

November 13, 2012

MEMORANDUM TO: FILE

FROM: Carl F. Lyon, Project Manager /RA/
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

SUBJECT: SOUTH TEXAS PROJECT, UNITS 1 AND 2 - SUMMARY OF
TELEPHONE CONFERENCE RE: VERBAL AUTHORIZATION FOR
RELIEF REQUEST RR-ENG-3-10 (TAC NOS. ME9863 AND ME9864)

This memorandum summarizes the telephone discussion on November 6, 2012, between the U.S. Nuclear Regulatory Commission (NRC) staff and STP Nuclear Operating Company (STPNOC, the licensee). The discussion was in regard to the licensee's request for relief RR-ENG-3-10 for South Texas Project (STP), Units 1 and 2. Participants in the discussion included C. Chappell, C. Younger, and J. Heil (STPNOC), and J. Tsao, D. Alley, M. Markley, and J. Rankin (NRC).

By letter dated November 1, 2012, as supplemented by letter dated November 5, 2012, STPNOC submitted for NRC review and approval Relief Request RR-ENG-3-10. The licensee requested relief from the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, IWA-5000 and IWC-5000 for the system leakage test applicable to the reactor pressure vessel (RPV) head flange O-ring leakoff lines at STP, Units 1 and 2, for the third 10-year inservice inspection (ISI) interval. The ASME Code requires the performance of a VT-2 examination of the leakoff line under consideration while the line is pressurized to system operating pressure. The purpose of the test is to verify the structural and leak-tight integrity of the line.

The licensee requested relief pursuant to paragraph 50.55a(a)(3)(ii) of Title 10 of the *Code of Federal Regulations* (10 CFR), stating that performance of the inspection required by the code would result in a hardship without a compensating increase in the level of quality and safety. To demonstrate that the Code-required examination resulted in a hardship, the licensee stated that pressurization of the line from the discharge end, while possible, would result in damage to the RPV O-ring. The licensee also stated that, while it was possible to pressurize the line from the discharge end with the head removed, to do so would require the installation of plugs in the vessel end of the line. Installation of the plugs results in significant radiation exposure, estimated at 1000-2000 millirem per test and the potential for introduction of loose parts into the vessel. As an alternative to a system leakage test, the licensee proposed to examine the accessible portions of the leakoff lines using the VT-2 visual examination method, conducted at ambient conditions after the refueling cavity has been filled to its normal refueling water level for at least 4 hours.

The NRC staff notes that, although the licensee will not be using the reactor coolant system operating pressure, the pressure from the hydrostatic head of water is sufficient to determine whether the leakoff lines maintain the leakage integrity. In addition, if leakage from the leakoff lines occurs, it will be indicated by an audible alarm in the control room. The containment leakage detection system and daily performance of reactor coolant system inventory has a detection sensitivity of 0.02 gallons per minute.

The NRC staff reviewed the licensee's proposed alternative under the requirements of 10 CFR 50.55a(a)(3)(ii), which states that compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Based on its review, the NRC staff concludes that the licensee has provided sufficient basis to demonstrate a hardship associated with performing the Code-required examination and to demonstrate that performing the Code-required examination does not result in a compensating increase in quality and safety.

Based on the above, the NRC staff concludes that the proposed alternative will provide reasonable assurance that the structural integrity and leakage integrity of the reactor vessel head flange O-ring leakoff lines at STP, Units 1 and 2, will be maintained for the third 10-year ISI interval.

As set forth above, the NRC staff concludes that the proposed alternative provides reasonable assurance of structural integrity and leakage integrity of the reactor vessel flange O-ring leakoff lines. The NRC staff concludes that complying with the specified 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(a)(3)(ii) and is in compliance with the requirements of the ASME Code, Section XI. Therefore, on November 6, 2012, the Acting Chief, Piping and NDE Branch, Division of Engineering, and the Chief, Plant Licensing Branch IV, Division of Operating Reactor Licensing, verbally authorized the use of Relief Request RR-ENG-3-10 at STP, Units 1 and 2, for the third 10-year ISI interval, which ends on September 24, 2020, and October 18, 2020, respectively.

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

The NRC's written final safety evaluation will follow as a matter of routine. The staff may ask clarification questions as it prepares the written safety evaluation. The licensee had no additional comments or questions.

Docket Nos. 50-498 and 50-499

The NRC staff notes that, although the licensee will not be using the reactor coolant system operating pressure, the pressure from the hydrostatic head of water is sufficient to determine whether the leakoff lines maintain the leakage integrity. In addition, if leakage from the leakoff lines occurs, it will be indicated by an audible alarm in the control room. The containment leakage detection system and daily performance of reactor coolant system inventory has a detection sensitivity of 0.02 gallons per minute.

The NRC staff reviewed the licensee's proposed alternative under the requirements of 10 CFR 50.55a(a)(3)(ii), which states that compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Based on its review, the NRC staff concludes that the licensee has provided sufficient basis to demonstrate a hardship associated with performing the Code-required examination and to demonstrate that performing the Code-required examination does not result in a compensating increase in quality and safety.

Based on the above, the NRC staff concludes that the proposed alternative will provide reasonable assurance that the structural integrity and leakage integrity of the reactor vessel head flange O-ring leakoff lines at STP, Units 1 and 2, will be maintained for the third 10-year ISI interval.

As set forth above, the NRC staff concludes that the proposed alternative provides reasonable assurance of structural integrity and leakage integrity of the reactor vessel flange O-ring leakoff lines. The NRC staff concludes that complying with the specified 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(a)(3)(ii) and is in compliance with the requirements of the ASME Code, Section XI. Therefore, on November 6, 2012, the Acting Chief, Piping and NDE Branch, Division of Engineering, and the Chief, Plant Licensing Branch IV, Division of Operating Reactor Licensing, verbally authorized the use of Relief Request RR-ENG-3-10 at STP, Units 1 and 2, for the third 10-year ISI interval, which ends on September 24, 2020, and October 18, 2020, respectively.

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

The NRC's written final safety evaluation will follow as a matter of routine. The staff may ask clarification questions as it prepares the written safety evaluation. The licensee had no additional comments or questions.

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