be a significant contributor to the observed flaw. The torsional stress is due to the pipe interaction with a pipe rupture restraint installed near the bottom of the vertical piping segment just upstream from the 5D bend. The licensee will modify the pipe restraint to provide adequate clearances prior to returning the unit to service.

The licensee proposed to use a weld overlay as described in ASME Code, Section XI, Appendix Q to repair the degraded boron injection piping. The proposed alternative will follow all provisions of Appendix Q with exceptions and modifications because the proposed weld overlay will be applied to pipe base metal instead of weldment as specified in Appendix Q.

The NRC staff finds that the proposed alternative with exceptions and modifications to Appendix Q is acceptable. The NRC staff further finds that the temporary repair will be effective for only a short duration until the upcoming refueling outage.

The NRC staff finds the licensee's hardship justification is acceptable.

The NRC staff has determined that the proposed alternative will provide reasonable assurance of the structural integrity and leak tightness of the boron injection pipe until the upcoming refueling outage.

Authorization read by Michael Markley, Chief of the Plant Licensing Branch II-1, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation:

As Chief of the Plant Licensing Branch II-1, Office of Nuclear Reactor Regulation, I agree with the evaluation made by the Component Performance, Non-Destructive Examination, and Testing Branch.

The NRC staff concludes that complying with the ASME Code requirement would result in a hardship or unusual difficulty without a compensating increase in the level of quality and safety. Furthermore, the NRC staff concludes that the proposed Relief Request 17-MN-001 provides reasonable assurance of structural integrity and leak tightness of the repaired piping. 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, as of March 3, 2017, the NRC authorizes Relief Request 17-MN-001 for the McGuire Nuclear Station Unit 2 until the upcoming refueling outage which is scheduled to begin the end of March, 2017).

All other requirements of ASME Code, Section XI, for which relief was not specifically requested and authorized by the NRC staff remain applicable, including the third party review by the Authorized Nuclear In-service Inspector.

This verbal authorization does not preclude the NRC staff from asking additional clarification questions regarding Relief Request 17-MN-001, while preparing the subsequent written safety evaluation.

Thanks
Mike

Michael Mahoney

McGuire and Catawba Project Manager, Division of Operating Reactor Licensing
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Hearing Identifier: NRR_PMDA
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From: Mahoney, Michael

Created By: Michael.Mahoney@nrc.gov

Recipients:

"George Murphy" <George.Murphy2@duke-energy.com>

Tracking Status: None

"Jeff Thomas (Jeff.Thomas@duke-energy.com)" <Jeff.Thomas@duke-energy.com>

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