

July 13, 2012

MEMORANDUM TO: Timothy R. Lupold, Chief
Piping and NDE Branch
Division of Engineering
Office of Nuclear Reactor Regulation

FROM: Robert O. Hardies, Senior Level Advisor **/RA/**
Division of Engineering
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF PUBLIC MEETING HELD ON
JUNE 18 AND 19, 2012, WITH THE PERFORMANCE
DEMONSTRATION INITIATIVE (PDI) PROGRAM
REPRESENTATIVES (TAC NO. ME2257)

On June 18 and 19, 2012, the U.S. Nuclear Regulatory Commission (NRC) staff participated in a public meeting with representatives from the Performance Demonstration Initiative (PDI) program at Electric Power Research Institute (EPRI), 1300 West W.T. Harris Boulevard, Charlotte, North Carolina. The Electric Power Research Institute (EPRI) provides PDI's business operations and technical support. PDI is a nuclear power industry initiative established to develop and administer the qualification requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, Appendix VIII, "Performance Demonstration for Ultrasonic Examination Systems," and to develop and administer the demonstrations and qualifications of ultrasonic testing (UT) examinations of butt welds that are associated with other inspection programs.

The purpose of the meeting was to discuss PDI's approach for implementing selected aspects of ASME Code, Section XI, Appendix VIII, and associated items. The subjects discussed included: a) PDI activities on the proposed ASME Code actions affecting UT examinations, b) status report on PDI piping, reactor pressure vessel (RPV), and mitigated dissimilar metal (DM) weld qualification programs, c) status report on the NRC funded nondestructive examination (NDE) projects at the Pacific Northwest National Laboratory (PNNL), d) PDI activities related to cable equivalency and equipment upgrade, e) status on review of PDI inner diameter (ID) depth sizing data, and f) discussion on control of PDI generic procedure updates. These meetings are a continuation of formal dialog between the NRC and the industry on PDI's implementation of ASME Code, Section XI, Appendix VIII, and other NDE issues of mutual interest. The dialog provides opportunities to discuss testing difficulties, review PDI's program methodology for selected supplements, and address issues regarding the ASME Code. The meeting participants and agenda are listed in Enclosures 1 and 2, respectively. Open items and new action items are described in Enclosures 3 and 4. Handouts and presentations provided at the meeting are listed in Enclosure 5 and are available in the NRC's Agencywide Documents Access and Management System (ADAMS) under accession number ML12173A455.

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Following a discussion of action items, PDI opened the meeting with a presentation titled "ASME Code Update," which discussed the status of ASME Code activities related to Appendix VIII.

PDI summarized their activities to reconcile the PDI program to the updated Code edition/addenda referenced in the 2011 version of 10 CFR 50.55a. This work is ongoing. The presentation is listed under the title "PDI Program Reconciliation with 2011 NRC Rule Making Program" in enclosure 5. EPRI, PDI, and other industry participants expressed concern regarding the upcoming NRC rulemaking to update the ASME Code edition and addenda. In the previous rulemaking the NRC required licensees to update the edition and addenda of the ASME Code, Section XI, for Appendix VIII. This presents a logistical issue for PDI because of the need to revise procedures and perform reconciliations to each approved edition/addenda, essentially requiring creation of parallel programs. The participants expressed a preference for the NRC to not continually update the edition/addenda for Appendix VIII, but rather to freeze the permitted edition/addenda. The NRC indicated that the pending rulemaking would be issued for public comment this summer and that a question soliciting input on the periodicity for updating Appendix VIII would be included. Industry could prepare and submit a comment that illustrates their concern, including quantification of the logistical hardship that the change could cause.

The NRC discussed priorities for nondestructive examination, which include manual examinations, technical bases for Appendix VIII/site-specific procedures, examination angles, performance demonstration flaws, surface conditioning, new construction, reactor pressure vessel remaining ligament, performance-based training and qualification, human factors, and Appendix VIII requirements assumptions. These topics have not been ranked in priority order.

PDI provided a presentation titled "Status of Cable Equivalency Work" describing cable equivalency testing. They found that some of the deviations exceeded ASME Section XI, Article 4000 criteria. They reduced the cable length to between 6'18" from 24' and all criteria were met. They noted that the system band width was increased when the cable length was increased. The results of the study are published in EPRI Report 1025023.

PDI discussed ultrasonic instrument equivalency in a presentation titled "Ultrasonic Instrument Equivalency; The PDI Process." PDI proposes to change their process by requesting manufacturers, in addition to providing a letter stating equipment model number equivalency, to send PDI an instrument for a brief series of tests. PDI is investigating appropriate test requirements and has proposed a task to revise the ASME Code to incorporate the proposed process. One of the key issues in the qualification of equipment systems is that the qualifications are system based. This requires a large effort to change out one component with another component. Current rules would require system checks with all the combinations that could be used. The proposed approach provides a method for component-to-component comparison to allow new components to be substituted when components become obsolete.

The NRC provided a discussion titled "RMS Error and Correction Factors." This discussion built on a PDI presentation at a March 16 public meeting of a statistical analysis of correction factors proposed by the industry and the NRC staff. The presentation demonstrated that the approach used in the PDI presentation could be used to identify a correction factor that would effectively align the lower tails of the RMS distributions to prevent undersizing errors, while minimizing oversizing errors.

PDI discussed the site specific qualification process in a presentation titled "PDI Site Specific Mock-up Criteria." The process describes how to qualify equipment and personnel when the site specific configuration differs from the configuration used in the generic procedure qualification mockups. This process was created during supplement 10 program development. The NRC expressed interest in reviewing the procedure and noted that the procedure should be used in conjunction with, rather than in lieu of, Appendix VIII requirements. PDI indicated they were considering incorporating lessons learned from operating experience into the procedure.

PDI discussed current qualification activities in a presentation titled "Performance Demonstration Program Update." The discussion included statistics on qualification activities, procedure development and sample fabrication.

PDI discussed a program to standardize procedural language across the suite of PDI procedures. The effort is describe in the presentation entitled "PDI Generic Procedure Revision Update."

OPEN ITEMS AND NEW ACTION ITEMS

Enclosure 3 provides details about the status of open items from the December 2011 NRC/PDI public meeting. Enclosure 4 contains details about new action items created during the June 2012 NRC/PDI public meeting and the remaining open items from the December 2011 NRC/PDI public meeting that were not completed and/or closed.

NEXT MEETING

The next semiannual NRC/PDI public meeting is tentatively scheduled for November 27 and 28, 2012 at Florida Power and Light Company in Juno Beach, Florida. The exact dates and time will be announced later.

Enclosures:

1. Attendance List
2. Meeting Agenda
3. Review of Open Action Items from December 2011 NRC/PDI Public Meeting
4. Open Action Items and New Action Items during June 2012 NRC/PDI Public Meeting
5. List of Handouts and Presentations

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ADAMS Accession Number: ML12194A614

OFFICE	NRR/DE/EPNB
NAME	RHardies
DATE	07/ 13 /2012

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ATTENDANCE FOR THE NRC/PDI PUBLIC MEETING
JUNE 18 AND 19, 2012

NAME	ORGANIZATION
John Lindberg	EPRI
Bob Hardies	USNRC
Carl Latiolais	EPRI
Carlos M. Barrera	IHI Southwest Tech
Carol Nove	USNRC
Danny Cordes	Southern Nuclear
Don Welch	Energy Northwest
Gary Lofthus	SNC
James J. McArdle	Duke Energy
Jeff Devers	Anatec-LMT
Jerry Wren	XCEL Energy
Kevin Hacker	Dominion
Mark Huting	XCEL Energy
Michael Canny	CENG-GINNA
Mike Anderson	PNNL
Mike Briley	Entergy
Paul Sullivan	Structural Integrity
Randy T. Linden	PPL Susquehanna LLC
Richard Fuller	First Energy
Roger Kuhl	Anatec-LMT
Ronnie Swain	EPRI
Chris H. McKean	Exelon
Seunghan Yang	KHNP (Korean Hydro Nuclear Power)
Richard Berry	IHI
Dan Nowakowski	FLP
Frank C. Leonard	TVA
Scott Larson	Progress Energy
Rod Sheffield	Duke Energy
Victor L. Krueger	NPPD
Michael A. Oliveri	PSEG
Lyle D. Spiess	STPEGS
Al Csontos	USNRC
John Hayden	SIA
Kyle Rogers	B&W Nuclear Energy
Michael Turnbow	TVA
Rick Rishel	WesDyne

NAME	ORGANIZATION
Stephen Cumblidge	USNRC
Steve Doctor	PNNL
Tim Lupold	USNRC
Wallace Norris	USNRC
Ali Rezai	USNRC
William A. Jensen	NEXT ERA Energy, Power Beach
Brad Thigpen	AREVA
Dave King	URS Corp
David Anthony	Exelon

AGENDA

FOR THE NRC PUBLIC MEETING WITH THE PERFORMANCE DEMONSTRATION
INITIATIVE (PDI) PROGRAM REPRESENTATIVES
AT ELECTRIC POWER RESEARCH INSTITUTE (EPRI)
1300 WEST W.T. HARRIS BOULEVARD, CHARLOTTE, NC

Monday, June 18, 2012, 1:00 p.m. – 5:00 p.m.

Time	Topic	Presenter
1300	Introductions	Anthony/All
1315	Review of previous action items	Anthony/Latiolais
1330	NRC Top Ten	Norris/Hardies
1415	ASME Code Activities	Swain
1445	NRC Rule making Status of reconciliation with 2011 NRC rule	Latiolais
1515	Break	All
1530	NRC Presentation	NRC
1600	NRC Presentation	NRC
1630	Public Comment	NRC
1700	Adjourn	All

Tuesday, June 19, 2012, 8:00 a.m. – 4:00 p.m.

Time	Topic	Presenter
0800	New Introductions	Anthony
0810	Status of PDI Piping and RPV Programs	Swain
0845	Status of Code Case N-780	Lofthus
0900	Status of Cable Equivalency Work	Kull
0915	Ultrasonic Instrument Equivalency (PDI Process)	Kull
0930	Site Specific process for expansion of Appendix VIII qualifications to welds not covered by the Appendix VIII specimen set	Latiolais/All
1015	Break	All
1030	PD Piping Program Pass/Fail Statistics	Langevin
1045	Status on review of PDI ID Depth Sizing Data (Path forward)	Latiolais
1100	Performance Demonstration Workshop discussion	Latiolais
1115	Operating Experience	All
1200	Lunch	All
1300	Items of Mutual Interest	NRC
1400	Review of Action Items	All
1430	Break	All
1500	Next Meeting	All
1530	Public Comment	NRC
1600	Adjourn	All

ENCLOSURE 2

REVIEW OF OPEN ACTION ITEMS
FROM DECEMBER 2011 NRC/PDI PUBLIC MEETING

NRC Actions:

1. NRC to look into process that can be used other than ASME Code case to allow use of cable equivalency work.

Complete: Complete.

2. PDI requests NRC to consider freezing the edition and addenda of Appendix in future rule making if no significant changes will be realized.

Status: Ongoing each NRC/PDI meeting.

3. NRC provide PDI words to add to ASME Code Case N-653-1 concerning 1.0 inch grading unit size. Words need to say something like "the minimum grading unit size shall be at least 1.0 inch, but will be of random lengths."

Complete: Complete.

4. NRC will provide information on how the Office of Nuclear Regulation (NRR) provides information from these meetings to the Regions.

Complete: Complete.

PDI Actions:

1. Add agenda item covering CASS progress within the ASME Code (Appendix III); Include roadmap overview showing how we are moving towards Appendix VIII (thin-walled).

Status: Ongoing.

2. PDI to review the NRC assessment of MRP-262.

Status: Complete.

3. Complete communication plan and schedule meeting with the NRC to evaluate ID depth sizing.

Status: Complete.

4. Provide status on when a review of PNNL proposed changes to the NUREG documenting the basis for Appendix VIII will be reviewed.

Status: Complete.

5. Discuss with PDI Steering Committee the type of pass rate statistics needed to be reported.

Status: Complete. New item created to track implementation.

6. Include in quality instructions all actions required to add new equipment equivalencies for commercially available manual instruments.

Status: Ongoing.

7. Provide finalized quality instruction documenting the PDI processes that will be used to implement ASME Code Case N-780.

Status: Ongoing.

8. EPRI will propose project to Integration Committee (IC) to revise VIII-4000 requirements.

Status: Complete.

9. PDI/EPRI will propose a methodology for taking credit for fast track lab time for satisfying the experience hours needed for certification.

Status: Complete.

10. New measurements on the cable equivalency work will be provided to NRC and PNNL.

Status: Complete. New item created to track implementation.

11. Discuss process for dealing with the old revisions of the PDI qualified generic procedures (Sunset process).

Status: Ongoing

OPEN AND NEW ACTION ITEMS
DURING JUNE 18 AND 19, 2012, NRC/PDI PUBLIC MEETING

NRC Actions:

1. PDI requests NRC to consider freezing the edition and addenda of Appendix in future rule making if no significant changes will be realized.

Status: Ongoing each NRC/PDI meeting.

PDI Actions:

1. Add agenda item covering CASS progress within the ASME Code (Appendix III); Include roadmap overview showing how we are moving towards Appendix VIII (thin-walled).

Status: Ongoing for each meeting.

2. Include in quality instructions all actions required to add new equipment equivalencies for commercially available manual instruments.

Status: Ongoing.

Completion Date: The next NRC/PDI meeting in 2012.

3. Provide finalized quality instruction documenting the PDI processes that will be used to implement ASME Code Case N-780.

Status: Ongoing.

Completion Date: The next NRC/PDI meeting in 2012.

4. Discuss process for dealing with the old revisions of the PDI qualified generic procedures (Sunset process).

Status: Ongoing.

Completion Date: The next NRC/PDI meeting in 2012.

5. Complete PDI implementation instruction for equipment equivalency, via Code Case N-780, and provide information about the major components back to NRC

Status: Ongoing.

Completion Date: The next NRC/PDI meeting in 2012.

6. Develop Appendix VIII pass rate statistics for presentation at future PDI/NRC meetings.

Status: Ongoing.

Completion Date: The next NRC/PDI meeting in 2012.

7. Provide status on when a review of Steve Doctors proposed changes to Appendix VIII will be reviewed; need to review Steve's comments with TG-Volumetric to determine if any remaining open items exist.

Status: Ongoing.

Completion Date: The next NRC/PDI meeting in 2012.

8. Provide newly revised cable equivalency report to PNNL for review

Status: Ongoing.

Completion Date: The next NRC/PDI meeting in 2012.

LIST OF HANDOUTS AND PRESENTATIONS
FOR JUNE 18 AND 19, 2012, NRC/PDI PUBLIC MEETING

(ML12173A455)

1. Action Item List From PDI/NRC Meeting 12/2011
2. PDI/NRC Action Item List Updated - 6/2012
3. NRC Action Items for PDI
4. PDI Program Reconciliation with 2011 NRC Rule Making Program
5. ASME Section XI Update
6. Status of Cable Equivalency Work
7. Performance Demonstration Initiative (PDI) Generic Procedure Revision Update
8. Industry Actions to Address Depth Sizing Capability for Large Bore Piping Welds from Inside Surface
9. RMS Error and Correction Factors
10. Ultrasonic Instrument Equivalency; The PDI Process
11. Performance Demonstration Program Update
12. PDI Site Specific Mock-up Criteria