September 9, 2009

MEMORANDUM TO: David Terao, Chief
Component Integrity, Performance
and Testing Branch 1
Division of Engineering
Office of New Reactors

FROM: Jeffrey C. Poehler, Materials Engineer ***/RA/***
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Office of New Reactors

SUBJECT: SUMMARY OF AUGUST 20, 2009, CATEGORY 2 PUBLIC MEETING WITH NUCLEAR ENERGY INSTITUTE REGARDING AMERICAN SOCIETY OF MECHANICAL ENGINEERS CODE SECTION III TO XI TRANSITION ISSUES FOR NEW REACTORS

On August 20, 2009, the Nuclear Regulatory Commission (NRC) held a Category 2 public meeting with the Nuclear Energy Institute (NEI). The purpose of the meeting was to discuss issues related to transitioning from nuclear power plant construction to nuclear power plant operation. The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (ASME Code), Section III provides the rules governing nuclear power plant construction while ASME Code, Section XI provides the rules for inservice inspection after the plant is placed in operation. The meeting was held at the Legacy Hotel in Rockville, Maryland. NRC participants included staff from NRC's Office of New Reactors (NRO), Office of Nuclear Reactor Regulation (NRR), Office of Nuclear Regulatory Research (RES), Region II, and the Office of General Council (OGC). Industry attendees included representatives from NEI, INPO, new reactor design certification and combined operating license applicants. The list of attendees is included as Enclosure 1.

In its opening remarks, the NRC explained that this meeting was intended to provide for a more detailed discussion on the subject of transitioning from ASME Code, Section III to XI for new reactors and thus the meeting was expected to be more technical in nature than the public meetings on maintenance of Tests, Analyses and Acceptance Criteria (ITAAC) that were held on May 7 and June 11, 2009. The NRC staff indicated that the meeting objective was to achieve a general agreement on what the NRC regulations require to be accomplished prior to the Commission finding under 10 CFR 52.103(g) for new reactors and what acceptance criteria needs to be met with respect to the applicability of ASME Codes, Section III, Section XI and the ASME Code for the Operation and Maintenance of Nuclear Power Plants (OM Code). The meeting agenda is included as Enclosure 2.

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The public meeting consisted of a presentation from NEI (ADAMS ML092380176), the NRC staff presentation (ADAMS ML092310072), followed by an open discussion. The NRC staff's presentation, in part, provided the staff's responses to NEI's comments on ASME Section XI applicability prior to the Section 52.103(g) finding provided in Enclosure 2 to its July 8, 2009, letter to the NRC (ADAMS Accession Numbers ML091950256 and ML092120172).

In the industry's presentation and the subsequent discussion, NEI stated that during construction, the ASME Code, Section III must be used to repair or modify a component. After the system is completed and the Code Symbol Stamp (N-stamp) is applied or Owner's Data Report Form N-3 is signed off by the owner, Section XI must be used for repairs and modifications. NEI stated that several ASME Code inquiries have been written that address this issue. The NRC staff commented that the NRC regulations do not recognize and the NRC staff does not approve ASME Code inquiries because those inquiries do not undergo the strict ASME Code committee review process that the ASME Code uses for writing and revising the Code itself.

The NRC staff and industry both appear to agree that, prior to system completion and stamping, the ASME Code requires the use of Section III for all activities including design, construction, repair, examination, testing and replacement. Also, both NRC staff and industry agree that, after the 52.103(g) finding, the NRC regulations and ASME Code require the use of Section XI for all activities including inservice testing, inservice inspection, and repair and replacement, recognizing that Section XI requires the use of Section III (or the applicable Construction Code) for replacing or adding a new component. The difference in opinion between the industry and the NRC staff appears to be the applicability of the ASME Codes during the period between system completion and fuel load (i.e., the 52.103(g) finding).

The industry noted that the ASME Code, Section XI, IWA-1200, states that application of Section XI begins when the requirements of the Construction Code (e.g., Section III) have been satisfied. The industry noted that the time when the Code Symbol Stamp (N-stamp) is applied and appropriate Data Report Form is signed off designates the completion of Section III requirements. Prior to completion of the N-3 Data Report, an item that has met all requirements of Section III may be corrected using the rules of either Section III or Section XI, as determined by the Owner.

One concern identified by industry with the proposed NRC interpretation was related to performance of a repair in accordance with Section III rules after a component is installed at the plant site. In addition to being in conflict with ASME Code rules, such an interpretation could create contractual and legal issues related to extending a manufacturer's N-stamp certificate to the plant site. The industry also noted that because the NRC incorporates by reference both Sections III and XI into its regulations, it is acceptable to use Section XI rules in the period between component stamping and fuel load. The industry suggested that the regulations be interpreted as permitting use of Section XI before the 52.103(g) finding, but mandatory after the 52.103(g) finding. This interpretation would be consistent with the ASME Code.

The NRC staff noted that 10 CFR 50.55a states that combined licenses are subject to paragraphs (f) and (g) of 50.55a that require Section XI and the Operation and Maintenance Code requirements be met, but only after the 52.103(g) finding is made. Prior to the 52.103(g) finding, 50.55a states that combined licenses are subject to paragraphs (c), (d), and (e) of 50.55a that require Section III rules be met.

The NRC staff stated that combined license holders may use Section XI rules during the period between system completion and the 52.103(g) finding provided the particular Section XI rule does not conflict with any Section III requirements (and is appropriate for its intended purpose). For example, repair and replacement activities must follow Section III rules, and when Section III requires use of Section XI acceptance standards for certain pre-service examinations, no conflict would exist. Also, where Section III rules do not contain explicit repair acceptance standards, then Section XI repair acceptance standards may be used. On the other hand, when Section III requires a hydrostatic test at elevated pressures (i.e., 125% design pressure) following repair and Section XI requires a hydrostatic test at a lesser pressure (i.e., system operating pressure), then a conflict would exist, and the Section III requirement must be met. However, If a combined license (COL) holder finds that a Section III repair requirement would cause hardship or unusual difficulty, without a compensating increase in the level of quality and safety or a Section XI rule provides an acceptable level of quality and safety, then the COL holder may request authorization by the NRC to use a Section XI provision as an alternative to a Section III requirement pursuant to 10 CFR 50.55a(a)(3) on a case-by-case basis. As another option, the industry may request a Code case from the ASME Code, Section III to address alternatives to Code requirements on a generic basis.

The industry expressed concern that COL holders may be forced to submit an excessive number of requests for the NRC to authorize alternatives, thus, creating a burden on both industry and NRC resources. The staff stated that several years remains before start of nuclear power plant construction in the U.S. and, therefore, the industry may wish to identify areas that the ASME Code, Section III should address generically to minimize the number of requests by COL holders for alternatives pursuant to 10 CFR 50.55a(a)(3).

The industry and NRC staff discussed possible options to resolve the differences between the staff's and industry's interpretation of the regulations. Although no commitments were made at the meeting to take any specific action, several ideas were discussed for which the industry and NRC staff will take into further consideration. Two actions were agreed upon by the staff and the industry. First, due to the new information on the clarification of the industry's position provided in the NEI presentation, the staff will review the new information presented by industry in more detail, prior to deciding on any future course of action. Second, NEI agreed to provide a list of the code inquiries and interpretations related to the transition from Section III to Section XI, that were mentioned in the discussions, to the NRC staff.

Members of the public were not in attendance at the meeting, but participated by phone; and public meeting feedback forms were not received.

Please direct any inquiries to Jeffrey Poehler at (301) 415-8353 or Jeffrey.Poehler@nrc.gov.

Enclosures:
1. Meeting Attendee List
2. Meeting Agenda

cc w/encl: See next page

The NRC staff stated that combined license holders may use Section XI rules during the period between system completion and the 52.103(g) finding provided the particular Section XI rule does not conflict with any Section III requirements (and is appropriate for its intended purpose). For example, repair and replacement activities must follow Section III rules, and when Section III requires use of Section XI acceptance standards for certain pre-service examinations, no conflict would exist. Also, where Section III rules do not contain explicit repair acceptance standards, then Section XI repair acceptance standards may be used. On the other hand, when Section III requires a hydrostatic test at elevated pressures (i.e., 125% design pressure) following repair and Section XI requires a hydrostatic test at a lesser pressure (i.e., system operating pressure), then a conflict would exist, and the Section III requirement must be met. However, If a combined license (COL) holder finds that a Section III repair requirement would cause hardship or unusual difficulty, without a compensating increase in the level of quality and safety or a Section XI rule provides an acceptable level of quality and safety, then the COL holder may request authorization by the NRC to use a Section XI provision as an alternative to a Section III requirement pursuant to 10 CFR 50.55a(a)(3) on a case-by-case basis. As another option, the industry may request a Code case from the ASME Code, Section III to address alternatives to Code requirements on a generic basis.

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Attendee List
Public Meeting With NEI – ASME Section III to XI Transition Issues for New Reactors
August 20, 2009

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George Georgiev	NRC/NRO
Patricia Campbell	GEH
Jim Kinard	AREVA NP
Junichi Uchiyama	MNES
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Barry Bryant	Dominion
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Anne Cottingham	NEI
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Keith Hoffman	NRC
Larry Taylor	PE
Matthew William	Unistar
Ralph Hill	Westinghouse
Ed. L. Pleins	Westinghouse
Jin Chung	MNES
Mike Melton	Westinghouse
John Oddo	Shaw Group
Nanette Gilles	NRC/NRO
Rick Stevenson	Shaw Nuclear
CW Rowley	TWC/ASME
Martin Owens	AREVA NP
Steven Downey	NRC/NRO
Russ Bell	NEI
Jerry Blake	NRC/Region 2
Brent Metrow	IEMA
Deanne Raleigh	Curtiss Wright
Mark Wilson	SNC
Nancy Chapman	Bechtel

AGENDA FOR August 20, 2009
Public Meeting on ASME Section III to XI Transition for New Reactors

1:00 p.m. – 1:15 p.m.	Opening Remarks
1:15 p.m. – 1:45 p.m.	Industry Position on Section III to XI Transition (Nuclear Energy Institute (NEI), Industry)
1:45 p.m. – 2:30 p.m.	Nuclear Regulatory Commission (NRC) Position on Section III to XI Transition (NRC Staff)
2:30 p.m. – 2:45 p.m.	Break
2:45 p.m. – 3:30 p.m.	Open Discussion (e.g., Code changes needed, changes to industry practice, regulatory actions needed, etc.) (NRC, NEI, and industry)
3:30 p.m. – 3:45 p.m.	Public Participation
3:45 p.m. – 4:00 p.m.	Closing Remarks

cc:

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