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Director, Site Maintenance

724-682-4862

May 19, 2008
L-08-170

10 CFR 54

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

SUBJECT:

Beaver Valley Power Station, Unit Nos. 1 and 2
BV-1 Docket No. 50-334, License No. DPR-66
BV-2 Docket No. 50-412, License No. NPF-73
Reply to Request for Additional Information for the Review of the Beaver Valley Power Station, Units 1 and 2, License Renewal Application (TAC Nos. MD6593 and MD6594), License Renewal Application Amendment No. 9, and Revised License Renewal Boundary Drawings

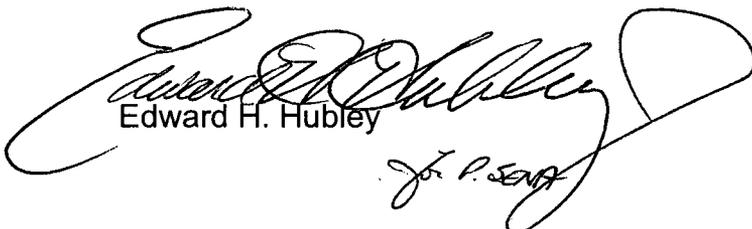
Reference 1 provided the FirstEnergy Nuclear Operating Company (FENOC) License Renewal Application (LRA) for the Beaver Valley Power Station (BVPS). Reference 2 provided LRA Boundary Drawings. Reference 3 requested additional information from FENOC regarding BVPS license renewal scoping in Sections 2.2, 2.3.3.4, 2.3.3.7, 2.3.3.12, 2.3.3.14, 2.3.3.16, 2.3.3.17, 2.3.3.19, and 2.3.3.21 of the BVPS LRA.

The Attachment provides the FENOC reply to the U.S. Nuclear Regulatory Commission request for additional information. Enclosure A provides Amendment No. 9 to the BVPS License Renewal Application. Enclosure B provides revised BVPS LRA Boundary Drawings.

There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Clifford I. Custer, Fleet License Renewal Project Manager, at 724-682-7139.

I declare under penalty of perjury that the foregoing is true and correct. Executed on May 19, 2008.

Sincerely,


Edward H. Hubley

A108
NRR

References:

1. FENOC Letter L-07-113, "License Renewal Application," August 27, 2007.
2. FENOC Letter L-07-118, "License Renewal Application Boundary Drawings," August 27, 2007.
3. NRC Letter, "Request for Additional Information for the Review of the Beaver Valley Power Station, Units 1 and 2, License Renewal Application (TAC Nos. MD6593 and MD6594)," April 17, 2008.

Attachment:

Reply to Request for Additional Information Regarding Beaver Valley Power Station, Units 1 and 2, License Renewal Application, Sections 2.2, 2.3.3.4, 2.3.3.7, 2.3.3.12, 2.3.3.14, 2.3.3.16, 2.3.3.17, 2.3.3.19, and 2.3.3.21

Enclosures:

- A. Amendment No. 9 to the BVPS License Renewal Application
- B. Revised BVPS License Renewal Application Boundary Drawings

cc: Mr. K. L. Howard, NRC DLR Project Manager
Mr. S. J. Collins, NRC Region I Administrator

cc: w/o Attachment or Enclosures
Dr. S. S. Lee, NRC DLR Acting Director
Mr. D. L. Werkheiser, NRC Senior Resident Inspector
Ms. N. S. Morgan, NRC DORL Project Manager
Mr. D. J. Allard, PA BRP/DEP Director
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ATTACHMENT
L-08-170

Reply to Request for Additional Information Regarding
Beaver Valley Power Station, Units 1 and 2,
License Renewal Application,
Sections 2.2, 2.3.3.4, 2.3.3.7, 2.3.3.12, 2.3.3.14,
2.3.3.16, 2.3.3.17, 2.3.3.19, and 2.3.3.21
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Section 2.2, Plant Level Scoping Results

Question RAI 2.2-1

In License Renewal Application (LRA) Table 2.2-2, Mechanical Systems Not Within the Scope of License Renewal, the applicant indicates that the Unit 1 area ventilation systems – Auxiliary Building is not in scope of license renewal. However, in Unit 1 UFSAR Section 9.13.2, the applicant states the Unit 1 area ventilation system – Auxiliary Building has automatic dampers that divert the system's exhaust air stream through one of the supplementary leak collection and release system (SLCRS) filter banks upon a high-high radiation alarm. Additionally, the applicant states that the charging pump cubicles' ventilation subsystem has features that provide a level of fire protection equivalent to Appendix R, Section III.G.2.

Justify why the Unit 1 area ventilation systems - Auxiliary Building is not considered within the scope of license renewal based on criteria 54.4(a)(1)(iii) and 54.4(a)(3), which are to prevent or mitigate the consequences of accidents that could result in potential offsite exposure in excess of limits and to meet fire protection regulations, respectively.

RESPONSE RAI 2.2-1

The diversion of the Beaver Valley Power Station (BVPS) Unit 1 Auxiliary Building ventilation exhaust to and its filtration by the Supplementary Leak Collection and Release System (SLCRS) upon high-high radiation is described in, but not credited by the Unit 1 Updated Final Safety Analysis Report (UFSAR), Section 9.13.2, as a safety-related function, and is not required to limit offsite doses to within limits. The Unit 1 Auxiliary Building ventilation system does not perform any 10 CFR 54.4(a) function. Unit 1 charging pump cubicle ventilation is considered to be part of the SLCRS, and is listed as in-scope for its criterion 54.4(a)(3) fire protection intended function in the BVPS License Renewal Application (LRA), Section 2.3.3.32.

As noted above, the diversion of Unit 1 Auxiliary Building ventilation exhaust to the SLCRS on high-high radiation is not a safety-related function credited by the BVPS current licensing basis (CLB). Clarification is provided by Unit 1 UFSAR, Sections 6.1, 6.6.1, 6.6.3, and 14B.9.3, which state that no credit is taken in the radiological analysis

for filtration by the SLCRS. The only post-fire ventilation systems credited to achieve safe shutdown are those associated with emergency switchgear, diesel generator rooms, control room, charging pump cubicles, and intake structure. The charging pump cubicle ventilation provided by the SLCRS is within scope, but does not rely upon Auxiliary Building ventilation exhaust diversion. Therefore, diversion of Auxiliary Building ventilation exhaust through the SLCRS filter banks is not relied upon to limit offsite exposure per 10 CFR 54.4(a)(1)(iii), and is not credited for compliance with the regulated events cited in 10 CFR 54.4(a)(3).

The SLCRS is within scope; it is shown on License Renewal (LR) Drawing 1-16-1 and described in the BVPS LRA, Section 2.3.3.32. Auxiliary Building ventilation ductwork attached to the SLCRS ventilation ductwork is included within scope for 10 CFR 54.4(a)(2) structural integrity as shown on the same drawing, and is evaluated within the SLCRS for its 10 CFR 54.4(a)(2) function.

Charging pump cubicle ventilation is shown in-scope on LR Drawing 1-16-1 (grids E-1 and F-1), and LRA Section 2.3.3.32 includes the 10 CFR 54.4(a)(3) function for ventilation of the charging pump cubicles.

Question RAI 2.2-2

In LRA Sections 2.4.12 and 2.4.11, the applicant states that the emergency response facility (ERF) Substation Building and ERF Diesel Generator Building structures are in scope of license renewal based on 10 CFR 54.4(a)(3), because they provide structural or functional support required to meet anticipated transient without scram (ATWS) and fire protection. In LRA Section 2.4.11, the applicant states that the ERF Diesel Generator Building houses the nonsafety-related ERF diesel generator (also known as the reserve generator or the black diesel). This generator provides electric power via the ERF substation switchgear to the Unit 1 dedicated auxiliary feedwater pump, the ATWS mitigating system actuating circuitry (AMSAC) panel, and equipment associated with the Unit 2 diesel-driven station air compressor. However, in LRA Table 2.2-2, the ERF fire protection system is identified as a mechanical system not within the scope of license renewal.

Justify the exclusion of the ERF fire protection system, located within the ERF Diesel Generator Building structure, from the scope of license renewal based on 10 CFR 54.4(a)(3).

RESPONSE RAI 2.2-2

The Emergency Response Facility Substation (ERFS) System switchgear components in the ERFS Building, and the Emergency Response Facility (ERF) diesel generator in the ERF Diesel Generator Building, support in-plant equipment used to establish safe shutdown during an in-plant fire by providing a nonsafety-related, independent source of power. The ERFS Building and the ERF Diesel Generator Building contain fire detection and protection equipment that is not in the scope of license renewal because the ERFS System equipment has been evaluated in accordance with 10 CFR 50.48 and documented as not requiring fire protection. The basis for this conclusion is that a coincident ERFS fire and in-plant fire is not postulated. The ERFS is separated from the contiguous plant areas that could require its power to the extent that a fire in those plant areas could not spread to the ERFS and affect its ability to provide power to achieve or maintain safe shutdown. Similarly, a fire in the ERFS resulting in loss of this nonsafety-related power source could not spread to in-plant areas where it could affect the ability to achieve and maintain safe shutdown.

Additionally, Anticipated Transient Without Scram (ATWS) Mitigation System Actuation Circuitry (AMSAC) equipment powered from the ERFS is credited for the mitigation of ATWS events; however, a coincident ERFS fire and an ATWS is not postulated. A fire in the ERFS would not affect the ability to achieve or maintain safe shutdown and would not affect the ability to minimize and control a release of radioactivity.

FirstEnergy Nuclear Operating Company (FENOC) has revised (change notices CN 08-059 and CN 08-060) the BVPS Unit 1 and Unit 2 UFSARs to include the ERFS and ERF Diesel Generator Buildings in Table 9.10-2 (Unit 1) and Table 9.5-12 (Unit 2), "Areas in which Fire Detection / Suppression is Outside the Scope of 50.48 Fire Protection." UFSAR changes are submitted to the NRC in accordance with 10 CFR 50.71(e).

Section 2.3.3.4, Building and Yard Drains System

Question RAI 2.3.3.4-1 (Unit 1)

On license renewal drawing 1-41D-2, the applicant highlights piping and other components of the Turbine and Service Building and yard drains system as being included within the scope of license renewal in accordance with 10 CFR 54.4(a)(2) for spatial concerns. However, at locations D7 and E9, the applicant does not highlight the vents and flanges associated with the following equipment: tank DA-TK-2, oil interceptor DA-SP-1, and flow controller, indicating they are not within the scope for 10 CFR 54.4(a)(2) spatial concerns.

Justify the exclusion of the above-mentioned components from the scope of license renewal.

RESPONSE RAI 2.3.3.4-1 (Unit 1)

The non-highlighted components on LR Drawing 1-41D-2 at DA-TK-2 (grid D7), at DA-SP-1 (grid E9) and at the flow controller (grid E9) are equipment vent lines. The vents contain ambient air and do not have the potential for spatial interaction with safety-related components. Therefore, in accordance with Nuclear Energy Institute (NEI) NEI 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 – The License Renewal Rule," Appendix F, "Industry Guidance on Revised 54.4(a)(2) Scoping Criterion (Non-Safety Affecting Safety)," Paragraph 5.2.2.1, "Systems and Components Containing Air/Gas," the vents are not within the scope of License Renewal.

Section 2.3.3.7, Compressed Air System

Question RAI 2.3.3.7-1 (Unit 2)

On license renewal drawing 2-34-2, the applicant highlights piping from the standby instrument air train that supplies backup containment instrument air as being within the scope of license renewal. The applicant highlights a 1-inch branch line to valve 614 in the Cable Vault Building at location F-5, which has a continuation arrow and note, indicating that it supplies downstream components in the containment penetrations cubicle. Also, the applicant highlights a 1-inch branch line and a ¾-inch branch line in the Auxiliary Building at location E-10, which have continuation arrows, indicating they supply some downstream components. The staff is unable to confirm which components are within the scope of license renewal and subject to an aging management review downstream of these continuation lines.

Describe the components that are connected by the ¾-inch and two 1-inch compressed air branch lines and their intended function or provide a copy of the continuation drawings for these branch lines identifying the components to be included within the scope of license renewal, as appropriate.

RESPONSE RAI 2.3.3.7-1 (Unit 2)

The highlighted flowpath downstream of instrument air system valve 2IAS-614 (in the containment penetrations cubicle) terminates at Chemical and Volume Control System (CVCS) letdown isolation valve 2CHS-AOV204. The two highlighted branch lines on LR

Drawing 2-34-2, grid E-10, supply control air to CVCS charging flow control valve 2CHS-FCV122 and CVCS letdown backpressure control valve 2CHS-PCV145.

Unit 2 relies upon compressed air for operation of selected valves to achieve safe shutdown following a fire in a specific area within containment. The flowpaths that utilize these air-operated valves are associated with CVCS charging and letdown, Residual Heat Removal System flow and temperature control, and Primary Component Cooling Water System supply to the reactor coolant pump thermal barrier heat exchangers.

The air supplies to the remaining air operated valves used to achieve safe shutdown are shown terminating at valve operators on LR Drawing 2-34-10.

Question RAI 2.3.3.7-2 (Unit 2)

In LRA Section 2.3.3.7, the applicant states that the compressed air system provides compressed air to position air-operated valves that are required for post-fire safe shutdown for fire protection in accordance with 10 CFR 54.4(a)(3). On license renewal drawing 2-34-3, between locations B-1 and B-8, the applicant highlights a 3-inch containment instrument air loop header, indicating that it is within the scope of license renewal. The applicant places, at locations B-5 and B-1, two system 2-34 scoping boundary flags on the 3-inch containment instrument air loop header. The downstream section of this piping is not isolable from the part of the header that is within the scope of license renewal should a loss of pressure occur from a break of this downstream 3-inch containment instrument air loop header.

In NUREG-1800, Revision 1, page 2.1-8, the staff guidance for the review of scoping methodology to identify SSCs that are credited by regulated events, states in part, that "all SSCs that are relied upon in the plant's current licensing basis (CLB) (as defined in 10 CFR 54.3), plant-specific operating experience, industry-wide experience (as appropriate), and safety analyses or plant evaluations to perform a function that demonstrates compliance with NRC regulations identified under 10 CFR 54.4(a)(3), are required to be included within the scope of the rule."

On June 20, 2007, San Onofre Nuclear Generating Station Unit 2 experienced a loss of instrument air due to a failure of a joint in its 3-inch instrument air header, which resulted in a reactor trip. This event was reported in a letter regarding Docket No. 50-361, Licensee Event Report Nos. 2007-001 and 2007-002, San Onofre Nuclear Generating Station, Unit 2, dated August 17, 2007 (ML072400282). This event represents relevant industry operating experience of

an instrument air header failure that would be applicable to the Beaver Valley license renewal application.

Justify the exclusion of the entire 3-inch containment instrument air loop header within the scope of license renewal in accordance with 10 CFR 54.4(a)(3).

RESPONSE RAI 2.3.3.7-2 (Unit 2)

In the BVPS LRA, FENOC included in the scope of license renewal only the compressed air flowpaths to selected air-operated valves required to perform a function for safe shutdown, leaving a portion of the 3-inch air loop header and branch lines on the entire flowpath out of scope. The compressed air system scoping is revised to include the remainder of the main air loop header and the branch air lines for the entire flowpath in the scope of license renewal up to and including the first isolation valve from the main flowpath.

The following LR drawings are revised: 2-34-2, 2-34-3, 2-34-10, and 2-34-11. Additionally, this scope expansion resulted in the addition of "Strainer body" and "Trap body" components with a "Pressure boundary" component function. LRA Tables 2.3.3-7 and 3.3.2-7 are revised to include these additions.

See Enclosure A to this letter for the revision to the BVPS LRA.

See Enclosure B to this letter for copies of revised LRA Boundary Drawings.

Question RAI 2.3.3.7-3 (Unit 2)

In LRA Section 2.3.3.7, the applicant states that the Unit 2 compressed air system provides compressed air to position air-operated valves required for post-fire safe shutdown in accordance with 10 CFR 54.4(a)(3).

In Unit 2 UFSAR Section 9.5A.1.2.3.1.12, the applicant states that two station air compressors (2SAS-C21A and 2SAS-C21B) direct air to the required components via a cross-connect to the containment instrument air header station to position several flow control, hand control, and air operated valves that are required for post-fire safe shutdown.

On license renewal drawings 2-34-1A and 2-34-2, the applicant does not highlight the station service air compressors 2SAS-C21A and 2SAS-C21B at locations D-7 and F-7, nor the station service air system piping, air receivers, and air dryer components that connect to the standby instrument air train header.

- a) **Provide an explanation of the apparent difference in the credited source of compressed air for post-fire safe shutdown between the UFSAR and the application.**
- b) **Justify the exclusion of the identified portions of station service air system piping and components on license renewal drawings 2-34-2 and 2-34-1A from the scope of license renewal that are credited for post-fire safe shutdown in accordance with 10 CFR 54.4(a)(3).**

RESPONSE RAI 2.3.3.7-3(a) & (b) (Unit 2)

FENOC no longer credits the station air compressors and associated equipment in achieving safe shutdown at BVPS Unit 2. Instead, the diesel engine driven air compressor is the credited source of compressed air for safe shutdown. A change notice has been approved to modify the text of Unit 2 UFSAR, Section 9.5A.1.2.3.1.12.

Unit 2 UFSAR, Section 9.5A.1.2.3.1.12, describes the function of the Unit 2 Station Service Air System in achieving post-fire safe shutdown. Following installation of a diesel powered air compressor [2IAS-C21] at Unit 2, FENOC approved a change to the Unit 2 Fire Protection Safe Shutdown Report and to the Unit 2 UFSAR to credit the diesel air compressor as the source of compressed (instrument) air used to position several control and air operated valves required for safe shutdown. The change also deleted crediting the station air compressors and associated equipment with this function. Change notice CN 06-575 has been approved by FENOC and represents the current licensing basis. UFSAR changes are submitted to the NRC in accordance with 10 CFR 50.71(e). BVPS Unit 2 UFSAR change notice CN 06-575 includes the following text changes:

1. Section 9.5A.1.2.3.1.12: new text now reads "The instrument air system supplied by diesel driven Standby Instrument Air Compressor 2IAS-C21 is required to position several flow control, hand control, and air operated valves that are required for post-fire safe shutdown. The station instrument air system can supply the containment instrument air header via a cross-connect. The diesel driven Standby Instrument Air Compressor 2IAS-C21 is located in the Turbine Building and has an 8-hour fuel supply. The 8-hour fuel supply is adequate to establish stable plant condition and will be replenished as required to supply residual heat control valves to achieve cold shutdown. The diesel driven Standby Instrument Air Compressor 2IAS-C21 does not require any external support systems to perform its safe shutdown function."
2. Section 9.5A.1.3.42.1: Third and fourth paragraph replaced with "No special protection has been provided for the station service air compressors since the plant can be shut down without station air following a fire in TB-1."
3. Section 9.5A.1.3.54.1: First paragraph now reads "The standby diesel (black diesel) is located in its own building separate from the rest of the plant. The black diesel is

used to provide power to ASP [Alternate Shutdown Panel] transfer relay circuits and certain other control circuits used for post fire safe shutdown.” License Renewal did not assign the supply of power to control circuits as a black diesel function, because this power is considered to be backed up by the ERFs batteries, not the diesel. The batteries and control power distribution is addressed within the LRA electrical section, which uses a bounding approach and doesn't identify specific system functions.

4. Section 9.2.1.1.2 (page 9.2-5): Sub-item no. 4 following the sentence “The SWS [Service Water System] is also designed to perform the following functions as required:” was deleted—“Provide a backup source of cooling water to the station air compressors after a fire in the control building complex (see Fire Protection Evaluation Report for details).”
5. Section 9.2.1.1.2 (page 9.2-6): In the last paragraph, deleted the portion of the sentence which reads, “...and to the station air compressors after a fire in the control building complex (see Fire Protection Evaluation Report for details).”
6. Section 9.2.7.3: In the second paragraph, deleted the portion of the sentence which reads, “...and shutdown after a fire (see Fire Protection Evaluation Report for details).”

Each year following submittal of the license renewal application and at least 3 months before scheduled completion of the NRC review, 10 CFR 54.21(b) requires an amendment to the renewal application be submitted that identifies any change to the CLB of the facility that materially affects the contents of the license renewal application. In accordance with 10 CFR 54.21(b), UFSAR changes that materially affect the content of the application are identified during the annual amendment.

Section 2.3.3.12, Emergency Diesel Generators – Air Start System

Question RAI 2.3.3.12-1 (Unit 1 and Unit 2)

On license renewal drawing 1-36-1 for the emergency diesel generators - air start system, at locations E2, E3, E7, E8, F4, F6, and F9, the applicant highlights strainers and filters as being within the scope of license renewal. Also, on license renewal drawing 2-36-3 for the emergency diesel generators - air start system, at locations B2, D4, E5, B7, D9, and E10, the applicant highlights strainers and filters as being within the scope of license renewal. In LRA Table 2.3.3-12, the applicant identifies that component types “strainer body” and “filter housing” are within the scope of license renewal, for the purpose of a pressure boundary intended function in accordance with 10 CFR 54.4(a)(1). NEI 95-10, Revision 6, Table 4.1-1, Typical Passive Structure and Component Intended Functions, identifies that filtration is an intended function for the

component type, “filter.” However, in LRA Table 2.3.3-12, the applicant does not identify component type “filter” with the intended function of filtration.

Justify the exclusion of the intended function “filtration” for the above mentioned component types, strainers and filters, in the emergency diesel generators – air start system from LRA Table 2.3.3-12.

RESPONSE RAI 2.3.3.12-1 (Unit 1 and Unit 2)

All filter elements, as well as strainer elements that aren't specifically credited with a filtration function, are screened out as short lived. The filter elements in the diesel generator air start system are periodically replaced, and strainer elements are periodically cleaned and inspected, or replaced. These internal filter/strainer elements are not long-lived, and are not subject to aging management review per 10 CFR 54.21(a)(1)(i).

To ensure a comprehensive aging management review, the FENOC screening methodology did not screen out strainer elements when the UFSAR or other CLB documents credited such a function. Where CLB documents specifically credit a filtration function for strainers, the strainer elements were conservatively retained for AMR (not screened out) and a “Filtration” function was assigned.

Question RAI 2.3.3.12-2 (Unit 2)

In Unit 2 UFSAR Section 3.6B.1.3.3.1, the applicant states that for all high-energy lines outside containment, each postulated break type and orientation is investigated to determine if the unrestrained whipping of severed pipe could impact and damage any safety components. In UFSAR Section 3.6B.1.1.1, the applicant defines high-energy piping systems as fluid systems that are either in operation or maintained pressurized under conditions where either or both of the following are met: a maximum operating temperature exceeding 200°F or pressure exceeding 275 psig. The Unit 2 EDG air start system operates at pressures greater than 425 psig and contains fluids; therefore, this system meets the definition of a high-energy piping system. On license renewal drawing 2-36-3, the applicant does not highlight parts of the EDG air start system, indicating it is not within the scope of license renewal.

Justify the exclusion of the non-highlighted EDG air start piping from the scope of license renewal.

RESPONSE RAI 2.3.3.12-2 (Unit 2)

The non-highlighted portion of nonsafety-related diesel generator air start piping is not within the scope of License Renewal, because its failure would not prevent satisfactory accomplishment of any safety-related functions. This conclusion is documented within the BVPS CLB.

The rationale for excluding the non-highlighted air start piping from scope is provided in the response to NRC Interrogatory 430.77, dated September 19, 1983. The Interrogatory Response stated:

“A high energy pipe failure in the diesel generator piping must be postulated to occur as an initiating occurrence during normal plant conditions, in accordance with BTP ASB 3.1, item B.3.a. Normal plant conditions are defined as conditions during reactor startup, operation at power, hot standby, or reactor cooldown to cold shutdown, in accordance with Appendix A of BTP ASB 3.1. [Unit 2 UFSAR] Section 15.0.1.1 classifies these events as Condition I Normal Operation and Operational Transients. A loss of offsite power (LOOP) requiring diesel generator operation, is not classified as a normal plant event. Rather, it is considered in Section 15.0.1.2 as a Condition II event, Faults of Moderate Frequency (see SRP 15.2.6, Loss of Nonemergency AC Power to the Station Auxiliaries). Therefore, if the plant is already in a LOOP condition and requiring diesel generator operation, a coincident high energy pipe failure need not be postulated.”

The NRC accepted this response in the Safety Evaluation Report for the BVPS Unit 2 FSAR (Operating License Stage), dated October, 1985, noting that the information was provided in Amendment 8 of the FSAR.

Section 2.3.3.14, Emergency Diesel Generators – Fuel Oil System

Question RAI 2.3.3.14-1 (Unit 1)

On license renewal drawing 1-36-2 for the emergency diesel generators - fuel oil system, the applicant does not highlight the “diesel generator fuel oil holding tank,” EE-TK-6, at location D4. In UFSAR Section 9.14.6, the applicant describes that the contents of the holding tank are sampled prior to transferring oil to the diesel generator storage tanks.

Justify the exclusion of the diesel generator fuel oil holding tank from the scope of license renewal.

RESPONSE RAI 2.3.3.14-1 (Unit 1)

The Unit 1 diesel generator fuel oil holding tank EE-TK-6 is not safety-related, and is not credited for any license renewal function. Unit 1 UFSAR, Sections 8.5.2.3 and 9.14.4.1, specify that the required fuel oil inventory is provided by the 20,000 gal storage tanks. EE-TK-1A and EE-TK-1B, the diesel fuel storage tanks, are safety-related, and are labeled on LR Drawing 1-36-2 as "20000 gal." Therefore, the required inventory of fuel oil is provided by safety-related EE-TK-1A and EE-TK-1B, and the provision for storing fuel oil prior to transfer to the safety-related tanks is a convenience that assists in establishing the initial condition of adequate credited fuel oil storage. If the holding tank (EE-TK-6) were to fail, or were found to contain fuel oil of inadequate quality, there would be no affect on the ability of the diesel generators to perform their intended function.

Section 2.3.3.16, Emergency Diesel Generators – Water Cooling System

Question RAI 2.3.3.16-1 (Unit 2)

For the emergency diesel generators - water cooling system, the applicant indicates that cooling water is supplied to the turbo chargers for both emergency diesel generator 2EGS-EG2-1 on license renewal drawings 2-36-4A at locations D7 and E7, and for emergency diesel generator 2EGS-EG2-2 on license renewal drawings 2-36-4B at locations D7 and E7.

In LRA Tables 2.3.3-11 and 2.3.3-16, the applicant lists Components Subject to Aging Management Review for the emergency diesel generators - air intake and exhaust system, and the emergency diesel generators - water cooling system, respectively. In LRA Table 2.3.3-11, the applicant includes the component type, "turbo charger housing." In LRA Table 2.3.3-16, the applicant does not include "turbo charger housing" as a component type.

In LRA Tables 3.3.2-11 and 3.3.2-16, the applicant identifies the Summary of Aging Management Evaluations for the emergency diesel generators - air intake and exhaust system and the emergency diesel generators - water cooling system, respectively. In LRA Table 3.3.2-11, the applicant identifies a component type of "turbo charger housing." The applicant does not identify an environment of closed cooling water for "turbo charger housing," and only identifies air as an environment. In addition, in LRA Table 3.3.2-16, pages 3.3-412 through 3.3-422, the applicant does not identify a component type of "turbo charger housing."

Justify the exclusion of the component type "turbo charger housing" from LRA Tables 2.3.3-16 and 3.3.2-16. Justify the exclusion of the associated environment

of “closed cooling water” in LRA Tables 3.3.2-11 and 3.3.2-16, Summary of Aging Management Evaluations.

RESPONSE RAI 2.3.3.16-1 (Unit 2)

A new row for “Turbocharger housing (heat exchanger)” in closed cycle cooling water is added to LRA Table 3.3.2-11, to provide clarity.

The turbocharger housing exhaust gas inlet and outlet sections are water cooled, exposed to diesel exhaust on one side (represented by LRA Table 3.3.2-11, rows 43 and 44), and closed cycle cooling water on the other side. Because this portion of the turbocharger housing is not a separate heat exchanger (with tubes), a separate component entry was not originally generated, and the presentation of the closed cycle cooling water side of this subcomponent was combined with other heat exchangers as “Heat exchanger (header)” (LRA Table 3.3.2-11, row 20). However, this presentation was unclear due to the difference in component name for different surfaces, and a separate row is generated in response to this question to address the turbocharger housing exposed to cooling water.

See Enclosure A to this letter for the revision to the BVPS LRA.

Section 2.3.3.17, Emergency Response Facility Substation System

Question RAI 2.3.3.17-1 (Common)

On license renewal drawing 1-58E-1, at location C-7, the applicant highlights a component labeled “injector,” as being included within the scope of license renewal in accordance with 10 CFR 54.4(a). In LRA Tables 2.3.3-17 and 3.3.2-17, the applicant does not list the injector as a component type with an intended function of pressure boundary.

Clarify that the component type “injector” should be included within the scope of license renewal in LRA Tables 2.3.3-17 and 3.3.2-17, or if “injector” is included within the scope under another component type.

RESPONSE RAI 2.3.3.17-1 (Common)

The injector shown on drawing 1-58E-1, grid C-7, represents the engine’s fuel injectors. The fuel injectors are in scope, but are active subcomponents and are not subject to aging management per 10 CFR 54.21(a)(1)(i).

Question RAI 2.3.3.17-2 (Common)

In the Unit 2 UFSAR Section 9.5A.1.2.3.1.12, the applicant states that the black diesel, located in Unit 1, supplies electric power to the station air compressors subsequent to the loss of offsite power (LOOP). In LRA Section 2.3.3-17, the applicant does not describe this function as a part of the system intended functions in accordance with 10 CFR 54.4 (a)(3).

Justify why the function of the black diesel to supply the station air compressors should not be included as an intended function under 10 CFR 54.4 (a)(3).

RESPONSE RAI 2.3.3.17-2 (Common)

FENOC no longer credits the station air compressors in achieving safe shutdown, and no longer credits the ERFS Diesel Generator with powering the station air compressors at BVPS Unit 2. A change notice, CN 06-575, has been approved by FENOC to modify the text of Unit 2 UFSAR, Section 9.5A.1.2.3.1.12.

Unit 2 UFSAR, Section 9.5A.1.2.3.1.12, describes the function of the Unit 2 Station Service Air System in achieving post-fire safe shutdown. Following installation of a diesel powered air compressor [2IAS-C21] at Unit 2, FENOC approved a change to the Unit 2 Fire Protection Safe Shutdown Report and to the Unit 2 UFSAR to credit the diesel air compressor as the source of compressed (instrument) air used to position several control and air operated valves required for safe shutdown. The change also deleted crediting the station air compressors with this function. Change notice CN 06-575 has been approved by FENOC and represents the current licensing basis. UFSAR changes are submitted to the NRC in accordance with 10 CFR 50.71(e). BVPS Unit 2 UFSAR change notice CN 06-575 includes the following text changes:

1. Section 9.5A.1.2.3.1.12: new text now reads "The instrument air system supplied by diesel driven Standby Instrument Air Compressor 2IAS-C21 is required to position several flow control, hand control, and air operated valves that are required for post-fire safe shutdown. The station instrument air system can supply the containment instrument air header via a cross-connect. The diesel driven Standby Instrument Air Compressor 2IAS-C21 is located in the Turbine Building and has an 8-hour fuel supply. The 8-hour fuel supply is adequate to establish stable plant condition and will be replenished as required to supply residual heat control valves to achieve cold shutdown. The diesel driven Standby Instrument Air Compressor 2IAS-C21 does not require any external support systems to perform its safe shutdown function."
2. Section 9.5A.1.3.42.1: Third and fourth paragraph replaced with "No special protection has been provided for the station service air compressors since the plant can be shut down without station air following a fire in TB-1."
3. Section 9.5A.1.3.54.1: First paragraph now reads "The standby diesel (black diesel) is located in its own building separate from the rest of the plant. The black diesel is

used to provide power to ASP [Alternate Shutdown Panel] transfer relay circuits and certain other control circuits used for post fire safe shutdown." License Renewal did not assign the supply of power to control circuits as a black diesel function, because this power is considered to be backed up by the ERFS batteries, not the diesel. The batteries and control power distribution is addressed within the LRA electrical section, which uses a bounding approach and doesn't identify specific system functions.

4. Section 9.2.1.1.2 (page 9.2-5): Sub-item no. 4 following the sentence, "The SWS [Service Water System] is also designed to perform the following functions as required:" was deleted—"Provide a backup source of cooling water to the station air compressors after a fire in the control building complex (see Fire Protection Evaluation Report for details)."
5. Section 9.2.1.1.2 (page 9.2-6): In the last paragraph, deleted the portion of the sentence which reads, "...and to the station air compressors after a fire in the control building complex (see Fire Protection Evaluation Report for details)."
6. Section 9.2.7.3: In the second paragraph, deleted the portion of the sentence which reads, "...and shutdown after a fire (see Fire Protection Evaluation Report for details)."

Each year following submittal of the license renewal application and at least 3 months before scheduled completion of the NRC review, 10 CFR 54.21(b) requires an amendment to the renewal application be submitted that identifies any change to the CLB of the facility that materially affects the contents of the license renewal application. In accordance with 10 CFR 54.21(b), UFSAR changes that materially affect the content of the application are identified during the annual amendment.

Question RAI 2.3.3.17-3 (Common)

In the Unit 2 Fire Protection Safe Shutdown Report, Section 3.50.3, the applicant states that the black diesel is assumed lost following a fire in Unit 1. However, in LRA Section 2.3.3-17, the applicant states that the black diesel supplies the Unit 1 dedicated nonsafety-related auxiliary feedwater pump with a highly reliable source of electrical power. Explain if the black diesel is assumed lost in a Unit 1 fire, how the diesel can supply power to the Unit 1 dedicated nonsafety-related auxiliary feedwater pump which is credited in a Unit 1 fire that causes the loss of the three safety-related auxiliary feedwater pumps.

RESPONSE RAI 2.3.3.17.3 (Common)

The postulated BVPS Unit 1 fire affecting the ERF diesel (black diesel) that is evaluated in the Unit 2 Fire Protection Safe Shutdown Report is in a different building, separate

and remote from the postulated fire that could affect the Unit 1 safety-related auxiliary feedwater pumps.

The Unit 2 Fire Protection Safe Shutdown Report evaluates the effect of a fire on Unit 2. Section 3.50 evaluates the potential for a fire in Unit 1 to affect the operation of Unit 2. The only Unit 1 fire areas evaluated in the Unit 2 Fire Protection Safe Shutdown Report are the ERFS Building and the ERF Diesel Generator Building. These Unit 1 areas are evaluated for Unit 2 shutdown because the normal source of Unit 2 compressed air is powered from the ERFS.

The ERF diesel generator is credited with providing power to the Unit 1 dedicated auxiliary feedwater (AFW) pump (located in the Turbine Building) in the event of a fire in the Unit 1 auxiliary feedwater pump area (located within the Unit 1 Main Steam Cable Vault area). The ERFS and ERF Diesel Generator Buildings are remote from other plant structures, so a fire that disables the ERFS or ERF diesel generator would not affect other structures. The ERFS and ERF Diesel Generator Buildings are not evaluated as fire areas in the Unit 1 Fire Protection Appendix R Report, as those areas do not support equipment normally used for safe shutdown of Unit 1.

Question RAI 2.3.3.17-AMR-1

In the Unit 1 UFSAR Section 8.4.5, the applicant describes a buried 30,000 gallon fuel oil storage tank. In LRA Table 3.3.2-17, the applicant does not include an exterior environment of soil listed for component type "tank."

Clarify that the 30,000 gallon fuel storage tank is subject to an aging management review or justify its exclusion.

RESPONSE RAI 2.3.3.17-AMR-1

The 30,000 gallon fuel storage tank discussed in the Unit 1 UFSAR, Section 8.4.5, is highlighted in red on license renewal drawing 1-58E-1, and is identified as 1RGF-TK-1. 1RGF-TK-1 is in scope and subject to aging management review.

1RGF-TK-1 is a fiberglass tank located below grade in an enclosure that was backfilled with pea gravel. This external environment was originally labeled Air-indoor uncontrolled (LRA Table 3.3.2-17, row 115) instead of Soil due to the perceived difference between a pea gravel fill and a soil fill. However, to improve the clarity of the presentation in the LRA, Table 3.3.2-17, row 115, is revised to identify a "Soil" external environment for this tank. This revision was re-evaluated in the aging management review support document for the ERFS System, and no aging effects were identified for the fiberglass tank exposed to pea gravel (now presented as "Soil").

See Enclosure A to this letter for the revision to the BVPS LRA.

Section 2.3.3.19, Fuel Pool Cooling and Purification System

Question RAI 2.3.3.19-1 (Unit 1)

In LRA Table 2.4-14 for the Unit 1 Fuel Building and LRA Table 2.4-22 for the Unit 1 Reactor Containment Building, the applicant identifies the spent fuel pool liner and the refueling cavity liner as subject to aging management review with the intended function of structural pressure boundary. On license renewal drawing 1-20-1 for the Unit 1 fuel pool cooling and purification system, the applicant does not highlight the component spent fuel pool skimmer, 1FC-SK-1, at location A3, and associated piping and refueling cavity skimmer 1FC-SK-2 at location A-10. Skimmers 1FC-SK-1 and 1FC-SK-2 appear to be structurally attached to the spent fuel pool liner and refueling cavity liner, respectively.

Justify why skimmers 1FC-SK-1 and 1FC-SK-2, and their associated piping, do not have an intended function of structural pressure boundary.

RESPONSE RAI 2.3.3.19-1 (Unit 1)

The nonsafety-related fuel pool cooling and purification system spent fuel pool and refueling cavity skimmers and their flexible hoses do not have an intended function of structural pressure boundary (or leakage boundary (spatial)) because they cannot leak onto or spray nearby safety-related components, and do not provide mechanical or structural support to the pool or cavity liner.

The skimmers function to remove dust or other floating particles from the water surface. The skimmers float on the water surface and use flexible hoses to connect to nonsafety-related piping connections that penetrate the pool liner. The hoses, being flexible, do not provide mechanical or structural support to the pool or cavity liner or piping. The skimmers and flexible hoses are physically located within the boundaries of the Spent Fuel Pool or Reactor Cavity and are at the terminal end of a flowpath to the suction of the pool purification pumps. Therefore, the skimmers and flexible hose are not above ambient pressure, and a leak in the skimmer or flexible hose would not spray onto any nearby equipment, but would draw in water or air. The skimmers and flexible hoses are therefore not fluid-retaining components that could leak onto, spray, or otherwise interact with nearby safety-related structures or components.

Section 2.3.3.21, Liquid Waste Disposal System

Question RAI 2.3.3.21-1 (Unit 1 and Unit 2)

In LRA Table 2.3.3-21, Components Subject to Aging Management Review, the applicant lists all of the components in the liquid waste disposal system to be within the scope of license renewal with an intended function of "leakage boundary (spatial)." On the license renewal drawings identified below, the applicant does not highlight several components. These identified components are in the same room/building as other components in this system, which are highlighted as being within the scope of license renewal.

Justify the exclusion of the following components from the scope of license renewal for leakage boundary:

<u>Drawing</u>	<u>Location</u>	<u>Component</u>
2-17-1	B-4	tank vent for waste drain tanks TK-21A
	B-1	tank vent for waste drain tanks TK-21B
1-17-1	B-5	tank vent for tank LW-TK-2A
	B-7	tank vent for tank LW-TK-2B
	B-1	tank vent for tank LW-TK-3A
	B-3	tank vent for tank LW-TK-3B
	E-1	tank vent for tank LW-TK-6A
	E-3	tank vent for tank LW-TK-6B
1-17-3	B-4	pipng line with valve 1LW-486.

RESPONSE RAI 2.3.3.21-1 (Unit 1 and Unit 2)

The eight tank vents listed for LR Drawings 1-17-1 and 2-17-1 are not fluid-filled components. Tank vents contain ambient air and do not have the potential for spatial interaction with safety-related components. Therefore, in accordance with NEI 95-10, Appendix F, "Industry Guidance on Revised 54.4(a)(2) Scoping Criterion (Non-Safety Affecting Safety)," Paragraph 5.2.2.1, "Systems and Components Containing Air/Gas," the vents are not within the scope of License Renewal.

Drawing 1-17-3 was revised to include highlighting for the piping line with valve 1LW-486 and was submitted to the NRC via letter L-07-501, titled, "Corrections to the Beaver Valley Power Station License Renewal Application Boundary Drawings," on December 21, 2007.

Question RAI 2.3.3.21-2 (Unit 1)

On license renewal drawing 1-17-2, the applicant highlights expansion joint MEJ-LW-1, at location E-2, which indicates that this expansion joint is within the scope of license renewal in accordance with 10 CFR 54.4(a). However, in LRA Tables 2.3.3-21 and 3.3.2-21, the applicant does not list this component type “expansion joint;” whereas, other LRA tables include component type “expansion joint” in applicable systems.

Justify the exclusion of component type “expansion joint” from the scope of license renewal in LRA Tables 2.3.3-21 and 3.3.2-21.

RESPONSE RAI 2.3.3.21-2 (Unit 1)

LRA Table 2.3.3-21 is revised to include a row for “Expansion joint.” Also, LRA Table 3.3.2-21 is revised to include three rows that summarize the aging evaluation for this expansion joint.

See Enclosure A to this letter for the revision to the BVPS LRA.

ENCLOSURE A

Beaver Valley Power Station (BVPS), Unit Nos. 1 and 2

Letter L-08-170

Amendment No. 9 to the BVPS License Renewal Application

Page 1 of 7

Sections Affected

Table 2.3.3-7

Table 2.3.3-21

Table 3.3.2-7

Table 3.3.2-11

Table 3.3.2-17

Table 3.3.2-21

The Enclosure identifies the correction by Affected License Renewal Application (LRA) Section, LRA Page No., and Affected Paragraph and Sentence. The count for the affected paragraph, sentence, bullet, etc. starts at the top of the affected page. Below each section the reason for the change is identified, and the sentence affected is printed in italics with deleted text lined-out and added text underlined.

<u>Affected LRA Section</u>	<u>LRA Page No.</u>	<u>Affected Paragraph and Sentence</u>
Table 2.3.3-7	Page 2.3-58	13th and 15th Rows, Intended Function

In the BVPS LRA, FENOC included in the scope of license renewal only the compressed air flowpaths to the selected air-operated valves required for the function, leaving a portion of an air loop header and branch lines on the entire flowpath out of scope. The compressed air system scoping is revised to include the remainder of the air loop header and the branch air lines for the entire flowpath in the scope of license renewal up to and including the first isolation valve from the main flowpath. This revision adds a "Pressure boundary" function to the "Strainer body" and "Trap body" components in LRA Table 2.3.3-7, "Compressed Air System Components Subject to Aging Management Review," and Table 2.3.3-7 is revised to read:

<i>Component Type</i>	<i>Intended Function</i>
<i>Strainer body</i>	<i>Leakage boundary (spatial)</i> <i><u>Pressure boundary</u></i>
<i>Trap body</i>	<i>Leakage boundary (spatial)</i> <i><u>Pressure boundary</u></i>

Table 2.3.3-21	Page 2.3-97	New Row
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A new row for "Expansion joint" is added to LRA Table 2.3.3-21, "Liquid Waste Disposal System Components Subject to Aging Management Review," and Table 2.3.3-21 is revised to read:

<i>Component Type</i>	<i>Intended Function</i>
<i><u>Expansion joint</u></i>	<i><u>Leakage boundary (spatial)</u></i>

Affected LRA Section **LRA Page No.** **Affected Paragraph and Sentence**

Table 3.3.2-7 **Page 3.3-262** **4 New Rows**

In the BVPS LRA, FENOC included in the scope of license renewal only the compressed air flowpaths to the selected air-operated valves required for the function, leaving a portion of an air loop header and branch lines on the entire flowpath out of scope. The compressed air system scoping is revised to include the remainder of the air loop header and the branch air lines for the entire flowpath in the scope of license renewal up to and including the first isolation valve from the main flowpath. This revision adds a "Pressure boundary" function to the "Strainer body" and "Trap body" components resulting in four (4) new rows in LRA Table 3.3.2-7, "Auxiliary Systems – Compressed Air Systems – Summary of Aging Management Evaluation." Table 3.3.2-7 is revised to read:

<i>Component Type</i>	<i>Intended Function</i>	<i>Material</i>	<i>Environment</i>	<i>Aging Effect Requiring Management</i>	<i>Aging Management Program</i>	<i>NUREG-1801 Volume 2 Item</i>	<i>Table 1 Item</i>	<i>Notes</i>
<u>Strainer body</u>	<u>Pressure boundary</u>	<u>Steel</u>	<u>Condensation</u>	<u>Loss of material</u>	<u>Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components</u>	<u>VII.G-23 (A-23)</u>	<u>3.3.1-71</u>	<u>A</u>
<u>Strainer body</u>	<u>Pressure boundary</u>	<u>Steel</u>	<u>Air - indoor uncontrolled-EXT</u>	<u>Loss of material</u>	<u>External Surfaces Monitoring</u>	<u>VII.I-8 (A-77)</u>	<u>3.3.1-58</u>	<u>A</u>

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
<u>Trap body</u>	<u>Pressure boundary</u>	<u>Stainless steel</u>	<u>Condensation</u>	<u>Loss of material</u>	<u>Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components</u>	<u>VII.D-4 (AP-81)</u>	<u>3.3.1-54</u>	<u>E, 321</u>
<u>Trap body</u>	<u>Pressure boundary</u>	<u>Stainless steel</u>	<u>Air - indoor uncontrolled-EXT</u>	<u>None</u>	<u>None</u>	<u>VII.J-15 (AP-17)</u>	<u>3.3.1-94</u>	<u>A</u>

Affected LRA Section **LRA Page No.** **Affected Paragraph and Sentence**

Table 3.3.2-11 **Page 3.3-353** **New Row**

The presentation in the LRA of the closed cycle cooling water side of the emergency diesel generator turbocharger housing was unclear. The turbocharger housing is not a separate heat exchanger (with tubes), and the cooling water side of this subcomponent was combined with other heat exchangers as "Heat exchanger (header)" (LRA Table 3.3.2-11, "Auxiliary Systems – Emergency Diesel Generators and Air Intake and Exhaust System – Summary of Aging Management Evaluation," row 20). A new row for "Turbocharger housing (heat exchanger)" in closed cycle cooling water is added to LRA Table 3.3.2-11, to provide clarity. Table 3.3.2-11 is revised to read:

<i>Component Type</i>	<i>Intended Function</i>	<i>Material</i>	<i>Environment</i>	<i>Aging Effect Requiring Management</i>	<i>Aging Management Program</i>	<i>NUREG-1801 Volume 2 Item</i>	<i>Table 1 Item</i>	<i>Notes</i>
<u>Turbocharger housing (Heat exchanger)</u>	<u>Pressure boundary and Heat transfer</u>	<u>Steel</u>	<u>Closed cycle cooling water</u>	<u>Loss of material</u>	<u>Closed-Cycle Cooling Water System</u>	<u>VII.C2-1 (A-63)</u>	<u>3.3.1-48</u>	<u>A</u>

Affected LRA Section **LRA Page No.** **Affected Paragraph and Sentence**

Table 3.3.2-17 **Page 3.3-438** **Row 115**

1RGF-TK-1 is a fiberglass tank located below grade in an enclosure that was backfilled with pea gravel. This external environment was originally labeled Air-indoor uncontrolled (LRA Table 3.3.2-17, "Auxiliary Systems – Emergency Response Facility Substation System (Common) – Summary of Aging Management Evaluation," row 115) instead of Soil due to the perceived difference between a pea gravel fill and a soil fill. However, to improve the clarity of the presentation in the LRA, Table 3.3.2-17, row 115, is revised to identify a "Soil" external environment for this tank. Table 3.3.2-17, row 115, is revised to read:

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Tank (fiberglass)	Pressure boundary	Glass	Air-indoor uncontrolled-EXT Soil-EXT	None	None	VII-J-8 (AP-14) N/A	3.3.1-93 N/A	A G

Affected LRA Section **LRA Page No.** **Affected Paragraph and Sentence**

Table 3.3.2-21 **Page 3.3-506** **3 New Rows**

LRA Table 3.3.2-21, "Auxiliary Systems – Liquid Waste Disposal System – Summary of Aging Management Evaluation," is revised to include three (3) new rows that summarize the aging evaluation for an expansion joint in the Liquid Waste Disposal System. Table 3.3.2-7 is revised to read:

<i>Component Type</i>	<i>Intended Function</i>	<i>Material</i>	<i>Environment</i>	<i>Aging Effect Requiring Management</i>	<i>Aging Management Program</i>	<i>NUREG-1801 Volume 2 Item</i>	<i>Table 1 Item</i>	<i>Notes</i>
<u>Expansion joint</u>	<u>Leakage boundary (spatial)</u>	<u>Nickel alloy</u>	<u>Raw water</u>	<u>Loss of material</u>	<u>Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components</u>	<u>VII.C1-13 (AP-53)</u>	<u>3.3.1-78</u>	<u>E, 316</u>
<u>Expansion joint</u>	<u>Leakage boundary (spatial)</u>	<u>Nickel alloy</u>	<u>Air - indoor uncontrolled-EXT</u>	<u>None</u>	<u>None</u>	<u>VII.J-14 (AP-16)</u>	<u>3.3.1-94</u>	<u>A</u>
<u>Expansion joint</u>	<u>Leakage boundary (spatial)</u>	<u>Nickel alloy</u>	<u>Air with borated water leakage-EXT</u>	<u>None</u>	<u>None</u>	<u>VII.J-16 (AP-18)</u>	<u>3.3.1-99</u>	<u>A, 302</u>

ENCLOSURE B

Beaver Valley Power Station (BVPS), Unit Nos. 1 and 2

Letter L-08-170

Revised License Renewal Application Boundary Drawings

The following License Renewal Application Boundary Drawings
are revised and are enclosed:

LR Drawing 2-34-2	Revision 2
LR Drawing 2-34-3	Revision 7
LR Drawing 2-34-10	Revision 1
LR Drawing 2-34-11	Revision 2

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