

JCN-N6783

Office of Nuclear Regulatory Research

Properties of CRDM Welds

Brady Hanson
(509) 375-5051

Period of Performance: May 3, 2010–July 31, 2012
Reporting Period: July 2012

OBJECTIVE

The objective of this project is to conduct nondestructive ultrasonic testing (UT), and an assessment of the leak path on Nozzle 63 from the North Anna Unit-2 reactor pressure vessel head. The assessment of the leak path will be conducted using instrumentation equivalent to or better than that used by industry. The results of the nondestructive examination will be compared to a previous assessment. A destructive analysis will be conducted to allow a visual assessment of the leak path. To the extent possible, the destructive analysis will be conducted such that materials from the nozzle and the J-groove weld that will be retained for later testing.

TECHNICAL PROGRESS

Task 1: Decontaminate the Nozzle and Prepare Laboratory for NDE

Task 1 is complete.

Task 2: Perform Ultrasonic Measurements of the Leakage Path

Task 2 is complete.

Task 3: Perform Destructive Evaluation of Leakage Path

Task 3 is complete.

Task 4: Write NUREG/CR

Final comments from NRC were received and addressed. The NUREG/CR was approved by NRC management and PNNL internal reviewers. The final, camera ready document was sent to NRC on July 19 as NUREG/CR-7142 and PNNL-21547. This activity is now complete.

Task 5: Waste Disposal and Cleanup

Task 5 is complete.

Task 6: Project Management and Meetings

All project records have been transferred to the PNNL records center. The project is being closed out by the end of July. Per an email from Greg Oberson, a camera, the scanner, and the

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probe will be transferred from NRC to DOE Accountable property so that PNNL can retain the equipment and use for future projects as opposed to having to dispose of them. This activity is now complete.

MEETINGS AND TRIPS

None.

PROBLEM AREAS

None.

SCHEDULE OF MILESTONES AND DELIVERABLES

Submit final NUREG/CR report July 20, 2012

Project closeout July 31, 2012

PLANS FOR THE NEXT REPORTING PERIOD

Task 1: Decontaminate the Nozzle and Prepare Laboratory for NDE

Complete.

Task 2: Perform Ultrasonic Measurements of the Leakage Path

Complete.

Task 3: Perform Destructive Evaluation of Leakage Path Nozzle 63 Optional Work

Complete.

Task 4: Write NUREG/CR

Complete.

Task 5: Waste Disposal and Cleanup

Complete.

Task 6: Project Management and Meetings

Complete.

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VARIANCE EXPLANATION

None

EQUIPMENT

The camera, scanner, and probe are to be transferred from NRC property to DOE Accountable property so that they do not need to be disposed of.

QUALITY ASSURANCE

The Quality Assurance requirements for this project are provided in the Laboratory's Standards Based Management System (SBMS). The SBMS allows for a graded QA approach to meet the requirements of individual projects. No specific Quality Assurance requirements have been specified by the NRC for this project.

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