Accession No. ML112940700

From: Tam, Peter
Sent: Friday, October 21, 2011 10:29 AM
To: mkscarpello@aep.com; hletheridge@aep.com; 'jrwaters@aep.com'
Cc: Cumblidge, Stephen; McLellan, Thomas
Subject: D. C. Cook - Draft RAI on proposed Relief Requests ISIR-33 thru ISIR-42 (TAC ME6087 and ME6088)

Michael:

By letter dated April 8, 2011 (Accession No. ML11110A042) Indiana Michigan Power Company (I&M) submitted Requests for Relief (RR) ISIR-33 thru ISIR-42 from the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, for Donald C. Cook Nuclear Plant, Units1 and 2. The requests for relief apply to the third 10-year inservice inspection interval, in which I&M adopted the 1989 Edition with no Addenda of ASME Code Section XI as the Code of Record.

The NRC staff has reviewed the submitted information, and determined that additional information as described below is needed to complete the evaluation. **You may choose to accept this draft RAI as formal RAI and respond within 45 days of the date of this e-mail, or you may request to hold a conference call with the staff to discuss, among other things, the contents of this draft RAI and response target date.**

(1) **Generic Questions for RRs ISIR-33 through ISIR-42**

The licensee did not identify the request for relief that was requested for each CNP, Unit. Designate the CNP Unit or Units for each request for relief.

Where both a surface examination and volumetric examinations were required by the ASME Code, provide the results of the surface examinations for each relief request, if it applies. State if any indications were identified.

State for each examination if ASME Code, Section, XI, Appendix VIII methodology was used for the welds contained in RRs ISIR-34 through ISIR-42.

For RRs ISIR-33 through ISIR-42 state whether or not any indications were identified during the examinations. If any, state the disposition of the indications.

(2) **RR ISIR-33 ASME Code, Section XI, Examination Category B-A, Items B1.11, B1.12, B1.21, B1.22, and B1.30 Pressure Retaining Welds in Reactor Pressure Vessel and ASME Code, Section XI, Examination Category B-D, Item 3.90**

Based on the limited descriptions and sketches provided in the submittal, it appears that examinations for ASME Code, Section, XI, Table IWB 2500-1, Category B-A, Items B1.11, B1.12, B1.21, and B1.22 were performed from the inside surface of the reactor pressure vessel (RPV). State whether access to the subject welds from the outside of the RPV is possible, and discuss the potential for increasing ASME Code volumetric coverage by applying examinations from the outside surface of the RPV.

Discuss whether other welds in ASME Code, Section XI, Examination Category B-A have been examined to the full, ASME Code-required volumetric extent, whether any indications were found as a result of these examinations, and the final disposition of the indications.

(3) **RR ISIR-36 ASME Code, Section XI, Examination Category B-F Pressure Retaining Welds**

The difficulties on obtaining coverage in these welds seem to be caused by the use of fixed-angle probes with a limited area available for scanning. Provide a discussion on alternative examination methods and techniques such as phased-array ultrasonic (UT) techniques (line scan or raster) that cover many angles that can be used to obtain greater coverage for welds covered in ISIR-36.

(4) **RR ISIR-37 ASME Code, Section XI, Examination Category B-J Pressure Retaining Welds in Piping**

Identify the system(s), and nominal pipe diameters or components for welds 1-RH-28-05F, 1-SI-22-18F, 1-SI-23-17F, 1-RC-5-01F, 1-SI-33-23S, 2-RC-22-01, and 2-RC-28-23.

State the material of construction of the piping, valves, and Tees. Identify the dissimilar metal welds, if any in Table 1 of RR ISIR-37.

(5) **RR ISIR-38 ASME Code, Section XI, Examination Category C-A Pressure Retaining Pressure Vessels**

Please submit detailed and specific information to support the bases for limited volumetric coverage in ASME Code, Section XI, Examination Category C-A components, and therefore, demonstrate impracticality.

a) As applicable, describe NDE equipment (UT scanning apparatus) and details of the listed obstructions (size, shape, proximity to the weld, etc.) to demonstrate accessibility limitations. Discuss whether alternative methods or advanced technologies could be employed to maximize ASME Code coverage.

b) Fully clarify the wave modality and insonification angles used for all ultrasonic examinations.

Please also state the materials of construction and the wall thickness for the Residual Heat Removal heat exchanger.

Identify the system(s) and component(s) for the welds contained in Table 1 of RR ISIR-38

(6) **RR ISIR-39 ASME Code, Section XI, Examination Category C-B Pressure Nozzle Welds in Vessels**

Identify the system(s) and component(s) for the welds contained in Table 1 of

RR ISIR-39.

(7) **RR ISIR-40 ASME Code, Section XI, Category C-C Integral Attachments for Vessels, Piping Pumps, and Valves**

Table 1 of RR ISIR-40 describes the examination performed as "UT" while the supporting documentation shows that dye penetrant (PT) examinations were performed. Clarify Table 1 of RR ISIR-40. Does Table 1 of RR ISIR-40 contain a typographical error or were UT examinations performed on the subject welds?

State the materials of construction for the welds and attachments.

Identify the system(s) and components for the subject welds in Table 1 of RR ISIR-40.

(8) **RR ISIR-41 ASME Code, Section XI, C-F-1 Pressure Retaining Welds in Austentic Stainless Steel of High Alloy Piping**

Identify the system(s), and nominal pipe diameters or components for welds 1 -CTS-2-18F, 1-SI-2-42S, 1-SI-24-06F, 1 -SI-30-08F, 1-SI-11A-01S, 1-SI-11-01S, 1-SI-11-05F, 1-SI-74-01F, 2-SI-42-01S, and 2-SI-42-03F.

The diagram for weld 1-SI-24-06F appears to be incorrect or mislabeled. Where one would expect the diagram for 1-SI-24-06F (Pages 186 and 187 of the licensee's submittal dated April 8, 2011) there are two diagrams labeled 1-SI-152N with image dates of 12/30/1899 and 04/14/1997. (No relief is requested for 1-SI-152N.) Clarify and provide a diagram or photograph identifying weld 1-SI-24-06F.

It appears that additional coverage could be obtained for welds 1-SI-11A-01S or 1-SI-11-01S by unbolting the pipe and examining them form the inner-diameter. Are there any plans to unbolt either of these fixtures in future inspection periods?

State the material of construction of the piping, valves, elbows, flange, and tees. Identify the dissimilar metal welds in Table 1 of RR ISIR-41, if any.

(9) **RR ISIR-42 ASME Code, Section XI, Examination Category R-A, Items R1,11, R1.16, and R.120**

Submit detailed and specific information to support the bases for limited volumetric coverage in ASME Code, Section XI, Examination Category R-A piping welds, and therefore, demonstrate impracticality.

As applicable, describe NDE equipment (UT scanning apparatus). Discuss whether alternative methods or advanced technologies could be employed to maximize ASME Code coverage.

Fully clarify, in a table, the wave modality and insonification angles used for all UT examinations.

Confirm whether the examinations listed for all ASME Code, Section XI, Examination Category R-A welds were conducted in accordance with the performance demonstration requirements of ASME Code, Section XI, Appendix VIII.

The NRC staff has had recent difficulties with risk-informed relief requests in that multiple licensees have misidentified the inspection categories for welds in several relief requests. The misidentification of the welds can result in delays in finishing the safety evaluation if it is not discovered in a timely fashion. Please review the inspection categories for these welds and confirm that all of the welds as shown in Table 1 of ISIR-42 are properly identified as per ASME Code Case N-716. [ASME Code Case N-716 has not been approved for use in RG-1.147, Revision 15. Licensees base their RI-ISI inspection sample size and examination methodology on Table 1 of ASME Code Case N-716.]

Discuss whether additional or alternative welds could have been examined to augment the reduced volumetric coverage resulting from the limited examinations of the subject welds.

Identify the system(s), and nominal pipe diameters or components for welds 2-SI-569-49S, 2-SI-569-53S, and 2-SI-569-54S.

State the material of construction of the piping, valves, elbows, flange, welds, and tees. Identify the dissimilar metal welds in Table 1 of RR-42, if any

Photographs were provided for welds 2-RC-22-24, 2-RC-23-12, and 2-RC-24-09; however, these photographs do not identify which welds in the images correspond to the welds in question. Please identify which welds in the photographs correspond to welds 2-RC-22-24, 2-RC-23-12, and 2-RC-24-09.

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