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Cc:	O"Banion (Watford), Margaret; Regner, Lisa; Pascarelli, Robert
Subject:	Script of Comanche Peak Verbal Authorization for Relief Request 1/2B3-2
Date:	Thursday, November 02, 2017 10:47:37 AM

NRC EPID: L-2017-LLR-0125

By teleconference call on November 1, 2017, the U.S. Nuclear Regulatory Commission (NRC) staff provided verbal authorization to Vistra Operations Company LLC for the relief request discussed below.

Participants:
NRC:
John Tsao, Office of Nuclear Reactor Regulation (NRR) Acting Branch Chief (provided technical justification)
Robert Pascarelli, NRR, Branch Chief (provided authorization)
Lisa Regner, NRR, Senior Project Manager
Ali Rezai, NRR, Materials Engineer

Licensee:
Tim Hope, Manager, Regulatory Affairs
Jack Hicks, Consulting Licensing Engineer, Regulatory Affairs
Chung Tran, Manager, Nuclear Engineering Programs
Neil Jones. In-Service Testing Engineer
Aaron Thomas, In-Service Inspection Engineer

verbal authorization BY THE OFFICE OF NUCLEAR REACTOR REGULATION

Relief REQUEST 1/2B3-2 REGARDING SYSTEM LEAKAGE TEST for Class 1 piping

Vistra Operations Company LLC

COMANCHE PEAK NUCLEAR POWER PLANT, Units 1 and 2

DOCKET NUMBERs 50-445 and 50-446

Technical Evaluation read by John Tsao, Acting Chief of the Piping and Head Penetrations Branch, Division of Materials and License Renewal, Office of Nuclear Reactor Regulation

By letter dated October 30, 2017, as supplemented by letter dated November 1, 2017, Vistra Operations Company LLC (the licensee) requested relief from the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, IWB-

5220, regarding system leakage tests for a portion of the Class 1 pressure boundary between the first and second isolation valves that are conducted at or near the end of each inspection interval.

Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(2), the licensee submitted relief request 1/2B3-2 in which it proposed an alternative system leakage test on the basis that 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 recently identified that in the first and second 10-year ISI intervals, it had improperly performed the end of inspection interval system leakage test that was required by ASME Code, Section XI, Table IWB-2500-1 and IWB-5222(b) for the Class 1 pressure boundary piping segments located between the first and second isolation valves. Instead, the licensee had tested the above piping segments for leakage using a reduced test pressure. The licensee's basis has been that compliance with the IWB-5222(b) required leakage test would result in hardship because:

- Manually opening the inboard valves to pressurize the downstream piping segments and connections defeats the double isolation criteria;
- Bypassing the inboard isolation valve or use temporary high pressure connection hoses and external pump to pressurize these piping segments pose unnecessary safety hazards to personnel operating equipment and performing the test in case of a break in any temporary connections;
- The above activities would require entry into high radiation areas within containment exposing the licensee's personnel to additional, unnecessary, and high radiation dose.

As an alternative to the requirements of IWB-5222(b), the licensee proposed to conduct the end of the interval leakage test of Class 1 piping as required by Table IWB-2500-1 using the alternative boundary described in ASME Code Case N-798 "Alternative Pressure Testing Requirements for Class 1 Piping Between the First and Second Vent, Drain, and Test Isolation Devices Section XI, Division 1" and Case N-800 "Alternative Pressure Testing Requirements for Class 1 Piping Between the First and Second Injection Valves Section XI, Division 1." The above code cases have not yet been incorporated by reference into 10 CFR 50.55a by inclusion in Regulatory Guide 1.147, Revision 17. The licensee's proposed alternative system leakage test for the subject piping segments is as follows:

- The Class 1 vents and drain lines will not be pressurized past the first isolation valve.
- The leakage testing of pressurizer auxiliary spray lines will be performed using the outboard Class 2 system functional pressure associated with auxiliary spray.
- The leakage testing of the high pressure safety injection lines will be performed during the associated isolation valve leakage surveillances.
- The leakage testing of the hot leg injection lines will be performed during the associated isolation valve leakage surveillances.
- The leakage testing of the cold leg safety injection lines will be performed using the outboard Class 2 system functional pressure associated with the safety injection accumulators.
- The leakage testing of the hot leg shutdown cooling suction lines will be performed using the outboard Class 2 system functional pressure associated with the normal shutdown cooling

system pressure.

The licensee confirmed that the VT-2 visual examinations that accompany the proposed leakage test will meet the applicable requirements of IWA-5240, Visual Examination, and IWA-5213, Test Condition Holding Time.

In its review, the NRC staff finds that complying with the IWB-5222(b) required system leakage test would result in a hardship and unusual difficulty to the licensee because of concerns from defeating the double isolation criteria of 10 CFR 50.55a(c)(2)(ii), exceeding ALARA (as low as reasonable achievable), and exposing personnel to safety hazards.

The NRC staff finds the licensee's proposed system leakage test is adequate because (1) the highest achievable test pressure will be used for pressurization; (2) the pressure holding period of IWA-5213 prior to begin conducting the associated VT-2 visual examination will be met; and (3) the associated VT-2 visual examination will be performed in accordance with IWA-5240.

The NRC staff finds that the licensee previously performed pressure tests, although not at pressures meeting the ASME requirements, and found no leakage in the affected pipe segments. In addition, the licensee stated that the affected pipe segments have not shown degradation caused by stress corrosion cracking or fatigue.

As set forth above, the NRC staff determines that the licensee's proposed alternative provides reasonable assurance of structural integrity and leak tightness of the subject piping segments, and requiring the licensee to comply with the specified ASME Code requirement would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Therefore, use of the licensee's proposed alternative as described in relief request 1/2B3-2 is acceptable.

Authorization read by Robert Pascarelli, Chief of the Plant Licensing Branch IV, Office of Nuclear Reactor Regulation

As Chief of the Plant Licensing Branch IV, Office of Nuclear Reactor Regulation, I concur with the Piping and Head Penetration Branch's determinations.

The NRC staff concludes that the proposed alternative provides reasonable assurance of structural integrity and leak tightness of the subject piping. The NRC staff determines that complying with the ASME Code requirement 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). As of November 1, 2017, the NRC staff authorizes the use of relief request 1/2B3-2 at Comanche Peak, Units 1 and 2, for remainder of the third 10-year ISI interval which is scheduled to end on August 12, 2020 for Unit 1 and on August 2, 2024 for Unit 2.

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 1/2B3-2, while preparing the subsequent written safety evaluation.

The NRC staff will proceed with writing the final safety evaluation and issue within 150 days after giving verbal authorization.

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