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L-03-146

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

Subject: Beaver Valley Power Station, Unit No. 1 and No. 2
BV-1 Docket No. 50-334, License No. DPR-66
BV-2 Docket No. 50-412, License No. NPF-73
License Amendment Request Nos. 315 and 188

Pursuant to 10 CFR 50.90, FirstEnergy Nuclear Operating Company (FENOC) hereby requests an amendment to the above licenses in the form of changes to the Technical Specifications. The proposed amendment revises the action requirements for inoperable containment isolation valves in Technical Specification 3/4.6.3, "Containment Isolation Valves," to more clearly define action requirements for inoperable containment isolation valves. The proposed changes to the action requirements also include provisions for allowing the intermittent unisolating of penetration flow paths which have been isolated per action requirements under administrative control, use of check valves as an isolation device and an increase in the allowed outage time to 72 hours for containment isolation valves associated with closed systems inside containment. The proposed changes will also revise the surveillance requirements for containment isolation valves by removing existing surveillance requirements and providing new surveillance requirements similar to the surveillance requirements provided in NUREG-1431, Revision 2, "Standard Technical Specifications Westinghouse Plants."

The FENOC evaluation of the proposed changes are presented in the Enclosure. The proposed Technical Specification changes are presented in Attachments A-1 and A-2 for BVPS Unit Nos. 1 and 2, respectively. The proposed Technical Specification Bases changes are presented in Attachments B-1 and B-2. The proposed Licensing Requirements Manual changes are presented in Attachments C-1 and C-2. The proposed Technical Specification Bases changes and the proposed Licensing Requirements Manual changes are provided for information only.

The Beaver Valley review committees have reviewed the changes. The changes were determined to be safe and do not involve a significant hazard consideration as defined in 10 CFR 50.92 based on the attached safety analysis and no significant hazard evaluation.

A001
A017

FENOC requests approval of the proposed amendment by June 30, 2004. Once approved, the amendment shall be implemented within 60 days.

No new regulatory commitments are contained in this submittal. If there are any questions concerning this matter, please contact Mr. Larry R. Freeland, Manager, Regulatory Affairs/Performance Improvement at 724-682-5284.

I declare under penalty of perjury that the foregoing is true and correct. Executed on October 17, 2003.

Sincerely,

L. W. Pearce

L. William Pearce

Enclosure:
FENOC Evaluation of the Proposed Changes

Attachments:
A-1 Proposed BVPS Unit 1 Technical Specification Changes
A-2 Proposed BVPS Unit 2 Technical Specification Changes
B-1 Proposed BVPS Unit 1 Technical Specification Bases Changes (for information only)
B-2 Proposed BVPS Unit 2 Technical Specification Bases Changes (for information only)
C-1 Proposed BVPS Unit 1 Licensing Requirements Manual Changes (for information only)
C-2 Proposed BVPS Unit 2 Licensing Requirements Manual Changes (for information only)

c: Mr. T. G. Colburn, NRR Senior Project Manager
Mr. P. C. Cataldo, NRC Sr. Resident Inspector
Mr. H. J. Miller, NRC Region I Administrator
Mr. D. A. Allard, Director BRP/DEP
Mr. L. E. Ryan (BRP/DEP)

ENCLOSURE
FENOC Evaluation of the Proposed Changes

Beaver Valley Power Station
License Amendment Requests
315 (Unit 1) And 188 (Unit 2)

Subject: Application for amendment of the Technical Specifications for Containment Isolation Valves

Table of Contents

Attachments

* Provided for information only

1.0 DESCRIPTION

This is a request to amend Operating Licenses DPR-66 (Beaver Valley Power Station Unit 1) and NPF-73 (Beaver Valley Power Station Unit 2).

The proposed changes will revise the action requirements for inoperable containment isolation valves in Technical Specification 3/4.6.3, "Containment Isolation Valves," to more clearly define action requirements for inoperable containment isolation valves. The proposed changes to the action requirements also include provisions for allowing the intermittent unisolating of penetration flow paths which have been isolated per action requirements under administrative control, use of check valves as an isolation device and an increase in the allowed outage time to 72 hours for containment isolation valves associated with closed systems inside containment. The proposed changes will also revise the surveillance requirements for containment isolation valves by deleting existing surveillance requirements and providing new surveillance requirements similar to the surveillance requirements provided in the Improved Standard Technical Specifications (ISTS) (Reference 2).

2.0 PROPOSED CHANGES

The proposed Technical Specification changes, which are submitted for NRC review and approval, are provided in Attachments A-1 and A-2 for Units 1 and 2 respectively. The changes proposed to the Technical Specification Bases are provided in Attachments B-1 and B-2 for Units 1 and 2 respectively. The changes proposed to the Licensing Requirements Manual (LRM) are provided in Attachments C-1 and C-2 for Units 1 and 2 respectively. The proposed Technical Specification Bases and LRM changes do not require NRC approval. The Beaver Valley Power Station (BVPS) Technical Specification Bases Control Program controls the review, approval and implementation of Technical Specification Bases changes. The BVPS Licensing Document Control Program controls the review, approval and implementation of LRM changes. The Technical Specification Bases and LRM changes are provided for information only.

The proposed changes to the Technical Specifications, Technical Specification Bases and LRM have been prepared electronically. Deletions are shown with a strike-through and insertions are shown with double-underlined text or by

providing a separate text insertion. This presentation allows the reviewer to readily identify the information that has been deleted and added.

To meet format requirements the Index, Technical Specifications, Bases, and LRM pages will be revised and repaginated as necessary to reflect the changes being proposed by this LAR.

The following provides a description of the proposed changes.

Change No. 1

The following General Notes are included into the action requirements of BVPS Unit 1 and Unit 2 Technical Specification 3.6.3.1 for Containment Isolation Valves.

Note 1 - ACTION a is not applicable to penetration flow paths addressed by ACTION c.

Note 2 - ACTION c is only applicable to penetration flow paths with one inoperable containment isolation valve connected to a closed system inside containment.

Note 3 - Penetration flow path(s) except for the containment purge supply and exhaust valve flow paths may be unisolated intermittently under administrative controls.

Note 4 - Separate ACTION statement entry is allowed for each penetration flow path.

Note 5 - Enter applicable ACTION statements for systems made inoperable by containment isolation valves.

The proposed Notes provide clarifications to action requirements consistent with clarification notes included in the ISTS and provide action requirements applicability statements specifying applicable action requirements for penetration flow paths associated with closed systems inside containment and penetration flow paths not associated with closed systems. The Notes also include a provision for allowing penetration flow paths, except for the containment purge supply and

exhaust valve flow paths, to be unisolated intermittently under administrative control. This note would allow the use of penetrations isolated per action requirements to be used for necessary operating functions such as obtaining system fluid and gas samples.

Change No. 2

This proposed change replaces the existing Technical Specification 3.6.3.1 action statements for inoperable containment isolation valves in the BVPS Unit 1 and Unit 2 Technical Specifications with three new action statements providing separate action requirements for penetration flow paths with the following degraded conditions:

- one inoperable containment isolation valve
- two inoperable containment isolation valves
- one inoperable containment isolation valve connected to a closed system inside containment

A new ACTION a is proposed as follows:

a. With one or more penetration flow paths with one containment isolation valve inoperable, isolate the affected penetration flow path within 4 hours by use of at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured; and verify the affected penetration flow path is isolated at least once per 31 days for isolation devices outside containment and prior to entering MODE 4 from MODE 5, if not performed within the previous 92 days, for isolation devices inside containment. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

This proposed new action statement addresses a condition for isolating a penetration flow path with a single inoperable containment isolation valve. The proposed ACTION would require the penetration to be isolated within 4 hours regardless of how the penetration is isolated, by use of a deactivated automatic valve or by use of a closed manual valve or blind flange consistent with the ISTS. Current Technical Specification requirements allow up to 6 hours when using a manual valve or blind flange. ACTION a also provides a new provision which

allows a containment penetration flow path to be isolated by means of a "check valve with flow though the valve secured." A new requirement is also included to verify the affected penetration flow path is isolated once every 31 days for isolation devices outside containment and prior to entering MODE 4 from MODE 5, if not performed within the previous 92 days, for isolation devices inside containment. In addition the current shutdown requirements of current Technical Specification ACTION d is inserted separately into each new proposed action statement.

A new ACTION b is proposed as follows:

b. With one or more penetration flow paths with two containment isolation valves inoperable, isolate the affected penetration flow path within 1 hour by use of at least one closed and deactivated automatic valve, closed manual valve, or blind flange. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

This proposed new action statement addresses a condition involving two containment isolation barriers inoperable in a penetration flow path. This action requires isolating the affected penetration flow path within one hour by use of at least one closed and deactivated automatic valve, closed manual valve, or blind flange.

A new ACTION c is proposed as follows:

c. With one or more penetration flow paths with one containment isolation valve inoperable, isolate the affected penetration flow path within 72 hours by use of at least one closed and deactivated automatic valve, closed manual valve, or blind flange; and verify the affected penetration flow path is isolated at least once per 31 days. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

This proposed new action statement addresses a condition involving inoperable containment isolation valves in a penetration flow path connected to a closed system. The ACTION requires the affected penetrations flow path be isolated within 72 hours by use of at least one closed and deactivated automatic valve, closed manual valve or blind flange and the penetration flow path be verified

isolated at least once per 31 days. The proposed completion time of 72 hours for isolating a penetration associated with a closed system and the 31 day requirement for verifying the penetration is isolated is consistent with the ISTS and Technical Specification Task Force Traveler TSTF-30 (Reference 7).

Change No. 3

This proposed change replaces the existing surveillance requirements for demonstrating containment isolation valve operability, except for the containment isolation valve spring and weight loaded check valves surveillance requirements, with surveillance requirements similar to those provided in the ISTS. Surveillance Requirements 4.6.3.1.1.a.1, 4.6.3.1.1.b, 4.6.3.1.2.a, 4.6.3.1.2.b, 4.6.3.1.2.d, 4.6.3.1.2.f and surveillance statement 4.6.3.1.2 are deleted, Surveillance Requirement 4.6.3.1.1 renumbered and three new proposed surveillance requirements inserted for demonstrating containment isolation valve operability as follows:

SR 4.6.3.1.a

> By verifying each purge supply and exhaust valve is deactivated in the closed position at least once per 31 days for valves outside containment and prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for valves inside containment.

SR 4.6.3.1.c

> By verifying, at the frequency specified in the Inservice Testing Program, the isolation time of each automatic power operated containment isolation valve that is not locked, sealed, or otherwise secured in position, and required to be closed during accident conditions, is within limits.

SR 4.6.3.1.d

> By verifying, at least once per 18 months, each automatic power operated containment isolation valve that is not locked, sealed, or otherwise secured in position, and required to be closed during accident conditions, actuates to the isolation position on an actual or simulated actuation signal.

This change would remove containment isolation valve cycle test surveillance requirements that are redundant to the Inservice Testing Program, remove surveillance requirements which specify post maintenance testing requirements for containment isolation valves and, for Unit 1 only, remove the current cold shutdown or refueling mode restrictions for performance of certain containment isolation valve surveillance requirements.

3.0 BACKGROUND

The containment isolation valves form part of the containment pressure boundary and provide a means for fluid penetrations not serving accident consequence limiting systems to be provided with two isolation barriers that are closed on a containment isolation signal. These isolation devices are either passive or active (automatic). Manual valves, de-activated automatic valves secured in their closed position (including check valves with flow through the valve secured), blind flanges, and closed systems are considered passive devices. Check valves, or other automatic valves designed to close without operator action following an accident, are considered active devices. Two barriers in series are provided for each penetration so that no single credible failure or malfunction of an active component can result in a loss of isolation or leakage that exceeds limits assumed in the safety analyses. One of these barriers may be a closed system. These barriers (typically containment isolation valves) make up the Containment Isolation System.

Automatic isolation signals are produced during accident conditions. Containment Phase "A" isolation occurs upon receipt of a safety injection signal from a containment pressure High, pressurizer pressure low or steamline pressure low condition. The Phase "A" isolation signal isolates nonessential process lines in order to minimize leakage of fission product radioactivity. Containment Phase "B" isolation occurs upon receipt of a containment pressure High-High signal and isolates the remaining process lines, except systems required for accident mitigation. As a result, the containment isolation valves (and blind flanges) help ensure that the containment atmosphere will be isolated from the environment in the event of a release of fission product radioactivity to the containment atmosphere as a result of a Design Basis Accident (DBA).

The operability requirements of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event

of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within specified time limits ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analysis for a loss-of-coolant accident (LOCA).

The following are the design basis for containment isolation:

1. During accident conditions, at least two barriers are provided between the atmosphere outside containment and:

    a. The atmosphere inside the containment

    b. The reactor coolant system

    c. Systems which could become connected to either the containment atmosphere or the reactor coolant system as a result of, or subsequent to, a LOCA.

2. The two barriers consist of one of the following arrangements:

    a. One normally closed, administratively controlled isolation valve inside, and one normally closed, administratively controlled isolation valve outside containment; or

    b. One automatic isolation valve inside and one normally closed, administratively controlled isolation valve outside containment; or

    c. One normally closed, administratively controlled isolation valve inside, and one automatic isolation valve outside containment. A simple check valve may not be used as the automatic isolation valve outside containment; or

    d. One automatic isolation valve inside and one automatic isolation valve outside containment. A simple check valve may not be used as the automatic isolation valve outside containment.

    e. A closed system inside containment and one isolation valve outside containment which is either automatic or normally shut and administratively controlled, or capable of remote manual

operation. A closed system is one which is connected neither to the atmosphere inside the containment nor the reactor coolant system during normal conditions or following a LOCA.

f. In the case of the containment sump suction pipe and valve arrangements, a conservatively designed and fabricated single valve and suction pipe arrangement to prevent gross system leakage. A major portion of this special class piping is encased in the reinforced concrete containment. In Unit 1, minimum lengths of suction piping are employed between the single isolation valve and the point where the piping exits the concrete. In Unit 2, the piping between the outside of the containment wall and the isolation valve (including the valve) is contained within a specially designed encapsulation.

Details of containment isolation arrangements which differ in some manner from the specific arrangements described above and 10CFR50, Appendix A, General Design Criteria 55, 56 and 57 are discussed in the BVPS UFSAR Section 5.3.3 (Unit 1) and Section 6.2.4.2 (Unit 2).

4.0 TECHNICAL ANALYSIS

The following discussions provide an evaluation of each of the proposed changes.

Change No. 1 – Insertion of Action Requirements General Notes into Technical Specification 3.6.3.1

Notes 1 & 2

These notes indicate the applicable new action requirements for inoperable containment isolation valves. These notes are a clarification that is necessary with the revised action requirements since separate action requirements will be applicable to penetration flow paths with an inoperable containment isolation valve connected to a closed system inside containment.

Note 3

This change is a less restrictive change which allows penetrations which have been isolated by Specification 3.6.3.1 action requirements, except for the containment purge and exhaust penetration valve flow paths, to be unisolated intermittently under administrative control. The intermittent unisolating of these penetrations, under administrative control, would provide added operating flexibility by allowing the use of these penetration flow paths for necessary operating functions such as obtaining system fluid and gas samples or allowing water inventory additions to a safety injection accumulator. The proposed change is acceptable because the administrative control requirements for opening these penetration flow paths are sufficient to provide positive control of the isolation valves. The administrative controls that would be used for unisolating these penetrations are the same controls currently used for opening locked or sealed closed valves under administrative control per Specification 3.6.3.1 footnote (*). These administrative controls, as described the Technical Specification Bases for Specification 3.6.3, include the following considerations: (1) stationing an operator, who is in constant communication with the control room, at the valve controls, (2) instructing this operator to close these valves in an accident situation, and (3) assuring that environmental conditions will not preclude access to close the valves and that this action will prevent the release of radioactivity outside the containment. These administrative controls ensure the penetration can rapidly be isolated when a need for containment isolation is indicated.

Due to the size of the containment purge supply and exhaust penetrations, and the fact that these penetrations may exhaust directly from the containment atmosphere to the environment, these penetrations are not allowed to be opened under administrative control. The purge supply and exhaust penetration valves are not used in Modes 1, 2, 3 and 4 and are deactivated in the closed position during plant operation in order to prevent inadvertent operation of the valves. The valves were not evaluated to ensure the capability to close automatically to mitigate a design basis event in Modes 1, 2, 3 and 4. To clearly identify that these valves can not be opened the (*) footnote for intermittently opening locked and sealed closed valves under administrative control is also revised to exclude the containment purge supply and exhaust valves.

Note 4

This proposed change is a clarification with no reduction in existing requirements. This note clarifies that for this Specification separate action statement entry is allowed for each penetration flow path. This is acceptable because the required actions for each action statement provide appropriate compensatory actions for each inoperable containment isolation valve. Complying with the required actions may allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent action statement entry and application of associated required actions. The Note allows the ACTIONS to be applied separately to more than one penetration at the same time and to multiple flow paths within the same penetration.

Note 5

This proposed change is a clarification with no reduction in existing requirements. This note is inserted, consistent with the ISTS presentation, to clearly state that additional action statements may be applicable for affected systems made inoperable by containment isolation valves.

Change No. 2 – Revised Technical Specification 3.6.3.1 Action Statements

Proposed ACTION a

The proposed new ACTION a addresses required actions with one or more penetration flow paths with one inoperable containment isolation valve. The proposed actions are consistent with the current requirements for an inoperable containment isolation valve with the following exceptions.

A more restrictive change is included by requiring the penetration be isolated within 4 hours regardless of how the penetration is isolated. Current TS requirements allow up to 6 hours when using a manual valve or blind flange. This change is consistent with the ISTS.

The proposed action statement includes a less restrictive change by providing a new provision allowing a containment penetration flow path to be isolated by means of a check valve with flow through the valve secured. Check valves are considered automatic valves and are considered deactivated automatic valves secured in their closed position when flow through the valve is secured. Thus, the

proposed change provides an acceptable additional passive isolation device for isolating a penetration flow path. The proposed change is consistent with the use of check valves as acceptable isolation devices in the ISTS.

The proposed action statement also includes a new more restrictive required action when a penetration flow path has been isolated due to an inoperable containment isolation valve. The affected penetration flow path must be verified to be isolated at least once per 31 days for isolation devices outside containment and prior to entering MODE 4 from MODE 5, if not performed within the previous 92 days, for isolation devices inside containment. The verification interval of 31 days for isolation devices outside containment is appropriate considering the fact that the devices are only operated under administrative controls and the probability of their misalignment is low. The time period specified for isolation devices inside containment is considered reasonable in view of the inaccessibility of the isolation devices and the probability of their misalignment is low.

The ISTS action requirements provide actions for one inoperable containment isolation valve in penetration flow paths with two containment isolation valves and actions for one inoperable containment isolation valve in penetration flow paths with one containment isolation valve and a closed system. BVPS, however, has some containment penetrations designed with a single isolation valve and no closed system inside containment. Therefore, the proposed wording for action requirements applicability provided in Notes 1 and 2 is written such that ACTION a would be applicable to all penetration flow paths except penetration flow paths with one containment isolation valve inoperable and connected to a closed system inside containment. This provides an applicable action requirement to those penetration flow paths with a single isolation valve not connected to a closed system inside containment. The penetration flow paths that would be applicable to ACTION a and do not have two isolation barriers are as discussed below.

The Low Head Safety Injection Pumps and Outside Recirculation Spray Pumps suction lines for Unit 1 (penetrations 66, 67, 68 and 69) and the Outside Recirculation Spray Pumps suction lines for Unit 2 (penetrations 66, 67, 68 and 69) are designed with only one containment isolation valve. As described in the Unit 1 and Unit 2 UFSARs, the suction lines for these pumps are conservatively designed to prevent significant system leakage. The major portion of this piping is buried in the reinforced concrete basemat of the containment. The motor-operated isolation valves for the Unit 1 Low Head Safety Injection Pump suction lines are normally

closed and remotely controlled. The motor-operated isolation valves for the Unit 1 and Unit 2 Recirculation Spray Pump suction lines are normally open and remotely controlled. These isolation valves do not receive an automatic safety signal for closure and are in service following a design basis accident. The use of only one containment isolation valve provides a high degree of reliability for supply of water to these pumps for operation following a design basis accident.

The containment pressure monitoring instrument lines (Unit 1 penetrations 55-2, 57-1, 57-2 and 97-3) (Unit 2 penetrations 55b, 57b, 97a and 105c) are 3/8 inch instrument lines open to the containment and are used for containment pressure monitoring. Each of these lines are provided with a flow restriction orifice to limit the amount of release in case of a line rupture. The Unit 1 lines are isolated outside the containment and downstream of the containment pressure transmitters by a normally closed manual valve and pipe cap. The Unit 2 lines are isolated outside containment by a normally open remotely controlled solenoid operated isolation valve.

Application of a four hour allowed outage time for the above penetrations is reasonable since these penetration flow paths remain in service and are not isolated post accident and are conservatively designed to limit the amount of release from the containment in the case of a line rupture following a postulated accident.

This proposed change is acceptable because the proposed ACTION a provides appropriate allowed outage times for loss of one containment isolation barrier and ensures the affected penetration flow path is properly isolated and maintained isolated if the valve can not be restored to operable status within the allowed outage time or the plant is placed in a operating mode where the Limiting Condition for Operation (LCO) is not applicable.

Proposed ACTION b

The proposed new ACTION b addresses required actions with one or more penetration flow paths with two inoperable containment isolation valves. This action requires isolation of the affected penetration flow path within one hour.

The action requirements for BVPS Unit 2 currently require one isolation valve be maintained operable in each affected penetration and does not specify actions to be taken with two inoperable isolation valves in an affected penetration. Therefore entry into Specification 3.0.3 would be required. The proposed change is,

therefore, a less restrictive change from current Technical Specification requirements for Unit 2. Although the BVPS Unit 1 current action requirements do not include the requirement to maintain one isolation valve operable in each affected penetration, the proposed action statement would eliminate ambiguity as to the required actions with two inoperable isolation valves. The proposed change could, therefore be considered a more restrictive change for Unit 1.

The one hour completion time for isolating the affected penetration flow path is consistent with the action requirements of Specification 3.6.1.1 for restoring CONTAINMENT INTEGRITY. No additional requirement for periodic verification of the affected flow path isolation is included in this action since the requirements of ACTION a would remain in effect.

This proposed change is acceptable because the proposed ACTION b ensures that for a condition involving the loss of both penetration flow path barriers, the affected penetration flow path is isolated consistent with the action time limits for restoring CONTAINMENT INTEGRITY or the plant is placed in an operating mode where the LCO is not applicable.

Proposed ACTION c

The proposed new ACTION c addresses required actions with one or more penetration flow paths with one inoperable containment isolation valve that is connected to a closed system inside containment. This action requires isolation of the affected penetration flow path within 72 hours. This proposed change is a less restrictive change from the current Technical Specification requirement which requires the affected penetration be isolated within four hours for any inoperable isolation valve. The proposed change is consistent with Technical Specification Task Force Traveler TSTF-30 which has been incorporated into the ISTS. TSTF-30 revised the completion time to 72 hours for a closed system flow path with an inoperable containment isolation valve.

General Design Criteria 57 allows the use of a closed system in combination with a containment isolation valve to provide two containment barriers against the release of radioactive material following an accident. The 72 hour allowed outage time would provide additional time to perform repairs on a failed containment isolation valve while relying on an intact closed system. The BVPS Unit 1 closed system penetrations that would be applicable to this action requirement are the Main

Steam System, the Main Feedwater/Auxiliary Feedwater Systems, the Steam Generator Blowdown and Steam Generator Blowdown Sample Systems, and the Recirculation Spray Heat Exchangers river water supply and return lines penetrations. The BVPS Unit 2 closed system penetrations that would be applicable to this action requirement are the Main Steam System, the Main Feedwater System, the Auxiliary Feedwater System, the Steam Generator Blowdown and Steam Generator Blowdown Sample System penetrations. The closed systems associated with these penetrations are subject to a Type A containment leak rate test and are designed as safety class 2 and seismic category 1.

This proposed change is acceptable because an allowed outage time of 72 hours is considered appropriate considering the reliability of closed systems to act as a penetration boundary and 72 hours is typically provided for losing one train of redundancy in the Technical Specifications. The verification interval of at least once per 31 days for verifying affected penetration flow paths are isolated ensures isolation devices are properly aligned.

Change No. 3 – Conversion of existing containment isolation valves surveillance requirements to the ISTS surveillances

The evaluation of the proposed changes to the containment isolation valves surveillance requirements are presented below by separating these evaluations into three areas of discussions: insertion of the new proposed surveillance requirements, deletion of current surveillance requirements and ISTS surveillance requirements not included in the proposed changes.

Insertion of new proposed surveillance requirements

Proposed SR 4.6.3.1.a

This new surveillance requirement periodically verifies that the purge supply and exhaust containment isolation valves are deactivated in the closed position. This surveillance requirement is designed to ensure that a gross breach of containment is not caused by an inadvertent or spurious opening of a containment purge supply or exhaust valve. The operation of the containment purge supply and exhaust valves has not been evaluated to confirm the ability to close during a LOCA in time to limit offsite doses. Therefore, these valves are required to be deactivated in the closed position during Modes 1, 2, 3, and 4. While the BVPS Unit 1 and Unit

2 Licensing Requirements Manuals currently requires that these valves be locked shut in Modes 1, 2, 3 and 4, this surveillance requirement is being included into the Technical Specifications for consistency with the ISTS surveillance requirements. The proposed wording modifies the ISTS wording by using the term "deactivated" rather than "sealed" in the closed position. The term "sealed" could imply a leak tightness verification. The leak tightness of these valves is periodically verified by Surveillance Requirement 4.6.1.2 and the BVPS Containment Leakage Rate Testing Program. Since the intent of this surveillance is to verify valve position, the use of the term "deactivated in the closed position" is more appropriate. The ISTS surveillance frequency is also modified by only requiring the inside containment valves to be verified prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days rather than every 31 days. The proposed surveillance frequency provides adequate assurance the valves are maintained in the closed position without unnecessary containment entries or periodic energizing of valve operators to verify valve position.

The proposed surveillance requirement provides adequate controls and periodic verifications to ensure that these valves are not mis-positioned and are in the required accident position for containment isolation.

Proposed SR 4.6.3.1.c

The proposed surveillance requires the isolation time of each automatic power operated containment isolation valve that is not locked, sealed, or otherwise secured in position, and required to be closed during accident conditions be periodically verified to be within limits. The isolation time tests ensures the valves will isolate in a time period consistent with the assumptions of the safety analyses. The proposed surveillance is consistent with the ISTS wording except for the following modifications.

The valves that are required to be tested are those that are "not locked, sealed, or otherwise secured in position" and "required to be closed during accident conditions." The qualifier "not locked, sealed, or otherwise secured in position" is inserted to be consistent with the qualifier provided in the ISTS Surveillance Requirement 3.6.3.8 for verifying containment isolation valves automatic actuations. The qualifier "required to be closed during accident conditions" is inserted because the list of containment isolation valves for which this surveillance applies would include automatic valves that are not required to be closed during

accident conditions (i.e., valves that must automatically open in systems required to mitigate a design basis accident). The automatic containment isolation valves applicable to this surveillance are those which actuate on a Phase A or Phase B containment isolation signal. However, certain containment isolation valves which actuate on a Phase B signal are required to open during accident conditions. Containment isolation valves required to be open during accident conditions do not have a "required" isolation time or actuate on a containment isolation valve signal to support isolating the containment during accident conditions. The required actuations of these valves are addressed in their respective system Technical Specifications, not in the containment isolation valve Technical Specification. As such, the modification to the ISTS clarifies the intent of the surveillances and prevents confusion regarding the requirement stated in the ISTS surveillance to verify the isolation time or actuation of "each" containment isolation valve.

The ISTS frequency for this surveillance is "in accordance with the Inservice Testing Program or 92 days." The proposed surveillance frequency is modified to simply state "at the frequency specified in the Inservice Testing Program." The proposed wording which relies on the Inservice Testing Program to define the surveillance interval for testing valve isolation time is acceptable because the Inservice Testing Program is based on ASME requirements and is required by Technical Specification 4.0.5. The ASME requirements implemented by the Inservice Testing Program provide acceptable standard test intervals to ensure valve operability.

The proposed change is acceptable because the specified surveillance requirement will ensure that the capability of automatic valves to isolate containment flow paths in a time period consistent with the assumptions of the safety analyses is periodically demonstrated.

Proposed SR 4.6.3.1.d

The proposed surveillance requires that each automatic power operated containment isolation valve that is not locked, sealed, or otherwise secured in position, and required to be closed during accident conditions, actuates to the isolation position on an actual or simulated actuation signal at least once per 18 months. The proposed surveillance is consistent with the ISTS wording except for the following modifications.

The corresponding ISTS surveillance is modified by adding that the valves required to be tested are those that are "required to be closed during accident conditions." The basis for inserting this qualifier in the proposed Surveillance Requirement 4.6.3.1.c above also applies for this surveillance.

The corresponding ISTS surveillance is also modified by adding that the automatic valves required to be tested are those that are power operated. The proposed change is necessary because the list of containment isolation valves for which this surveillance is applied includes automatic valves that do not receive a containment isolation signal (i.e., relief valves and check valves) and which are not subject to this surveillance. Relief valves and check valves are considered automatic valves but they do not actuate on an automatic containment isolation signal like most power operated automatic valves. As such, the proposed change to the ISTS clarifies the intent of the surveillance and prevents confusion regarding the requirement stated in the ISTS surveillance to verify that "each" automatic containment isolation valve actuates on an actual or simulated signal.

The proposed change is acceptable because the specified surveillance requirement will ensure that the capability of power operated automatic valves to isolate containment flow paths is periodically demonstrated.

Deletion of current surveillance requirements

SR 4.6.3.1.1.a.1, 4.6.3.1.2.d and 4.6.3.1.2.f – Valve Cycle Tests

These current surveillances require containment isolation valves to be periodically cycled through at least one complete cycle of full travel. The proposed changes would remove these surveillance requirements. The proposed change is therefore a less restrictive change from the current Technical Specification requirements. Note, Surveillance Requirement 4.6.3.1.2.d also requires measurement of valve isolation times. Deletion of this portion of the existing surveillance requirement is discussed separately under SR 4.6.3.1.2.d (Isolation Time Tests).

The proposed surveillance requirements of Specification 3.6.3.1 for Containment Isolation Valves along with the surveillance requirements of Specification 3.6.1.1 for Containment Integrity provide valve position and actuation surveillances that ensure containment penetrations are isolated or can be automatically isolated. The current valve cycle tests are not required to confirm that penetrations are isolated or can be automatically isolated. These surveillances merely verify the capability

of the valves to be cycled. In addition, Specification 4.0.5 and the Inservice Testing Program provide assurances that valves required to be repositioned after an accident are operable and capable of being cycled. This change is acceptable because the deleted surveillances will not reduce the effectiveness of the containment isolation valves surveillance requirements to demonstrate valve operability. With the proposed changes, the Technical Specifications will continue to provide adequate surveillance requirements to ensure containment penetrations are isolated or can be automatically isolated. In addition, the periodic cycling of valves will continue to be performed, as required by Specification 4.0.5 and the Inservice Testing Program which is based on proven industry accepted standards for valve testing.

SR 4.6.3.1.1.b – Post Maintenance Testing Surveillance Requirement

The current surveillance requires that prior to returning an automatic valve, power operated valve or a spring or weight loaded check to service after maintenance, repair, or replacement work on the valve or its associated actuator, control or power circuit, the applicable cycling tests of Surveillance Requirements 4.6.3.1.1.a.1 or 2 be performed and the isolation time be verified. The proposed change would remove this post maintenance testing requirement from the specification. The proposed change is therefore a less restrictive change from the current Technical Specification requirements.

The purpose of this surveillance is to ensure the affected isolation valve remains operable after maintenance. The proposed change is acceptable because the deleted surveillance requirement is not necessary to verify that the equipment used to meet the LCO can perform its required functions. Post maintenance test requirements are understood to apply at all times to all systems and components required operable. Whenever the OPERABILITY of a system or component has been affected by repair, maintenance, modification, or replacement of a component, post maintenance testing is required to demonstrate the OPERABILITY of the system or component. In addition, applicable surveillance requirements must be verified to be met in accordance with Specification 4.0.1. Therefore, required post maintenance testing will continue to be performed and an explicit requirement to verify OPERABILITY for each system or component after maintenance is not necessary.

SR 4.6.3.1.2.a and 4.6.3.1.2.b – Containment Isolation Valves Actuation Tests

These current surveillances contain the requirement to verify the containment isolation valves actuate to their isolation position on a Phase A or Phase B containment isolation signal as applicable. These surveillances are being deleted and are replaced by the new proposed surveillance 4.6.3.1.d. With the proposed change the specific actuation signal (Phase A or Phase B) has been removed and the specific containment isolation signals relocated to the Bases for the surveillance requirement. The proposed change is a less restrictive change since a level of detail is being removed from the Technical Specifications and relocated to the Technical Specification Bases. This change is consistent with the ISTS wording. The removal of this level of detail is acceptable because the removed information will be adequately controlled in the Technical Specification Bases. Changes to the Bases are controlled by the BVPS Technical Specification Bases Control Program which is specified in the Administrative Controls section (Section 6) of the Technical Specifications. This program provides for the evaluation of Bases changes in accordance with 10 CFR 50.59 to ensure the Bases are properly controlled.

The deletion of these surveillances is acceptable because the proposed surveillances retains the requirement to verify the containment isolation valves actuate to their required isolation positions on a containment isolation signal at least once every 18 months. As such, the surveillances will continue to assure the required valves are maintained operable consistent with the assumptions of the safety analyses.

SR 4.6.3.1.2.d – Isolation Time Tests

The current surveillance requires each power operated or automatic containment isolation valve be cycled through one complete cycle of full travel and the isolation time measured every 18 months. This surveillance is being deleted and replaced by the new proposed Surveillance Requirement 4.6.3.1.c. This proposed change is designated as a less restrictive change because it removes specific requirements concerning cycling of the valves and performance of the surveillance on a 18 month frequency that are not included in the proposed new surveillance requirement.

Deletion of this surveillance requirement is acceptable because the new proposed Surveillance Requirement 4.6.3.1.c will continue to require that the isolation times of automatic power operated containment isolation valves that are required to close during accident conditions are periodically measured at least as frequently as currently required. With the proposed change containment isolation valves will continued to be tested at a sufficient frequency to provide assurance that the valves are capable of isolating containment penetration flow paths consistent with the assumptions of the safety analyses. In addition, periodic valve strokes for power operated and automatic containment isolation valves will continue to be performed as required by Specification 4.0.5 and the Inservice Testing Program.

SR 4.6.3.1.2 – Removal of Mode Restrictions for Surveillance Performance (Unit 1)

The current BVPS Unit 1 Surveillance 4.6.3.1.2 specifies that each containment isolation valve shall be demonstrated operable at least once per 18 months during COLD SHUTDOWN or REFUELING MODE. With the proposed changes to the surveillance requirements, the mode limitations to perform 18 month surveillances during COLD SHUTDOWN or REFUELING MODE would be removed for Unit 1. This proposed change is therefore a less restrictive change from the current Technical Specification requirements for Unit 1. These mode limitations were previously removed from Unit 2 in License Amendment No. 118. The corresponding ISTS surveilances are required to be performed once per 18 months.

The restriction to perform certain surveillance tests only during shutdown conditions is intended to ensure the surveillances are performed consistent with safe plant operation. However, many components affected by this restriction are designed such that they may be safely tested at power. As such, many of the components may be tested routinely at power without introducing undue risk to the safe operation of the plant. The proposed change is consistent with the surveillance wording of the ISTS and previous NRC generic guidance regarding specific conditions for performing surveillance requirements.

The proposed change is acceptable because it does not change the scope or frequency of the affected surveillances. The proposed change only deletes the requirement to perform this testing during shutdown conditions. In addition, allowing this testing to be performed either at shutdown or at power does not affect

the applicable safety analysis conclusions and allows shutdown activities to be planned which will help reduce risk and increase equipment availability during shutdowns. Thus, the proposed change will continue to provide adequate assurance the required components are routinely tested to ensure system operability while providing some additional flexibility in planning and scheduling the required testing.

Surveillance Requirements Format Changes

The proposed changes to the surveillance requirements include several format changes including renumbering of surveillance requirements, deletion of surveillance statement 4.6.3.1.2, deletion of an unnecessary repeating of the (*) footnote and relocation of the surveillance frequency for current Surveillance Requirement 4.6.3.1.1.a.2 and 4.6.3.1.2.e into the text of the surveillance requirement. These changes are administrative changes that are necessary with the revised surveillance requirements and do involve any additional technical changes to the requirements.

ISTS Surveillances Not Included in the Proposed Change

The following provides a discussion of ISTS surveillance requirements not included in the proposed changes.

ISTS SR 3.6.3.2

ISTS surveillance 3.6.3.2 specifies that each 8-inch purge valve be verified closed, except when open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open. BVPS Unit 1 and Unit 2 design does not include smaller automatic purge and exhaust valves and therefore this surveillance is not applicable to BVPS.

ISTS SR 3.6.3.3 and 3.6.3.4

ISTS surveillances 3.6.3.3 and 3.6.3.4 requires each containment isolation manual valve and blind flange that is not locked, sealed, or otherwise secured and required to be closed during accident conditions be periodically verified closed except for valves that are open under administrative controls. BVPS Unit 1 and Unit 2

Surveillance Requirement 4.6.1.1.a.1 for demonstrating CONTAINMENT INTEGRITY requires periodic verification that all penetrations not capable of being closed by operable containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except for valves that are open under administrative control. Since Surveillance Requirement 4.6.1.1.a.1 provides the required surveillance of manual valves and blind flanges, the ISTS surveillances are not included in the proposed changes. Relocation of this surveillance to the containment isolation valve specification is not proposed so as to limit the proposed changes to only the containment isolation valve specification.

ISTS SR 3.6.3.7

ISTS surveillance 3.6.3.7 requires that containment purge and exhaust valves with resilient seals be leak tested every 184 days and within 92 days after opening. Although the BVPS containment purge supply and exhaust valves have resilient seals, the current BVPS Technical Specifications only require the valves to be leak tested in accordance with 10 CFR 50 Appendix J. Additional leak rate testing of these valves as specified in the ISTS surveillance 3.6.3.7 is not proposed for the following reasons.

- These valves are maintained in the closed position during Modes 1 through 4 and the proposed Technical Specification changes will require these valves to be deactivated in the closed position during Modes 1 through 4.

- BVPS testing experience with these valves has not indicated the need for increased testing.

ISTS SR 3.6.3.10

ISTS surveillance 3.6.3.10 requires verification that each containment purge valve is blocked to restrict the valve from opening > 50 %. BVPS does not permit opening of the purge supply and exhaust valves in Modes 1 through 4 and therefore this surveillance is not applicable.

ISTS SR 3.6.3.11

ISTS surveillance 3.6.3.11 requires a shield building bypass leakage verification (for dual containment designs). BVPS design does not utilize a shield building and therefore this surveillance is not applicable.

5.0 REGULATORY SAFETY ANALYSIS

These License Amendment Requests propose revising the BVPS Unit 1 and Unit 2 Technical Specifications for Containment Isolation Valves. The proposed changes will revise the action requirements for inoperable containment isolation valves in Technical Specification 3/4.6.3, "Containment Isolation Valves," to more clearly define action requirements for inoperable containment isolation valves. The proposed changes to the action requirements also include provisions for allowing the intermittent unisolating of penetration flow paths which have been isolated per action requirements under administrative control, use of check valves as an isolation device and an increase in the allowed outage time to 72 hours for containment isolation valves associated with closed systems inside containment. The proposed changes will also revise the surveillance requirements for containment isolation valves by deleting existing surveillance requirements and providing new surveillance requirements similar to the surveillance requirements provided in the Improved Standard Technical Specifications (ISTS).

5.1 No Significant Hazards Consideration

FirstEnergy Nuclear Operating Company (FENOC) has evaluated whether or not a significant hazards consideration is involved with the proposed amendments by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change does not involve any changes to plant equipment, system design functions or a change in the methods governing normal plant operation. Therefore, the probability of a malfunction of a structure, system or component to perform its design function will not be increased.

The proposed change modifies existing action requirements for inoperable containment isolation valves. Action requirements and their associated allowed outage times are not initiating conditions for any accident previously evaluated and the accident analyses do not assume that required equipment is out of service prior to the analyzed event. In addition, changes that are consistent with the ISTS have been previously evaluated and found not to adversely affect the safe operation of Westinghouse plants or the initiation of any accident previously evaluated. Based on the conclusions of the plant specific evaluation associated with the changes and the evaluation performed in developing the ISTS, the proposed revised action requirements do not result in operating conditions that will significantly increase the probability of initiating an analyzed event. The revised action requirements provide appropriate remedial actions to be taken in response to the degraded condition considering the operability status of the redundant systems of required features, and the capability of remaining features while minimizing the risk associated with continued operation. As a result, the consequences of any accident previously evaluated are not significantly increased.

The proposed change also modifies and deletes some surveillance requirements. Surveillances are not initiators to any accident previously evaluated. Consequently, the probability of an accident previously evaluated is not significantly increased. The equipment specified in the Limiting Condition for Operation is still required to be operable and capable of performing the accident mitigation functions assumed in the accident analysis. This equipment will continue to be tested in a manner and at a frequency to give confidence that the equipment can perform its assumed safety function. The proposed changes are generally made to conform to the ISTS and have been evaluated to not be detrimental to plant safety. As a result, the proposed surveillance requirement changes do not significantly affect the consequences of any accident previously evaluated. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change does not involve any changes to plant equipment, system design functions or a change in the methods governing normal plant operation. The specification for containment isolation valves provide controls for maintaining the containment pressure boundary. The revised action requirements and revised surveillance requirements are sufficient to ensure the containment isolation valves are capable of performing their accident mitigation functions. No new accident initiators are introduced by these changes. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The revised action requirements do not involve a significant reduction in the margin of safety. The proposed actions for inoperable containment isolation valves minimize the risk of continued operation under the specified conditions, considering the operability status of the redundant containment isolation barriers, a reasonable time for repairs or replacement of the isolation feature, and the low probability of a design basis accident occurring during the repair period.

The revised surveillance requirements do not involve a significant reduction in the margin of safety. The proposed surveillance requirements provide the required verifications for ensuring containment isolation valves operability. Containment isolation valve testing will continue to be performed in a manner and at a frequency necessary to give confidence that the equipment can perform its assumed safety function.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, FENOC concludes that the proposed amendments present no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements/Criteria

In the following paragraphs applicable criteria as they are related to the proposed changes are discussed. A summary of the applicable criteria and assessment of the impact to the BVPS design conformance are provided in the following tables.

General Design Criteria		Assessment
1	Quality Standards and Records	No Impact
2	Protection Against Natural Phenomena	No Impact
4	Environmental and Missile Design	No Impact
16	Containment Design	No Impact
54	Piping Systems Penetrating Containment	No Impact
55	Reactor Coolant Pressure Boundary Penetrating Containment	No Impact
56	Primary Containment Isolation	No Impact
57	Closed Systems Isolation Valves	No Impact

10 CFR 50		Assessment
Appendix J	Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors	No Impact

The proposed change revises the action requirements for inoperable containment isolation valves and revises the surveillance requirements for demonstrating containment isolation valve operability. These changes do not involve changes to the physical arrangement of the containment penetrations or impact the design function of the containment isolation system. The proposed changes will continue to assure the containment isolation valves are capable of performing their accident mitigation function. Thus, the proposed changes do not impact the design or performance characteristics of the containment isolation system.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the

amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

7.0 REFERENCES

1. 10 CFR 50, Appendix A, "General Design Criteria for Nuclear Power Plants."

2. NUREG-1431, Revision 2, "Standard Technical Specifications Westinghouse Plants," April 2001.

3. NUREG-0800, "Standard Review Plan," Section 6.2.4, "Containment Isolation System."

4. BVPS Unit 1 UFSAR, Section 5.3, "Containment Isolation System."

5. BVPS Unit 2 UFSAR, Section 6.2.4, "Containment Isolation System."

6. NRC Generic Letter 91-08, "Removal of Component Lists from Technical Specifications," dated May 6, 1991.

7. Industry/TSTF Standard Technical Specification Change Traveler TSTF-30, "Extend the Completion Time for inoperable isolation valve to a closed system to 72 hours," Revision 3.

Attachment A-1

Beaver Valley Power Station, Unit No. 1
Proposed Technical Specification Changes

License Amendment Request No. 315

The following is a list of the affected pages:

3/4 6-17
3/4 6-18

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3.1 Each containment isolation valve shall be OPERABLE.*

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

~~With one or more of the isolation valve(s) inoperable, either:~~

~~a. Restore the inoperable valve(s) to OPERABLE* status within 4 hours, or~~

INSERT 1

~~b. Isolate the affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or~~

~~c. Isolate the affected penetration within 6 hours by use of at least one closed manual valve or blind flange; or~~

~~d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

SURVEILLANCE REQUIREMENTS

4.6.3.1~~.1~~ Each containment isolation valve shall be demonstrated OPERABLE*:

INSERT 2

~~a. At least once per 92 days by:~~

~~1. Cycling each OPERABLE power operated or automatic valve testable during plant operation through at least one complete cycle of full travel.~~

* Locked or sealed closed valves, except for the containment purge supply and exhaust valves, may be opened on an intermittent basis under administrative control.

SURVEILLANCE REQUIREMENTS (Continued)

b~~2~~. By, at least once per 92 days, ~~C~~cycling each weight or spring loaded check valve testable during plant operation, through one complete cycle of full travel and verifying that each check valve remains closed when the differential pressure in the direction of flow is < 1.2 psid and opens, when the differential pressure in the direction of flow is > 1.2 psid but less than 6.0 psid.

INSERT 3

~~b. Immediately prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of the applicable cycling test, above, and verification of isolation time.~~

~~4.6.3.1.2 Each containment isolation valve shall be demonstrated OPERABLE* during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:~~

~~a. Verifying that on a Phase A containment isolation test signal, each Phase A isolation valve actuates to its isolation position.~~

~~b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.~~

~~c. Deleted.~~

~~d. Cycling each power operated or automatic valve through at least one complete cycle of full travel and measuring the isolation time.~~

e. By, at least once per 18 months, ~~C~~cycling each weight or spring loaded check valve not testable during plant operation, through one complete cycle of full travel and verifying that each check valve remains closed when the differential pressure in the direction of flow is < 1.2 psid and opens when the differential pressure in the direction of flow is ≥ 1.2 psid but less than 6.0 psid.

~~f. Cycling each manual valve not locked, sealed or otherwise secured in the closed position through at least one complete cycle of full travel.~~

~~* Locked or sealed closed valves may be opened on an intermittent basis under administrative control.~~

ATTACHMENT A-1

INSERT 1

- - - - - - - - - - - - - - - -GENERAL NOTES - - - - - - - - - - - - - - - -

1. ACTION a is not applicable to penetration flow paths addressed by ACTION c.

2. ACTION c is only applicable to penetration flow paths with one inoperable containment isolation valve connected to a closed system inside containment.

3. Penetration flow path(s) except for the containment purge supply and exhaust valve flow paths may be unisolated intermittently under administrative controls.

4. Separate ACTION statement entry is allowed for each penetration flow path.

5. Enter applicable ACTION statements for systems made inoperable by containment isolation valves.

- -

a. With one or more penetration flow paths with one containment isolation valve inoperable, isolate the affected penetration flow path within 4 hours by use of at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured; and verify the affected penetration flow path is isolated at least once per 31 days for isolation devices outside containment and prior to entering MODE 4 from MODE 5, if not performed within the previous 92 days, for isolation devices inside containment. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one or more penetration flow paths with two containment isolation valves inoperable, isolate the affected penetration flow path within 1 hour by use of at least one closed and deactivated automatic valve, closed manual valve, or blind flange. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With one or more penetration flow paths with one containment isolation valve inoperable, isolate the affected penetration

ATTACHMENT A-1

INSERT 1 (continued)

flow path within 72 hours by use of at least one closed and deactivated automatic valve, closed manual valve, or blind flange; and verify the affected penetration flow path is isolated at least once per 31 days. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

INSERT 2

a. By verifying each purge supply and exhaust valve is deactivated in the closed position at least once per 31 days for valves outside containment and prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for valves inside containment.

INSERT 3

c. By verifying, at the frequency specified in the Inservice Testing Program, the isolation time of each automatic power operated containment isolation valve that is not locked, sealed, or otherwise secured in position, and required to be closed during accident conditions, is within limits.

d. By verifying, at least once per 18 months, each automatic power operated containment isolation valve that is not locked, sealed, or otherwise secured in position, and required to be closed during accident conditions, actuates to the isolation position on an actual or simulated actuation signal.

Attachment A-2

Beaver Valley Power Station, Unit No. 2
Proposed Technical Specification Changes

License Amendment Request No. 188

The following is a list of the affected pages:

3/4 6-15
3/4 6-16

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3.1 Each containment isolation valve shall be OPERABLE*.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

~~With one or more of the isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and:~~

~~a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or~~

INSERT 1

~~b. Isolate the affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or~~

~~c. Isolate the affected penetration within 6 hours by use of at least one closed manual valve or blind flange; or~~

~~d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

SURVEILLANCE REQUIREMENTS

4.6.3.1~~.1~~ Each containment isolation valve shall be demonstrated OPERABLE*:

~~a. At least once per 92 days by:~~ ← INSERT 2

~~1. Cycling each OPERABLE power operated or automatic valve testable during plant operation through at least one complete cycle of full travel.~~

b~~2~~. By, at least once per 92 days, ~~c~~cycling each weight or spring loaded check valve testable during plant operation, through one complete cycle of full travel and verifying that each check valve remains closed when the differential pressure in the direction of flow is < 1.2 psid and opens when the differential pressure in the direction of flow is ≥ 1.2 psid but less than 6.0 psid.

INSERT 3 →

~~b. Immediately prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of the applicable cycling test, above, and verification of isolation time.~~

* Locked or sealed closed valves, except for the containment purge supply and exhaust valves, may be opened on an intermittent basis under administrative control.

SURVEILLANCE REQUIREMENTS (Continued)

~~4.6.3.1.2 Each containment isolation valve shall be demonstrated OPERABLE* at least once per 18 months by:~~

~~a. Verifying that on a Phase A containment isolation test signal each Phase A isolation valve actuates to its isolation position.~~

~~b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.~~

~~c. Deleted.~~

~~d. Cycling each power operated or automatic valve through at least one complete cycle of full travel and measuring the isolation time pursuant to Specification 4.0.5.~~

e. By, at least once per 18 months, ~~C~~cycling each weight or spring loaded check valve not testable during plant operation, through one complete cycle of full travel and verifying that each check valve remains closed when the differential pressure in the direction of flow is < 1.2 psid and opens when the differential pressure in the direction of flow is ≥ 1.2 psid but less than 6.0 psid.

~~f. Cycling each manual valve not locked, sealed or otherwise secured in the closed position through at least one complete cycle of full travel.~~

~~* Locked or sealed closed valves may be opened on an intermittent basis under administrative control~~.

ATTACHMENT A-2

INSERT 1

- - - - - - - - - - - - - - - -GENERAL NOTES - - - - - - - - - - - - - - - -

1. ACTION a is not applicable to penetration flow paths addressed by ACTION c.

2. ACTION c is only applicable to penetration flow paths with one inoperable containment isolation valve connected to a closed system inside containment.

3. Penetration flow path(s) except for the containment purge supply and exhaust valve flow paths may be unisolated intermittently under administrative controls.

4. Separate ACTION statement entry is allowed for each penetration flow path.

5. Enter applicable ACTION statements for systems made inoperable by containment isolation valves.

- -

a. With one or more penetration flow paths with one containment isolation valve inoperable, isolate the affected penetration flow path within 4 hours by use of at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured; and verify the affected penetration flow path is isolated at least once per 31 days for isolation devices outside containment and prior to entering MODE 4 from MODE 5, if not performed within the previous 92 days, for isolation devices inside containment. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one or more penetration flow paths with two containment isolation valves inoperable, isolate the affected penetration flow path within 1 hour by use of at least one closed and deactivated automatic valve, closed manual valve, or blind flange. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With one or more penetration flow paths with one containment isolation valve inoperable, isolate the affected penetration

ATTACHMENT A-2

INSERT 1 (continued)

flow path within 72 hours by use of at least one closed and deactivated automatic valve, closed manual valve, or blind flange; and verify the affected penetration flow path is isolated at least once per 31 days. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

INSERT 2

a. By verifying each purge supply and exhaust valve is deactivated in the closed position at least once per 31 days for valves outside containment and prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for valves inside containment.

INSERT 3

c. By verifying, at the frequency specified in the Inservice Testing Program, the isolation time of each automatic power operated containment isolation valve that is not locked, sealed, or otherwise secured in position, and required to be closed during accident conditions, is within limits.

d. By verifying, at least once per 18 months, each automatic power operated containment isolation valve that is not locked, sealed, or otherwise secured in position, and required to be closed during accident conditions, actuates to the isolation position on an actual or simulated actuation signal.

Attachment B-1

Beaver Valley Power Station, Unit No. 1
Proposed Technical Specification Bases Changes

License Amendment Request No. 315

The following is a list of the affected pages:

B 3/4 6-12

3/4.6.2.3 CHEMICAL ADDITION SYSTEM (Continued)

maintained because of the increase in pH value, and 2) corrosion effects on components within containment are minimized. These assumptions are consistent with the iodine removal efficiency assumed in the accident analyses.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analysis for a LOCA.

The opening of locked or sealed closed containment isolation valves on an intermittent basis under administrative control includes the following considerations: (1) stationing an operator, who is in constant communication with the control room, at the valve controls, (2) instructing this operator to close these valves in an accident situation, and (3) assuring that environmental conditions will not preclude access to close the valves and that this action will prevent the release of radioactivity outside the containment.

3/4.6.4 COMBUSTIBLE GAS CONTROL

INSERT 1

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with 1) zirconium-water reactions, 2) radiolytic decomposition of water, and 3) corrosion of metals within containment. These hydrogen control systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA."

The hydrogen recombiner system is designed to maintain the hydrogen concentration in the containment structure below 4 volume percent following a LOCA. The specified system flow rate (50 scfm) is the flow at post LOCA containment conditions (13 psia and 130°F) assumed in the design analysis to assure the hydrogen concentration is maintained below 4 volume percent following a LOCA.

The equation specified below shall be used when performing Surveillance 4.6.4.2.b.3 to correct the flow measured under test conditions to the corresponding flow at design basis post accident containment conditions of 13 psia and 130°F.

ATTACHMENT B-1
INSERT 1

Provided for Information Only.

ACTION Requirements

The ACTION requirements are modified by the following general notes:

Notes:

1. This note indicates that ACTION a is not applicable to penetration flow paths addressed by ACTION c. For penetration flow paths that use one containment isolation valve and a closed system inside containment for the required isolation barriers, ACTION c provides the appropriate actions for an inoperable containment isolation valve.

2. This note indicates ACTION c is only applicable to penetration flow paths with one inoperable containment isolation valve connected to a closed system inside containment. This note is necessary since ACTION c is written to specifically address an inoperable containment isolation valve in those penetration flow paths that use one containment isolation valve and a closed system as the required isolation barriers. Containment penetrations that credit a closed system for the isolation barrier inside containment are those penetrations that have the inside containment isolation valve identified as a closed system in the Licensing Requirement Manual Table 5.1-1.

3. This note allows penetration flow paths, except for the containment purge supply and exhaust valve penetration flow paths, to be unisolated intermittently under administrative controls. The administrative controls described above for opening of locked or sealed closed containment isolation valves on an intermittent basis are also applicable to unisolating penetration flow paths closed to comply with ACTION requirements. Due to the size of the containment purge and exhaust line penetrations, the fact that those penetrations may exhaust directly from the containment atmosphere to the environment and that operation of the purge supply and exhaust isolation valves have not been evaluated to confirm their ability to close during a LOCA in time to limit offsite doses, the penetration flow paths containing these valves may not be opened under administrative controls.

4. This note provides clarification that, for this Limiting Condition for Operation, separate ACTION statement entry is allowed for each penetration flow path. This is acceptable, since the required ACTIONS for each ACTION statement provide appropriate compensatory actions for each inoperable containment isolation valve. Complying with the required ACTIONS may allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent ACTION statement entry and application of associated required actions. The Note allows the ACTIONS to be applied separately to more than one penetration at the same time and to multiple flow paths within the same penetration.

Provided for Information Only.

ACTION Requirements (Continued)

5. This note ensures appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

The term "penetration flow paths" used in the ACTION statements is intended to more accurately address containment penetrations that may have more than one flow path. For example, the RCS letdown penetration has three parallel power operated automatic inside containment isolation valves and a single series power operated automatic outside containment isolation valve. This penetration has three normal flow paths associated with it. Each inside power operated automatic containment isolation valve is in series with the single outside containment isolation valve and constitutes a separate flow path. The ACTIONS specifically require the "affected" flow path to be isolated. The ACTIONS may be applied separately to each flow path in this penetration. In the example of the RCS letdown penetration described above, if one of the three inside isolation valves is inoperable, it becomes the "affected" flow path and in accordance with the ACTIONS must be isolated. Isolating the "affected" flow path in this example may be accomplished by closing the inoperable inside containment isolation valve. As the inside and outside containment isolation valves in this case are associated with opposite trains, for both the electric power source and the isolation signal, the remaining two flow paths associated with this penetration may remain inservice since the capability to isolate these remaining flow paths, assuming a single active failure, is unaffected. However, if the single outside RCS letdown isolation valve becomes inoperable, the capability to isolate all the flow paths associated with this penetration, assuming a single failure, would no longer exist. Therefore, all flow paths associated with this penetration would be "affected" and the ACTION to isolate the "affected" flow paths would be applicable to all flow paths associated with this penetration.

ACTIONS

a. In the event one containment isolation valve in one or more penetration flow paths is inoperable; the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and deactivated automatic containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. Check valves are considered automatic valves and are considered deactivated automatic valves secured in their closed position when flow through the valve is secured. For a penetration flow path isolated in accordance with ACTION a, the device used to isolate the penetration should be the closest available one to containment.

Provided for Information Only.

ACTIONS (Continued)

The use of check valves with flow through the valve secured as an isolation barrier per Action a is limited to those check valves used as the inside containment isolation valve for the affected penetration flow path. This limitation ensures that the use of check valves as an isolation barrier is consistent with the requirements of 10CFR50, Appendix A, Criterion 55 and 56. When using check valves as the isolation barrier, action must be taken to secure flow through the check valve. The action taken to secure flow may use methods such as (but is not limited to) the closure of another valve in the affected penetration flow path. The method used to secure flow to the check valve must not be adversely affected by a single active failure.

ACTION a must be completed within 4 hours. The 4 hour time limit is reasonable, considering the time required to isolate the penetration and the relative importance of supporting CONTAINMENT INTEGRITY during MODES 1, 2, 3, and 4.

For affected penetration flow paths that cannot be restored to OPERABLE status within 4 hours and that have been isolated in accordance with ACTION a, the affected penetration flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that containment penetrations required to be isolated following an accident and no longer capable of being automatically isolated will be in the isolation position should an event occur. This action does not require any testing or device manipulation. Rather, it involves verification, through a system walkdown, that those isolation devices outside containment and capable of being mispositioned are in the correct position. The verification interval of "at least once per 31 days for isolation devices outside containment" is appropriate considering the fact that the devices are operated under administrative controls and the probability of their misalignment is low. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

b. With one or more penetration flow paths with two containment isolation valves inoperable, the affected penetration flow path must be isolated within 1 hour. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and deactivated automatic valve, a closed manual

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ACTIONS (Continued)

valve, and a blind flange. The 1 hour time limit is consistent with Specification 3.6.1.1 for restoring CONTAINMENT INTEGRITY. In the event the affected penetration is isolated in accordance with ACTION b, the affected penetration must be verified to be isolated on a periodic basis per ACTION a, which remains in effect. This periodic verification is necessary to assure leak tightness of containment and that penetrations requiring isolation following an accident are isolated. The verification interval of at least once per 31 days for verifying each affected penetration flow path is isolated is appropriate considering the fact that the valves are operated under administrative control and the probability of their misalignment is low.

c. With one or more penetration flow paths with one containment isolation valve inoperable, the inoperable valve flow path must be restored to OPERABLE status or the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and deactivated automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration flow path. ACTION c must be completed within the 72 hour time limit. The specified time period is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of maintaining containment integrity during MODES 1, 2, 3, and 4. In the event the affected penetration flow path is isolated in accordance with ACTION c, the affected penetration flow path must be verified to be isolated on a periodic basis. This periodic verification is necessary to assure leak tightness of containment and that penetrations requiring isolation following an accident are isolated. The verification interval of at least once per 31 days for verifying each affected penetration flow path is isolated is appropriate considering the fact that the valves are operated under administrative control and the probability of their misalignment is low.

Surveillance Requirements(SR)

SR 4.6.3.1.a

Each containment purge supply and exhaust valve is required to be verified deactivated in the closed position at least once every 31 days for valves outside containment and prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for valves inside containment. This surveillance is designed to ensure that a gross breach of containment is not caused by an inadvertent or spurious opening of a containment

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Surveillance Requirements (Continued)

purge supply or exhaust valve. The operation of the containment purge supply and exhaust valves has not been evaluated to confirm the ability to close during a LOCA in time to limit offsite doses. Therefore, these valves are required to be deactivated in the closed position during MODES 1, 2, 3, and 4. A containment purge supply or exhaust valve that is deactivated in the closed position must have motive power to the valve operator removed. This can be accomplished by de-energizing the source of electric power or by removing control power to the valve operator.

SR 4.6.3.1.b

Check valves that serve a containment isolation function are weight or spring loaded to maintain positive closure when the differential pressure tending to open the check valve is less than 1.2 psid. This ensures that these check valves will remain closed when the inside containment atmosphere returns to subatmospheric conditions following a DBA. SR 4.6.3.1.b requires verification of the operation of the check valves that are testable during unit operation. The frequency of 92 days is consistent with the Inserice Testing Program requirements for valve testing on a 92 day frequency.

SR 4.6.3.1.c

Verifying that the isolation time of each automatic power operated containment isolation valve required to be closed during accident conditions is within limits is required to demonstrate OPERABILITY. Automatic power operated containment isolation valves required to be closed during accident conditions close on a Phase A or Phase B containment isolation signal. This surveillance requirement ensures that each power operated containment isolation valve which is required to be closed during accident conditions will isolate in a time period consistent with the assumptions of the safety analyses. This surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative control. The frequency of this surveillance requirement is in accordance with the Inservice Testing Program.

SR 4.6.3.1.d

Automatic power operated containment isolation valves required to be closed during accident conditions close on a Phase A or Phase B containment isolation signal to prevent leakage of radioactive material from containment following a DBA. This surveillance requirement ensures that each automatic power operated containment isolation valve required to be closed during accident conditions will actuate to its isolation position on a Phase A or Phase B containment isolation signal. This surveillance is not required for valves that are locked,

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Surveillance Requirements (Continued)

sealed, or otherwise secured in the required position under administrative controls. The 18 month frequency is based on the need to perform this surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the surveillance were performed with the reactor at power. However, this does not preclude performance of this surveillance at power when it can be accomplished in a safe manner. Operating experience has shown that these components usually pass this surveillance when performed at the 18 month frequency. Therefore, the frequency was concluded to be acceptable from a reliability standpoint.

SR 4.6.3.1.e

Check valves that serve a containment isolation function are weight or spring loaded to maintain positive closure when the differential pressure tending to open the check valve is less than 1.2 psid. This ensures that these check valves will remain closed when the inside containment atmosphere returns to subatmospheric conditions following a DBA. SR 4.6.3.1.e verifies the operation of the check valves that are not testable during unit operation. The frequency of 18 months is based on such factors as the inaccessibility of these valves, the fact that the unit must be shut down to perform the tests, and the successful results of the tests on an 18 month basis during past operation.

Attachment B-2

Beaver Valley Power Station, Unit No. 2
Proposed Technical Specification Bases Changes

License Amendment Request No. 188

The following is a list of the affected pages:

B 3/4 6-12

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BASES

3/4.6.2.3 CHEMICAL ADDITION SYSTEM

The OPERABILITY of the chemical addition system ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH minimum volume and concentration, ensure that 1) the iodine removal efficiency of the spray water is maintained because of the increase in pH value, and 2) corrosion effects on components within containment are minimized. These assumptions are consistent with the iodine removal efficiency assumed in the accident analyses.

The 18-month surveillance interval is consistent with expected length of fuel cycles and allows for component testing to be performed during plant shutdown conditions if necessary to avoid a plant transient that could occur if the component were tested at power. However, for those components that may be safely tested at power, the 18-month surveillance may be met by performing the required testing at power.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for both a LOCA and major secondary system breaks.

The opening of locked or sealed closed containment isolation valves on an intermittent basis under administrative control includes the following considerations: (1) stationing an operator, who is in constant communication with the control room, at the valve controls, (2) instructing this operator to close these valves in an accident situation, and (3) assuring that environmental conditions will not preclude access to close the valves and that this action will prevent the release of radioactivity outside the containment.

INSERT 1

~~The 18-month surveillance interval is consistent with expected length of fuel cycles and allows for component testing to be performed during plant shutdown conditions if necessary to avoid a plant transient that could occur if the component were tested at power. However, for those components that may be safely tested at power, the 18-month surveillance may be met by performing the required testing at power.~~

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment

ATTACHMENT B-2
INSERT 1

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ACTION Requirements

The ACTION requirements are modified by the following general notes:

Notes:

1. This note indicates that ACTION a is not applicable to penetration flow paths addressed by ACTION c. For penetration flow paths that use one containment isolation valve and a closed system inside containment for the required isolation barriers, ACTION c provides the appropriate actions for an inoperable containment isolation valve.

2. This note indicates ACTION c is only applicable to penetration flow paths with one inoperable containment isolation valve connected to a closed system inside containment. This note is necessary since ACTION c is written to specifically address an inoperable containment isolation valve in those penetration flow paths that use one containment isolation valve and a closed system as the required isolation barriers. Containment penetrations that credit a closed system for the isolation barrier inside containment are those penetrations that have the inside containment isolation valve identified as a closed system in the Licensing Requirement Manual Table 5.1-1.

3. This note allows penetration flow paths, except for the containment purge supply and exhaust valve penetration flow paths, to be unisolated intermittently under administrative controls. The administrative controls described above for opening of locked or sealed closed containment isolation valves on an intermittent basis are also applicable to unisolating penetration flow paths closed to comply with ACTION requirements. Due to the size of the containment purge and exhaust line penetrations, the fact that those penetrations may exhaust directly from the containment atmosphere to the environment and that operation of the purge supply and exhaust isolation valves have not been evaluated to confirm their ability to close during a LOCA in time to limit offsite doses, the penetration flow paths containing these valves may not be opened under administrative controls.

4. This note provides clarification that, for this Limiting Condition for Operation, separate ACTION statement entry is allowed for each penetration flow path. This is acceptable, since the required ACTIONS for each ACTION statement provide appropriate compensatory actions for each inoperable containment isolation valve. Complying with the required ACTIONS may allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent ACTION statement entry and application of associated required actions. The Note allows the ACTIONS to be applied separately to more than one penetration at the same time and to multiple flow paths within the same penetration.

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ACTION Requirements (Continued)

5. This note ensures appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

The term "penetration flow paths" used in the ACTION statements is intended to more accurately address containment penetrations that may have more than one flow path. For example, the RCS letdown penetration has three parallel power operated automatic inside containment isolation valves and a single series power operated automatic outside containment isolation valve. This penetration has three normal flow paths associated with it. Each inside power operated automatic containment isolation valve is in series with the single outside containment isolation valve and constitutes a separate flow path. The ACTIONS specifically require the "affected" flow path to be isolated. The ACTIONS may be applied separately to each flow path in this penetration. In the example of the RCS letdown penetration described above, if one of the three inside isolation valves is inoperable, it becomes the "affected" flow path and in accordance with the ACTIONS must be isolated. Isolating the "affected" flow path in this example may be accomplished by closing the inoperable inside containment isolation valve. As the inside and outside containment isolation valves in this case are associated with opposite trains, for both the electric power source and the isolation signal, the remaining two flow paths associated with this penetration may remain inservice since the capability to isolate these remaining flow paths, assuming a single active failure, is unaffected. However, if the single outside RCS letdown isolation valve becomes inoperable, the capability to isolate all the flow paths associated with this penetration, assuming a single failure, would no longer exist. Therefore, all flow paths associated with this penetration would be "affected" and the ACTION to isolate the "affected" flow paths would be applicable to all flow paths associated with this penetration.

ACTIONS

a. In the event one containment isolation valve in one or more penetration flow paths is inoperable; the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and deactivated automatic containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. Check valves are considered automatic valves and are considered deactivated automatic valves secured in their closed position when flow through the valve is secured. For a penetration flow path isolated in accordance with ACTION a, the device used to isolate the penetration should be the closest available one to containment.

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ACTIONS (Continued)

The use of check valves with flow through the valve secured as an isolation barrier per Action a is limited to those check valves used as the inside containment isolation valve for the affected penetration flow path. This limitation ensures that the use of check valves as an isolation barrier is consistent with the requirements of 10CFR50, Appendix A, Criterion 55 and 56. When using check valves as the isolation barrier, action must be taken to secure flow through the check valve. The action taken to secure flow may use methods such as (but is not limited to) the closure of another valve in the affected penetration flow path. The method used to secure flow to the check valve must not be adversely affected by a single active failure.

ACTION a must be completed within 4 hours. The 4 hour time limit is reasonable, considering the time required to isolate the penetration and the relative importance of supporting CONTAINMENT INTEGRITY during MODES 1, 2, 3, and 4.

For affected penetration flow paths that cannot be restored to OPERABLE status within 4 hours and that have been isolated in accordance with ACTION a, the affected penetration flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that containment penetrations required to be isolated following an accident and no longer capable of being automatically isolated will be in the isolation position should an event occur. This action does not require any testing or device manipulation. Rather, it involves verification, through a system walkdown, that those isolation devices outside containment and capable of being mispositioned are in the correct position. The verification interval of "at least once per 31 days for isolation devices outside containment" is appropriate considering the fact that the devices are operated under administrative controls and the probability of their misalignment is low. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

b. With one or more penetration flow paths with two containment isolation valves inoperable, the affected penetration flow path must be isolated within 1 hour. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and deactivated automatic valve, a closed manual

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ACTIONS (Continued)

valve, and a blind flange. The 1 hour time limit is consistent with Specification 3.6.1.1 for restoring CONTAINMENT INTEGRITY. In the event the affected penetration is isolated in accordance with ACTION b, the affected penetration must be verified to be isolated on a periodic basis per ACTION a, which remains in effect. This periodic verification is necessary to assure leak tightness of containment and that penetrations requiring isolation following an accident are isolated. The verification interval of at least once per 31 days for verifying each affected penetration flow path is isolated is appropriate considering the fact that the valves are operated under administrative control and the probability of their misalignment is low.

c. With one or more penetration flow paths with one containment isolation valve inoperable, the inoperable valve flow path must be restored to OPERABLE status or the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and deactivated automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration flow path. ACTION c must be completed within the 72 hour time limit. The specified time period is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of maintaining containment integrity during MODES 1, 2, 3, and 4. In the event the affected penetration flow path is isolated in accordance with ACTION c, the affected penetration flow path must be verified to be isolated on a periodic basis. This periodic verification is necessary to assure leak tightness of containment and that penetrations requiring isolation following an accident are isolated. The verification interval of at least once per 31 days for verifying each affected penetration flow path is isolated is appropriate considering the fact that the valves are operated under administrative control and the probability of their misalignment is low.

Surveillance Requirements(SR)

SR 4.6.3.1.a

Each containment purge supply and exhaust valve is required to be verified deactivated in the closed position at least once every 31 days for valves outside containment and prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for valves inside containment. This surveillance is designed to ensure that a gross breach of containment is not caused by an inadvertent or spurious opening of a containment

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Surveillance Requirements (Continued)

purge supply or exhaust valve. The operation of the containment purge supply and exhaust valves has not been evaluated to confirm the ability to close during a LOCA in time to limit offsite doses. Therefore, these valves are required to be deactivated in the closed position during MODES 1, 2, 3, and 4. A containment purge supply or exhaust valve that is deactivated in the closed position must have motive power to the valve operator removed. This can be accomplished by de-energizing the source of electric power or by removing control power to the valve operator.

SR 4.6.3.1.b

Check valves that serve a containment isolation function are weight or spring loaded to maintain positive closure when the differential pressure tending to open the check valve is less than 1.2 psid. This ensures that these check valves will remain closed when the inside containment atmosphere returns to subatmospheric conditions following a DBA. SR 4.6.3.1.b requires verification of the operation of the check valves that are testable during unit operation. The frequency of 92 days is consistent with the Inserice Testing Program requirements for valve testing on a 92 day frequency.

SR 4.6.3.1.c

Verifying that the isolation time of each automatic power operated containment isolation valve required to be closed during accident conditions is within limits is required to demonstrate OPERABILITY. Automatic power operated containment isolation valves required to be closed during accident conditions close on a Phase A or Phase B containment isolation signal. This surveillance requirement ensures that each power operated containment isolation valve which is required to be closed during accident conditions will isolate in a time period consistent with the assumptions of the safety analyses. This surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative control. The frequency of this surveillance requirement is in accordance with the Inservice Testing Program.

SR 4.6.3.1.d

Automatic power operated containment isolation valves required to be closed during accident conditions close on a Phase A or Phase B containment isolation signal to prevent leakage of radioactive material from containment following a DBA. This surveillance requirement ensures that each automatic power operated containment isolation valve required to be closed during accident conditions will actuate to its isolation position on a Phase A or Phase B containment isolation signal. This surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under

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Surveillance Requirements (Continued)

administrative controls. The 18 month frequency is based on the need to perform this surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the surveillance were performed with the reactor at power. However, this does not preclude performance of this surveillance at power when it can be accomplished in a safe manner. Operating experience has shown that these components usually pass this surveillance when performed at the 18 month frequency. Therefore, the frequency was concluded to be acceptable from a reliability standpoint.

SR 4.6.3.1.e

Check valves that serve a containment isolation function are weight or spring loaded to maintain positive closure when the differential pressure tending to open the check valve is less than 1.2 psid. This ensures that these check valves will remain closed when the inside containment atmosphere returns to subatmospheric conditions following a DBA. SR 4.6.3.1.e verifies the operation of the check valves that are not testable during unit operation. The frequency of 18 months is based on such factors as the inaccessibility of these valves, the fact that the unit must be shut down to perform the tests, and the successful results of the tests on an 18 month basis during past operation.

Attachment C-1

Beaver Valley Power Station, Unit No. 1
Proposed Licensing Requirements Manual Changes

License Amendment Request No. 315

The following is a list of the affected pages:

B.5-1

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B.5.1 Containment Penetrations

There are two types of 'administrative controls' applicable to the Containment Isolation Valves listed in Table 5.1-1 of this Licensing Requirements Manual (LRM). The administrative controls which apply when any locked or sealed closed Containment Isolation Valves are opened or when a penetration flow path isolated to comply with Technical Specification action requirements for an inoperable containment isolation valve is unisolated are defined in the Technical Specification Bases 3/4.6.3.~~1~~. The administrative controls for Containment Isolation Valves which have Note (1) shown in Table 5.1-1 of this LRM are the procedures that govern the operation of these valves.

Note (1) was used for the MOVs in Penetrations 1, 2, 4 & 5 in the original BV-1 Technical Specifications and for several other Containment Isolation Valve (CIV) MOVs in Amendment No. 1 of the BV-1 Technical Specifications where it was justified to allow the specified valves to be opened on an intermittent basis under administrative controls. The NRC Safety Evaluation for Amendment No. 1 described the function of these valves as "required to be opened on an intermittent basis to perform essential operating functions" in Modes 1-4. The term 'administrative controls' was not explicitly defined or described in either the original Technical Specification nor Amendment 1 correspondence. It has been inferred since Amendment No. 1 that the 'administrative controls' were these valves' normal/emergency procedures and the plant's normal/emergency operating controls because the 'administrative controls' were not described/defined and the documented basis discussed their essential operating functions. A review/revision of Table 5.1-1 was completed in 1997 to ensure that the use of Note (1) was correctly applied throughout the Table in accordance with the above basis. Some previous changes to the CIV Table had not always followed this understanding because the literal wording seemed to also fit other applications. [Note (1) only applies to those valves specified in the original or Amendment No. 1 to the BV-1 Technical Specifications. Note (1) does not apply to CIVs which are operated pursuant to other defined administrative controls such as for normally locked or sealed closed CIVs.]

Amendment No. 185 to the BV-1 Technical Specifications added criteria to Technical Specifications 3/4.6.1.1 and 3/4.6.3.1 allowing a locked or sealed closed CIV to be opened without declaring the CIV inoperable, in accordance with Generic Letter 91-08. Locked or sealed closed CIVs may only be opened, without entering the LCO, if the administrative controls defined in Technical Specification Bases 3/4.6.3.~~1~~ is followed, in accordance with Technical Specification 3.6.3.1. [The explicitly defined 'administrative controls' which allow opening of locked or sealed closed CIVs are not the same 'administrative controls' for opening CIVs per Note (1).]

Amendment No. ____ to the BV-1 Technical Specifications allowed penetration flow paths isolated to comply with action requirements for inoperable containment isolation valves to be unisolated on an intermittent basis under administrative controls. The administrative controls to be used when unisolating these penetrations are also those defined in the Technical Specification Bases 3/4.6.3.

CIVs with an automatic closure feature upon generation of a containment isolation signal or which meet General Design Criteria 57 may be opened without entering the Technical Specification only if the valve remains OPERABLE.

Attachment C-2

Beaver Valley Power Station, Unit No. 2
Proposed Licensing Requirements Manual Changes

License Amendment Request No. 188

The following is a list of the affected pages:

B.5-1
B.5-2

B.5.1 Containment Penetrations

There are two types of 'administrative controls' applicable to the Containment Isolation Valves listed in Table 5.1-1 of this Licensing Requirements Manual (LRM). The administrative controls which apply when any locked or sealed closed Containment Isolation Valves are opened or when a penetration flow path isolated to comply with Technical Specification action requirements for an inoperable containment isolation valve is unisolated are defined in the Technical Specification Bases 3/4.6.3~~.1~~. The administrative controls for Containment Isolation Valves which have Note (1) shown in Table 5.1-1 of this LRM are the procedures that govern the operation of these valves.

Note (1) was originally used for the several BVPS Unit 1 MOVs in the original BVPS Unit 1 Technical Specifications and in Amendment No. 1 of the BV-1 Technical Specifications where it was justified to allow the specified valves to be opened on an intermittent basis under administrative controls. The NRC Safety Evaluation for BVPS Unit 1 Amendment No. 1 described the function of these valves as "required to be opened on an intermittent basis to perform essential operating functions" in Modes 1-4. The term 'administrative controls' was not explicitly defined or described in either BVPS Unit 1 original Technical Specifications nor Amendment 1 correspondence. It has been inferred since BVPS Unit 1 Amendment No. 1 that the 'administrative controls' were these valves' normal/emergency procedures and the plant's normal/emergency operating controls because the 'administrative controls' were not described/defined and the documented basis discussed their essential operating functions. When BVPS Unit 2 was initially licensed, the Unit 2 Technical Specifications were modeled after the Unit 1 Technical Specifications. Note (1) used for valves in Penetrations 28, 46, 55C, 57C, 87, 88, 92, 93, 97B, 105B in the original BVPS Unit 2 Technical Specifications followed this same justification as used for CIVs using Note (1) in the BVPS Unit 1 Technical Specifications. Subsequently the Unit 2 containment air lock valves had Note (1) added since their operation basis was described in the UFSAR (similar to the Unit 1 containment air lock valves). A review/revision of Table 5.1-1 was completed in 1997 to ensure that the use of Note (1) was correctly applied throughout the Table in accordance with the above basis. Some previous changes to the CIV Table had not always followed this understanding because the literal wording seemed to also fit other applications. [Note (1) only applies to those valves specified in the original BV-2 Technical Specifications, with the addition of the containment air lock valves as described in the BV-2 UFSAR. Note (1) does not apply to CIVs which are operated pursuant to other defined administrative controls such as for normally locked or sealed closed CIVs.]

Amendment No. 66 to the BV-~~1~~2 Technical Specifications added criteria to Technical Specification 3/4.6.1.1 and 3/4.6.3.1 allowing a locked or sealed closed CIV to be opened without declaring the CIV inoperable, in accordance with Generic Letter 91-08. Locked or sealed closed CIVs may only be opened, without entering the LCO, if the administrative controls defined in Technical Specification Bases 3/4.6.3.~~1~~ is followed, in accordance with Technical Specification 3.6.3.1. [The explicitly defined 'administrative controls' which allow opening of locked or sealed closed CIVs are not the same 'administrative controls' for opening CIVs per Note (1).]

Amendment No. ____ to the BV-2 Technical Specifications allowed penetration flow paths isolated to comply with action requirements for inoperable containment isolation valves to be unisolated on an intermittent basis under administrative controls. The administrative controls to be used when unisolating these penetrations are also those defined in the Technical Specification Bases 3/4.6.3.

CIVs with an automatic closure feature upon generation of a containment isolation signal or which meet General Design Criteria 57 may be opened without entering the Technical Specification only if the valve remains OPERABLE.