

March 6, 2000

MEMORANDUM TO: Edmund J. Sullivan, Jr., Chief
NDE & Metallurgy Section
Materials and Chemical Engineering Branch
Division of Engineering

FROM: Donald G. Naujock, Metallurgist */ra/*
NDE & Metallurgy Section
Materials and Chemical Engineering Branch
Division of Engineering

SUBJECT: SUMMARY OF CONFERENCE CALL ON JANUARY 12, 2000, WITH
PDI REPRESENTATIVES

On January 12, 2000, the staff participated in a conference call with representatives of the Performance Demonstration Initiative (PDI). The purpose of the call was to discuss PDI's concerns with 10 CFR 50.55a (rule) as published in the *Federal Register* on September 22, 1999, the effect this rule has on Generic Letter 88-01, Regulatory Guide 1.150, ASME Code Case N-622, and PDI enhancements. The participants for the staff were Michael Modes (Region I), Don Naujock (NRR), and Ted Sullivan (NRR); the participants for PDI were Phil Ashwin, Larry Becker, Carl Latiolais, and Frank Leonard. PDI will use Ted Sullivan as their contact with the staff.

The part of the rule affecting PDI is the mandatory implementation of Appendix VIII to Section XI of the 1995 with 1996 Addenda of the American Society of Mechanical Engineers (ASME) Boiling and Pressure Vessel Code (Code). Appendix VIII as currently published has 13 supplements with staggered implementation dates. The mandatory implementation date for Supplements 2 and 3 is May 22, 2000. At the time of rulemaking, PDI believed this date was achievable for the supplements. With respect to Supplement 2, "Qualification Requirements for Wrought Austenitic Piping Welds," and Supplement 3, "Qualification Requirements for Ferritic Piping Welds," PDI has qualified examiners for examinations performed from the outside diameter (OD) of the piping in sufficient numbers to satisfy licensee outage requirements.

An item not raised during the public comment period is that some pipe examinations are performed from the inside diameter (ID) of the piping. PDI stated that the Code-required inspections for pressure water reactors (PWRs) are occasionally performed from the ID on RPV nozzle-to-safe end, safe end-to-pipe, and in some cases pipe-to-pipe welds. This is done from inside the vessel by extending the vessel inspection tool into the nozzle. These ID inspections were not considered during the development of ASME Section XI, Appendix VIII, because they are a small number of the total number of pipe examinations performed by the industry. Consequently, PDI did not procure the necessary test specimens for performance demonstrations conducted from the piping ID. The absence of adequate PDI test specimens has created an implementation problem for licensees wanting to inspect piping from the ID. The staff requested that PDI send a letter explaining what PDI needs to do to implement performance demonstrations from the pipe ID, when will PDI have the needed items available, and what is the time frame for providing an adequate pool of qualified examiners to the

industry. The letter should also explain the burden on the industry to expedite the completion of these steps. Licensees unable to satisfy the mandatory requirements may be able to reference the PDI letter but will need to request relief. Because Appendix VIII does not address ID pipe inspections, the ID pipe qualification process will be taken up by ASME under a separate or revised supplement to Appendix VIII.

PDI also discussed qualifying UT examinations performed from the ID to satisfy the objective of the current requirements for surface examinations on the OD of the pipe. The UT examinations of the outer pipe region are intended to replace Code-required surface examinations. The staff suggested that PDI put together a white paper on the subject with the specifics and present it to the appropriate working group within Code. PDI proposed that they work on developing new supplements within Code for UT performance demonstrations of specific items and/or configurations, such as, outer pipe region examinations from the pipe ID with UT techniques in conjunction with or standalone weld volume examination from the pipe ID.

PDI identified an omission in the rule for the length sizing tolerance of 0.75 inches root-mean-square (RMS) for RPV performance demonstrations in Supplement 4, "Qualification Requirements for the Clad/Base Metal Interface of Reactor Vessel." In a letter to Bruce J. Sheffel, Chairman, PDI, dated March 6, 1996, the staff stated that it did not take exception to PDI's position on the changing of the code length tolerance for RPV to 0.75 RMS. PDI has been using this length sizing tolerance since then. The staff agrees that the omission in the rule is an oversight and will be corrected in an upcoming rule. PDI is requested to continue using the length sizing tolerance of 0.75 inches RMS for RPVs in Supplement 4 until such time as the rule can be changed.

PDI provided the staff with their interpretation of the rule as it pertains to the examinations of a weld from one side (single side). Single side examinations are discussed in the statement of considerations and paragraphs (xv)(G)(1), (2), (3), and (4) in the rule. PDI and the staff are in agreement with paragraphs (xv)(G)(1), (2), and (3). However, the application of paragraph (xv)(G)(4) is ambiguous. The ambiguity is the result of an apparent oversight by the staff. Apparently paragraph (xv)(G)(4) was left in the rule from an earlier draft but should not have been included in the final rule. This is evident from the statement of considerations and the absence of references to paragraphs (xv)(G)(1), (2), and (3) in paragraph (4). Until such time as the staff can clarify the rule, the staff believes that the application of any single side examination, including those in (xv)(G)(4), must be with qualified personnel and procedures according to paragraphs (xv)(G)(1) and (2).

In the process of developing the requirements for single side examination requirements, the staff observed that some single side examination requirements may be applicable to a two-sided examination. These observations were not considered during rulemaking. For example, some procedures for two-sided examinations disregard indications that are detected from one side of the weld and not the other. The staff believes that this practice is not appropriate for two-sided examinations. The staff is interested in having further discussions with ASME and PDI to resolve these concerns.

PDI observed that the rule did not include the enhanced procedure qualification requirements that were included in the PDI program as a consequence of work performed by the Pacific Northwest National Laboratory under contract by the NRC. The staff appreciates these

enhancements and understands that PDI's implementation of the enhanced procedure qualifications does not affect any qualifications past or present.

Now that the rule has been issued, PDI asked if the staff plans on withdrawing Regulatory Guide (RG) 1.150, Revision 1. The staff is not contemplating the withdraw of RG. Licensees may transfer their UT program commitments from RG 1.150 to the PDI program, as applicable. PDI asked the same question about Generic Letter (GL) 88-01. The staff answered this question in its letter to Frank Leonard dated September 2, 1998. As agreed in the tripartite agreement, the requalification frequency remains the same and the parts of the GL that goes beyond the Code requirements also remain the same. The requalification frequency is every three years.

PDI asked if Code Case (CC) N-622 is an acceptable alternative to the rule. N-622 has not been endorsed by the NRC in RG 1.147. Until such time as CC N-622 is endorsed, licensees will have to request its use as an alternative to Code. The staff has reviewed portions of CC N-622, Chapters A-1000 through B-5000 and selected supplements. This review is contained in the safety evaluation to T.F. Plunkett, Florida Power and Light Company, dated September 23, 1999. The supplement not reviewed to date are 2, 3, 5B, and 8. There are also a number of editorial errors in CC N-622. Licensees requesting to use CC N-622 as an alternative [10 CFR 50.55a(a)(3)(i)] will have to address the editorial errors, the clarifications in the letter dated September 23, 1999, and the differences between the rule and unreviewed portions and supplements.

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