

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: 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.

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**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.

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**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.

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**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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