FENOC

FirstEnergy Nuclear Operating Company

Beaver Valley Power Station
P.O. Box 4
Shippingport, PA 15077

Paul A. Harden
Site Vice President

724-682-5234
Fax: 724-643-8069

June 1, 2012
L-12-183

10 CFR 50.55a

ATTN: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT:
Beaver Valley Power Station, Unit No. 2
Docket No. 50-412, License No. NPF-73
Supplemental Information Regarding 10 CFR 50.55a Request for Alternative Examination Requirements for Reactor Vessel Safe-End Welds (TAC No. ME7770)

By letter dated December 27, 2011 (Accession No. ML120230441) FirstEnergy Nuclear Operating Company (FENOC) requested Nuclear Regulatory Commission (NRC) approval of a proposed alternative to certain American Society of Mechanical Engineers (ASME) Code requirements associated with volumetric examinations of Beaver Valley Power Station Unit No. 2 (BVPS-2) reactor vessel nozzle to safe-end dissimilar metal welds. In teleconferences held on April 24, 2012 and May 1, 2012, the NRC staff expressed concerns related to recent industry issues and submittals regarding similar proposed alternatives.

To address the NRC staff concerns, supplemental information has been incorporated into the request. To aid in NRC staff review, the complete request is enclosed with revision bars to identify areas of change.

FENOC's requested approval date remains August 31, 2012.

A Regulatory Commitment is identified in the Attachment to this letter. If there are any questions or if additional information is required, please contact Mr. Phil H. Lashley, Supervisor – Fleet Licensing, at (330) 315-6808.

Sincerely,

Paul A. Harden

Attachment:
Regulatory Commitment List

Enclosure:
10 CFR 50.55a Request Number: 2-TYP-3-RVSE-1, Revision 1

cc: NRC Region I Administrator
NRC Resident Inspector
NRC Project Manager
Director BRP/DEP
Site BRP/DEP Representative

Regulatory Commitment List

The following list identifies those actions committed to by FirstEnergy Nuclear Operating Company (FENOC) for Beaver Valley Power Station, Unit 2 (BVPS-2) in this document. Any other actions discussed in the submittal represent intended or planned actions by FENOC. They are described only as information and are not Regulatory Commitments. Please notify Mr. Phil H. Lashley, Supervisor - Fleet Licensing, at (330) 315-6808 of any questions regarding this document or associated Regulatory Commitments.

Regulatory Commitment	Due Date
1. Flaw evaluations of detected flaws determined to be connected to the piping inner diameter surface during the examinations covered by FENOC relief request 2-TYP-3-RVSE-1, Revision 1 will be submitted to the NRC for review and approval.	Prior to startup from the BVPS-2 fall 2012 refueling outage.

Proposed Alternative
in Accordance with 10 CFR 50.55a(g)(5)(iii)

--Inservice Inspection Impracticality--

1.0 ASME Code Components Affected

Code Class: Class 1
System: Reactor Coolant System (RCS)

In accordance with 10 CFR 50.55a(g)(6)(ii)(F)(1), the reactor vessel nozzle to safe-end dissimilar metal (DSM) welds listed below are subject to volumetric examinations in accordance with American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Case N-770-1, "Alternative Examination Requirements and Acceptance Standards for Class 1 PWR Piping and Vessel Nozzle Butt Welds…"

Component	Description of Weld	Inspection Item
2RCS*REV21-N-24	Reactor Vessel Hot Leg Nozzle to Safe-End	A-2
2RCS*REV21-N-26	Reactor Vessel Hot Leg Nozzle to Safe-End	A-2
2RCS*REV21-N-28	Reactor Vessel Hot Leg Nozzle to Safe-End	A-2
2RCS*REV21-N-23	Reactor Vessel Cold Leg Nozzle to Safe-End	B
2RCS*REV21-N-25	Reactor Vessel Cold Leg Nozzle to Safe-End	B
2RCS*REV21-N-27	Reactor Vessel Cold Leg Nozzle to Safe-End	B

As determined by FirstEnergy Nuclear Operating Company (FENOC), additional welds that may be volumetrically examined concurrent with the above listed welds are the reactor vessel safe-end to pipe austenitic welds listed below. These welds are part of the risk-informed inservice inspection program and are listed in the Examination Schedules as Examination Category R-A, Item R1.11.

Component	Description of Weld	Inspection Item
2RCS*001-F01	Reactor Vessel Hot Leg Safe-End to Pipe	R1.11
2RCS*004-F01	Reactor Vessel Hot Leg Safe-End to Pipe	R1.11
2RCS*007-F01	Reactor Vessel Hot Leg Safe-End to Pipe	R1.11
2RCS*003-F04	Reactor Vessel Cold Leg Safe-End to Pipe	R1.11
2RCS*006-F04	Reactor Vessel Cold Leg Safe-End to Pipe	R1.11
2RCS*009-F04	Reactor Vessel Cold Leg Safe-End to Pipe	R1.11

2.0 Applicable Code Edition and Addenda

Beaver Valley Power Station Unit No. 2 (BVPS-2) In-Service Inspection and Repair/Replacement Programs:	ASME Code Section XI, 2001 Edition through 2003 Addenda
BVPS-2 Ultrasonic (UT) Examination:	ASME Code Section XI, 2001 Edition with no Addenda and Appendix VIII Supplements

3.0 Applicable Code Requirement

The volumetric examinations are to be conducted in accordance with Appendix VIII, "Performance Demonstration Initiative [PDI] for Ultrasonic Examination System," Supplements 2 and 10 of the ASME Code Section XI, 2001 Edition with no Addenda. Alternatives to Appendix VIII, Supplements 2 and 10, are ASME Code Cases N-695 (Supplement 10) and N-696 (combined Supplements 2 and 10). These Code Cases were approved for use by the Nuclear Regulatory Commission (NRC) in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Table 1, "Acceptable Section XI Code Cases."

Code Case N-695, "Qualification Requirements for Dissimilar Metal Piping Welds, Section XI, Division 1," Paragraph 3.3(c) states, "Examination procedures, equipment, and personnel are qualified for depth-sizing when the RMS [root mean squared] error of the flaw depth measurements, as compared to the true flaw depths, do not exceed 0.125 in. (3 mm)."

Code Case N-696, "Qualification Requirements for Appendix VIII Piping Examinations Conducted from the Inside Surface, Section XI, Division 1," Paragraph 3.3(d) states, "Supplement 2...examination procedures, equipment, and personnel are qualified for depth-sizing when the flaw depths estimated by ultrasonics, as compared with the true depths, do not exceed 0.125 in. (3mm) RMS, when they are combined with a successful Supplement 10 qualification."

4.0 Impracticality of Compliance

As stated in the NRC Safety Evaluation in support of the third 10-year inservice inspection interval request for the Braidwood Station, Units 1 and 2 dated April 19, 2012, "...the NRC staff has confirmed that attempts have been made to qualify ID UT inspection procedures since 2002 and that, to date, no inspection vendor has been able to meet the acceptance criteria [an overall error less than or equal to a 0.125 inch RMS error (RMSE)] established by ASME Code cases despite the fact that numerous individuals from several companies have attempted to do so."

When examining from the inside diameter (ID), the vendor attempts to meet the Supplement 10 (Code Case N-695) and combined Supplement 2 and 10 (Code Case

N-696) required RMSE values for flaw depth sizing have been unsuccessful. Process enhancements including new delivery systems, new transducers, and software modifications have been implemented, but have not achieved the desired improvements in performance. This result indicates the ASME Code acceptance requirement for flaw depth sizing is impractical for use with current ID ultrasonic examination technology.

Additionally, the inability to achieve the ASME Code requirement for flaw depth sizing may be, in part, attributed to ID interferences that include weld root and counterbore restrictions, or that the examination material consists of cast stainless steel.

Use of an alternate approach, such as performance of the examinations from the outside diameter (OD), would represent a burden to FENOC as access to the welds is restricted and inspectors would be subject to significant radiation dose while performing the inspections.

5.0 Burden Caused by Compliance

Compliance with the performance demonstration initiative qualification program without an alternative qualification requirement would necessitate significant modifications to the reactor coolant system welds. Alterations such as these may result in reduced structural integrity of the reactor coolant pressure boundary. Even with such modifications, the vendor depth sizing accuracy issue would not likely be fully addressed.

6.0 Proposed Alternative and Basis for Use

As approved for use by the NRC in Regulatory Guide 1.147, FENOC proposes to use ASME Code Case N-696 to perform a combined Supplements 2 and 10 qualification when examining the reactor vessel nozzle to safe-end DSM welds and reactor vessel safe-end to pipe austenitic welds. If only the reactor vessel nozzle to safe-end DSM welds are examined, FENOC proposes to use ASME Code Case N-695 to perform a Supplement 10 qualification. However, FENOC proposes using alternative RMSE depth sizing criteria as compared to the values stated in Code Cases N-695 and N-696.

The FENOC ID examination vendor has demonstrated the ability to depth size flaw indications in DSM welds with an RMSE of 0.189 inch instead of the 0.125 inch RMSE required by Appendix VIII Supplement 10 (Code Case N-695) and the RMSE of 0.245 inch for the combined Appendix VIII Supplements 2 and 10 qualification (Code Case N-696). In order to address the potential for undersizing of flaws by inspection procedures that do not meet the ASME Code Cases N-695 and N-696 acceptance criteria, FENOC proposes that the difference between the 0.245 inch RMSE and the Code Case N-696 required 0.125 inch RMSE would be added to the flaw depths determined during actual sizing of flaws. FENOC also proposes that if only the reactor vessel nozzle to safe-end DSM welds are examined, the difference between the 0.189 inch RMSE and the Code Case N-695 required 0.125 inch RMSE would be added to the flaw depths determined during actual sizing of flaws. Figures 1 and 2 provide representative sketches of a reactor vessel outlet nozzle to safe-end weld and an inlet nozzle to safe-end weld.

The measured depth of the crack will be increased by the difference between the actual RMSE obtained for the procedure employed and the code case acceptance criterion as described above. Additionally, flaw evaluations of detected flaws determined to be connected to the piping inner diameter surface during the examinations covered by FENOC relief request 2-TYP-3-RVSE-1, Revision 1 will be submitted to the NRC for review and approval. The information to be provided in the flaw evaluation includes:

1. The measured flaw size as determined by UT.

2. A FENOC determination of whether the flaw is surface breaking or not. In the case of the examinations planned for fall 2012, the contracted examination vendor deploys eddy current in order to make these determinations.

3. The ID profile of the weld, pipe, nozzle, and safe end (as applicable) in the region at and surrounding the transducer locations used to depth size the flaw.

4. The suspected flaw degradation mechanism and the process used to determine the degradation mechanism.

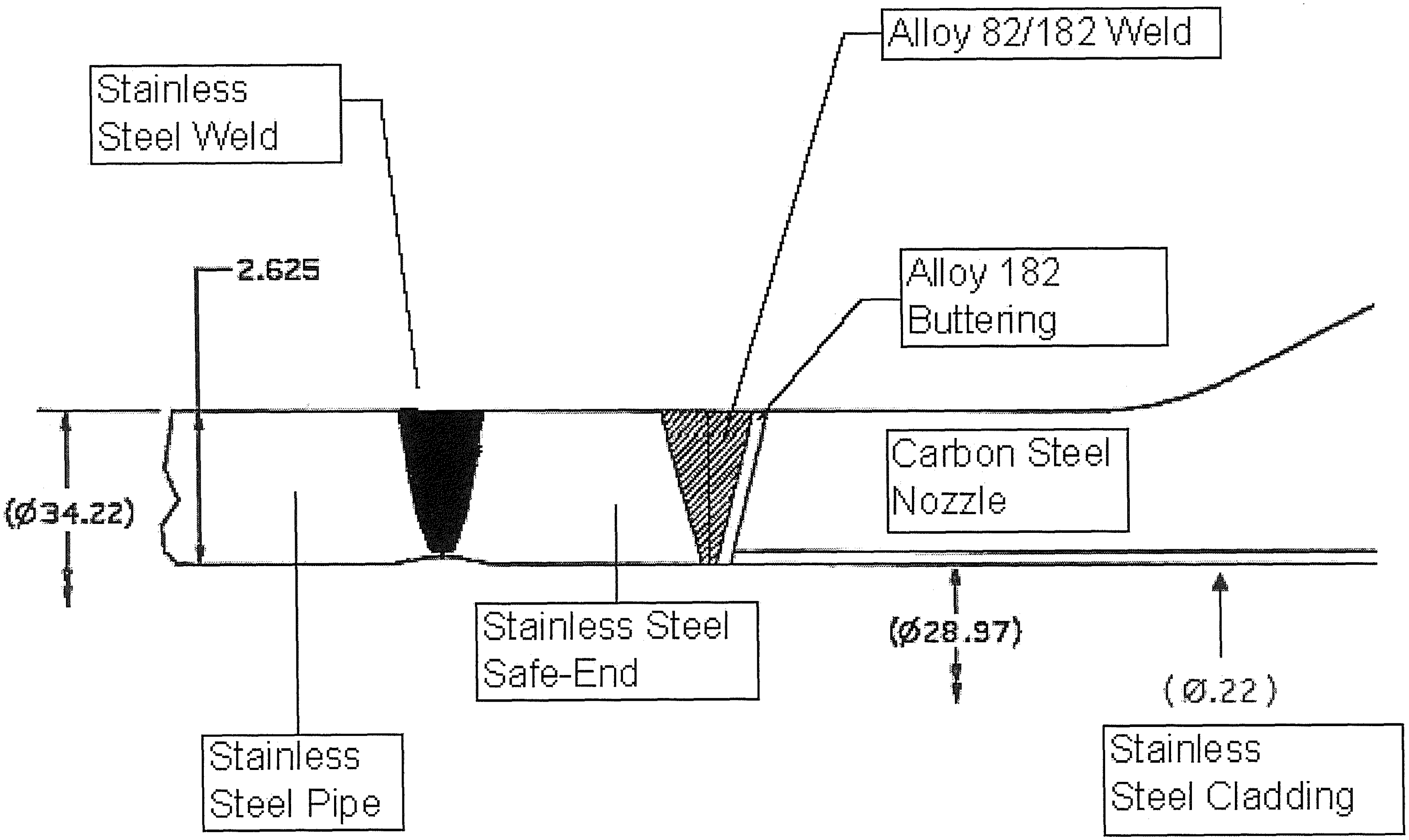

Figure 1: BVPS-2 Reactor Vessel Outlet Nozzle

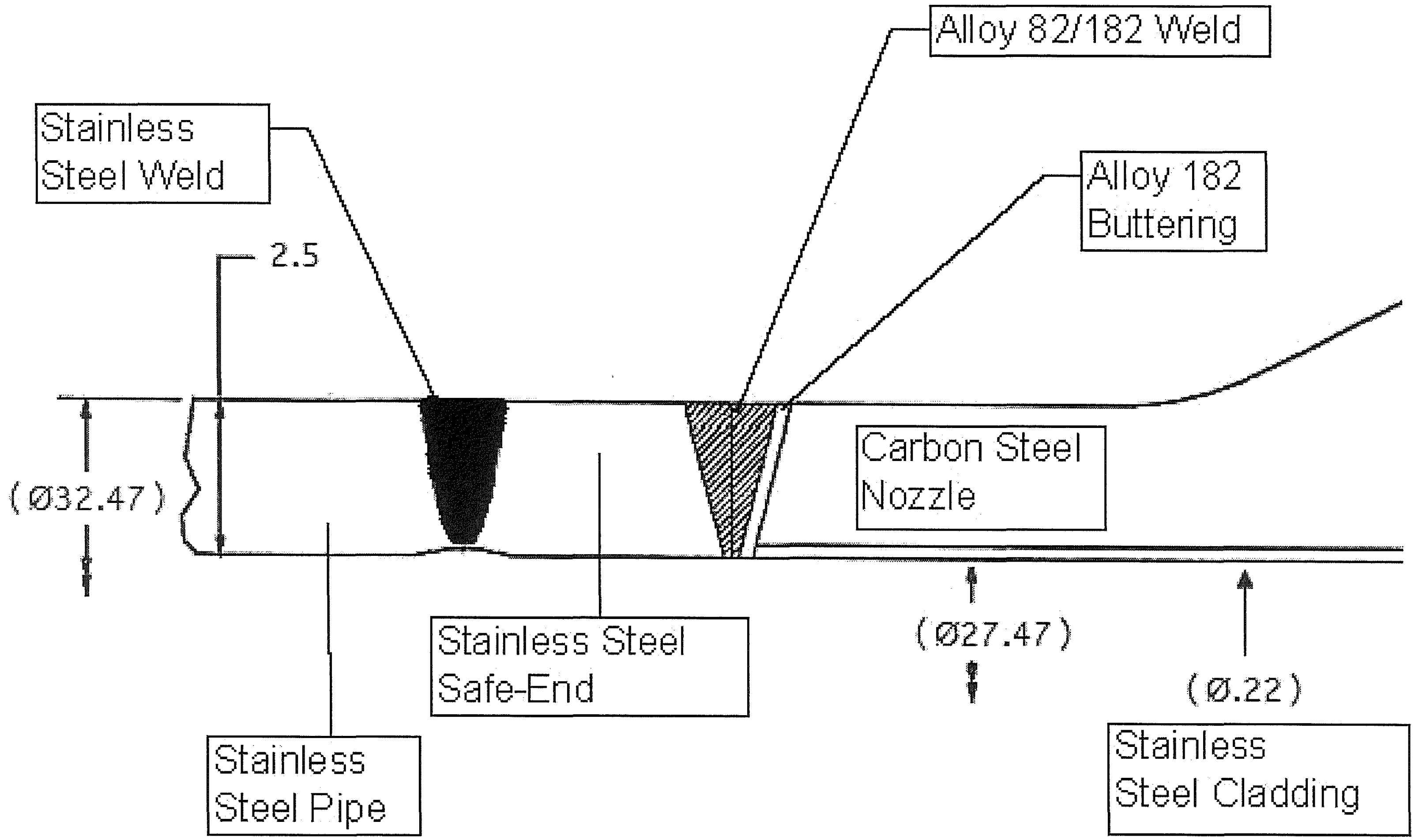

Figure 2: BVPS-2 Reactor Vessel Inlet Nozzle

The nominal diameters and thickness dimensions for the reactor vessel outlet and inlet nozzle to safe-end welds, as well as the safe-end to pipe welds, are provided in Table 1.

Table 1: Nominal Diameter and Wall Thickness Dimensions

Weld Description	Nominal ID	Nominal OD	Nominal Thickness
Reactor Vessel Outlet Nozzle to Safe-End	28.97"	34.22"	2.63"
Reactor Vessel Outlet Safe-End to Pipe	29.20"	34.22"	2.51"
Reactor Vessel Inlet Nozzle to Safe-End	27.47"	32.47"	2.50"
Reactor Vessel Inlet Safe-End to Pipe	27.70"	32.47"	2.39"

The BVPS-2 reactor vessel nozzle weld examinations would be completed using the ID applied PDI-qualified UT equipment, personnel, procedures and techniques qualified by the vendor. During the nozzle weld examination process, ID surface profile data would be recorded using an immersion UT process. Contour wedges that match the ID contour will be utilized when the examination is performed. This display is interactive with the actual UT data such that key flaw characterization information such as flaw depth sizing and flaw location can be compensated for by using the surface profile directly underneath the transducer. This profilometry software has the ability to calculate the areas where the water path under the transducer is greater than 1/32 inch; this information is used to calculate examination volume coverage where detection scans are limited. The 1/32 inch value is generally considered for OD examinations, but offers a conservative reference for the ID examination. Based on BVPS-2 exams performed in 2008, the surface conditions of these nozzle to safe-end DSM welds are relatively smooth, and therefore, no lack of coverage would be expected. However, the surface geometry of the safe-end to pipe welds include weld root, counterbores, and fit-up variations, which result in loss of contact between the transducer and the surface. In the instances where UT volumetric examinations are limited by surface geometry, eddy current examinations would be used to characterize any surface-breaking flaws for both nozzle to safe-end DSM welds and safe-end to pipe welds. This ensures that 100 percent of the weld surfaces have been examined. A similar approach was utilized in the 2008 UT volumetric examinations.

There are no limitations for axial scans for circumferential flaws, but the same profilometry software discussed earlier is used to detect areas where limitations for UT exist during the circumferential scans for axial flaws.

FENOC's examination vendor has participated in three non-ASME Code required performance demonstrations associated with depth sizing of planar flaws in DSM welds. The demonstrated techniques were conducted from the ID surface. Each of these demonstrations used UT test procedures and equipment similar to those to be applied for the BVPS-2 weld examinations. Summary information on these demonstrations is provided below.

The first demonstration (non-blind) was conducted in 2002/2003 as part of an open procedure qualification for a Swedish nuclear power plant and was performed under the auspices of the Swedish Qualification Centre. The test sample, supplied by the power plant owner, consisted of six partial ring segments that when put together formed a 360 degree test piece. The inner diameter was 23 inches and the weld thickness was 3.3 inches. The materials of construction included a stainless steel clad SA508 Class 1A ferritic steel forging buttered with Inconel™ and welded to a SA312 Type 316 stainless steel forging. The weld material was Inconel™. The ID surface was smooth. Of the 25 defects within the segments, 10 were ID surface-connected branch cracks confined to the weld and buttering. Details of these ID surface flaws are provided in Table 2; this defect matrix includes both circumferential and axial cracks. Table 2 also provides the UT measured through-wall dimension for each of the defects and the RMSE value. It is noted that if the RMSE adjustment of 0.064 inches were added to each of the UT measurements, the adjusted RMSE value is 0.133 inches.

The second demonstration (non-blind) was conducted in 2007 as part of a weld inlay equivalency site specific demonstration and was performed under the auspices of EPRI. This test sample was a full scale, 360 degree mock-up and is approximately 41 inches long, 27.5 inches ID and 2.9 inches thick. It contained a DSM weld (Inconel™ buttering and Inconel™ weld metal) between a SA-508 ferritic steel forging (nozzle) and a 316 stainless steel forging (safe-end). An alloy 52 weld inlay was added to three of the four quadrants across the DSM weld. The inlay thickness for each of the three quadrants was 0.2 inch, 0.07 inch and 1 inch for the second, third and fourth quadrants, respectively. Four alternative planar flaws were added to each of the three inlaid quadrants. These four flaws are essentially identical to flaws in the PDI 601 Series Practice Mockup. The ID surface included a 10 – 15 degree taper on the safe-end. Details of the flaws are provided in Table 3; this defect matrix includes both circumferential and axial cracks. Table 3 also provides the UT measured through-wall dimension for each of the sixteen defects and the RMSE value. If the RMSE adjustment of 0.064 inches was added to each of the UT measurements, the adjusted value is 0.083 inches.

The third demonstration (blind) was conducted in 2010 as the initial test in a series of round robin examinations on RPV nozzle to safe-end welds. Examinations were conducted blind on six individual test coupons. Each test coupon consisted of a DSM Alloy 82/182 buttering weld between a ferritic steel forging and a stainless steel safe-end, and contained a single axial stress corrosion crack. Each test coupon was approximately 29 inches in diameter and was approximately 2.9 inches thick. The ID surface was smooth. Each test coupon was destructively analyzed to determine the actual crack depth. Information on the flaws is noted in Table 4; this defect matrix includes only axial cracks. Table 4 also provides the UT measured through-wall dimension for each of the six defects and the RMSE value. If the RMSE adjustment of 0.064 inches was added to each of the UT measurements, the adjusted RMSE value is 0.125 inches.

Each of these test samples included variables common to DSM welds – multiple materials with different acoustic properties, and dendritic and coarse-grained microstructures. These two variables lead to inaccuracies in locating the UT response from a planar flaw extremity within the weld and buttering. Demonstrations 1 and 3 did not involve additional UT examinations to determine the ID surface profile, which is used to compensate for beam propagation in the weld. Also different in each of these test samples is the type of planar flaw, the flaw morphology, and the actual dendritic structure of the weld and buttering. These differences between the demonstrations are factors in the variation in RMSE values. When the three data sets from Tables 2, 3 and 4 are combined, the RMSE is 0.092 inches. These data sets do not include the RMSE adjustment of 0.064 inches.

As evidenced by the combined RMSE for dissimilar and similar metal welds demonstrated in accordance with Code Case N-696, UT techniques can determine the through-wall size of planar flaws. The test samples consisted of surface conditions representative of shop and field weld configurations. While the RMSE value is not consistent with the established ASME Code standard, it still represents a reasonable measurement of flaw through-wall depth, albeit with a greater uncertainty. However, this uncertainty is to be factored into the flaw size which would be used in fracture mechanics analyses in accordance with the proposed alternative.

The BVPS-2 UT vendor has no future Appendix VIII, Supplement 2 and 10 or non-Appendix VIII programs involving ID performance demonstrations scheduled.

Table 2: Defect Matrix for Open Procedure Qualification – ID Surface Connected Planar Flaws Only

Flaw Description	Orientation	Ligament (inches)	Truth Length Dimension (inches)	Truth Through-Wall Dimension (inches)	UT- Measured through-Wall Dimension (inches)
Flaw 1.1 – Branch Crack (in weld)	Circ / 9° skew / 10° tilt	0	0.70	0.24	0.34
Flaw 1.2 – Branch Crack (in buttering)	Circ / 0° skew / 9° tilt	0	0.87	0.36	0.44
Flaw 1.3 – Branch Crack (in buttering)	Circ / 1° skew / 0° tilt	0	1.19	0.48	0.38
Flaw 1.4 – Branch Crack (in buttering)	Circ / 0° skew / 2° tilt	0	2.76	1.02	1.09
Flaw 1.5 – Branch Crack (in weld)	Circ / 10° skew / 10° tilt	0	2.78	1.33	1.42

Table 2 (Continued): Defect Matrix for Open Procedure Qualification – ID Surface Connected Planar Flaws Only

Flaw Description	Orientation	Ligament (inches)	Truth Length Dimension (inches)	Truth Through-Wall Dimension (inches)	UT- Measured through-Wall Dimension (inches)
Flaw 2.1 – Branch Crack (in buttering/weld)	Ax / 10° skew / 8° tilt	0	0.68	0.25	0.28
Flaw 2.2 – Branch Crack (in buttering)	Ax / 8° skew / 0° tilt	0	0.49	0.25	0.22
Flaw 2.3 – Branch Crack (in weld)	Ax / 11° skew / 10° tilt	0	0.67	0.33	0.38
Flaw 2.4 – Branch Crack (in buttering/weld)	Circ / 8° skew / 0° tilt	0	0.83	0.35	0.47
Flaw 2.5 – Branch Crack (in buttering)	Circ / 0° skew / 9.5° tilt	0	1.72	0.71	0.82

Abbreviated Terms
Circ – Circumferential
Ax – Axial

RMSE	0.084
RMSE with Vendor Tolerance Adjustment	0.133

Table 3: Defect Matrix for Open Weld Inlay Equivalency Test Demonstration – ID Surface Connected Planar Flaws Only

Flaw Description	Orientation	Ligament (inches)	Truth Length Dimension (inches)	Truth Through-Wall Dimension (inches)	UT- Measured through-Wall Dimension (inches)
Flaw 1-Q2 (Thermal Fatigue Crack)	Circ / 8° skew / 0° tilt	0	1.80	0.339	0.37
Flaw 1-Q3 (Thermal Fatigue Crack)	Circ / 8° skew / 0° tilt	0	1.80	0.339	0.42
Flaw 1-Q4 (Thermal Fatigue Crack)	Circ / 8° skew / 0° tilt	0	1.80	0.339	0.36
Flaw 2-Q2 (Thermal Fatigue Crack)	Circ / 0° skew / 0° tilt	0	2.63	0.35	0.34
Flaw 2-Q3 (Thermal Fatigue Crack)	Circ / 0° skew / 0° tilt	0	2.63	0.35	0.33
Flaw 2-Q4 (Thermal Fatigue Crack)	Ax / 11° skew / 0° tilt	0	2.63	0.35	0.37

Table 3 (Continued): Defect Matrix for Open Weld Inlay Equivalency Test Demonstration – ID Surface Connected Planar Flaws Only					
Flaw Description	Orientation	Ligament (inches)	Truth Length Dimension (inches)	Truth Through-Wall Dimension (inches)	UT- Measured through-Wall Dimension (inches)
Flaw 3-Q2 (Alternative Planar Flaw)	Ax / 11° skew / 0° tilt	0	0.50	0.374	0.40
Flaw 3-Q3 (Alternative Planar Flaw)	Ax / 11° skew / 10° tilt	0	0.50	0.374	0.37
Flaw 3-Q4 (Alternative Planar Flaw)	Ax / 11° skew / 0° tilt	0	0.50	0.374	0.27
Flaw 12-Q2 (Thermal Fatigue Crack)	Circ / 5° skew / 0° tilt	0	3.50	0.815	0.81
Flaw 12-Q3 (Thermal Fatigue Crack)	Circ / 5° skew / 0° tilt	0	3.50	0.815	0.81
Flaw 12-Q4 (Thermal Fatigue Crack)	Circ / 5° skew / 0° tilt	0	3.50	0.815	0.77
Flaw 1 (Thermal Fatigue Crack)	Circ / 8° skew / 0° tilt	0	1.80	0.339	0.37
Flaw 3 (Alternative Planar Flaw)	Ax / 11° skew / 0° tilt	0	0.60	0.374	0.44
Flaw 12 (Thermal Fatigue Crack)	Circ / 5° skew / 0° tilt	0	3.50	0.815	0.79

Abbreviated Terms
Circ – Circumferential
Ax – Axial

RMSE	0.035
RMSE with Vendor Tolerance Adjustment	0.083

Table 4: Defect Matrix for Blind Round Robin Program – Axial Flaws Only					
Flaw Description	Orientation	Ligament (inches)	Truth Length Dimension	Truth Through-Wall Dimension (inches)	UT- Measured through-Wall Dimension (inches)
M1 (Stress Corrosion Crack (SCC))	Axial	0	Not provided	1.18	1.18
M2 (SCC)	Axial	0	Not provided	0.37	0.18

Table 4 (Continued): Defect Matrix for Blind Round Robin Program – Axial Flaws Only					
Flaw Description	Orientation	Ligament (inches)	Truth Length Dimension	Truth Through-Wall Dimension (inches)	UT- Measured through-Wall Dimension (inches)
M3 (SCC)	Axial	0	Not provided	0.66	0.56
M4 (SCC)	Axial	0	Not provided	0.61	0.37
M5 (SCC)	Axial	0	Not provided	0.16	0.09
M6 (SCC)	Axial	0	Not provided	0.90	0.63

RMSE	0.17
RMSE with Vendor Tolerance Adjustment	0.125

In addition, the BVPS-2 examinations will utilize UT analysts that have achieved consistent through-wall depth sizing results within a RMSE of 0.189 inch for DSM welds, and a RMSE of 0.245 inch for combined dissimilar metal and austenitic stainless steel welds. These UT analysts are trained on the PDI demonstrated procedure using test data from non-PDI performance demonstrations and other investigations on cracked samples. A subset of these UT analysts will be used for the BVPS-2 examinations.

FENOC considered the use of a site-specific mockup for ID RMSE demonstrations; however, based on current UT examination technology, there would be no benefit to design and build a mockup for BVPS-2 to attempt further vendor ID RMSE demonstrations.

As confirmed by the NRC, no vendor has demonstrated the ability to achieve the required 0.125 inch RMSE value. The proposed alternative assures that the subject welds would be fully examined by vendor procedures, equipment and personnel qualified by demonstration in all aspects except depth sizing. For depth sizing, the proposed addition of the numeric difference between the required and demonstrated achievable sizing tolerance to any flaw that is required to be sized compensates for the potential variation. Additionally, FENOC flaw evaluations as described in Section 6.0 will be submitted to the NRC for review and approval prior to the expiration of the relief. FENOC has determined that the proposed alternative provides an acceptable level of quality and safety, pursuant to the provisions of 10 CFR 50.55a(g)(5)(iii).

7.0 Duration of Proposed Alternative

The proposed alternative shall include only examinations conducted at BVPS-2 prior to the end of the fall 2012 refueling outage, which is scheduled to begin on September 24, 2012.

8.0 Precedent

1. Braidwood Station, Units 1 and 2 – Safety Evaluation in Support of the Third 10-Year Inservice Inspection Interval for Relief I3R-08 (TAC Nos. ME6024 and ME6025), April 19, 2012.

2. Joseph M. Farley Nuclear Plant, Unit 1 – Safety Evaluation of Relief Request ISI-FNP-ISI-RR-01 (TAC No. ME5966), April 4, 2012.