

WATERFORD STEAM ELECTRIC STATION, UNIT 3

VERBAL AUTHORIZATION OF W3-ISI-020

On December 18, 2012, The NRC staff in a telephone call with Entergy Operations Inc. (Entergy, the licensee) provided a verbal authorization of Entergy's request for alternative W3-ISI-020, ASME Code Case N-770-1 Baseline Examination Request for Alternative," for Waterford Steam Electric Station, Unit 3. The verbal authorization of the request for alternative was authorized for a period of one cycle – up until the next refueling outage (spring 2014 refueling outage).

The attendees on the call were:

Entergy

Chester Fugate
Michael Haydel
David Viener
Jim Pollock

NRC/NRR

Mike Markley
Tim Lupold
Jay Wallace
Stephen Cumblidge
Kaly N. Kalyanam

The script used:

EPNB Branch Chief

By letter dated October 16, 2012, as supplemented by letters dated November 15, 2012 and December 16, 2012, Entergy Operations, Inc., (the licensee) submitted Request for Alternative W3-ISI-020, "ASME Code Case N-770-1 Baseline Examination Request for Alternative," for U.S. Nuclear Regulatory Commission review and authorization. The licensee's request for alternative has been submitted under 10 CFR 50.55a(a)(3)(ii), hardship without a compensating increase in the level of quality or safety.

The licensee is proposing to credit the ultrasonic testing (UT) examinations of the reactor coolant pump (RCP) nozzle and safety injection nozzle dissimilar metal butt welds (DMBW) performed at Waterford Steam Electric Station, Unit 3, in fall 2009 to fulfill baseline examination requirement of 10 CFR 50.55a(g)(6)(ii)(F). The licensee states that the previous UT examination of the subject welds was performed using ASME Code, Section XI, Appendix VIII, requirements but could not obtain essentially 100 percent coverage of the required examination volume for axial flaws due to the weld taper and the presence of the cast austenitic stainless steel (CASS) safe-ends. The staff has examined the drawings submitted by the licensee and finds that fulfilling the essentially 100 percent examination requirements for axial flaws is not possible using currently available technology and procedures. This is due to the weld taper and the presence of CASS on one side of the weld. The staff further finds that achieving the

required examination coverage would require modification and/or replacement of the component which would constitute a hardship.

The licensee has submitted UT scan coverage maps which reflect the credited scan volume of the Performance Demonstration Initiative (PDI)-approved UT procedure SI-UT-130 for tapered welds, PDQS No. 632, drawing 717/X. These drawings also show the volume of the weld that cannot be credited and which could contain a hypothetical flaw. The licensee has proposed that the largest hypothetical flaw that could not be detected would have a depth of 10 percent of the wall thickness.

By letter dated December 4, 2012 the licensee concluded that a 16.7 percent through wall flaw, significantly larger than the proposed hypothetical 10 percent flaw, would require in excess of 54 months to grow by pressurized water stress corrosion cracking in response to operational and weld residual stresses to the ASME Code allowable flaw size of 75 percent through wall. The NRC staff has performed an independent analysis and has confirmed the licensee's calculation, finding it to be acceptable.

In conclusion, the NRC staff finds that performing the actions needed to achieve the UT examination coverage required by 10 CFR 50.55a(g)(6)(ii)(F) would constitute a hardship. The staff also finds that there is reasonable assurance of structural integrity and leak tightness of the subject welds for a period of at least 54 months from the time of the UT examination that was performed in fall 2009.

DORL Branch Chief

The NRC staff determines that complying with the specified requirement to perform an examination which results in essentially 100 percent coverage of the required volume would result in a hardship or unusual difficulty without a compensating increase in quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements of 10 CFR 50.55a(a)(3)(ii). Therefore, the NRC staff authorizes alternative W3-ISI-020 at Waterford Steam Electric Station, Unit 3, accepting the fall 2009 examination as the baseline examination required by 10 CFR 50.55a(g)(6)(ii)(F). The next examination would then be required during the spring 2014 refueling outage.

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