

January 6, 2012

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

FROM: Ali Rezai, Materials Engineer */RA for Timothy Lupold/*  
Piping and NDE Branch  
Division of Engineering  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF PUBLIC MEETING HELD ON DECEMBER 6  
AND 7, 2011, WITH THE PERFORMANCE DEMONSTRATION  
INITIATIVE (PDI) PROGRAM REPRESENTATIVES (TAC NO. ME2257)

On December 6 and 7, 2011, the U.S. Nuclear Regulatory Commission (NRC) staff participated in a public meeting with representatives from the Performance Demonstration Initiative (PDI) program at Laguna Cliffs Marriott Resort, 25135 Park Lantern, Dana Point, California. 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 were: 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.

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### PDI ACTIVITIES ON ASME CODE ISSUES

PDI presented the status of pending ASME Code Case N-653-1, "Qualification Requirements for Overlaid Piping Welds." The code case is directly related to updating the ASME Code, Section XI, Appendix VIII, Supplement 11, to the current industry practices and broadening the language to include pressurized water reactor (PWR) weld overlay (WOL) samples. PDI received several comments and concerns on this code case during the August 2011 ASME Code Standards Committee meeting. These concerns include inadequate tracking or explanation of the changes and inadequate wording of, or incorrectly interpreting, the false call acceptance criteria for procedure qualifications.

During a meeting at EPRI in November 2011, the NRC staff expressed concerns to PDI regarding the existing ASME Code Case N-653-1 requirements for minimum length of flaws in the flawed grading units. ASME Code Case N-653-1 states that the minimum flaw length shall be at least 1.0 inch but does not clearly state that the lengths of the flawed grading units shall be randomly mixed so that the length of flaws would not all be limited to 1.0 inch long. PDI will respond to the NRC concerns by rewriting the code case and include language stating that the flawed grading units will have variable lengths. Then, PDI will introduce the updated code case to the Standards Committee for a second round of consideration during the upcoming ASME Code meeting in February 2012. A new action item was created for appropriate words to be added to ASME Code Case N-653-1, specifying the 1.0 inch minimum grading unit size be randomly mixed. The NRC staff also noted that during a visit to EPRI the grading units used for the overlaid specimens were examined and found to be satisfactory.

PDI presented the status of intent/inquiry submitted to Task Group Appendix VIII (TG-App VIII) regarding the use of computer modeling for nozzle examinations. Utilizing computer modeling methods will expand qualifications for outside diameter (OD) surface examinations (i.e. Supplement 5 of Appendix VIII of the ASME Code, Section XI) as well as for ID surface examinations (i.e. Supplement 7 of Appendix VIII of the ASME Code, Section XI). PDI noted that many nozzles in the field have unique designs, thus, fabricating a mockup for every nozzle design for Appendix VIII qualifications is deemed to be impractical. With the PDI computer modeling technique, the optimum inspection parameters could be determined allowing both the UT beam to be launched from alternate examination surfaces and the Appendix VIII qualifications to be adapted to the actual geometries of nozzles in the field. PDI noted that for accurate modeling, the exact geometries of the nozzle need to be known. With the appropriate range of transducers and mechanical adjustments determined by the computer modeling, the UT scans can be performed in accordance with the requirements of the ASME Code, Section XI, Appendix VIII. PDI noted that the geometry of every nozzle surface should be included in the computer modeling but not every nozzle surface will be used for UT inspection (i.e., demonstrating the ability of UT inspection for detecting and sizing flaws). The modeling helps to identify the preferred surfaces and UT beam angles that are to be used to accomplish the most effective inspection. The details about the PDI computer modeling and justifications for using modeling are documented in Item No. 4 of Enclosure 5.

Regarding Task Group Cast Austenitic Stainless Steel (TG-CASS) activities, PDI reported that the merit of developing ASME Code, Section XI, Appendix VIII, Supplement 9, is being reexamined due to the continuing strides in technology and research for CASS UT inspection. TG-CASS will be working with the ASME Code committee on flaw evaluation standards to incorporate probabilistic fracture mechanics (PFM) for CASS into the ASME Code, Section XI.

Work on preparing an ASME Code case and supporting white paper to add a new Supplement 2 to Appendix III of the ASME Code, Section XI, for UT examination of CASS is ongoing.

#### PDI PROGRAM RECONCILIATION WITH 2011 NRC RULEMAKING

PDI has expressed concerns regarding the future NRC rulemaking (published in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a) which will incorporate by reference the later editions and addends of the ASME Code, Section XI. The presentation is documented in Item No. 3 of Enclosure 5. The PDI concerns are specifically directed to the ASME Code, Section XI, Appendix VIII, (i.e., when the NRC incorporates by reference each new edition and/or addenda of the ASME Code, Section XI, in 10 CFR 50.55a, PDI has to review and update its own as well as the industry performance demonstration programs to ensure compliance with all applicable requirements of the ASME Code years for Appendix VIII). As a result of the recent NRC ruling dated June 21, 2011, PDI has 18 months to review and update its own as well as the industry performance demonstration programs to ensure compliance with all applicable requirements of the 2008 Addenda of the ASME Code, Section XI, Appendix VIII. PDI stated that if the next NRC revision to 10 CFR 50.55a is expected to be issued in 2013, PDI has to review and update the performance demonstration programs on yearly basis and this is inefficient for the industry.

PDI proposed that the Appendix VIII implementation be frozen at the 2008 Addenda of the ASME Code, Section XI, until the NRC determines the change(s) in Appendix VIII provide significant benefits to utilities and safety of nuclear power plants. The NRC staff commented that limiting the utilities to use specific edition and addenda of the ASME Code, Section XI, for Appendix VIII, restricts the utilities options. Several participants from utilities commented that PDI was established and has been funded by the utilities and they support the PDI proposal. A new action item was created for the NRC to consider freezing the Appendix VIII implementation to the 2008 Addenda of the ASME Code, Section XI, in future rulemaking unless the NRC determines the change(s) is significant.

#### DISCUSSION ON WHAT EDITIONS LICENSEES ARE USING WHEN IMPLEMENTING APPENDIX VIII; WHAT THEIR PERSPECTIVE IS ON UPDATING THE EDITION OF APPENDIX VIII; AND WHEN THEY UPDATE THEIR ISI PROGRAM.

The NRC staff has expressed concerns that there have been case(s) where licensees who updated their inservice inspection (ISI) code of record beyond the 1995 Edition and 1996 Addenda of the ASME Code, Section XI, are still using the 1995 Edition and 1996 Addenda for Appendix VIII implementation. PDI and the meeting participants from utilities acknowledged that licensees must follow the requirements specified in 10 CFR 50.55a(b)(2)(xv) when implementing Appendix VIII of the ASME Code, Section XI.

Pursuant to 10 CFR 50.55a(b)(2)(xv), in parts, licensees with ISI code of record of the 1995 Edition or earlier edition/addenda of the ASME Code, Section XI, shall use the 1995 Edition with 1996 Addenda of Appendix VIII of the ASME Code, Section XI; Licensees with ISI code of record of the 1995 Edition/1996 Addenda through 2001 Edition of the ASME Code, Section XI, shall use the current facility ISI code of record for Appendix VIII; Licensees with ISI code of record of the 2001 Edition or later, shall use the 2001 Edition of the ASME Code, Section XI, Appendix VIII or later, as appropriate.

The NRC staff commented that if PDI and the utilities deem there is a need for clarification of requirements in 10 CFR 50.55a(b)(2)(xv), the NRC will consider issuing a Regulatory Issue Summary (RIS).

#### PDI PIPING, DISIMILAR METAL (DM) WELD, OVERLAY, AND REACTOR PRESSURE VESSEL (RPV) PROGRAMS

PDI presented status update on the piping and RPV performance demonstration programs and noted that the program activities for qualifications continued to be slow during the second half of 2011. The possible cause of low turnout was attributed to high numbers of refueling outages scheduled during 2011.

PDI presented the number of candidates who took the qualification examinations, but there was no information provided on the pass/fail rates. The NRC staff has raised concerns on why PDI does not provide any metrics on pass/fail rates of personnel qualifications and/or advanced UT equipment qualifications. Without metrics, it is hard to identify where improvements can be made to the performance demonstration processes. A new action item was created for PDI to discuss with the Steering Committee the type of pass rate statistics to be reported in the future NRC/PDI public meetings.

Regarding new sample fabrications, PDI reported that the work is underway to add specimens with tapered nozzle configuration for the piping qualifications program. The tapered configurations in piping components are one of the major limitations on number of procedure qualifications in the piping performance demonstration program. Several specimens having large diameter (e.g., 34 inches and 30 inches) and small diameter nozzles overlaid with full structural weld overlay (FSWOL) and optimized weld overlay (OWOL) were fabricated in 2011.

PDI reported that the work on revising Generic Procedure PDI-UT-6, "Ultrasonic Examinations of Reactor Pressure Vessel Welds," is ongoing. The PDI generic procedures are posted on EPRI(Q) website ([www.epriq.com](http://www.epriq.com)). The PDI work on developing ground rules for equipment equivalency process in accordance with the ASME approved Code Case N-780 is moving forward.

#### ULTRASONIC CABLE EQUIVALENCY

PDI presented the status of UT cable equivalency project. The details are documented in Item No. 5 of Enclosure 5. The project objective was to generate a technical basis that would allow examiners to use any length cable up to 24 feet long for any manually deployed conventional UT inspection procedure. The outcome would be used as technical basis for modification of the current PDI Generic Procedure Table 1 documents. The modifications will expand all Table 1 entries to allow for the use of RG-174/U and RG-58/U cables up to a length of 24 feet, and up to three intermediate connectors without additional demonstration activities. PDI documented the results of study in the final EPRI-1021059, "Nondestructive Evaluation: Ultrasonic Cable Equivalency," report published December 2010. EPRI-1021059 report is publicly available for download at the EPRI website.

PNNL conducted an independent review of the final EPRI-1021059 report and presented its findings during the December 2011 NRC/PDI public meeting. The PNNL presentation is documented in Item No. 14 of Enclosure 5. PNNL identified area of improvements

(e.g., equipment expansion and combination) and noted that the extrapolation of the work to all manual UT instruments and transducers in tables of PDI generic procedures was not supported by the PDI study. Additional work is needed to expand the study to include other manual UT instruments and search units with smaller diameters and higher frequencies. As a result of the PNNL recommendations, PDI has expanded the project to test all other manual UT instruments and combinations for equivalency, and collected additional measurements.

In addition, PDI will be generating a legacy table to include the instruments that are no longer being used and can only be used with the qualified cable length unless further testing is performed. PDI will provide the final report of the above mentioned additional works for the NRC review. A new action item was created for PDI to provide the NRC new measurements from equipment expansion and combinations before the spring ASME Code meeting (scheduled in February 2012). PDI is also considering developing an implementation plan to address UT cable equivalency regulatory issues which will include discussions and meetings with the NRC and a request for an acceptance letter.

#### PDI ULTRASONIC EQUIPMENT EQUIVALENCY PROGRAM AND ASME CODE CASE N-780

PDI presented the status of the UT equipment equivalency project. The objective of the project is to determine whether the substituted equipment can be considered equivalent to the original equipment qualified initially by PDI with no re-qualification of the substituted equipment required. The study takes the approach to merge the requirements in ASME Code Case N-780, "Alternative Requirements for Upgrade, Substitution, or Reconfiguration of Examination Equipment When Using Appendix VIII Qualified Ultrasonic Examination Systems," with the existing ASME Code, Section XI, Appendix VIII, requirements.

PDI discussed the process used for initial qualification of an (original) instrument. The process captures the manufacturer and model number of an (original) instrument when the instrument is initially qualified. The model number ties the instrument to its essential internal components such as pulser, receiver, and amplifier. Some systems (mainly advanced automated systems specific to a vendor) have interchangeable internal components and in those cases the internal components of the system are tracked separately. In addition, the essential instrument settings are also captured and the values are documented, and unless re-qualified or expanded upon, these settings shall be used for all future testing.

PDI discussed the process used for qualification of a substituted instrument. The process uses the documentation certified by the manufacturer. If the essential internal components of a substituted instrument are the same as a previously qualified component, then, PDI considers the instrument equivalent and no re-qualification is required. Furthermore, evaluations are performed by PDI on the substituted instruments to ensure that they have the same essential instrument settings as the qualified original instrument. The Performance Demonstration Administrator (PDA) continually monitors candidates during all performance demonstrations and if any issues related to equipment are noted further investigations are performed. Furthermore, the process considers an instrument that contains the same pulser/receiver, but a different model number, to be equivalent, because the essential internal component(s) has not been replaced. The PDA verifies all calibrations and instrument settings to ensure that the instruments can be calibrated and used in the same fashion as the original instrument was qualified.

PDI stated that the past and recent studies have demonstrated that the various substituted UT equipment (e.g., conventional and phased array) tested produce equivalent data. PDI continues to obtain additional UT data to use as validation that the equivalency of UT instruments and search units can be established through technical justification. The PDI efforts on implementing ASME Code Case N-780 in conjunction with developing internal protocols and instructions to control its use are ongoing. PDI is preparing an internal quality instruction report to document the results of its findings, but the report will not be made publicly available. Two new action items were created for PDI to i) provide to the NRC finalized quality instruction report documenting the processes that will be used to implement ASME Code Case N-780 and ii) include in the quality instructions all actions required to add new equipment equivalencies for commercially available manual UT instruments.

Recently, an NRC regional inspector raised an issue relating to equipment equivalencies using the current requirements in the ASME Code, Section XI, Appendix VIII. The problem arose when the NRC resident inspector noticed that a vendor was using UT equipment that was in the PDI qualified procedure as equivalent equipment to that initially qualified. The NRC inspector questioned how the equivalency determination was made and if it was adequate. PDI stated that in many cases examination equipment with different model numbers retain the same essential internal components (e.g., pulser, receiver, or amplifier). PDI explained that the current PDI process for qualification of a substituted instrument is to request certified documentation from the manufacturer showing what changes have been made in the new model. If the manufacturer certifies that the new model contains the same essential internal components as the old model, then, PDI considers the new model to be equivalent and no re-qualification is necessary.

A meeting participant from PNNL commented that relying only on the manufacturer certification is not sufficient justification to call the substituted instrument equivalent. If it would be shown that the substituted instrument tested on selected flaws using the same transducer used with the original qualified instrument provided equivalent responses, then it would be justification to consider it equivalent. Better justification would be for PDI to document that the substituted instrument was successfully used to pass the PDI qualification test using the generic procedure. This topic was extensively discussed during the meeting and even extended to some of Article VIII-4000 of Appendix VIII of the ASME Code, Section XI, requirements. The meeting participants were in consensus that PDI needs to revisit and revise the Article VIII-4000 requirements on the computer-controlled UT instruments. A new action item was created for PDI to discuss with EPRI revisions to the requirements in Article VIII 4000 of Appendix VIII.

#### PDI GENERIC PROCEDURE CONTROL

PDI discussed the internal process for dealing with the original (e.g., PDI-UT-3) and enhanced (e.g., PDI-UT-3, Rev A, B, or C) generic procedures for UT examinations. The PDI generic procedures are posted on EPRI(Q) website ([www.epriq.com](http://www.epriq.com)). The original and the enhanced generic procedures have been prepared, demonstrated, and qualified by PDI. The generic procedures are general guidance PDI provides to utilities/vendors for performing the UT examinations on particular component(s).

The enhanced PDI generic procedure is a revision(s) to the original generic procedure where the essential variables remain unchanged from the original generic procedure. Typical examples of enhancement may include adding tables to the procedure, better way of displaying

signals, and/or clarifications. The revisions to the original generic procedure are adequate and can be used by licensees except if any revision(s) is disqualified by PDI. An individual who has qualified for the original PDI generic procedure is also qualified for the enhanced PDI generic procedure. PDI noted that an individual who was qualified for one generic procedure (e.g., PDI-UT-3) is not automatically qualified for the other (e.g., PDI-UT-4). A new action item was created for PDI to provide the NRC a process for dealing with the old revisions to the PDI qualified generic procedures.

In addition, PDI noted that utilities/vendors have option to either use PDI generic procedure(s) or prepare their own procedure(s) (i.e., utility/vendor owned procedure). A Utility/Vendor owned procedure is prepared by the particular utility/vendor, and will be demonstrated and qualified under the PDI program. PDI has no control on enhancement or disposition of the utility/vendor owned procedure(s).

#### FAST-TRACK NDE WORK FORCE DEVELOPMENT PROGRAM

In spring 2011, EPRI implemented the Fast-Track NDE work force development program. Details of the program are discussed in EPRI Report 1016670, "Nondestructive Evaluation: Fast-Track NDE Work Force Enhancement," published in December 2008. PDI and the EPRI have envisioned that the Fast-Track program methodology which is designed specifically for nuclear utilities, will contribute significantly in supplying new qualified technicians more efficiently and quickly. The Fast-Track program provides significant training on realistic flaws in piping and RPV components.

The NRC staff asked PDI to provide details on when the EPRI issues Performance Demonstration Qualification Summary (PDQS) certificate to a trainee who has successfully completed the Fast-Track training program. PDI clarified that a trainee who has successfully completed all the requirements of the Fast-Track program could be given PDI personnel performance qualification tests. PDI will administer the qualification tests. If the trainee successfully passes the PDI qualification tests, the results will be documented, but the PDQS certificate will not be issued until the trainee meets the NDE Level II UT training requirements (through experience) as well as all other requirements of the American National Standards Institute (ANSI) and the American Society for Nondestructive Testing (ASNT) for qualification and certification of NDE personnel (i.e., ANSI/ASNT CP-189) and the requirements of Appendix VII of the ASME Code, Section XI.

#### UPDATES ON CASS INSPECTION

PDI presented the EPRI program on CASS, which is documented in Item No. 7 of Enclosure 5. PDI reported that the extensive and lengthy industry efforts on fracture mechanics consideration for CASS have been completed. EPRI Report 1019128, "Nondestructive Evaluation: Flaw Tolerance Evaluation of Thermally Aged Cast Austenitic Stainless Steel Piping," published in December 2009, documents the results obtained from the deterministic fracture mechanics approach. A draft report documenting the results of the probabilistic fracture mechanics (PFM) approach has been generated and is expected to be published later in 2011. The industry and PNNL actively continue pursuing the NDE research on CASS to improve examination methods. In addition, PDI noted that a number of documents including reports will be published documenting the findings in CASS research. The intent is to make all reports and documents published on CASS research by industry available to the NRC. A new action item was created

for PDI to provide a status report on the progress of CASS within Appendix III of the ASME Code, Section XI, and prepare a roadmap overview showing the PDI efforts to add thin walled CASS into Appendix VIII.

#### PNNL UPDATE ON NRC FUNDED PROJECTS

PNNL presented updates on the progress of NRC-sponsored NDE projects. The PNNL presentation is documented in Item No. 11 of Enclosure 5. PNNL reported that the results of work on CASS pressurizer (PZR) line specimens will be published in a NUREG/CR by the NRC. The specimens contained implanted and in-situ grown thermal fatigue cracks. The results from the PNNL work were compared to the results from the inservice inspection (ISI) vendors and found to be in agreement. All flaws were easily detected but depth sizing was challenging because there were few flaw tip signals available for depth sizing. PNNL reported that the ASME Code Committee is moving forward with developing an ASME Code case for the new ASME Code, Section XI, Appendix III, Supplement 2. Additional activities on the examination of CASS components are ongoing.

PNNL reported that the review of the final Material Reliability Program (MRP)-262, Revision 1, report "Development of Probability of Detection Curves for Ultrasonic Examination of Dissimilar Metal Welds," published in October 2009, was completed by the NRC and PNNL and the comments were submitted to EPRI in April 2010. EPRI has not provided any comments to the NRC and PNNL yet. A new action item was created for PDI to review the NRC assessment of MRP-262 and provide comments.

PNNL reported that the program to assess the reliability of emerging nondestructive techniques (PARENT) is successfully moving forward. PARENT is an international program funded by multilateral international agreements, to evaluate the current and emerging NDE methods. The primary focus of the PARENT program is to address detection and characterization issues for primary stress corrosion cracking (PWSCC) in nickel-based alloy DM welds. Bottom mounted instrumentation (BMI) nozzles and DM weld large and small bore piping will be open (non-blind) and blind tested during 2012.

#### STATUS ON REVIEW OF PDI ID DEPTH SIZING DATA

On November 15 and 16, 2011, the NRC staff performed an assessment of the PDI performance demonstration test data on inner diameter inspections of large bore piping welds at EPRI in Charlotte, North Carolina. The subject test data supports the root mean square error (RMSE) depth sizing screening criterion for cracks detected from the ID surfaces. Thus far, candidates who have taken the PDI qualification examinations for ID depth sizing have been unsuccessful in achieving the ASME Code, Section XI, Appendix VIII, Supplement 2 or Supplement 10, ID depth sizing requirement of 0.125 inch RMSE necessary for qualification. As a result, the PDI current practice is to compute the candidate RMSE and then the difference between 0.125 inch and the candidate RMSE will be added to the depth of a flaw found in the field. In addition, PDI has proposed a screening criteria of root mean square percentage (RMSP), where a successful test would constitute a depth sizing of less than 10 percent of the wall thickness of the component. The NRC has concerns that the current RMSE issues and the proposed RMSP criteria lack both technical basis and conservatism.



PDI presented a summary of the November 2011 meeting with the NRC and stated that there was no consensus reached on the ID depth sizing measurement error. PDI will not directly address specific items concerning the appropriate way to deal with the measurement error in the ASME Code, Section XI, Appendix VIII. Rather, PDI will discuss with its senior management and propose forming an industry cross discipline expert panel which includes other industry focus groups with expertise and experiences in fracture mechanics and the ASME Code flaw acceptance criteria. The PDI presentation provided opportunities for the utility and industry representatives to state their positions regarding the ID depth sizing error screening criteria and propose resolutions. However, there was no consensus reached and it was concluded that further discussions are necessary. A new action item was created for PDI to after completing discussion internally, schedule a meeting with the NRC to move forward with evaluating and resolving the ID depth sizing measurement error issue.

#### OPEN ITEMS AND NEW ACTION ITEMS

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

#### NEXT MEETING

The next semiannual NRC/PDI public meeting is scheduled for summer 2012. The exact date and meeting place will be announced later.

#### Enclosures:

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

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<b>NAME</b>	AREzai	TLupold
<b>DATE</b>	01/03/2012	01/06/2012

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ATTENDANCE FOR NRC/PDI PUBLIC MEETING  
DECEMBER 6 AND 7, 2011

NAME	ORGANIZATION
Ali Rezai	USNRC
Arun Mahindrakar	SCE/SONGS
Barry Mather	SCE&G
Bob Hardies	USNRC
Carl Latiolais	EPRI
Carlos M. Barrera	IHI Southwest Tech
Carol Nove	USNRC
Danny Cordes	Southern Nuclear
Damon Priestley	Progress Energy
Dewey Munson	First Enenergy
Don Naujock	USNRC
Don Welch	Energy Northwest
Doug Hansen	APS
Doug Kull	EPRI
Gary Lofthus	SNC
Fred Hull	Anatec-LMT
James J. McArdle	Duke Energy
Jason Heffron	Wolf Creek
Jeff Devers	Anatec-LMT
Jeff Sengenberger	URS
Jerry Wren	XCEL Energy
Joel Harrison	URS
Kevin Hacker	Dominion
Frank Leonard	TVA
Mark Huting	XCEL Energy
Michael Canny	CENG-GINNA
Mike Anderson	PNNL
Mike Briley	Entergy
Mark Dennis	EPRI
Paul Sullivan	Structural Integrity
Randy T. Linden	PPL Susquehanna LLC
Richard Fuller	First Energy
Roger Kuhl	Anatec-LMT
Ronnie Swain	EPRI
Shane Charbonnet	NPPD/Cooper

<b>NAME</b>	<b>ORGANIZATION</b>
Stephen Cumblidge	USNRC
Steve Doctor	PNNL
Stuart Richards	USNRC
Tim Lupold	USNRC
Todd Blechinger	Anatec-LMT
Tomonori Normura	Kansai Electric Power
Travis Thomas	Anatec-LMT
Troy Steinbauer	AREVA
Wallace Norris	USNRC
William A. Jensen	NEXT ERA Energy, Power Beach

AGENDA  
FOR NRC PUBLIC MEETING WITH THE PERFORMANCE DEMONSTRATION  
INITIATIVE (PDI) PROGRAM REPRESENTATIVES  
AT LAGUNA CLIFFS MARRIOTT RESORT  
25135 PARK LANTERN, DANA POINT, CA 92629  
DECEMBER 6 AND 7, 2011

Tuesday, December 6, 2011, 1:00 p.m. – 4:45 p.m.

1. Introductions
2. Review of Previous Action Items
3. Status of ASME Code Nondestructive Examination (NDE) Activities
4. NRC Rule Making Reconciliation with 2011 NRC Rule Making
5. Discussion on: what editions licensees are using when implementing Appendix VIII, what their perspective is on updating the edition of Appendix VIII, when they update their ISI
6. Status of PDI Piping/DM/Overlay Program
7. Status of the PDI Reactor Pressure Vessel (RPV) Program
8. Public Comment and Adjourn

Wednesday, December 7, 2011, 8:00 a.m. – 4:00 p.m.

1. Status of ASME Code Case N-780
2. Status of Cable Equivalency Work
3. Ultrasonic Instrument Equivalency (PDI Process)
4. Generic Procedure Control (NRC Question: "Which revision should the UT examiner use, the one they used to qualify with or the latest revision?")
5. Use of Fast Track NDE Personnel (NRC Request: "PDI to clarify the candidate entrance requirements for personnel coming to EPRI to take the PDI exams.")
6. Status on Review of PDI ID Depth Sizing Data (Path Forward)
7. Performance Demonstration Workshop Discussion
8. Operating Experience
9. Items of Mutual Interest
10. Review of Action Items
11. Next Meeting
12. Public Comment and Adjourn

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

NRC Actions:

1. PNNL will request from EPRI the WOL mockup to obtain information on aspects of a standard test set with regard to how much information is provided to the candidate on the nature of flaws in the test set.

Status: Ongoing. This item will be carried over from prior to the June 2010 meeting.

Completion Date: Discussed during November-December 2010 meeting (targeting March 2011 for request).

Status Decision in June 2011 Meeting: It was decided in June 2011 meeting that this will be carried over and become open action item 1 for June 2011 meeting.

Status Decision in December 2011 Meeting: Completed and closed in December 2011.

PDI Actions:

1. Add agenda item covering Cast 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.

Status Decision in December 2011 Meeting: Ongoing for each meeting. Move to open action items of December 2011.

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

Status: Ongoing.

Completion Date: December 2011

Status Decision in December 2011 Meeting: Due by December 2011. Move to open action items of December 2011.

3. PDI to introduce intent inquiry addressing small diameter ferritic welds. This inquiry will include meeting minutes.

Completion Date: August 2011 ASME Code meeting (Report back to the NRC during December 2011 meeting).

Status Decision in December 2011 Meeting: Completed and Closed.

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

Status: Ongoing.

Completion Date: Fall 2011.

Status Decision in December 2011 Meeting: Ongoing. Move to open action items of December 2011.

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

Status: Ongoing.

Completion Date: December 2011.

Status Decision in December 2011 Meeting: Ongoing. Move to open action items of December 2011.

OPEN AND NEW ACTION ITEMS  
DURING DECEMBER 6 AND 7, 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.

Completion Date: The first biannual NRC/PDI meeting in 2012.

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."

Completion Date: Mid-January 2012.

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

Completion Date: The first biannual NRC/PDI meeting in 2012.

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.

Status Decision in December 2011 Meeting: Ongoing for each meeting.

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

Status: Ongoing.

Completion Date: December 2011

Status Decision in December 2011 Meeting: Due by December 2011.

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

Status: Ongoing.

Completion Date: Fall 2011.

Status Decision in December 2011 Meeting: Ongoing.



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

Status: Ongoing.

Completion Date: December 2011.

Status Decision in December 2011 Meeting: Ongoing.

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

Completion Date: December 2011 PDI Steering Committee meeting.

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

Completion Date: The first biannual NRC/PDI meeting in 2012.

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

Completion Date: The first biannual NRC/PDI meeting in 2012.

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

Completion Date: June 2012 IC meeting.

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

Status: This will be discussed at the 2012 PDI meeting and the due date will be determined.

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

Completion Date: Mid-February 2012.

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

Status: Discuss during December 2011 PDI meeting and report back to NRC during the first biannual PDI/NRC meeting in 2012.

LIST OF HANDOUTS AND PRESENTATIONS  
DECEMBER 6 AND 7, 2011, NRC/PDI PUBLIC MEETING

ADAMS ACCESSION NO.: ML113470587

1. ASME Code Update NRC/PDI Dec 2011
2. 2011 June PDI/NRC Action Item Review
3. Appendix VIII Code Comparison NRC/PDI Dec 2011
4. ASME Intent Interpretation NRC/PDI Dec 2011
5. Cable Equivalency PDI/NRC Dec 2011
6. Code Case N-780 Experience PDI/NRC Dec 2011
7. CSS Update PDI/NRC Dec 2011
8. Dec 2011 PDI/NRC Meeting Agenda
9. ID Depth Sizing Meeting Update – PDI/NRC Dec 2011
10. Instrument Equivalencies PDI/NRC Dec 2011
11. NRC Funded Research at PNNL Dec 2011
12. PDI Piping and RPV Program Update December 2011
13. PDI Workshop PDI/NRC Dec 2011
14. Review of EPRI Report Nondestructive Evaluation

ENCLOSURE 5