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10 CFR 50.55a

RS-11-069

April 19, 2011

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

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454 and STN 50-455

Subject: Third 10-Year Inservice Inspection Interval Requests for Relief for Alternative Requirements for the Repair of Reactor Vessel Head Penetrations

References:

(1) Westinghouse WCAP-15987, Revision 2-A, "Technical Basis for the Embedded Flaw Process for Repair of Reactor Vessel Head Penetrations," December 2003

(2) Letter from H. N. Berkow (U. S. NRC) to H. A. Sepp (Westinghouse Electric Company), "Acceptance for Referencing – Topical Report WCAP-15987-P, Revision 2, 'Technical Basis for the Embedded Flaw Process for Repair of Reactor Vessel Head Penetration,' (TAC NO. MB8997)," dated July 3, 2003

(3) Letter from R. Gibbs (U. S. NRC) to C. M. Crane (EGC), "Byron Station, Unit No. 2 – Relief Request I3R-14 for the Evaluation of Proposed Alternatives for Inservice Inspection Examination Requirements (TAC No. MD5230)," dated May 23, 2007

(4) Letter from R. Kuntz (U. S. NRC) to C. M. Crane (EGC), "Westinghouse Electric Company, Request for Withholding Information from Public Disclosure for Byron Station, Unit No. 2 (TAC No. MD5230)", dated May 16, 2007, ADAMS Accession No. ML071290249

In accordance with 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(i), Exelon Generation Company, LLC (EGC), is requesting relief from the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," on the basis that the proposed alternatives would provide an acceptable level of quality and safety.

Specifically, relief requests I3R-09 for Braidwood Station, Units 1 and 2, and I3R-20 for Byron Station, Units 1 and 2, are proposed to perform an alternative repair technique using the

embedding methodology of Reference 1 on the reactor Vessel Head Penetration (VHP) housings and J-groove welds of Braidwood and Byron Stations, Units 1 and 2. The embedded flaw methodology to be used has been approved generically by the NRC in the Reference 2 Safety Evaluation. The alternative requirements are for the repair of indications that may be the result of primary water stress corrosion cracking (PWSCC). Embedding a flaw within PWSCC resistant materials (i.e., Alloy 52 weld metal) will assure structural integrity of the VHP nozzles. Additional applicable requirements for eliminating mechanical discontinuities that may become detected in the seal welds during installation are also proposed. The details of this request are contained in Attachment 1 to this letter.

Supporting the embedded flaw methodology application to the VHPs is the analysis provided in Westinghouse WCAP-16401-P, Revision 0, "Technical Basis for Repair Options for Reactor Vessel Head Penetration Nozzles and Attachment Welds: Byron and Braidwood Units 1 and 2," March 2005. This WCAP provides the technical basis for the use of an embedded repair involving the VHP housing and/or the VHP housing attachment weld (i.e., the J-groove weld) by evaluating the bounding loading conditions, fatigue crack growth predications, and fracture mechanics results. WCAP-16401-P, Revision 0, was previously provided in support of Reference 3 (Refer to Reference 4).

EGC requests that this repair alternative be approved by April 19, 2012, in support of the Braidwood Unit 1 spring 2012 refueling outage (A1R16). Due to the recent experience identifying PWSCC during the Byron Unit 1 spring 2011 outage, should flaw indications be identified on VHPs during the Braidwood Unit 2 spring 2011 refueling outage (A2R15) or during the Byron Unit 2 fall 2011 refueling outage (B2R16), an expedited authorization for alternative requirements for repair of those penetrations may be requested.

There are no regulatory commitments contained in this submittal. If you have any questions about this letter, please contact Mr. Richard W. McIntosh at (630) 657-2816.

Respectfully,

Jeffrey L. Hansen
Manager - Licensing
Exelon Generation Company, LLC

Attachment: 10 CFR 50.55a Relief Requests I3R-09 and I3R-20, Revision 0

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Request for Relief
Alternative Requirements for the Repair of Reactor Vessel Head Penetrations
In Accordance with 10 CFR 50.55a(a)(3)(i)

1.0 ASME CODE COMPONENT(S) AFFECTED

Component Numbers	Braidwood and Byron Station, Units 1 and 2, Reactor Vessels 1RC01R (Unit 1) and 2RC01R (Unit 2)
Description:	Alternative Requirements for the Repair of Reactor Vessel Head Penetrations (VHPs) and J-groove Welds
Code Class:	Class 1
Examination Category:	ASME Code Case N-729-1
Code Item:	B4.20
Identification:	Byron Units 1 and 2, VHP Numbers 1 through 78, (P-1 through P-78) Previous repairs (I3R-14): P-68 (I3R-19): P-31, P-43, P-64, and P-76 Braidwood Units 1 and 2, VHP Numbers 1 through 78, (P-1 through P-78)
Drawing Numbers:	Various

2.0 APPLICABLE CODE EDITION AND ADDENDA

Inservice Inspection and Repair/Replacement Programs: American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, 2001 Edition, through 2003 Addenda. Examinations of the VHPs are performed in accordance with 10 CFR 50.55a(g)(6)(ii)(D), which specifies the use of Code Case N-729-1, with conditions.

Code of Construction [Reactor Pressure Vessel (RPV)]: ASME Section III, 1971 Edition through summer 1973 Addenda.

3.0 APPLICABLE CODE REQUIREMENT

IWA-4000 of ASME Section XI contains requirements for the removal of defects from and welded repairs performed on ASME components. The specific Code requirements for which use of the proposed alternative is being requested are as follows:

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ASME Section XI, IWA-4421 states:

Defects shall be removed or mitigated in accordance with the following requirements:

(a) Defect removal by mechanical processing shall be in accordance with IWA-4462.
(b) Defect removal by thermal methods shall be in accordance with IWA-4461.
(c) Defect removal or mitigation by welding or brazing shall be in accordance with IWA-4411.
(d) Defect removal or mitigation by modification shall be in accordance with IWA-4340.

Note that use of the "Mitigation of Defects by Modification" provisions of IWA-4340 is prohibited per 10 CFR 50.55a(b)(2)(xxv).

For the removal or mitigation of defects by welding, ASME Section XI, IWA-4411 states, in part, the following.

> *Welding, brazing, and installation shall be performed in accordance with the Owner's Requirements and ... in accordance with the Construction Code of the item...*

The applicable requirements of the Construction Code required by IWA-4411 for the removal or mitigation of defects by welding from which relief is requested are as follows.

Base Material Defect Repairs:

For defects in base material, ASME Section III, NB-4131 requires that the defects are eliminated, repaired, and examined in accordance with the requirements of NB-2500. These requirements include the removal of defects via grinding or machining per NB-2538. Defect removal must be verified by a Magnetic Particle (MT) or Liquid Penetrant (PT) examination in accordance with NB-2545 or NB-2546, and if necessary to satisfy the design thickness requirement of NB-3000, repair welding in accordance with NB-2539.

ASME Section III, NB-2539.1 addresses removal of defects and requires defects to be removed or reduced to an acceptable size by suitable mechanical or thermal methods.

ASME Section III, NB-2539.4 provides the rules for examination of the base material repair welds and specifies they shall be examined by the MT or PT methods in accordance with NB-2545 or NB-2546. Additionally, if the depth of the repair cavity exceeds the lesser of 3/8-inch or 10% of the section thickness, the repair weld shall be examined by the radiographic method in accordance with NB-5110 using the acceptance standards of NB-5320.

Weld Metal Defect Repairs

ASME Section III, NB-4450 addresses repair of weld metal defects.

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ASME Section III, NB-4451 states; that unacceptable defects in weld metal shall be eliminated and, when necessary, repaired in accordance with NB-4452 and NB-4453.

ASME Section III, NB-4452 addresses elimination of weld metal surface defects without subsequent welding and specifies defects are to be removed by grinding or machining.

ASME Section III, NB-4453.1 addresses removal of defects in welds by mechanical means or thermal gouging processes and requires the defect removal to be verified with MT or PT examinations in accordance with NB-5340 or NB-5350 and weld repairing the excavated cavity. In the case of partial penetration welds where the entire thickness of the weld is removed, only a visual examination is required to determine suitability for re-welding.

As an alternative to the requirements above, repairs will be conducted in accordance with the appropriate edition/addenda of ASME Section III and the alternative requirements, based on WCAP-15987-P, Revision 2-P-A, "Technical Basis for the Embedded Flaw Process for Repair of Reactor Vessel Head Penetrations," December 2003, (Refer to Reference 1, hereafter known as WCAP-15987-P).

4.0 REASON FOR THE REQUEST

Exelon Generation Company, LLC (EGC) will conduct examinations of the reactor Vessel Head Penetrations (VHPs) in accordance with Code Case N-729-1, as amended by 10 CFR 50.55a. Flaw indications that require repair may be found on the VHP tube material and/or the J-groove attachment weld(s) on the underside of the reactor vessel head.

Relief is requested from the requirements of ASME Section XI, IWA-4411 to perform permanent repair of future defects that may be identified on the VHP's and/or J-groove attachment weld(s) in accordance with the rules of the ASME Section III Construction Code as described in this relief request.

Specifically, relief is requested from:

- The requirements of ASME Section III, NB-4131, NB-2538, and NB-2539 to eliminate and repair defects in materials.

- The requirements of ASME Section III, NB-4450 to repair defects in weld metal.

5.0 PROPOSED ALTERNATIVE AND BASIS FOR USE

5.1 Proposed Alternative

EGC proposes to use the less intrusive embedded flaw process (Reference 1) for the repair of VHP(s) as approved by the NRC (Reference 2) as an alternative to the defect removal requirements of ASME Section XI and Section III.

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5.1.1 The criteria for flaw evaluation established in 10 CFR 50.55a(g)(6)(ii)(D), which specifies the use of Code Case N-729-1, will be used in lieu of the "Flaw Evaluation Guidelines" specified by the NRC Safety Evaluation for WCAP-15987-P (Refer to Reference 5).

5.1.2 Consistent with WCAP-15987-P, Revision 2-P-A methodology, the following repair requirements will be performed.

1. Inside Diameter (ID) VHP Repair Methodology

   a. An unacceptable axial flaw will be first excavated (or partially excavated) to a maximum depth of 0.125 inches. Although this depth differs from that specified in WCAP-15987-P, the cavity depth is not a critical parameter in the implementation of a repair on the ID surface of the VHP. The goal is to isolate the susceptible material from the primary water (PW) environment. The purpose of the excavation is to accommodate the application of at least two (2) weld layers of Alloy 52 or 52M, which is resistant to Primary Water Stress Corrosion Cracking (PWSCC), to meet that requirement. The depth specified in WCAP-15987-P is a nominal dimension and the depth needed to accommodate three weld layers while still maintaining the tube ID dimension. Since two (2) weld layers will be applied, less excavation is required and only 0.125 inches of excavation is necessary. The shallower excavated cavity for 2 weld layers would mean a slightly thinner weld, which would produce less residual stress.

      The excavation will be performed using an Electronic Discharge Machining (EDM) process to minimize VHP tube distortion. After the excavation is complete, either an ultrasonic test (UT) or surface examination will be performed to ensure that the entire flaw length is captured. Then a minimum of 2 layers of Alloy 52 or 52M weld material will be applied to fill the excavation. The expected chemistry of the weld surface is that of typical Alloy 52 or 52M weldment with no significant dilution. The finished weld will be conditioned to restore the inside diameter and then examined by UT and surface examination to ensure acceptability.

   b. If required, unacceptable ID circumferential flaw will be either repaired in accordance with existing code requirements; or will be partially excavated to reduce the flaw to an acceptable size, examined by UT or surface examination, inlaid with Alloy 52 or 52M, and examined by UT and surface examination as described above.

2. Outside Diameter (OD) VHP and J-groove Weld Repair Methodology

   a. An unacceptable axial or circumferential flaw in a tube below a J-groove attachment weld will be sealed off with an Alloy 52 or 52M weldment. Excavation or partial excavation of such flaws is not necessary. The embedded flaw repair technique may be applied to OD axial or circumferential cracks below the J-groove weld because they are located away from the pressure boundary, and the proposed repair of sealing the crack with Alloy 690 weld material would isolate the crack from the environment as stated in Section 3.6.1 of the NRC Safety Evaluation for WCAP-15987-P.

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b. Unacceptable radial flaws in the J-groove attachment weld will be sealed off with a 360 degree seal weld of Alloy 52 or 52M covering the entire weld. Excavation or partial excavation of such flaws is not necessary.

c. If EGC determines an excavation is desired (e.g., boat sample), then

- The excavation will be filled with Alloy 52 or 52M material.
- It is expected that a portion of the indication may remain after the boat sample excavation; however, a surface examination will be performed on the excavation to assess the pre-repair condition.
- Depending on the extent and/or location of the excavation, the repair procedure requires the Alloy 52 or 52M weld material to extend at least one half inch outboard of the Alloy 82/182 to stainless steel clad interface.

d. Unacceptable axial flaws in the VHP tube extending into the J-groove weld will be sealed with Alloy 52 or 52M as discussed in Item 5.1.2.2.a above. In addition, the entire J-groove weld will be sealed with Alloy 52 or 52M to embed the axial flaw. The seal weld will extend onto and encompass the portion of the flaw on the outside diameter of the VHP tube.

e. For seal welds performed on the J-groove weld, the interface boundary between the J-groove weld and stainless steel cladding will be located to positively identify the weld clad interface to ensure that all of the Alloy 82/182 material of the J-groove weld is seal welded during the repair.

f. The seal weld that will be used to repair an OD flaw in the nozzles and the J-groove weld will conform to the following.

- Prior to the application of the Alloy 52 or 52M seal weld repair on the RPV clad surface, at least three beads (one layer) of ER309L stainless steel buffer will be installed 360° around the interface of the clad and the J-groove weld metal.
- The J-groove weld will be completely covered by three (3) layers of Alloy 52 or 52M deposited 360° around the nozzle and over the ER309L stainless steel buffer. Additionally, the seal weld will extend onto and encompass the outside diameter of the penetration tube Alloy-600 material by at least one half inch.
- The VHP tube will have at least two (2) layers of Alloy 52 or 52M deposited over the flaw on the VHP tube, extending out at least one half inch beyond the flaw, or to the maximum extent allowed by the nozzle geometry (e.g., limited length of the VHP tube).

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g. Nondestructive examinations of the finished seal weld repair (i.e., Repair NDE) and during subsequent outages (i.e., ISI NDE) are summarized in the table below.

Repair Location in Original Component	Flaw Orientation in Original Component	Repair Method	Repair NDE Note (2)	ISI NDE Note (2)
VHP Nozzle/Tube ID	Axial or Circumferential	Seal weld	UT and Surface	UT or Surface
VHP Nozzle/Tube OD above J-groove weld	Axial or Circumferential	Note (1)	Note (1)	Note (1)
VHP Nozzle/Tube OD below J-groove weld	Axial or Circumferential	Seal weld	UT or Surface	UT or Surface
J-groove weld	Axial	Seal weld	UT and Surface, Note (3)	UT and Surface, Note (3)
J-groove weld	Circumferential	Seal weld	UT and Surface, Note (3)	UT and Surface, Note (3)

Notes:
(1) Repair method to be approved separately by NRC.
(2) Preservice and Inservice Inspection to be consistent with 10 CFR 50.55a(g)(6)(ii)(D), which requires implementation of Code Case N-729-1 with conditions.
(3) UT personnel and procedures qualified in accordance with 10 CFR 50.55a(g)(6)(ii)(D), which requires implementation of Code Case N-729-1 with conditions. Examine the accessible portion of the J-groove repaired region. The UT plus surface examination coverage equals to 100%.

5.1.3 Mechanical discontinuities detected by surface examination in the seal weld during installation, which do not meet the applicable ASME Section III acceptance standards, may be repaired by depositing additional Alloy 52 or 52M weld bead(s) in lieu of repair in accordance with the requirements of NB-4450. Mechanical discontinuities can be found at locations such as bead-to-bead junctures or welding start-and-stop locations with tight corners that trap PT penetrant. These locations will be re-consumed with the application of additional weld metal. Each area with additional weld metal applied to re-consume the mechanical discontinuity will be re-examined by surface examination using ASME Section III acceptance standards. In the event the surface examination does not pass, the indication would then be repaired in accordance with the rules of ASME Section III, NB-4450. A surface examination of these seal weld repair locations will be performed during the next two (2) refueling outages. The acceptance standards for this surface examination will be in accordance with 10 CFR 50.55a(g)(6)(ii)(D).

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5.1.4 Reporting Requirements and Conditions on Use

EGC will notify NRC of the Division of Component Integrity or its successor of changes in indication(s) or findings of new indication(s) in the penetration nozzle or J-groove weld beneath a seal weld repair, or new linear indications in the seal weld repair, prior to commencing repair activities in subsequent outages.

5.2 Technical Basis for Proposed Alternative

As discussed in WCAP-15987-P, the embedded flaw repair technique is considered a permanent repair. As long as a PWSCC flaw remains isolated from the Primary Water (PW) environment, it cannot propagate. Since an Alloy 52 or 52M weldment is considered highly resistant to PWSCC, a new PWSCC flaw should not initiate and grow through the Alloy 52 or 52M seal weld to reconnect the PW environment with the embedded flaw. Structural integrity of the affected J-groove weld and/or nozzle will be maintained by the remaining unflawed portion of the weld and/or the VHP. Alloy 690 and Alloy 52/52M are highly resistant to stress corrosion cracking, as demonstrated by multiple laboratory tests, as well as over ten years of service experience in replacement steam generators.

The residual stresses produced by the embedded flaw technique have been measured and found to be relatively low because of the small seal weld thickness. This implies that no new flaws will initiate and grow in the area adjacent to the repair weld. There are no other known mechanisms for significant flaw propagation in the reactor vessel head closure head and penetration tube region since cyclic loading is negligible, as described in WCAP-15987-P. Therefore, fatigue driven crack growth should not be a mechanism for further crack growth after the embedded flaw repair process is implemented.

The thermal expansion properties of Alloy 52 or 52M weld metal are not specified in the ASME Code. In this case the properties of the equivalent base metal (Alloy 690) should be used. For Alloy 690, the thermal expansion coefficient at 600 degrees F is 8.2E-6 in/in/degree F as found in Section II part D. The Alloy 600 base metal has a coefficient of thermal expansion of 7.8E-6 in/in/degree F, a difference of about 5 percent. The effect of this small difference in thermal expansion is that the weld metal will contract more than the base metal when it cools, thus producing a compressive stress on the Alloy 600 tube or J-groove weld. This beneficial effect has already been accounted for in the residual stress measurements reported in the technical basis for the embedded flaw repair, as noted in the WCAP-15987-P.

WCAP-16401-P, Revision 0 (Reference 3) provides the plant-specific analysis performed for Byron and Braidwood Stations using the same methodology as WCAP-15987-P. This analysis provides the means to evaluate a broad range of postulated repair scenarios to the reactor vessel head penetrations and J-groove welds relative to ASME Code requirements for allowable size and service life.

EGC proposes to deposit additional Alloy 52 or 52M weld bead(s) to consume all or most of the mechanical discontinuities identified in the seal weld during installation. This will provide acceptable margin to protect against PWSCC of the underlying Alloy 82/182 J-groove weld metal or Alloy-600 VHP tube material. The indication(s) in the seal weld

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are not PWSCC as it would be newly deposited, not exposed to primary water, and is also very resistant to PWSCC. It is reasonable to expect that any surface defect in the seal weld is limited to that particular bead/layer of 52/52M leaving two (2) or three (3) layers of resistant 52/52M, depending on location, plus the additional layer proposed to be locally deposited. This provides a high assurance that the susceptible materials will remain isolated from primary water and thereby not impacted by PWSCC. Therefore, EGC does not see the technical benefit given the iterative nature of grinding to remove the defects in the 52/52M seal weld.

The above proposed embedded flaw repair process is supported by applicable generic and plant specific technical bases, and is therefore considered to be an alternative to Code requirements that provides an acceptable level of quality and safety, as required by 10 CFR 50.55a(a)(3)(i).

6.0 DURATION OF THE PROPOSED ALTERNATIVE

The duration of the proposed alternative is for the remainder of the Byron Station Units 1 and 2, Third Inservice Inspection Interval currently scheduled to end in July 15, 2016.

The duration of the proposed alternative is for the remainder of the Braidwood Units 1 and 2, Third Inservice Inspection Interval currently scheduled to end in July 28, 2018, and October 16, 2018, respectively.

7.0 PRECEDENTS

In Reference 2, the NRC generically approved the embedded flaw repair process described in Reference 1. Requests to use the embedded flaw technique to repair cracks on the OD of VHPs as well as to repair flaws in the J-groove attachment welds of VHPs have been previously approved by the NRC on a plant specific basis. The NRC approved a similar repair for Byron Station Unit 2 in Reference 9. On March 28, 2011, Byron Station Unit 1 received verbal authorization for use of the seal weld repairs methodology on P-64 and P-76, and again on April 10, 2011, for P-31 and P-43 (References 10 and 11).

This alternative incorporates lessons that are learned regarding the significant radiation dose incurred for seal weld repair surface examinations at Beaver Valley, Unit 2, during the fall 2009 outage repair activities, which were discussed in the previously approved 10 CFR 50.55a request for Beaver Valley, Unit 2 (Reference 8). As such, this alternative requests provisions that permit original construction code acceptance criteria for the post weld overlay surface examination, and a barrier layer of ER309L filler material, prior to the application of three Alloy 52M repair weld layers on the clad surface, at the periphery of the weld overlay (at the repair-to-clad interface).

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8.0 REFERENCES

1. Westinghouse WCAP-15987-P, Revision 2-P-A, "Technical Basis for the Embedded Flaw Process for Repair of Reactor Vessel Head Penetrations," December 2003

2. Letter from H. N. Berkow (U. S. NRC) to H. A. Sepp (Westinghouse Electric Company), "Acceptance for Referencing – Topical Report WCAP-15987-P, Revision 2, 'Technical Basis for the Embedded Flaw Process for Repair of Reactor Vessel Head Penetrations,' (TAC NO. MB8997)," dated July 3, 2003

3. Westinghouse WCAP-16401-P, Revision 0, "Technical Basis for Repair Options for Reactor Vessel Head Penetration Nozzles and Attachment Welds: Byron and Braidwood Units 1 and 2," March 2005

4. Letter LTR-NRC-03-61 from J. S. Galembush (Westinghouse Electric Company) to Terence Chan (U. S. NRC) and Bryan Benney (U.S. NRC), "Inspection of Embedded Flaw Repair of a J-groove Weld," dated October 1, 2003

5. Letter from R. J. Barrett (U. S. NRC) letter to A. Marion (Nuclear Energy Institute), "Flaw Evaluation Guidelines," dated April 11, 2003

6. Byron Station, Unit No. 2 – Relief Request I3R-14 for the Evaluation of Proposed Alternatives for Inservice Inspection Examination Requirements (TAC NO. MD5230)

7. American Society of Mechanical Engineers Boiler and Pressure Vessel Case N-729-1, "Alternative Examination Requirements for PWR Reactor Vessel Upper Heads With Nozzles Having Pressure-Retaining Partial-Penetration Welds Section XI, Division 1"

8. Letter from N. L. Salgado (U. S. NRC) to P. A. Harden (FirstEnergy), "Beaver Valley Power Station, Unit No. 2 – Relief Request Regarding an Alternative Weld Repair Method for Reactor Vessel head Penetrations J-Groove Welds (TAC No. ME4176)," Request 2-TYP-3-RV-03, February 25, 2011 (ADAMS Accession No. ML110470557)

9. Letter from R. Gibbs (U. S. NRC) to C. M. Crane (EGC), "Byron Station, Unit No. 2 – Relief Request I3R-14 for the Evaluation of Proposed Alternatives for Inservice Inspection Examination Requirements (TAC No. MD5230)," dated May 23, 2007

10. NRC Memorandum, "Byron Station, Unit No. 1 – Verbal Authorization of Relief Request I3R-19 – Alternative Requirements for Repair of Reactor Vessel Head Penetrations 64 and 76 (TAC No. ME5877)," dated March 29, 2011

11. NRC Memorandum, "Byron Station Unit No. 1 – Verbal Authorization of Relief Request I3R-19 – Alternative Requirements for Repair of Reactor Vessel Head Penetrations Nos. 31 and 43 (TAC No. ME5948)," dated April 13, 2011