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NUCLEAR ENERGY INSTITUTE

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December 15, 2014

Ms. Cindy K. Bladey
Chief, Rules, Announcements and Directives Branch
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Submittal of Industry Comments on Draft Regulatory Issue Summary (RIS) 2014-XX, "Applicability of ASME Code Case N-770-1, as Conditioned by Federal Regulation, to Branch Connection Butt Welds (79FR63446)"

Project Number: 689

Dear Ms. Bladey:

In an October 23, 2014, Federal Register Notice (79FR63446), the U.S. Nuclear Regulatory Commission (NRC) requested public comments on Draft Regulatory Issue Summary (RIS) 2014-XX, "Applicability of ASME Code Case N-770-1, as Conditioned by Federal Regulation, to Branch Connection Butt Welds."

This draft regulatory issue summary informs operating Pressurized Water Reactor (PWR) license holders and PWR construction permit holders about reactor coolant system Alloy 82/182 branch connection dissimilar metal nozzle welds that may be in a butt weld configuration and thus require inspection under NRC regulation. The RIS also provides information regarding a licensee's misclassification and missed inspections of Alloy 82/182 dissimilar welds in branch connections of primary coolant loop piping.

On behalf of the nuclear energy industry, the Nuclear Energy Institute (NEI)[1] appreciates the opportunity to submit the attached comments for NRC consideration. NEI's comments address the following areas:

1. Lack of clarity in the RIS regarding applicability of Code Case N-770-1 to plants that were not designed and constructed to ASME Code years, but rather were designed and constructed to other Codes, such as USAS B31.7.
2. Differences in the interpretation of Code Case N-770-1 regarding the included scope of welds and the definitions of certain weld joint designs and locations.

[1] The Nuclear Energy Institute (NEI) is the organization responsible for establishing unified industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations and entities involved in the nuclear energy industry.

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Template = ADM – 013
E-RIDS= ADM-03
Add= F. Emmens (hmc)
J. Collins (3xc)

If you have any questions, please contact me at (202) 739-8106; mar@nei.org.

Sincerely,

Mark A. Richter

Mark A. Richter

Attachment

Industry Comments on Draft Regulatory Issue Summary,
"Applicability of ASME Code Case N-770-1, as Conditioned by Federal Regulation, to Branch Connection Butt Welds"

ID	Section, Page, and Line #	Comment	Proposed Resolution
1	Summary of Issue, page 2, line # 8.	Not all plants were designed and constructed to the ASME Code years and addenda that classified these welds as 'full penetration butt welds', as identified in the RIS. Some were designed and constructed to earlier Codes such as the USAS B31.7 Code, February 1968 draft Edition with errata through June 1968. Paragraph 1-727.4.6 of B31.7 classifies these as 'complete penetration groove welds' and references Figure 1-727.4.6 for their weld geometry. The examination requirements are specified in paragraphs 1-727.4.2(e)2 and 3 for four inch and under nominal pipe sizes and only surface examinations are required for this weld type. Therefore, there was no design or construction Code requirement for volumetric examination for these types of 'complete penetration groove welds'. Performing volumetric examination of these welds now would result in identification of weld issues that were not included in the original design and construction of these components.	Some plants were built to older Codes such as USAS B31.7, 1968 edition. Examination requirements for the subject welds were limited to surface examinations only, with no construction Code requirement for volumetric examinations. Retroactively requiring these examinations may now result in detection of weld issues not addressed in the original design.

2	Page 2	The draft RIS states the following in the first sentence in the Summary of Issue section: "As a result of a request for relief submitted, during a refueling outage, on February 25, 2014 (ADAMS Accession No. ML14056A533), the NRC became aware that the design of Palisades Nuclear Plant includes nine Alloy 600 branch connection nozzles of NPS 2 and greater that are joined to carbon steel primary coolant loop piping using Alloy 82/182 weld material." Actually, the NRC became aware of the design prior to receipt of the February 25, 2014 request for relief. During the previous Palisades refueling outage in 2012, the design of the subject branch connection nozzles was provided in a request for relief for adjacent butt welds that was submitted on April 26, 2012 (ADAMS Accession No. ML12118A144). Figures 1 and 2 in Attachment 1 of the relief request depict the branch connection nozzle design. During the following refueling outage in February 2014, a NRC Region III inspector questioned the site on whether the subject branch connection nozzle welds should be included within the scope of the Code Case N-770-1 inspection population, and asked NRR for assistance in resolving the issue. Subsequent conference calls between NRR and Palisades led to the site submitting the request for relief dated February 25, 2014.	Change the first sentence to read: "During a refueling outage, on February 25, 2014 (ADAMS Accession No. ML14056A533), the NRC became aware that the design of Palisades Nuclear Plant includes nine Alloy 600 branch connection nozzles of NPS 2 and greater that are joined to carbon steel primary coolant loop piping using Alloy 82/182 weld material."

3	Page 2	The first paragraph of the Summary of Issue section states "... the licensee failed to classify these welds as butt welds." The licensee didn't classify the subject welds as butt welds because the ASME Section XI committee did not specifically include these weld configurations in the scope of either MRP-139 or Code Case N-770-1 for volumetric inspection. Alloy 82/182 branch pipe connection welds appeared to be outside the applicability of Code Case N-770-1 due to their configuration. This position was supported by ASME interpretation 14-382, dated March 10, 2014.	Add this sentence to the first paragraph of the Summary of Issue section: "The licensee didn't classify the subject welds as butt welds because the ASME Section XI committee did not specifically include these weld configurations in the scope of either MRP-139 or Code Case N-770-1 for volumetric inspection. Alloy 82/182 branch pipe connection welds appeared to be outside the applicability of Code Case N-770-1 due to their configuration."

4	Page 3	The last sentence in the Summary of Issue section on page three states the following: "In accordance with 10 CFR 50.55a(g)(6)(ii)(F) and Code Case N-770-1, the NRC requires all butt welds using Alloy 82/182 material that are NPS 2 or greater, including branch connection butt welds, to be volumetrically inspected." During February 2014 industry/NRC conference calls, NRC cited 10 CFR 5055a(g)(6)(ii)(F)(2) as containing language that required all butt welds using Alloy 82/182 material to be volumetrically inspected. The licensee pointed out that 10 CFR 5055a(g)(6)(ii)(F) and specifically (F)(2) did not explicitly state that all butt welds using Alloy 82/182 material shall be volumetrically inspected. This condition only referenced the appropriate Inspection Item categorization of welds that may have undergone some type of mitigation activity. It appears the RIS is being used to avoid revising 10 CFR 50.55a(g)(6)(ii)(F), or specifically, condition (F)(2) to clarify the requirements that all pressure retaining Class 1 PWR piping and vessel nozzle butt welds that are NPS 2 and greater fabricated with Alloy 82/182 materials, with or without application of mitigation activities are to be volumetrically inspected.	Add this after the last sentence in the Summary of Issue section: "This is a clarification of the requirements that all pressure retaining Class 1 PWR piping and vessel nozzle butt welds that are NPS 2 and greater fabricated with Alloy 82/182 materials, with or without application of mitigation activities are to be volumetrically inspected."

5	Page 2	The Background Information section, in the first paragraph on page two, notes that full penetration nozzle branch welds fabricated to NB-4244(a) and NB-4246(a) utilize butt weld joints. However, full penetration ASME Section III branch connection welds in piping can be butt welded or corner welded joints according to NB-4244 and NB-4246. ASME Section III design, fabrication, and examination requirements vary depending on the joint used. While this is the case, ASME Section III design, fabrication, and examination requirements for circumferential butt welds in piping are addressed separately from those applicable to branch connections – butt welded or corner welded. While the RIS is attempting to imply that a butt weld is a butt weld regardless of whether it is in piping or a branch connection, this is not the case – neither in ASME Section III or ASME Section XI. The ASME Section XI Code also recognizes these important distinctions in Table IWB-2500-1 for Category B-F welds and specifies ISI examination requirements based on whether the weld is a circumferential butt weld in pipe (Figure IWB-2500-8) or a branch connection weld. In recognition of the different joint configurations (e.g., butt and corner joints) for branch welds, Table IWB-2500-1 refers to unique Figures IWB-2500-9, 10, and 11 for full penetration butt welded and corner welded joints. Finally, Code Case N-770, in addressing butt welds, provides one figure which is only a circumferential butt weld in pipe. It contains no figures for branch connection welds whether butt or corner welds. The clear lack of figures for and discussion about branch connection welds in N-770-X was not an accident on the part of the ASME Section XI Code Committee. Rather, the Committee didn't intend to address branch welds, whether butt welded or corner welded, in the Code Case. Again, this was made clear by the issuance of ASME Interpretation 14-382.	The Summary of Issue Section should clarify the NRC position defining the applicability of 10 CFR 50.55a(g)(6)(ii)(F) inspection requirements to all Class 1 piping and nozzle dissimilar metal butt welds, including branch connection butt welds, and the interpretation of the lack of explicit information regarding branch welds in N-770-1 does not preclude them from examination requirements.

6	General	It seems inappropriate to use the RIS to accuse Palisades of a failure to comply with the NRC's interpretation of the ASME Code and 10CFR50.55a when that interpretation is not consistent with that held by the industry.	Remove explicit reference to Palisades. It is not necessary to communicate the relevant information.
7	Page 1	On page one, in the Background Information section, the first sentence should be clarified that Alloy 82/182 dissimilar butt welds are the scope, rather than all Class 1 dissimilar butt welds (i.e., carbon to stainless steel with stainless steel filler metal).	
8	Page 2	Near the top of page two, in the Background Information section, the draft RIS states "These regulatory requirements call for volumetric inspection of all butt welds of nominal pipe size (NPS) 2 or larger."	Clarify that the NPS 2 scope definition refers to the diameter of the branch piping and not the branch connection weld to the main piping run (reference NB-3643). Therefore, determination of whether a main piping run branch connection butt weld must be volumetrically examined is based upon the NPS of the branch piping.
9	Page 3	In the second sentence in the third paragraph on page three, in the Summary of Issue section, please clarify that Alloy 82/182 dissimilar butt welds are the scope, rather than all Class 1 dissimilar butt welds (i.e., carbon to stainless steel with stainless steel filler metal).	Clarify that Alloy 82/182 dissimilar butt welds are the scope, rather than all Class 1 dissimilar butt welds (i.e., carbon to stainless steel with stainless steel filler metal).
10	Page 3	In the third paragraph on page three, in the Summary of Issue section, please clarify that the NPS 2 scope definition refers to the diameter of the branch piping and not the branch connection weld to the main piping run (reference NB-3643). Therefore, determination of whether a main piping run branch connection butt weld must be volumetrically examined is based upon the NPS of the branch piping.	Clarify that the NPS 2 scope definition refers to the diameter of the branch piping and not the branch connection weld to the main piping run (reference NB-3643).

11	Page 3	On page three, in the Backfitting and Issue Finality Discussion section, please clarify how this draft RIS is not a backfit. Review of the Federal Register notice, public meeting question and answer documentation, and analysis of public comments from the initial rulemaking incorporating Code Case N 770-1 make no mention of branch connection welds. It is not apparent that the NRC originally intended the branch connection welds to be considered piping butt welds requiring examination under Code Case N-770-1 and 10 CFR 50.55a(g)(6)(2)(F) based on the lack of discussion in the Code Case N-770-1 implementation guidance provided by the NRC.	Provide additional information to substantiate how the RIS does not meet the backfit criteria.