

JCN-N6783

Office of Nuclear Regulatory Research

Properties of CRDM Welds

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Period of Performance: May 3, 2010–July 31, 2012
Reporting Period: March 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 and the final invoice from B&W was received and processed.

Task 4: Write NUREG/CR

PNNL is awaiting comments on the DRAFT NUREG/CR from NRC. The comments are expected in June 2012.

PNNL completed a paper and presentation given at the SPIE Smart Structures/NDE meeting and had them approved by NRC. PNNL also received permission to present the work to the 9th International Conference on NDE in Relation to Structural Integrity for Nuclear and Pressurized Components' sponsored by EPRI.

Task 5: Waste Disposal and Cleanup

Task 5 is complete.

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Task 6: Project Management and Meetings

The planned telecom with NRC, industry, and PNNL has been postponed and PNNL will await direction from NRC.

MEETINGS AND TRIPS

None.

PROBLEM AREAS

None.

SCHEDULE OF MILESTONES AND DELIVERABLES

Receive and address NRC comments	by July 2012
Submit final NUREG/CR report	by July 30, 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

Await final comments from NRC.

Task 5: Waste Disposal and Cleanup

Complete.

Task 6: Project Management and Meetings

No meetings planned. Support NRC as necessary and await final comments on the report.

FINANCIAL STATUS

(b)(4)

VARIANCE EXPLANATION

None.

EQUIPMENT

None.

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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