

October 5, 2004

Mr. L. William Pearce  
Vice President  
FirstEnergy Nuclear Operating Company  
Beaver Valley Power Station  
Post Office Box 4  
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2 (BVPS-1 AND 2) -  
ISSUANCE OF AMENDMENT RE: CONTAINMENT ISOLATION VALVES  
(TAC NOS. MC1095 AND MC1096)

Dear Mr. Pearce:

The Commission has issued the enclosed Amendment No. 261 to Facility Operating License No. DPR-66 and Amendment No. 143 to Facility Operating License No. NPF-73 for BVPS-1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated October 17, 2003.

These amendments revise the action requirements in TS 3/4 6.3 to more clearly define the action requirements for inoperable containment isolation valves (CIVs). The amendments also allow, under administrative control, the intermittent unisolating of penetration flow paths which have previously been isolated per the action requirements. The amendments also allow the use of check valves as an isolation device, and an increase in the allowed outage time to 72 hours for CIVs associated with closed systems inside containment. The amendments also delete existing surveillance requirements (SRs) and provide new SRs similar to those in the Improved Standard Technical Specifications.

L. William Pearce

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A copy of our safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

***/RA/***

Timothy G. Colburn, Senior Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-334 and 50-412

Enclosures: 1. Amendment No. 261 to DPR-66  
2. Amendment No. 143 to NPF-73  
3. Safety Evaluation

cc w/encls: See next page

L. William Pearce

-2-

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Timothy G. Colburn, Senior Project Manager, Section 1  
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- 3. Safety Evaluation

cc w/encls: See next page

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ACCESSION NO. ML042370015

\*SE provided. No substantive changes made.

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DATE	9/16/04	9/16/04	<del></del>	08/06/04	10/05/04	10/04/04

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PENNSYLVANIA POWER COMPANY  
OHIO EDISON COMPANY  
FIRSTENERGY NUCLEAR OPERATING COMPANY  
DOCKET NO. 50-334  
BEAVER VALLEY POWER STATION, UNIT NO. 1  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 261  
License No. DPR-66

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by FirstEnergy Nuclear Operating Company, et al. (the licensee), dated October 17, 2003, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-66 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 261, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Richard J. Laufer, Chief, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: October 5, 2004

ATTACHMENT TO LICENSE AMENDMENT NO. 261

FACILITY OPERATING LICENSE NO. DPR-66

DOCKET NO. 50-334

Replace the following pages of Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

3/4 6-17

3/4 6-18

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Insert

3/4 6-17

3/4 6-18

3/4 6-19

PENNSYLVANIA POWER COMPANY  
OHIO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY  
THE TOLEDO EDISON COMPANY  
FIRSTENERGY NUCLEAR OPERATING COMPANY  
DOCKET NO. 50-412  
BEAVER VALLEY POWER STATION, UNIT 2  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 143  
License No. NPF-73

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by FirstEnergy Nuclear Operating Company, et al. (the licensee), dated October 17, 2003, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-73 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 143, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto are hereby incorporated in the license. FENOC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Richard J. Laufer, Chief, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: October 5, 2004

ATTACHMENT TO LICENSE AMENDMENT NO. 143

FACILITY OPERATING LICENSE NO. NPF-73

DOCKET NO. 50-412

Replace the following pages of Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

3/4 6-15

3/4 6-16

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Insert

3/4 6-15

3/4 6-16

3/4 6-17

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NOS. 261 AND 143 TO FACILITY OPERATING  
LICENSE NOS. DPR-66 AND NPF-73  
PENNSYLVANIA POWER COMPANY  
OHIO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY  
THE TOLEDO EDISON COMPANY  
FIRSTENERGY NUCLEAR OPERATING COMPANY  
BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-334 AND 50-412

## 1.0 INTRODUCTION

By application dated October 17, 2003, the FirstEnergy Nuclear Operating Company (FENOC, the licensee), requested changes to the Technical Specifications (TSs) for Beaver Valley Power Station, Unit Nos. 1 and 2 (BVPS-1 and 2). The proposed changes would revise TS requirements for the containment isolation valves (CIVs). Specifically, the proposed changes would revise the action requirements in TS 3/4 6.3 to more clearly define the action requirements for inoperable CIVs. The amendments also allow, under administrative control, the intermittent unisolating of penetration flow paths which have previously been isolated per the Action requirements. The amendments also allow the use of check valves as an isolation device and an increase in the allowed outage time to 72 hours for CIVs associated with closed systems inside containment. The amendments also delete existing surveillance requirements (SRs) and provide new SRs similar to those in the improved Standard Technical Specifications (STS).

The following provides a description of the proposed changes.

### Change No. 1

The following General Notes are included into the action requirements of TS 3.6.3.1.

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 CIV 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 CIVs.

The proposed Notes provide clarifications to action requirements consistent with clarification notes included in the STS and provide action requirements applicability statements for penetration flow paths associated with closed systems inside containment and penetration flow paths not associated with closed systems. Note 3 also includes 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 also 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 TS 3.6.3.1 action statements for inoperable CIVs with three new action statements providing separate action requirements for penetration flow paths with the following degraded conditions:

- one inoperable CIV;
- two inoperable CIVs; or
- one inoperable CIV 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.

The proposed ACTION would require the penetration to be isolated within 4 hours, consistent with the STS, whereas current TS requirements allow up to 6 hours when using a manual valve or blind flange, or 4 hours when using a deactivated automatic valve. ACTION a also has a new provision which allows a containment penetration flow path to be isolated by means of a "check valve with flow through 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 shutdown requirements of current TS 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.

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 an inoperable CIV in a penetration flow path connected to a closed system. The proposed completion time of 72 hours (rather than the current 4 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 STS and Technical Specification Task Force Traveler (TSTF)-30 (Ref. 8).

### Change No. 3

This proposed change replaces the existing surveillance requirements for demonstrating CIV operability, except for the CIV spring and weight loaded check valves SRs, with SRs similar to those provided in the STS. SRs 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, SR 4.6.3.1.1 is renumbered, and three new proposed SRs are inserted for demonstrating CIV 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 CIV cycle test SRs that are redundant to the Inservice Testing Program, remove SRs which specify post-maintenance testing requirements for CIVs, and, for BVPS-1 only, remove the current cold shutdown or refueling mode restrictions for performance of certain CIV SRs.

## 2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants," (Ref. 4) includes Criterion 54, "Piping systems penetrating containment," Criterion 55, "Reactor coolant pressure boundary penetrating containment," Criterion 56, "Primary containment isolation," and Criterion 57, "Closed system isolation valves." These criteria specify the number, type, and positions of CIVs required for containment piping penetrations. However, neither these regulations nor associated guidance documents (Refs. 5, 6, and 7) contain provisions covering actions to take if one or more CIVs should become inoperable during plant operation, or for SRs. Section 50.36, "Technical specifications," of 10 CFR, Part 50, provides general requirements for the establishment of TSs, including limiting conditions for operation, action requirements, and SRs, but offers little specific guidance. For this, the best guidance is that contained in the STS, NUREG-1431. The licensee compared their proposal to Revision 2 of NUREG-1431. As of June 2004, Revision 3 of NUREG-1431 (Ref. 3) has become available, but TS 3/4.6.3 is unchanged from Revision 2.

## 3.0 TECHNICAL EVALUATION

### 3.1 Change No. 1 - Insertion of Action Requirements General Notes into TS 3.6.3.1

#### Notes 1 and 2

These notes simply clarify the applicability of the new action requirements for inoperable CIVs. As such, the U.S. Nuclear Regulatory Commission (NRC) staff finds them to be acceptable because they are necessary for the implementation of the new action requirements.

#### Note 3

This change is a less restrictive change which allows penetrations which have been isolated by TS 3.6.3.1 action requirements, except for the containment purge and exhaust penetration valve flow paths, to be unisolated intermittently under administrative control. This 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 NRC staff finds the proposed change to be 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 are the same controls currently used for opening locked or sealed closed valves per TS 3.6.3.1 footnote (\*). These administrative controls, which are described in the TS Bases, include the following:

- (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.

Because the containment purge supply and exhaust penetrations are large and directly connect the containment atmosphere to the environment, they 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. 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 being revised to exclude the containment purge supply and exhaust valves. The NRC staff finds this conservative change to be acceptable; it is also consistent with the STS.

Notes 4 and 5

These proposed changes are clarifications with no reductions in existing requirements, and are consistent with the STS; therefore, the NRC staff finds them to be acceptable.

### 3.2 Change No. 2 - Revised TS 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 CIV. The proposed actions are consistent with the current TS requirements for an inoperable CIV 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 more restrictive change is acceptable to the NRC staff and is consistent with the STS.

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. The NRC staff has generically found this configuration to provide a sufficiently passive isolation device for the intended purpose. Thus, the proposed change provides an acceptable additional passive isolation device for isolating a penetration flow path. This is also consistent with the STS.

The proposed action statement also includes a new more restrictive required action when a penetration flow path has been isolated due to an inoperable CIV. 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 NRC staff finds that 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 also reasonable in view of the inaccessibility of the isolation devices and the low probability of their misalignment.

The STS action requirements provide actions for one inoperable CIV in penetration flow paths with two CIVs, and actions for one inoperable CIV in penetration flow paths with one CIV and a closed system. BVPS-1 and 2, however, have 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 CIV 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 licensee has provided the following information about the penetration flow paths that would be applicable to ACTION a and do not have two isolation barriers.

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 [updated final safety analysis reports], 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 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[n] operating mode where the Limiting Condition for Operation (LCO) is not applicable.

In this licensing action, the NRC staff does not propose to alter the containment isolation design of the plant. The NRC staff assumes that the listed penetrations' designs are consistent with the plant's licensing basis. However, these penetrations do not fit well into the STS. The NRC staff's options are to accept the licensee's proposal as reasonable, or to seek to impose a shorter allowed ACTION time, such as 1 hour. Based on the following considerations, the NRC staff finds that the proposed 4-hour time period is acceptable:

- 1) The NRC staff has found penetrations with single CIVs and no closed system to be acceptable for a 4-hour ACTION time in BWR plants (Ref. 9), and there is no conceptual difference between PWRs and BWRs in this case.
- 2) There is a trend toward increasing ACTION times for isolating penetrations with inoperable CIVs, on the order of 7 days. The NRC staff has already approved a Combustion Engineering Owners Group (CEOG) topical report on the subject (Ref. 10), and similar topical reports for Westinghouse and boiling-water reactor (BWR) plants are currently under NRC staff review.

#### Proposed ACTION b

The proposed new ACTION b addresses required actions with one or more penetration flow paths with two inoperable CIVs. This action requires isolation of the affected penetration flow path within 1 hour, which is consistent with the action requirements of TS 3.6.1.1 for restoring containment integrity.

The NRC staff finds that this proposed change 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 CIV 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 TS requirement which requires the affected penetration be isolated within 4 hours for any inoperable isolation valve. The proposed change is consistent with Technical Specification Task Force Traveler TSTF-30 (Ref. 8), which the NRC staff has approved and incorporated into the STS. Therefore, the NRC staff, having previously approved TSTF-30, finds proposed ACTION c acceptable.

### 3.3 Change No. 3 - Conversion of existing CIV SRs to the STS SRs

The evaluation of the proposed changes to the CIV SRs are presented below by separating these evaluations into three areas of discussions: insertion of the new proposed SRs, deletion of current SRs, and STS SRs not included in the proposed changes.

#### 3.3.1 Insertion of new proposed SRs

##### Proposed SR 4.6.3.1.a

This new SR periodically verifies that the purge supply and exhaust CIVs are deactivated in the closed position. The operation of the containment purge supply and exhaust valves has not been evaluated to confirm the ability to close during a loss-of-coolant accident (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. The proposed surveillance frequency (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) 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 NRC staff finds that the proposed SR 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 SR requires the isolation time of each automatic power-operated CIV that is not locked, sealed, or otherwise secured in position, and required to be closed during accident conditions, to be periodically verified within limits. The isolation time tests ensure the valves will isolate in a time period consistent with the assumptions of the safety analyses.

The proposed surveillance frequency is "at the frequency specified in the Inservice Testing [IST] Program." The proposed wording, which relies on the IST Program to define the

surveillance interval for testing valve isolation time, is acceptable because the IST program is based on the American Society of Mechanical Engineers, *Boiler and Pressure Vessel Code* (ASME Code), requirements and is required by TS 4.0.5. The ASME Code requirements implemented by the IST program provide acceptable standard test intervals to ensure valve operability.

The NRC staff finds the proposed change acceptable because the specified SR 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 SR requires that each automatic power-operated CIV 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.

This surveillance is a counterpart to proposed SR 4.6.3.1.c, which verified the isolation times of the same valves. The surveillance frequency is based on the need to perform this SR under the conditions that apply during a plant outage and the potential for an unplanned transient if the SR were performed with the reactor at power. Operating experience has shown that these components usually pass this SR when performed at the 18-month frequency. Therefore, the NRC staff finds the frequency acceptable from a reliability standpoint.

The NRC staff finds the proposed change acceptable because the specified SR will ensure that the capability of power-operated automatic valves to isolate containment flow paths is periodically demonstrated.

### 3.3.2 Deletion of current SRs

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

These current surveillances require CIVs to be periodically cycled through at least one complete cycle of full travel. The proposed changes to remove these SRs, are, therefore, less restrictive changes to the current TS requirements. Note that SR 4.6.3.1.2.d also requires measurement of valve isolation times. Deletion of this portion of the existing SR is discussed separately under SR 4.6.3.1.2.d (Isolation Time Tests).

The proposed SRs of TS 3.6.3.1 for CIVs along with the SRs of TS 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 redundant to these SRs. The SRs being deleted merely verify the capability of the valves to be cycled. In addition, TS 4.0.5 and the IST Program provide assurances that valves required to be repositioned after an accident are operable and capable of being cycled. The NRC staff finds this change to be acceptable because the deleted SRs will not reduce the effectiveness of the CIV SRs to demonstrate valve operability. With the proposed changes, the TSs will continue to provide adequate SRs 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 TS 4.0.5 and the IST Program, which is based on proven industry-accepted standards for valve testing.

#### Post-Maintenance Testing SR - SR 4.6.3.1.1.b

The current SR requires that, prior to returning an automatic valve, power-operated valve, or a spring- or weight-loaded check valve to service after maintenance, repair, or replacement work on the valve or its associated actuator, control, or power circuit, the applicable cycling tests of SRs 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 TSs. The proposed change is, therefore, a less restrictive change from the current TS requirements.

The purpose of this surveillance is to ensure the affected isolation valve remains operable after maintenance. The licensee asserts that the deleted SR 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 to be 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 SRs must be verified to be met in accordance with TS 4.0.1. Therefore, the NRC staff finds the proposed change acceptable because 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.

#### CIV Actuation Tests - SR 4.6.3.1.2.a and 4.6.3.1.2.b

These current SRs contain the requirement to verify the CIVs actuate to their isolation positions on a Phase A or Phase B containment isolation signal as applicable. These SRs are being deleted and are replaced by the new proposed SR 4.6.3.1.d. The specific actuation signals (Phase A or Phase B) will no longer be included; the NRC staff finds this level of detail to be unnecessary, consistent with the philosophy and wording of the STS.

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

#### Isolation Time Tests - SR 4.6.3.1.2.d

The current SR requires each power-operated or automatic CIV to 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 SR 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 SR.

The NRC staff finds that deletion of this SR is acceptable because the new proposed SR 4.6.3.1.c will continue to require that the isolation times of automatic power-operated CIVs that are required to close during accident conditions are periodically measured at least as frequently as currently required. With the proposed change, CIVs will continue 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 stroking for power operated and automatic CIVs will continue to be performed as required by TS 4.0.5 and the IST program.

#### Removal of Mode Restrictions for Surveillance Performance (BVPS-1) - SR 4.6.3.1.2

The current BVPS-1 SR 4.6.3.1.2 specifies that each CIV shall be demonstrated operable at least once per 18 months during cold shutdown or refueling mode. With the proposed changes to the SRs, the MODE limitations to perform 18-month SRs during cold shutdown or refueling MODES would be removed for BVPS-1. This proposed change is, therefore, a less-restrictive change from the current TS requirements for BVPS-1. These MODE limitations were previously removed from BVPS-2 in License Amendment No. 118. In the STS, the corresponding SRs 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 SR wording of the STS and previous NRC generic guidance regarding specific conditions for performing SRs.

The NRC staff finds the proposed change to be acceptable because it does not change the scope or frequency of the affected SRs. 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.

#### SR Format Changes

The proposed changes to the SRs include several format changes including renumbering the SRs, deleting surveillance statement 4.6.3.1.2, deleting an unnecessary repetition of the (\*) footnote, and relocating the surveillance frequency for current SRs 4.6.3.1.1.a.2 and 4.6.3.1.2.e into the text of the SR. The NRC staff finds that these changes are administrative changes that are necessary with the revised SRs and do not involve any additional technical changes to the SRs.

### 3.3.3 STS Surveillances Not Included in the Proposed Change

The following provides a discussion of STS SRs not included in the proposed changes.  
STS SR 3.6.3.2

STS SR 3.6.3.2 specifies that each 8-inch purge valve be verified closed, except when open for pressure control, ALARA (as low as reasonably achievable), or air quality considerations for personnel entry, or for surveillances that require the valves to be open. This surveillance is not applicable to BVPS-1 and 2 because the plant does not have the smaller purge and exhaust valves.

#### STS SR 3.6.3.3 and 3.6.3.4

STS SRs 3.6.3.3 and 3.6.3.4 require each containment isolation manual valve and blind flange that is not locked, sealed, or otherwise secured and required to be closed during accident conditions to be periodically verified closed except for valves that are open under administrative controls. BVPS-1 and 2, SR 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. The NRC staff finds that, since SR 4.6.1.1.a.1 provides the required surveillance of manual valves and blind flanges, the STS surveillances need not be included in the proposed changes.

#### STS SR 3.6.3.7

STS SR 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-1 and 2 containment purge supply and exhaust valves have resilient seals, the current BVPS-1 and 2 TSs only require the valves to be leak-tested in accordance with 10 CFR, Part 50, Appendix J. Additional leak-testing of these valves as specified in STS SR 3.6.3.7 is not a regulatory requirement; therefore, the NRC staff finds that the licensee is not required to adopt it.

#### STS SR 3.6.3.10

STS SR 3.6.3.10 requires verification that each containment purge valve is blocked to restrict the valve from opening more than 50%. BVPS-1 and 2 do not permit opening of the purge supply and exhaust valves in MODES 1 through 4; and, therefore, this SR is not applicable.

#### STS SR 3.6.3.11

STS SR 3.6.3.11 requires a shield building bypass leakage verification (for dual containment designs). The BVPS-1 and 2 design does not have a shield building; and, therefore, this surveillance is not applicable.

Having reviewed the proposed TS changes, as shown above, the NRC staff finds that they are acceptable.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendment. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (68 FR 66136). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

#### 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

#### 7.0 REFERENCES

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2. USNRC, "Standard Technical Specifications, Westinghouse Plants," NUREG-1431, Rev. 2, April 2001.
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4. Part 50, Appendix A of 10 CFR, "General Design Criteria for Nuclear Power Plants."
5. USNRC, "Containment Isolation Provisions for Fluid Systems," Regulatory Guide 1.141, April 1978.
6. American National Standard Institute/American Nuclear Society, ANSI N271-1976/ANS-56.2, "Containment Isolation Provisions for Fluid Systems," ANS, June 28, 1976.

7. USNRC, "Containment Isolation System," Standard Review Plan, Section 6.2.4, NUREG-0800, July 1981.
8. USNRC, "Extend the Completion Time for inoperable isolation valve to a closed system to 72 hours," Industry/TSTF Standard Technical Specification Change Traveler TSTF-30, Revision 3, June 15, 1999.
9. USNRC, "Standard Technical Specifications, General Electric Plants, BWR/4," NUREG-1433, Rev. 3.0, June 2004.
10. Richards, Stuart A., USNRC, letter to Ralph Phelps, CEOG, Acceptance for Referencing of Combustion Engineering Owners Group CE NPSD-1168, "Joint Applications Report for Containment Isolation Valve AOT Extension," (TAC No. MA6288), dated June 26, 2000.

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