

May 31, 2006

Mr. Gary A. Lofthus, Chair
Electric Power Research Institute
Performance Demonstration Initiative
Nuclear Management Co
186 County Rd U
River Falls, WI 54022

Dear Mr. Lofthus:

In a letter dated May 12, 2006, I requested your assistance in obtaining data to assess the reliability of qualified ultrasonic inspection of dissimilar metal (DM) nickel-based alloy welds in leak-before-break (LBB) piping systems. During a meeting on May 23, 2006, between NRC staff and industry representatives to discuss the status of the Electric Power Research Institute (EPRI) Performance Demonstration Initiative (PDI), the staff were advised that based on division of responsibilities, the NRC request for some of the data we are seeking should be directed to Mr. Michael Robinson in his capacity with the Materials Reliability Program (MRP).

Accordingly, we are transmitting a letter to Mr. Robinson requesting information on piping weld configurations that is held by the MRP. In the letter to Mr. Robinson we will advise him of our related request to the PDI. This letter clarifies the May 12, 2006, letter to you by requesting only that data under the responsibility of PDI. The basis for the request remains unchanged. Thus, the Office of Nuclear Regulatory Research (RES) is requesting assistance from EPRI PDI in obtaining the following information:

1. A summary list of issues that may impact the volumetric examination of DM welds (e.g., accessibility, surface roughness, acoustic and metallurgical variables), and issues that could potentially result in limited inspections; and
2. Cumulative data to support a determination of nondestructive examination (NDE) reliability for DM welds and weld overlays. PDI data from all qualification candidates for American Society of Mechanical Engineers (ASME) Appendix VIII, Supplements 10 and 11 (includes personnel who passed and those who failed) is needed. The data will be analyzed statistically to obtain an estimate of the probability of detection (POD) for Primary Water Stress Corrosion cracking (PWSCC) in LBB piping welds. A similar approach was used in developing the estimate of NDE reliability reported in NUREG/CR-4464, "Performance Demonstration Tests for Detection of Intergranular Stress Corrosion Cracking."

A portion of the information needed for this assessment may exist in published open literature. However, the primary source for much of this data, especially in terms of recent information related to limitations to qualifications, and POD of ultrasonic examinations for DM welds, resides with the industry's PDI at the EPRI NDE Center. To support this effort, we request that PDI authorize cognizant EPRI NDE Center personnel to collaboratively assist our contractor, Pacific Northwest National Laboratory (PNNL), in collecting this information.

Should you have any questions regarding this request, please contact Wallace Norris of my staff at (301) 415-6796.

Sincerely,

/RA/ Deborah Jackson for

Jennifer L. Uhle, Deputy Director
Materials Engineering
Division of Fuel, Engineering and
Radiological Research
Office of Nuclear Regulatory Research

cc: K. Gruss, NRR
E. Sullivan, NRR
A. Hull, RES
A. Csontos, RES

G. Lofthus

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