



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
REQUEST FOR AUTHORIZATION TO USE ASME CODE CASE N-483
FOR THE PROCUREMENT OF WELD MATERIAL TO BE
USED AT RIVER BEND STATION, UNIT 1
DOCKET NO. 50-458

1. BACKGROUND

In accordance with 10 CFR 50.55a(a)(3), Gulf States Utilities Company (GSU) is requesting, on a one-time basis, the authorization to use ASME Code N-483 for the procurement of Thyssen's Union I Mo weld material. GSU found intergranular stress corrosion cracking (IGSCC) in the Ni-Cr-Fe weld filler metal that connects safe-end N4A-2 to the reactor vessel feedwater nozzle. The safe-end is made from ASME SA-508, Class 2 material, and the feedwater nozzle is made from ASME SA-508, Class 1 material. The GSU repair program involves replacing the existing safe-end with a new one using a carbon steel filler, non-IGSCC susceptible weld filler material. GSU selected weld filler material identified as SFA-5.28, AWS Classification ER80S-G and manufactured by Thyssen Welding Products, Germany. However, Thyssen's low alloy plant is not qualified to the requirements of NCA-3800.

2. EVALUATION

Code Case N-483 "Alternative Rules to the Provisions of NCA-3800, Requirements for Purchase of Material, Section III, Division 1," describes requirements to be implemented by GSU in order to qualify Union I Mo weld filler metal. This Code Case has been issued by the ASME, but not yet endorsed for use by the NRC. The staff has reviewed the Code Case and finds it acceptable for this specific application. However, GSU must demonstrate acceptability by testing and verifying conformance to chemical and mechanical testing per ASME Section III 1980 to 1982 Addenda since the SFA-5.28, ER80S-G does not adequately define testing and acceptance criteria for the weld wire.

3. CONCLUSION

The staff has determined that use of Code Case N-483 is acceptable, contingent upon satisfactory testing to the requirements of ASME, Section III, 1980 Edition through 1982 Addenda, NB-2000 Articles and ASME Section II, 1980 Edition through 1982 Addenda, SFA-5.28 Specification. Relief is authorized pursuant to 10 CFR 50.55a(a)(3)(i), as the proposed alternative provides an acceptable level of quality and safety.

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