



GULF STATES UTILITIES COMPANY

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AREA CODE 501 635-6004 346-8851

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RBG- 36349

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U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Gentlemen:

River Bend Station - Unit 1
Docket No. 50-458

Enclosed please find Gulf States Utilities Company's (GSU) request for the use of ASME Section III Code Case N-483, "Alternative Rules to the Provisions of NCA-3800, Requirements for the Purchase of Material, Section III, Division 1", pursuant to 10CFR50.55a.

In May 1989, GSU identified a circumferential indication in the Inconel weld area of the N4A-2 inlet feedwater nozzle to safe-end weld at River Bend Station. In preparation for an extended fourth refueling outage (RF-4), GSU is finalizing the repair programs which will allow GSU to perform an ASME Code repair of the nozzle to safe-end weld.

The proposed repair program involves the removal of the existing safe-end and intergranular stress corrosion cracking (IGSCC) susceptible Inconel weld filler metal and installing a new safe-end using non-IGSCC susceptible weld filler material, i.e., carbon steel. The weld filler material initially chosen for the repair was ER80S-D2 as identified in the SFA-5.28 specification. However, industry experience shows that this 80-series bare wire experiences lower mechanical properties after exposure to post weld heat treatment (PWHT) than is desirable. This reduction stems from the elevated manganese levels present in the ER80S-D2 weld material presently available in the United States. Industry data indicates that material with manganese levels in excess of 1.5 to 1.6 percent are susceptible to a significant loss of notch toughness after PWHT. Testing indicates that the reduction in notch toughness may approach 50 percent of the pre-PWHT values.

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Difficulties obtaining 80-series weld filler material, for use with the GTAW process, which exhibits a minimum of 50 ft-lbs notch toughness and 35 mils lateral expansion after PWHT is not new to the nuclear industry. European manufacturers, due to their active vessel fabrication programs, have developed a weld filler material for the GTAW process which is not susceptible to this phenomena. One example of this material is Thyssen's Union I Mo (DIN #8575; W. No.1.5424) which is sold in the United States as ER80S-G in accordance with specification SFA-5.28 requirements. Thyssen's Union I Mo weld material, when subjected to PWHT at 1150 degrees F exhibits only minor decreases in ultimate and yield tensile properties and only minor degradation of impact properties at a -20 degrees F test temperature.

After careful review of available industry experience, GSU has concluded that the Thyssen Union I Mo weld material is superior to the ER80S-D2 weld material, with respect to mechanical properties after PWHT. Therefore, GSU proposes to use Thyssen's Union I Mo weld filler material in the repair of the N4A-2 feedwater nozzle to safe-end weld.

GSU has attempted to procure this material in strict compliance with all ASME Code and NRC requirements. However, GSU has not been able to identify a material supplier, with appropriate ASME certification, to supply this material. ASME requirements, with respect to procurement, can be met by GSU with the incorporation of Code Cases N-483 into GSU's ASME Section XI Inservice Inspection Program Plan. This Code Case was approved by ASME on March 30, 1990, and provides alternative rules for an N-Type Certificate holder or owner who wishes to procure materials from an organization who has not been qualified to the requirements of NCA-3800. Although this Code Case was approved by ASME, it does not appear in the most recent listing of NRC approved Code Cases in Revision 27 of Regulatory Guide 1.85, "Materials Code Case Acceptability - ASME Section III Division 1", dated November 1990, which included the review of all published Code Cases that were in effect on March 8, 1989.

Therefore, GSU, in accordance with 10CFR50.55a(a)(3), is requesting, on a one time basis, the authorization to use ASME Code Case N-483 for the procurement of Thyssen's Union I Mo weld material. Additionally, GSU shall perform the following tasks in order to assure quality of this material:

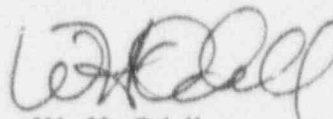
1. Procure the material from an organization which has been audited and approved as a safety-related supplier in accordance with GSU's approved quality assurance (QA) program,
2. Perform all testing, via qualified testing labs, required by the Construction Code (Section III) to verify conformance to chemical and mechanical properties,

3. Provide a Certified Material Test Report for each heat or lot number of material procured and tested under GSU's QA program, and
4. Assure that traceability to the Certified Material Test Report supplied by the manufacturer is maintained.


The River Bend Station fourth refueling outage is scheduled to begin March 15, 1992. In order to meet the current outage scheduling requirements, GSU requests approval for use of ASME Code Case N-483 by April 15, 1992.

Should you have any questions or require further information, please contact Mr. L. L. Dietrich of my staff at (504)381-4866.

Sincerely,



W. H. Odell
Manager-Oversight
River Bend Nuclear Group


LAE/LLD/MSF

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