

INTERIM REPORT

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This document was prepared primarily for preliminary or internal use. It has not received full review and approval. Since there may be substantive changes, this document should not be considered final.

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INTERIM REPORT

NRC Research and Technical  
Assistance Report

7906210020



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May 14, 1979

Dr. Joe Muscara  
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Mail Stop 1130-SS  
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Dear Joe:

MONTHLY LETTER REPORT - APRIL, 1979  
ACOUSTIC EMISSION CHARACTERIZATION OF FLAW GROWTH  
IN A533B PRESSURE VESSEL STEEL - FIN. NO. B2088

ACCOMPLISHMENTS

- Continued AE Monitoring a stress corrosion cracking test.
- Continued development of an AE monitor analysis concept.
- Initiated fabrication of a slag inclusion test specimen.
- Initiated fabrication of the loading frame and specimens for the pipe tests.
- Prepared material for January 1 - March 31, 1979 quarterly report.

AE monitoring of a laboratory stress corrosion cracking (SCC) test has run about six weeks, with no indications of SCC. Additional waveform data for valid AE signals from mechanical loading, electrical transients and leak noise has been collected for further pattern recognition work.

Initial discussions with Mr. Dwight Parry, of AE International, in regards to sensor array and source location concepts were conducted.

The two weldments received from GATX for fabricating a slag inclusion specimen are being machined and reradiographed. The radiographs accompanying the weldments were of insufficient quality to permit selection of a suitable inclusion.

Dr. Joe Muscara  
May 14, 1979

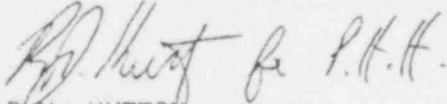
2.

The 150 Kip load cell to be used on the high temperature-high pressure pipe test has been received. The other major components, a hydraulic power supply and a hydraulic cylinder, are scheduled to arrive near the end of May. Fabrication of the loading frame and test specimens was initiated, with major assembly due to begin the first part of June.

WORK PLANS FOR MAY

- Complete fracture test of weld metal specimen at 550°F (2W-1A).
- Initiate fatigue crack growth testing in weld metal at room temperature and 550°F.
- Continue monitoring stress corrosion cracking test.
- Continue fabrication of pipe specimens and test system.
- Fabricate slag inclusion test specimens.

Yours very truly,



P.H. HUTTON  
NDT Section

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