

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: June 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

PNNL addressed the NRC comments on the draft report and submitted the revised version to NRC on June 19. NRC management performed their review and approved the NUREG/CR with minor changes and sent those changes to PNNL on June 29.

Task 5: Waste Disposal and Cleanup

Task 5 is complete.

Task 6: Project Management and Meetings

A telecom was held with NRC to discuss the review comments on the draft NUREG/CR.

C/36

MEETINGS AND TRIPS

None.

PROBLEM AREAS

None.

SCHEDULE OF MILESTONES AND DELIVERABLES

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

The NUREG/CR final version will be prepared and made "camera ready" and issued to NRC after undergoing an internal PNNL review and receiving the PNNL publication number.

Task 5: Waste Disposal and Cleanup

Complete.

Task 6: Project Management and Meetings

Project records will be sent to the PNNL records center for storage and the project will be closed out by the end of July.

(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.

(b)(4)

(b)(4)