



FirstEnergy Nuclear Operating Company

Beaver Valley Power Station
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Withhold From Public Disclosure Under 10 CFR 2.390
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October 9, 2008
L-08-291

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
10 CFR 50.55a Request for Alternative Repair Methods for Reactor Vessel Head Penetrations and J-Groove Welds

In accordance with 10 CFR 50.55a, Nuclear Regulatory Commission (NRC) review and approval is requested for a proposed alternative to certain requirements associated with reactor vessel weld repairs for the Beaver Valley Power Station, Unit 2 (BVPS-2). Enclosure A identifies the affected components, the applicable code requirements, the description and basis of the proposed relief request, and the proposed alternative for the relief request. The alternative is proposed for use during the remainder of the current BVPS-2 10-year ISI interval, which ends August 28, 2018. Approval is requested by October 10, 2009, to support the BVPS-2 fourteenth refueling outage.

WCAP-16158, "Technical Basis for Repair Options for Reactor Vessel Head Penetration Nozzles and Attachment Welds: Beaver Valley Unit 2," which was used as a basis for this request, is provided as Enclosure B. WCAP-16158 is considered proprietary information and should be withheld from public disclosure under 10 CFR 2.390. The affidavit provided as Enclosure C specifies the necessary criteria to warrant withholding from public disclosure. A non-proprietary version of WCAP-16158 is provided as Enclosure D.

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Beaver Valley Power Station, Unit No. 2
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There are no regulatory commitments contained in this letter. If there are any questions, or if additional information is required, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing, at (330) 761-6071.

Sincerely,



Peter P. Sena

Enclosures:

- A. 10 CFR 50.55a Request No. 2-TYP-3-RV-01
- B. Technical Basis for Repair Options for Reactor Vessel Head Penetration Nozzles and Attachment Welds: Beaver Valley Unit 2 (Proprietary)
- C. Westinghouse Affidavit
- D. Technical Basis for Repair Options for Reactor Vessel Head Penetration Nozzles and Attachment Welds: Beaver Valley Unit 2 (Non-Proprietary)

cc: NRC Region I Administrator
NRC Resident Inspector
NRR Project Manager
Director BRP/DEP
Site BRP/DEP Representative
Westinghouse Electric Company, Nuclear Services

Enclosure A
L-08-291

10 CFR 50.55a Request No. 2-TYP-3-RV-01

Proposed Alternative
in Accordance with 10 CFR 50.55a(a)(3)(i)
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1.0 ASME CODE COMPONENTS AFFECTED

Component Numbers: 2RCS-REV-21 (Reactor Vessel)
Reactor Vessel Head Penetrations 1 through 65

Code Class: Class 1

Examination Category: B-P

Item Number: B15.10

Description: Alternative Repair Methods for Reactor Vessel Head Penetrations and J-groove Welds

References: ASME Section XI, 2001 Edition through 2003 Addenda
ASME Section III, 1971 Edition through Summer 1972 Addenda

2.0 APPLICABLE CODE EDITION AND ADDENDA

BVPS Unit No. 2 In-Service Inspection and Repair/Replacement Programs: ASME Section XI, 2001 Edition through 2003 Addenda.

BVPS Unit No. 2 Code of Construction (Reactor Vessel): ASME Section III, 1971 Edition through Summer 1972 Addenda.

3.0 APPLICABLE CODE REQUIREMENTS

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:

ASME Section XI, IWA-4421 states, that

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 10CFR50.55a(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.

For defects in base material, ASME Section III, NB-4131 requires that the defects are removed, 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 and, if necessary to satisfy the design thickness requirement of NB-3000, repair welding in accordance with NB-2539.

Similarly, with respect to defects in weld material, ASME Section III, NB-4451 requires that unacceptable defects in weld metal be eliminated and, when necessary, repaired in accordance with NB-4452 and NB-4453.

4.0 REASON FOR REQUEST

To date, reactor vessel head penetration repairs have been performed on four penetrations in the Beaver Valley Unit No. 2 reactor head. Three repairs were implemented during the 2R12 (Fall 2006) Refueling Outage, with an additional repair being required during the 2R13 (Spring 2008) Refueling Outage. All of these repairs were implemented in accordance with Beaver Valley Relief Request BV3-RV-04 (References 1, 2, and 3), which was approved by the NRC (Reference 4) for the Unit No. 2 Second 10-year ISI interval, which expired on August 28, 2008. This new request is being submitted for the Third 10-year ISI interval for a variety of postulated repair scenarios using the embedded flaw repair approach, supported by a combination of generic and plant-specific technical bases. Due to the previous repair history of the Unit No. 2 reactor head, the submittal of a contingency Relief Request is appropriate to forego the need for an expedited request should repairs be required.

During the Beaver Valley Unit No. 2 Third 10-year ISI interval, which began August 29, 2008, FirstEnergy Nuclear Operating Company (FENOC) will be performing examinations of the reactor vessel head in accordance with Code Case N-729-1 with conditions as specified in 10 CFR 50.55a(g)(6)(ii)(D). To address any need to repair

unacceptable indications in reactor head penetrations or J-groove welds at Beaver Valley Unit No. 2, relief is requested from the requirements of ASME Section XI, IWA-4421, IWA-4411, and the applicable sections of the Construction Code. Specifically, relief is requested from the requirements of ASME Section III, NB-4131, NB-2538, and NB-2539 for the removal of base material defects prior to repair by welding and from NB-4451, NB-4452, and NB-4453 for the removal of weld material defects prior to repair by welding.

5.0 PROPOSED ALTERNATIVE AND BASIS FOR USE

The NRC Safety Evaluation for WCAP-15987 (Reference 6) specified the use of "Flaw Evaluation Guidelines," sent to the Nuclear Energy Institute (NEI) by letter dated April 11, 2003 (Reference 9). In lieu of these guidelines, FENOC proposes to follow 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 with conditions.

As an alternative to the defect removal requirements of ASME Section XI and Section III, FENOC proposes the use of the embedded flaw repair process described in WCAP-15987, Revision 2-A (Reference 5) for the repair of unacceptable indications in reactor vessel head penetrations and J-groove welds, as approved by the NRC in correspondence to the Westinghouse Electric Company dated July 3, 2003 (Reference 6). Design, implementation of the repairs, and inspections will be consistent with WCAP-15987 and WCAP-16158-P. Pursuant to 10 CFR 50.55a(a)(3)(i), the alternative is proposed on the basis that it will provide an acceptable level of quality and safety while conserving radiological dose.

5.1 Inside Diameter (ID) Repair Methodology

Consistent with WCAP-15987 methodology, the following repair requirements are proposed for an inside diameter (ID) repair.

An unacceptable axial flaw will be first excavated (or partially excavated) to a depth no greater than 0.125 inches. The excavation will be performed using an Electronic Discharge Machining (EDM) process to minimize penetration tube distortion. After the excavation is complete, either an ultrasonic test (UT) or eddy current test (ECT) will be performed to ensure the entire flaw length is captured. Then Alloy 52M weld material will be applied to fill the excavation. Finally, the finished weld will be examined by dye penetrant test (PT), UT or ECT to ensure acceptability.

If an unacceptable ID circumferential flaw is detected, the flaw will either be repaired in accordance with existing code requirements, or will be partially excavated to reduce the flaw to an acceptable size, examined by UT or ECT, overlaid with Alloy 52M, and examined by PT, UT or ECT as described above.

5.2 Outside Diameter (OD) and J-groove Weld Repair Methodology

Consistent with WCAP-15987 methodology, the following repair requirements are proposed for outside diameter (OD) and J-groove weld repairs.

1. An unacceptable axial or circumferential flaw in a tube below a J-groove attachment weld will be sealed off with Alloy 52M weldment. Excavation or partial excavation of such flaws will not be required, since clearance is not a concern on the outside of a tube.
2. Unacceptable radial flaws in the J-groove attachment weld will be sealed off with a 360 degree overlay of Alloy 52M covering the entire weld. No excavation will be required.
3. Unacceptable axial tube flaws extending into the J-groove attachment weld will be sealed with Alloy 52M as in Item 1 above. In addition, the entire J-groove attachment weld will be overlaid with Alloy 52M to embed the axial crack in the seal weld on the penetration.
4. For weld overlays performed on the J-groove attachment weld, the interface boundary between the J-groove weld and stainless steel cladding will be located with a hand held ferrite meter instrument that identifies this interface boundary. This technique has been successfully used at Beaver Valley Unit 2 for the positive identification of the weld/clad interface to ensure that all of the Alloy 82 material of the J-groove weld is overlaid during the repair. Markings are made to locate the interface as well as a boundary of at least one half inch outboard of the stainless steel clad/82 interface.
5. For all of the above flaw configurations, the finished weld will be examined by PT, UT, and ECT to ensure acceptability. Specifically, the entire surface of the overlay will be examined by PT, with acceptance criteria of "PT White", no indications. Additionally, the penetration tube will be examined from the ID surface using UT and ECT to confirm that the repair process did not introduce any new flaws or adversely change the size or characteristics of the previously identified flaw(s).
6. The embedded flaw repair weld will be three layers thick for applications to the J-groove attachment welds, and at least two layers thick for application to base metal locations.
7. For all embedded flaw repairs, examinations of the overlay and original penetration during subsequent outages will be performed in accordance with the requirements of Code Case N-729-1 with conditions as specified in 10 CFR 50.55a(g)(6)(ii)(D).
8. No attempt will be made to embed an outside diameter circumferential flaw above the J-groove weld. Whenever an embedded flaw repair is planned for a circumferential flaw or a J-groove weld repair, the NRC will be notified.

5.3 Technical Basis for Proposed Alternative

As discussed in WCAP-15987, Revision 2-A, the embedded flaw repair technique is considered a permanent repair for a number of reasons. As long as a Primary Water Stress Corrosion Cracking (PWSCC) flaw remains isolated from the primary water (PW) environment, it cannot propagate. Since Alloy 52 weldment is considered highly resistant to PWSCC, a new PWSCC flaw cannot initiate and grow through the Alloy 52 overlay to reconnect the PW environment with the embedded flaw. Structural integrity of the affected J-groove attachment weld will be maintained by the remaining unflawed portion of the weld. Alloy 690 and Alloy 52 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, indicating 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 this region since cyclic fatigue loading is negligible. Therefore, fatigue driven crack growth is not a mechanism for further crack growth after the embedded flaw repair process is implemented.

The thermal expansion properties of Alloy 52 weld metal are not specified in the ASME Code, as is the case for other weld metals. In this case, the properties of the equivalent base metal (Alloy 690) should be used. For that material, the thermal expansion coefficient at 600 degrees F is $8.2 \text{ E-6 in/in/degree F}$ as found in Section II part D of the Code. The Alloy 600 base metal has a coefficient of thermal expansion of $7.8 \text{ E-6 in/in/degree F}$, 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 attachment 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 WCAP-15987.

The small residual stresses produced by the embedded flaw weld will act constantly, and, therefore, will have no impact on the fatigue effects in this region. Since the stress would be additive to the maximum and minimum stress, the stress range will not change, and the already negligible usage factor for the region will not change.

WCAP-16158-P (Reference 7) provides the plant-specific analysis performed for Beaver Valley Unit No. 2 using the same methodology as WCAP-15987. 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.

Additionally, as specified in Section 5 of Reference 6, the post-repair examinations, consisting of ultrasonic, eddy current and dye penetrant testing, depending on the specific repair configuration, will be performed in accordance with those described in the Westinghouse Electric Company letter to the NRC dated October 1, 2003 (Reference 8). These post-repair examinations have been demonstrated to be adequate for flaw detection and sizing. Additionally, a bare metal visual (BMV) examination of the top of the Beaver Valley Unit No. 2 reactor head is performed each refueling outage, providing additional assurance that any flaws identified in the J-groove weld have not resulted in pressure boundary leakage and/or that any leakage through the J-groove weld has been identified and characterized.

Future inspections of reactor vessel head penetrations and J-groove welds repaired utilizing the embedded flaw repair process, along with submission of any necessary reports, will be in accordance with 10 CFR 50.55a(g)(6)(ii)(D), which requires implementation of Code Case N-729-1 with certain conditions.

The above proposed alternative, as supported by the referenced generic and plant-specific technical bases, is considered to be an alternative to Code requirements that provides an acceptable level of quality and safety.

6.0 DURATION OF THE PROPOSED ALTERNATIVE

The duration of the proposed alternative is for the remainder of the Beaver Valley Unit No. 2 Third 10-year Inservice Inspection Interval, scheduled to end in 2018.

7.0 PRECEDENT

In Reference 6, the NRC generically approved the embedded flaw repair process described in Reference 5. Requests to use the embedded flaw repair process to repair flaws in reactor vessel head penetrations and J-groove welds have been previously approved for Beaver Valley Unit Nos. 1 and 2 (References 1, 2, 3, and 4) and other PWRs on a plant-specific basis. There is no difference between the flaw repair process previously approved for Beaver Valley Unit Nos. 1 and 2 and the flaw repair process described in this request.

8.0 REFERENCES

1. FENOC Letter L-03-056, "Proposed Alternative Repair Methods for Reactor Vessel Head Penetrations (Relief Request No. BV3-RV-04)," March 28, 2003.
2. FENOC Letter L-03-064, "Supplemental Information Supporting Proposed Alternative Repair Methods for Reactor Vessel Head Penetrations (Relief Request No. BV3-RV-04)," April 4, 2003.
3. FENOC Letter L-03-065, "Revision 1 to Reply for Request for Additional Information Regarding Proposed Alternative Repair Methods for Reactor Vessel Head Penetrations (Relief Request No. BV3-RV-04)," April 7, 2003.

4. Beaver Valley Power Station, Units 1 and 2 – Evaluation of Inservice Inspection (ISI) Relief Request BV3-RV-04 (TAC Nos. MB8172 and MB8173), May 14, 2003.
5. Westinghouse WCAP-15987, Revision 2-A, "Technical Basis for the Embedded Flaw Process for Repair of Reactor Vessel Head Penetrations," December 2003.
6. 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.
7. Westinghouse WCAP-16158-P, Revision 0, "Technical Basis for Repair Options for Reactor Vessel Head Penetration Nozzles and Attachment Welds: Beaver Valley Unit 2", November 2003.
8. Letter LTR-NRG-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.
9. Letter from R. J. Barrett (U. S. NRC) to A. Marion (Nuclear Energy Institute), "Flaw Evaluation Guidelines," dated April 11, 2003.

PROPRIETARY INFORMATION – WITHHOLD UNDER 10 CFR 2.390

Enclosure B
L-08-291

Technical Basis for Repair Options for Reactor Vessel Head Penetration
Nozzles and Attachment Welds: Beaver Valley Unit 2 (Proprietary)

Enclosure C
L-08-291

Westinghouse Affidavit

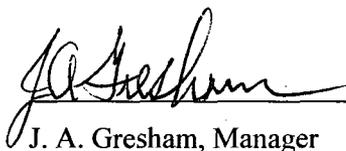
AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

SS

COUNTY OF ALLEGHENY:

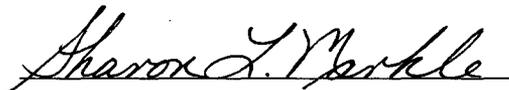
Before me, the undersigned authority, personally appeared J. A. Gresham, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:



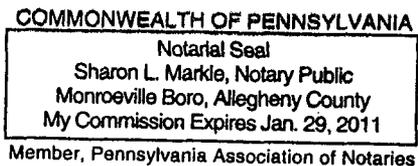
J. A. Gresham, Manager

Regulatory Compliance and Plant Licensing

Sworn to and subscribed before me
this 8th day of September, 2008



Notary Public



- (1) I am Manager, Regulatory Compliance and Plant Licensing, in Nuclear Services, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.
- (2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse "Application for Withholding" accompanying this Affidavit.
- (3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.
- (4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.
 - (i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.
 - (ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

 - (a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

- (b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.
- (c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.
- (d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.
- (e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.
- (f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

- (a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.
- (b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.
- (c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.
- (d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.

- (e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.
- (f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.
- (iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.
- (iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.
- (v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in WCAP-16158-P, "Technical Basis for Repair Options for Reactor Vessel Head Penetration Nozzles and Attachment Welds: Beaver Valley Unit 2" (Proprietary), dated November 2003, being transmitted by FirstEnergy Nuclear Operating Company letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse for Beaver Valley Unit 2 is expected to be applicable for other licensee submittals in response to certain NRC requirements for justification of the technical basis for reactor vessel head penetration nozzle repairs using the embedded flaw repair method.

This information is part of that which will enable Westinghouse to:

- (a) Provide details of the structural integrity of penetration(s) after the intended embedded flaw repair.
- (b) Assist the customer in obtaining NRC approval.

Further this information has substantial commercial value as follows:

- (a) Westinghouse plans to sell the use of similar information to its customers for purposes of meeting NRC requirements for licensing documentation for similar repairs.
- (b) Westinghouse can sell support and defense of the embedded flaw repair intended for Beaver Valley Unit 2.
- (c) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar calculations and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

PROPRIETARY INFORMATION NOTICE

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

COPYRIGHT NOTICE

The reports transmitted herewith each bear a Westinghouse copyright notice. The NRC is permitted to make the number of copies of the information contained in these reports which are necessary for its internal use in connection with generic and plant-specific reviews and approvals as well as the issuance, denial, amendment, transfer, renewal, modification, suspension, revocation, or violation of a license, permit, order, or regulation subject to the requirements of 10 CFR 2.390 regarding restrictions on public disclosure to the extent such information has been identified as proprietary by Westinghouse, copyright protection notwithstanding. With respect to the non-proprietary versions of these reports, the NRC is permitted to make the number of copies beyond those necessary for its internal use which are necessary in order to have one copy available for public viewing in the appropriate docket files in the public document room in Washington, DC and in local public document rooms as may be required by NRC regulations if the number of copies submitted is insufficient for this purpose. Copies made by the NRC must include the copyright notice in all instances and the proprietary notice if the original was identified as proprietary.

FirstEnergy Nuclear Operating Company

Letter for Transmittal to the NRC

The following paragraphs should be included in your letter to the NRC:

Enclosed are:

1. 1 copy of WCAP-16158-P, "Technical Basis for Repair Options for Reactor Vessel Head Penetration Nozzles and Attachment Welds: Beaver Valley Unit 2" (Proprietary)
2. 1 copy of WCAP-16158-NP, "Technical Basis for Repair Options for Reactor Vessel Head Penetration Nozzles and Attachment Welds: Beaver Valley Unit 2" (Non-proprietary)

Also enclosed is Westinghouse authorization letter CAW-08-2471 with accompanying affidavit, Proprietary Information Notice, and Copyright Notice.

As Item 1 contains information proprietary to Westinghouse Electric Company LLC, it is supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b) (4) of Section 2.390 of the Commission's regulations.

Accordingly, it is respectfully requested that the information which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse affidavit should reference CAW-08-2471 and should be addressed to J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Enclosure D
L-08-291

Technical Basis for Repair Options for Reactor Vessel Head Penetration
Nozzles and Attachment Welds: Beaver Valley Unit 2 (Non-Proprietary)