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March 22, 2004
L-04-040

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 Amendments Request Nos. 321 and 193

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 amendments would modify Technical Specification requirements for mode change limitations in Specifications 3.0.4 and 4.0.4 and the associated Technical Specification Bases. The proposed changes were prepared using the Consolidated Line Item Improvement Process (CLIIP) and are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specifications (STS) change TSTF-359, Revision 8, as modified by the notice in the Federal Register published on April 4, 2003.

FENOC's evaluation of the proposed changes is provided in the Enclosure to this transmittal. The Enclosure provides a description of the proposed changes (including a table of affected Technical Specifications), the requested confirmation of applicability, and plant-specific verifications. Attachments A-1 and A-2 provide the existing Technical Specifications pages for Unit Nos. 1 and 2, respectively, marked up to show the proposed changes. Attachments B-1 and B-2 provide Technical Specifications Bases pages, for Unit Nos. 1 and 2, respectively, marked up to show the proposed changes. Attachments C-1 and C-2 provide the re-typed (clean) Technical Specifications pages, for Unit Nos. 1 and 2, respectively.

The proposed changes have been reviewed by the Beaver Valley Power Station review committees. The changes were determined to be safe and do not involve a significant hazards consideration as defined in 10 CFR 50.92 based on the NRC safety evaluation and no significant hazards consideration determination dated April 4, 2003.

A001

FENOC requests approval of the proposed amendments by September 30, 2004, so that implementation can be completed in time to support the next Unit No. 1 refueling outage, which is scheduled for the Fall of 2004. Once approved, the amendments shall be implemented within 60 days.

No new 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 March 22, 2004.

Sincerely,

L. William Pearce

Enclosure:
FENOC Evaluation of the Proposed Changes

Attachments:
A-1 Proposed Unit 1 Technical Specification Changes
A-2 Proposed Unit 2 Technical Specification Changes
B-1 Proposed Unit 1 Technical Specification Bases Changes
B-2 Proposed Unit 2 Technical Specification Bases Changes
C-1 Re-typed Unit 1 Technical Specification Pages
C-2 Re-typed Unit 2 Technical Specification Pages

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
321 (Unit 1) And 193 (Unit 2)

Subject: Increased Flexibility in Mode Restraints

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Attachments

Beaver Valley Power Station
License Amendment Request Nos.
321 (Unit 1) and 193 (Unit 2)

1.0 DESCRIPTION

This is a request to amend Operating Licenses DPR-66 (Beaver Valley Power Station Unit No. 1) and NPF-73 (Beaver Valley Power Station Unit No. 2). The proposed changes will revise the Technical Specifications (TS) requirement for Mode change limitations in Limiting Condition for Operation (LCO) 3.0.4 and Surveillance Requirement (SR) 4.0.4.

The proposed changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specifications (STS) change TSTF-359, Revision 8 as modified by the notice in the *Federal Register* published on April 4, 2003 (Reference 1). That *Federal Register* Notice announced the availability of this TS improvement through the Consolidated Line Item Improvement Process (CLIIP).

The proposed Technical Specification changes, which are submitted for NRC review and approval, are provided in Attachments A-1 and A-2 for Unit Nos. 1 and 2 respectively. The changes proposed to the Technical Specification Bases are provided in Attachments B-1 and B-2 for Unit Nos. 1 and 2 respectively. Re-typed Technical Specification pages are provided in Attachments C-1 and C-2 for Unit Nos. 1 and 2 respectively.

In accordance with the April 4, 2003 *Federal Register* Notice, the proposed Technical Specification Bases changes are also submitted for NRC approval as part of this License Amendment Request (LAR). The *Federal Register* Notice states that the Bases changes form an integrated change to the plants' licensing basis and that the staff plans to require the incorporation of the Bases changes as a condition with the issuance of the amendment. Therefore, upon issuance of the amendment, the proposed Bases changes will be made in accordance with the Beaver Valley Power Station (BVPS) Technical Specification Bases Control Program. The BVPS Technical Specification Bases Control Program controls the review, approval and implementation of Technical Specification Bases changes.

The proposed changes to the Technical Specifications and Technical Specification Bases have been prepared electronically. Deletions are shown with a strike-through and insertions are shown double-underlined. This presentation allows the reviewer to readily identify the information that has been deleted and added.

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

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

FirstEnergy Nuclear Operating Company (FENOC) has reviewed the safety evaluation dated April 4, 2003 as part of the CLIIP. This review included a review of the NRC staff's evaluation, as well as the supporting information provided to support TSTF-359, Revision 8, as modified by Reference 1. FENOC has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC staff are applicable to BVPS Unit Nos. 1 and 2 and justify this amendment for the application of the changes to the BVPS Unit Nos. 1 and 2 TS.

2.2 Optional Changes and Variations

This FENOC submittal does not propose any significant deviations from the NRC staff's model safety evaluation of TSTF-359, Revision 8, as modified by Reference 1. However, due to differences between the BVPS TS and TS Bases, which are based on NUREG-0452, and the STS model in NUREG-1431, Revision 2, "Standard Technical Specifications–Westinghouse Plants" (Reference 2), several variances from the TSTF mark-up changes are proposed. These variances are listed and discussed below and do not affect the adoption or application of TSTF-359, Revision 8, as modified by Reference 1.

LCO 3.0.4 and SR 3.0.4

Since the BVPS TS have not been converted to the STS, there are some differences in terminology between the BVPS TS and Bases, and the changes proposed by TSTF-359, as modified by Reference 1. These differences, and the actions taken to address them, are listed below.

- retained the reference to "OPERATIONAL MODE" instead of "MODE".
- all references to LCO 3.0.X in the TSTF appear as references to Specification 3.0.X in the BVPS TS and TS Bases.

- all references to SR 3.0.X in the TSTF appear as references to Specification 4.0.X in the BVPS TS and TS Bases.

- the last paragraph of the TSTF STS SR 3.0.4 Bases Insert is omitted from this submittal as per the NEI Guidance document (Reference 3) because the BVPS Technical Specifications have not been converted to the STS. Examples of references to STS SR 3.0.4, i.e., BVPS Specification 4.0.4, that are being retained in the BVPS Technical Specifications are listed below.

  Technical Specification 3.2.1, Axial Flux Differences.

  Technical Specification 3.2.2, Heat Flux Hot Channel Factor-$F_Q(Z)$.

  Technical Specification 3.2.5, DNB Parameters.

  Technical Specification 3.4.6.3, Pressure Isolation Valves.

  Technical Specification 3.7.1.2, Auxiliary Feedwater System.

- no changes to the BVPS Licensing Requirements Manuals since the Licensing Requirements Manuals do not contain Specifications 3.0.4 or 4.0.4.

- substituted "allowed surveillance interval" for "specified Frequency" in Specifications 3.0.4 and 4.0.4.

  The TSTF inserts for Specifications 3.0.4 and 4.0.4 contain the terminology "specified Frequency" to state when surveillances are to be performed. Since the BVPS TS have not been converted to the STS, they do not contain Section 1.4, Frequency, which provides a definition of Frequency. To achieve consistency within the BVPS, and with the STS, the plant-specific terminology "allowed surveillance interval" is used in the changes proposed for BVPS Specifications 3.0.4 and 4.0.4. This plant-specific terminology also provides the necessary consistency with recently issued Amendments 258 (Unit 1) and 140 (Unit 2). These amendments modified Specifications 4.0.1 and 4.0.3 to incorporate TSTF-348 (Reference 4). To further enhance this consistency, a discussion of "allowed surveillance interval" is added to the Bases of Specification 4.0.2.

Retention of the plant-specific terminology maintains consistency within the current BVPS TS and TS Bases and does not affect the applicability of the NRC staff's model safety evaluation of TSTF-359 Revision 8, as modified by Reference 1.

STS LCO 3.3.3, Post Accident Monitoring (PAMS) Instrumentation

The TSTF contains a modification to the BVPS version of this Technical Specification, namely BVPS LCO 3.3.3.8, Accident Monitoring Instrumentation, where the Specification 3.0.4 exception is deleted. The BVPS LCO contains a Specification 3.0.4 exception as ACTION "c" for Unit 1 and as ACTION "d" for Unit 2. FENOC proposes replacing the Specification 3.0.4 exception with an allowance for Specification 3.0.4.c. This is an additional application of Specification 3.0.4.c that is not included in the TSTF.

The allowance permits entry into the applicable OPERATIONAL MODE while relying on the ACTIONS even though the ACTIONS may eventually require unit shutdown. This allowance is acceptable due to the passive function of the instruments, the operator's ability to respond to an accident using alternate instruments and methods, and the low probability of an event requiring these instruments. This assessment is consistent with the existing licensing basis and conforms to the provisions of Specification 3.0.4.b that allows for a qualitative risk assessment. Therefore, the proposed change is consistent with the NRC staff's model safety evaluation and will not affect the adoption or application of TSTF-359, Revision 8, as modified by Reference 1.

The existing exception to Specification 3.0.4 that is being replaced, was incorporated into the BVPS Unit 1 TS by License Amendment 39 issued on February 11, 1981, (Reference 5). The exception to Specification 3.0.4 in the BVPS Unit 2 TS was issued as part of the original issuance of the Unit 2 TS May 28, 1987. Technical Specification 3.3.3.8 was incorporated into the BVPS TS to comply with Three Mile Island Unit 2 Lessons Learned Category "A" requirements.

STS LCO 3.3.4, Remote Shutdown System

The TSTF contains a modification to this Technical Specification where the Specification 3.0.4 exception is deleted. The BVPS TS do not contain this Technical Specification; therefore no change to the BVPS TS is required.

STS LCO 3.4.11, Pressurized Power Operated Relief Valves (PORVs)

The TSTF contains a modification to the BVPS version of this Technical Specification, namely 3.4.11, Relief Valves, where the Specification 3.0.4 exception is deleted. The BVPS version of this Technical Specification does not contain the Specification 3.0.4 exception; therefore no change to the BVPS TS is required. Although unchanged, the Technical Specification is included for information.

STS LCO 3.4.12, Low Temperature Overpressure Protection (LTOP) System

The TSTF contains a modification to the BVPS version of this Technical Specification, namely 3.4.9.3, Overpressure Protection Systems, where a Specification 3.0.4.b exception, which states that the provision of Specification 3.0.4.b is not applicable when entering MODE 4, is added. The BVPS submittal further modifies the 3.0.4.b exception to include entry into MODE 5. The Specification 3.0.4.b exception is extended to prohibit its use when entering MODE 5 to be consistent with the NRC staff's model safety evaluation, thereby not affecting the adoption or application of TSTF-359, Revision 8, as modified by Reference 1.

The TSTF change is made to both BVPS unit's version of this Technical Specification. However, the current BVPS Unit 2 version of this Technical Specification contains a Specification 3.0.4 exception in ACTION "c". FENOC proposes deleting the existing Unit 2 Specification 3.0.4 exception. The existing Specification 3.0.4 exception is considered unnecessary given the revised definition of Specification 3.0.4 contained in the TSTF. Deletion of the existing Specification 3.0.4 exception is applicable to only the Unit 2 BVPS Technical Specification and is consistent with the TSTF.

The proposed changes are consistent with the NRC staff's model safety evaluation and will not affect the adoption or application of TSTF-359, Revision 8, as modified by Reference 1.

STS LCO 3.4.15, RCS Leakage Detection Instrumentation

The TSTF contains a modification to the BVPS version of this Technical Specification, namely 3.4.6.1 Reactor Coolant System Leakage, where the Specification 3.0.4 exception is deleted. The BVPS LCO contains a Specification

3.0.4 exception as Note (1) that is applicable to ACTIONS "a" and "b". FENOC proposes replacing the Specification 3.0.4 exception with a Specification 3.0.4.c allowance in the BVPS Technical Specification. This is an additional application of Specification 3.0.4.c that is not included in the TSTF.

The justification for the replacement of the Specification 3.0.4 exception with a Specification 3.0.4.c allowance is because other methods are available to monitor reactor coolant system (RCS) leakage. As stated in the ACTIONS for BVPS Technical Specification 3.4.6.1, operations may continue with an inoperable containment sump or atmospheric radioactivity monitor, provided an RCS water inventory balance measurement is performed (per Technical Specification 3.4.6.2, Operational Leakage), or grab samples of the containment atmosphere are obtained and analyzed.

The existing exception to Specification 3.0.4 that is being replaced, was incorporated into the BVPS Unit 1 TS by License Amendment 80 issued on October 9, 1984, (Reference 7). The exception to Specification 3.0.4 in the BVPS Unit 2 TS was issued as part of the original issuance of the Unit 2 TS on May 28, 1987. The exception was added so that the plant could be restarted following a reactor trip since alternate and diverse methods of monitoring RCS leakage are available. Subsequent amendments made editorial and format changes to the exception to bring it to its current form, but did not change its intent.

This justification is consistent with the existing licensing basis and conforms to the provisions of Specification 3.0.4.c. Therefore, the proposed change is consistent with the NRC staff's model safety evaluation and will not affect the adoption or application of TSTF-359, Revision 8, as modified by Reference 1.

STS LCO 3.4.16, RCS Specific Activity

The TSTF contains a modification to the BVPS version of this Technical Specification, namely 3.4.8 Specific Activity, where a Specification 3.0.4.c allowance is added as a Note to the DOSE EQUIVALENT I-131 ACTION. However this generically approved allowance addition is based on the STS version of the Specific Activity TS. The BVPS version is quite different than the STS version. The chief difference is the Applicability of the two Technical Specifications.

The STS TS has an applicability of Modes 1 and 2, and Mode 3 with RCS average temperature (T_{avg}) ≥ 500°F and separate Actions for specific activity, i.e., "A" for DOSE EQUIVALENT I-131 and "B" for gross specific activity. It is ACTION "A", i.e., DOSE EQUIVALENT I-131, to which the allowance for Specification 3.0.4.c is applied in the TSTF.

The BVPS TS has an applicability of Modes 1, 2, 3, 4 and 5 with separate Actions for Modes 1, 2 and 3, with T_{avg} ≥ 500°F, and Modes 1, 2, 3, 4 and 5 without a restriction on T_{avg}. In the BVPS version of the TS, each set of Actions address specific activity measured against DOSE EQUIVALENT I-131 and gross specific activity measured against $\bar{E}$. Thus, for Modes 1, 2 and 3, with T_{avg} ≥ 500°F, the BVPS and STS versions are equivalent. The STS version of the TS does not address Modes 4 or 5, or operation with T_{avg} < 500°F. Therefore, application of the Specification 3.0.4.c allowance to the Action in Modes 1, 2, 3, 4 and 5, is not appropriate for the BVPS version of the TS. Thus, due to this difference between the BVPS and STS versions, a Specification 3.0.4.c allowance is added to BVPS TS Action "a" applicable to MODES 1, 2 and 3 with T_{avg} ≥ 500°F.

This justification is consistent with the existing licensing basis and conforms to the provisions of Specification 3.0.4.c. Therefore, the proposed change is consistent with the NRC staff's model safety evaluation and will not affect the adoption or application of TSTF-359, Revision 8, as modified by Reference 1.

STS LCO 3.5.2, ECCS – Operating

The TSTF requires the deletion of all Specification 3.0.4 exceptions. The BVPS Unit 2 version of this Technical Specification, namely 3.5.2, ECCS Subsystems – T_{avg} ≥ 350°F, has a Note that contains an exception to Specifications 3.0.4 and 4.0.4. It is noted that, since the BVPS TS have not been converted to the STS, the BVPS Note references Specification 3.0.4 and Specification 4.0.4, which are equivalent to STS LCO 3.0.4 and STS SR 3.0.4, respectively. To comply with the TSTF, Note (2) of the Unit 2 Technical Specification is modified to delete the exception to Specifications 3.0.4 and 4.0.4. An additional modification is made to Note (2) so that the wording is more consistent with the wording of the STS. The Note is also renumbered since it will become an exception to the LCO statement, not to the Applicability. The BVPS Unit 1 version of this Technical Specification does not contain the Note; therefore no change to the BVPS Unit 1 Technical

Specification is required. Although unchanged, the BVPS Unit 1 Technical Specification is included for information.

STS LCO 3.5.3, ECCS – Shutdown

The TSTF contains a modification to the BVPS version of this Technical Specification, namely 3.5.3, ECCS Subsystems $-T_{avg} < 350°F$, where a Specification 3.0.4.b exception is added. The exception is added to the Technical Specification, but "ECCS high head subsystem" has been changed to the BVPS plant-specific terminology of "ECCS centrifugal charging pumps" since a BVPS ECCS subsystem contains more than just a centrifugal charging pump. The BVPS plant-specific terminology meets the intent of the Specification 3.0.4.b exception of the TSTF. Therefore, the proposed change is consistent with the NRC staff's model safety evaluation and will not affect the adoption or application of TSTF-359, Revision 8, as modified by Reference 1.

STS LCO 3.6.8, Hydrogen Recombiners

The TSTF contains a modification to the BVPS version of this Technical Specification, namely 3.6.4.2, Electric Hydrogen Recombiners, where the Specification 3.0.4 exception is deleted. The BVPS version of this Technical Specification does not contain the Specification 3.0.4 exception; therefore no change to the BVPS TS is required. Although unchanged, the Technical Specification is included for information.

STS LCO 3.6.9, Hydrogen Mixing System

The TSTF contains a modification to this Technical Specification where the Specification 3.0.4 exception is deleted. The BVPS TS do not contain this Technical Specification; therefore no change to the BVPS TS is required.

STS LCO 3.7.4, Atmospheric Dump Valves (ADVs)

The TSTF contains a modification to this Technical Specification where the Specification 3.0.4 exception is deleted. The BVPS TS do not contain this Technical Specification; therefore no change to the BVPS TS is required.

Proposed Technical Specification Changes

The following table lists the TS for which changes are being proposed to adopt TSTF-359, Revision 8, as modified by Reference 1.

Unit	Number	Title
1 & 2	3.0.4	Applicability Section 3.0.4
1 & 2	4.0.4	Applicability Section 4.0.4
1 & 2	3.3.3.8	Accident Monitoring Instrumentation
1 & 2	3.4.6.1	Reactor Coolant System Leakage
1 & 2	3.4.8	Specific Activity
1 & 2	3.4.9.3	Overpressure Protection Systems
2	3.5.2	ECCS Subsystems $-T_{avg} \geq 350°F$
1 & 2	3.5.3	ECCS Subsystems $-T_{avg} < 350°F$
1 & 2	3.7.1.1	Main Steam Safety Valves (MSSVs)
1 & 2	3.7.1.2	Auxiliary Feedwater System
1 & 2	3.8.1.1	A. C. Sources
1 & 2	3.9.14	Spent Fuel Pool Storage
2	3.9.15	Fuel Storage Pool Boron Concentration

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination

FirstEnergy Nuclear Operating Company (FENOC) has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the *Federal Register* as part of the Consolidated Line-Item Improvement Process (CLIIP). FENOC has concluded that the proposed NSHCD presented in the *Federal Register* Notice is applicable to Beaver Valley Power Station (BVPS) Unit Nos. 1 and 2 and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

3.2 Verification and Commitments

As discussed in the notice of availability published in the *Federal Register* published on April 4, 2003, for this Technical Specification (TS) improvement, plant-specific verification were performed as follows:

FENOC has established TS Bases for Specifications 3.0.4 and 4.0.4, which state that use of the Technical Specification Mode change limitation flexibility established by Specifications 3.0.4 and 4.0.4 is not to be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to operable status before entering an associated Mode or other specified condition in the Technical Specification Applicability.

The modification also includes changes to the Bases for Specifications 3.0.4 and 4.0.4 that provide details on how to implement the new requirements. The Bases changes provide guidance for changing Modes or other specified conditions in the applicability when an LCO is not met.

The Bases changes describe in detail how:

- Specification 3.0.4.a allows entry into an OPERATIONAL MODE or other specified condition in the Applicability with the LCO not met when the associated ACTIONS to be entered permit continued operation in the OPERATIONAL MODE or other specified condition in the Applicability for an unlimited period of time;

- Specification 3.0.4.b allows entry into an OPERATIONAL MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the OPERATIONAL MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; and

- Specification 3.0.4.c allows entry into an OPERATIONAL MODE or other specified condition in the Applicability with the LCO not met based on a Note in the Specification, which is typically applied to Specifications which describe values and parameters (e. g., Containment Air Temperature, Containment Pressure, Moderator Temperature Coefficient), although it may be applied to other Specifications based on NRC plant-specific approval.

The Bases also state that any risk impact should be managed through the program in place to implement 10 CFR 50.65(a)(4) and its implementation guidance, NRC Regulatory Guide 1.182, "Assessing and Managing Risks Before Maintenance Activities at Nuclear power Plants," and that the results of the risk assessment shall be considered in the determining the acceptability of entering the OPERATIONAL MODE or other specified condition in the Applicability, and any corresponding risk management actions.

Upon entry into an OPERATIONAL MODE or other specified condition in the Applicability with the LCO not met, Specifications 3.0.1 and 3.0.2 require entry into the applicable Conditions and Required Actions until the Condition is resolved, until the LCO is met, or the unit is not within the Applicability of the Technical Specification.

The Bases also state that Specification 4.0.4 does not restrict changing OPERATIONAL MODES or other specified condition in the Applicability when a surveillance has not been performed within the specified frequency, provided the requirement to declare the LCO not met has been delayed in accordance with Specification 4.0.3.

FENOC has a Technical Specification Bases Control Program consistent with Section 5.5 of the STS, and the BVPS equivalent, i.e., Specification 4.0.1, and associated Bases. Therefore, the BVPS TS Bases will be revised to reflect the proposed TS changes and will be implemented in accordance with BVPS Technical Specification 6.18, "Technical Specifications (TS) Bases Control Program," as part of the implementation of this amendment upon NRC approval of this License Amendment Request.

4.0 ENVIRONMENTAL EVALUATION

FENOC has reviewed the environmental evaluation included in the model safety evaluation dated April 4, 2003 as part of the CLIIP. FENOC has concluded that the staff's findings presented in that evaluation are applicable to BVPS Unit Nos. 1 and 2 and is hereby incorporated by reference for this application.

5.0 REFERENCES

1. *Federal Register* Notice dated April 4, 2003.

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

3. Nuclear Energy Institute – Risk-Informed Technical Specifications Initiative 3 - Increased Flexibility in Mode Restraints (TSTF-359) – Industry Implementation Guidance, NEI 03-10, August 2003.

4. Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change TSTF-358, Revision 6, "Missed Surveillance Requirements", September 14, 2001.

5. NRC Letter dated February 11, 1981, issuance of Beaver Valley Power Station Unit 1 Amendment 39.

6. NRC Letter dated May 15, 1995. "BEAVER VALLEY POWER STATION. UNIT NOS. 1 AND 2 (TAC NOS. M77328, M77329, M77400, AND M77401)", Amendments 187 (Unit 1) and 69 (Unit 2).

7. NRC Letter dated October 9, 1984, Issuance of Beaver Valley Power Station Unit 1 Amendment 80.

Attachment A-1

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

License Amendment Request No. 321

The following is a list of the affected pages:

3/4 0-1
3/4 0-2 *
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3/4 0-4 *
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3/4 4-18
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3/4 4-27b *
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3/4 7-5
3/4 8-1
3/4 9-14

* No changes are proposed. The page is included for information only.

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

LIMITING CONDITION FOR OPERATION

3.0.1 Compliance with the Limiting Conditions for Operation contained in the succeeding specifications is required during the OPERATIONAL MODES or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met, except as provided in Limiting Condition for Operation 3.0.6.

3.0.2 Noncompliance with a specification shall exist when the requirements of the Limiting Condition for Operation and associated ACTION requirements are not met within the specified time intervals. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.

3.0.3 When a Limiting Condition for Operation is not met except as provided in the associated ACTION requirements, within one hour action shall be initiated to place the unit in a MODE in which the specification does not apply by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual specifications.

3.0.4 ~~Entry into an OPERATIONAL MODE or other specified condition shall not be made when the conditions for the Limiting Conditions for Operation are not met and the associated ACTION requires a shutdown if they are not met within a specified time interval. Entry into an OPERATIONAL MODE or specified condition may be made in accordance with ACTION requirements when conformance to them permits continued operation of the facility for an unlimited period of time. This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION requirements. Exceptions to these requirements are stated in the individual specifications.~~When a Limiting Condition for Operation is not met, entry into an OPERATIONAL MODE or other specified condition in the Applicability shall only be made:

a. When the associated ACTIONS to be entered permit continued operation in the OPERATIONAL MODE or other specified condition in the Applicability for an unlimited period of time, or

b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the OPERATIONAL

MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this Specification are stated in the individual Specifications, or

c. When an allowance is stated in the individual value, parameter, or other Specification.

This Specification shall not prevent changes in OPERATIONAL MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3.0.5 When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power

No change proposed. Included for information only.

3/4.0 APPLICABILITY

LIMITING CONDITION FOR OPERATION (continued)

source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied within 2 hours, action shall be initiated to place the unit in a MODE in which the applicable Limiting Condition for Operation does not apply, by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

This specification is not applicable in MODES 5 or 6.

3.0.6 Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to Limiting Condition for Operation 3.0.1 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be met during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the Limiting Condition for Operation. Failure to perform a Surveillance within the allowed surveillance interval, defined by Specification 4.0.2, shall be failure to meet the Limiting Condition for Operation except as provided in Specification 4.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25% of the surveillance interval.

4.0.3 If it is discovered that a Surveillance was not performed within its allowed surveillance interval, defined by Specification 4.0.2, then compliance with the requirement to declare the Limiting Condition for Operation not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified surveillance interval, whichever is greater. This delay period is permitted to allow performance of the Surveillance. A risk

SURVEILLANCE REQUIREMENTS

evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the Limiting Condition for Operation must immediately be declared not met, and the applicable ACTION(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the Limiting Condition for Operation must immediately be declared not met, and the applicable ACTION(s) must be entered.

4.0.4 Entry into an OPERATIONAL MODE or other specified condition in the Applicability of a Limiting Condition for Operation shall ~~not~~ only be made ~~unless when~~ the Limiting Condition for Operation's Surveillances ~~Requirement(s) associated with a Limiting Condition for Operation has been performed within the stated surveillance interval or as otherwise specified.~~ have been met within their allowed surveillance interval, except as provided by Specification 4.0.3. When a Limiting Condition for Operation is not met due to Surveillances not having been met, entry into an OPERATIONAL MODE or other specified condition in the Applicability shall only be made in accordance with Specification 3.0.4. This provision shall not prevent ~~passage through or to~~entry into OPERATIONAL MODES or other specified conditions in the Applicability, that are ~~as~~ required to comply with ACTION requirements or that are part of a shutdown of the unit.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2 and 3 components shall be applicable as follows:

a.1 Inservice inspection of ASME Code Class 1, 2 and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g).

a.2 Inservice testing of ASME Code Class 1, 2 and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(f).

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice inspection and testing activities	Required frequencies for performing inservice inspection and testing activities

Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days

No change proposed. Included for information only.

SURVEILLANCE REQUIREMENTS

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.

d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.

e. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

INSTRUMENTATION

ACCIDENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 The accident monitoring instrumentation channels shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- - - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Specification 3.0.4.c is applicable.

- -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Total Number of Channels shown in Table 3.3-11, either restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours (follow Specification 3.4.11 when determining ACTIONS for Items 5 and 6).

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3-11, either restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

~~c. The provisions of Specification 3.0.4 are not applicable.~~

SURVEILLANCE REQUIREMENTS

4.3.3.8 Each accident monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-7.

REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following Reactor Coolant System leakage detection instrumentation shall be OPERABLE:

a. One containment sump (narrow range level or discharge flow) monitor; and

b. One containment atmosphere radioactivity monitor (gaseous or particulate).

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the required containment sump monitor inoperable(1), operations may continue for up to 30 days provided that a Reactor Coolant System water inventory balance measurement (Specification 4.4.6.2.b) is performed at least once per 24 hours. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With the required containment atmosphere radioactivity monitor inoperable(1), operations may continue for up to 30 days provided:

   1. Grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours, or

   2. A Reactor Coolant System water inventory balance measurement (Specification 4.4.6.2.b) is performed at least once per 24 hours.

   Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

---

(1) ~~The provisions of~~ Specification 3.0.4.c is~~are not~~ applicable.

REACTOR COOLANT SYSTEM

SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.8 The specific activity of the primary coolant shall be limited to:

a. $\leq$ 0.10 µCi/gram DOSE EQUIVALENT I-131, and

b. $\leq 100/\bar{E}$ µCi/gram.

APPLICABILITY: MODES 1, 2, 3, 4 and 5.

ACTION:

MODES 1, 2, and 3*

a. With the specific activity of the primary coolant > 0.10 µCi/gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in HOT STANDBY with T_{avg} < 500°F within 6 hours. (1)

b. With the specific activity of the primary coolant > $100/\bar{E}$ µCi/gram, be in HOT STANDBY with T_{avg} < 500°F within 6 hours.

MODES 1, 2, 3, 4 and 5

a. With the specific activity of the primary coolant > 0.10 µCi/gram DOSE EQUIVALENT I-131 or > 100/E µCi/gram, perform the sampling and analysis requirement of item 4a of Table 4.4-12 until the specific activity of the primary coolant is restored to within its limits.

SURVEILLANCE REQUIREMENTS

4.4.8 The specific activity of the primary coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-12.

---

* With $T_{avg} \geq$ 500°F

(1) Specification 3.0.4.c is applicable.

REACTOR COOLANT SYSTEM

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.9.3 An overpressure protection system shall be OPERABLE with a maximum of one charging pump(1) capable of injecting into the RCS and the accumulators isolated(2) and either a or b below:

a. Two power operated relief valves (PORVs) with a nominal maximum lift setting within limits specified in the PTLR, or

b. The RCS depressurized and an RCS vent of greater than or equal to 2.07 square inches.

APPLICABILITY: Mode 4 when any RCS cold leg temperature is less than or equal to an enable temperature specified in the PTLR,
Mode 5,
Mode 6 when the reactor vessel head is on.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable when entering MODE 4 or MODE 5.

- -

a. With two or more charging pumps capable of injecting into the RCS, immediately initiate action to verify a maximum of one charging pump is capable of injecting into the RCS or depressurize and vent the RCS through a 2.07 square inch or larger vent within 12 hours.

b. With an accumulator not isolated when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the heatup and cooldown curves in the PTLR, isolate the affected accumulator within 1 hour or increase the RCS cold leg temperature above the enable temperature specified in the PTLR within the next 12 hours or depressurize the affected accumulator to less than the maximum RCS pressure for the existing cold leg temperature allowed by the heatup and cooldown curves in the PTLR within the next 12 hours.

---

(1) Two charging pumps may be capable of injecting into the RCS for pump swap operation for less than or equal to 1 hour.

(2) Accumulator isolation with power removed from the discharge isolation valves is only required when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the heatup and cooldown curves provided in the PTLR.

No change proposed. Included for information only.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

c. With one PORV inoperable in MODE 4 (when any RCS cold leg temperature is less than or equal to the enable temperature specified in the PTLR), restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the RCS through a 2.07 square inch or larger vent within the next 12 hours.

d. With one PORV inoperable in MODES 5 or 6, restore the inoperable PORV to OPERABLE status within 24 hours or depressurize and vent the RCS through a 2.07 square inch or larger vent within the next 12 hours.

e. With two PORVs inoperable, depressurize and vent the RCS through a 2.07 square inch or larger vent within 12 hours.

SURVEILLANCE REQUIREMENTS

4.4.9.3.1 Verify at least once per 12 hours that:

a. A maximum of one charging pump is capable of injecting into the RCS, and

b. Each accumulator is isolated; however, with the accumulator pressure less than the low temperature overpressure protection setpoint, the accumulator discharge isolation valves may be opened to perform accumulator discharge check valve testing.

4.4.9.3.2 When PORVs are being used for overpressure protection, demonstrate each PORV is OPERABLE by:

a. Verifying each PORV block valve is open for each required PORV at least once per 72 hours, and

b. Performance of a CHANNEL FUNCTIONAL TEST on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required to be OPERABLE and placed in operation after decreasing the RCS cold leg temperature to less than or equal to the enable temperature specified in the PTLR and at least once per 31 days, and

c. Performance of a CHANNEL CALIBRATION on each required PORV actuation channel at least once per 18 months.

No change proposed. Included for information only.

3/4.4.11 RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.4.11 Each power operated relief valve (PORV) and associated block valve shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Separate ACTION statement entry is allowed for each PORV and block valve.

- -

a. With one or more PORVs inoperable and capable of being manually cycled, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) with power maintained to the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With one or two PORV(s) inoperable and not capable of being manually cycled, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valves and remove power from the block valve(s); a minimum of two PORVs are to be OPERABLE within the following 72 hours or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. With one PORV inoperable and isolated, power operation may continue until the next refueling outage.

c. With three PORVs inoperable and not capable of being manually cycled, within 1 hour either restore at least one PORV to OPERABLE status or close the associated block valves and remove power from the block valves and be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

d. With one block valve inoperable and open, within 1 hour either restore the block valve to OPERABLE status or place the associated PORV in manual control. Restore the block valve to OPERABLE status within the following 72 hours or be in HOT STANDBY within the next 6 hours and in HOT

No change proposed. Included for information only.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

SHUTDOWN within the following 6 hours. With one block valve inoperable, restore the block valve to OPERABLE status within 1 hour or close it, power operation may continue until the next refueling outage.

e. With more than one block valve inoperable, within 1 hour either restore the block valves to OPERABLE status or place the associated PORVs in manual control. Restore at least one block valve to OPERABLE status within the next hour if three block valves are inoperable; restore a minimum of two block valves to OPERABLE status within 72 hours; otherwise, be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.11.1 Each PORV shall be demonstrated OPERABLE at least once per 18 months by operating the PORV through one complete cycle of full travel using:

a) The normal air supply system, and

b) The backup nitrogen supply system.

4.4.11.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed to meet required ACTIONS b or c.

No change proposed. Included for information only.

EMERGENCY CORE COOLING SYSTEMS

3/4.5.2 ECCS SUBSYSTEMS - $T_{avg} \geq 350°F$

LIMITING CONDITION FOR OPERATION

3.5.2 Two separate and independent ECCS subsystems shall be OPERABLE with each subsystem comprised of:

a. One OPERABLE centrifugal charging pump,

b. One OPERABLE low head safety injection pump, and

c. An OPERABLE flow path capable of taking suction from the refueling water storage tank on a safety injection signal and transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted in accordance with 10 CFR 50.4 within 30 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

EMERGENCY CORE COOLING SYSTEMS

3/4.5.3 ECCS SUBSYSTEMS - T_{avg} < 350°F

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem comprised of the following shall be OPERABLE:

a. One OPERABLE centrifugal charging pump,#

b. One OPERABLE Low Head Safety Injection Pump, and

c. An OPERABLE flow path capable of taking suction from the refueling water storage tank upon being manually realigned and transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODE 4.

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable to ECCS centrifugal charging pumps.

- -

ACTION:

a. With no ECCS subsystem OPERABLE because of the inoperability of either the centrifugal charging pump or the flow path from the refueling water storage tank, restore at least one ECCS subsystem to OPERABLE status within 1 hour or be in COLD SHUTDOWN within the next 20 hours.

b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted in accordance with 10 CFR 50.4 within 30 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

SURVEILLANCE REQUIREMENTS

4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.

4.5.3.2 All charging pumps except the above required OPERABLE pumps, shall be demonstrated inoperable at least once per 12 hours whenever the temperature of one or more of the non-isolated RCS cold legs is ≤ the enable temperature specified in the PTLR by verifying that the control switches are placed in the PULL-TO-LOCK position and tagged.

A maximum of one centrifugal charging pump shall be OPERABLE whenever the temperature of one or more of the non-isolated RCS cold legs is $\leq$ the enable temperature specified in the PTLR.

ELECTRIC HYDROGEN RECOMBINERS

LIMITING CONDITION FOR OPERATION

3.6.4.2 Two separate and independent containment hydrogen recombiner systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in HOT STANDBY within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.2 Each hydrogen recombiner system shall be demonstrated OPERABLE:

a. At least once per 6 months by verifying during a recombiner system functional test using outside atmospheric air at a flow rate of ≥ 50 scfm that the heater outlet temperature increases to ≥ 700°F within 90 minutes and is maintained for at least 2 hours.

b. At least once per 18 months by:

1. Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits.

2. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiners (i.e., loose wiring or structural connections, deposits of foreign materials, etc.).

3. Performing a hydrogen recombiner system functional test using containment atmospheric air to verify the following:

a. The recombiner blower flow when corrected to 13 psia and 130°F is ≥ 50 scfm, and

b. The heater temperature increases to ≥ 1100°F within 5 hours and is maintained for at least 4 hours while operating at a recombiner blower flow that when corrected to 13 psia and 130°F is ≥ 50 scfm.

No change proposed. Included for information only.

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying the integrity of all heater electrical circuits by performing a continuity and resistance to ground test immediately following the above required functional test. The resistance to ground for any heater phase shall be ≥ 10,000 ohms.

3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

MAIN STEAM SAFETY VALVES (MSSVs)

LIMITING CONDITION FOR OPERATION

3.7.1.1 Five MSSVs per steam generator shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - - -

Separate ACTION entry is allowed for each MSSV.

- -

a. With one or more steam generators with one MSSV inoperable and the Moderator Temperature Coefficient (MTC) zero or negative at all power levels, within 4 hours reduce THERMAL POWER to less than or equal to 61% RTP; otherwise, be in HOT STANDBY within the next 6 hours, and in HOT SHUTDOWN within the next 6 hours.

b. With one or more steam generators with two or more MSSVs inoperable, or with one or more steam generators with one MSSV inoperable and the MTC positive at any power level, within 4 hours reduce THERMAL POWER to less than or equal to the Maximum Allowable % RTP specified in Table 3.7-1 for the number of OPERABLE MSSVs, and reduce the Power Range Neutron Flux-High reactor trip setpoint to less than or equal to the Maximum Allowable % RTP specified in Table 3.7-1 for the number of OPERABLE MSSVs within the next 32 hours(1); otherwise, be in HOT STANDBY within the next 6 hours, and in HOT SHUTDOWN within the next 6 hours.

c. With one or more steam generators with four or more MSSVs inoperable, within 6 hours be in HOT STANDBY and in HOT SHUTDOWN within the next 6 hours.

~~d. The provisions of Specification 3.0.4 are not applicable.~~

SURVEILLANCE REQUIREMENTS

4.7.1.1 Verify(2) each required MSSV lift setpoint per Table 3.7-2 in accordance with the Inservice Testing Program. Following testing, lift settings shall be within ± 1 percent.

(1) Required to be performed only in MODE 1.
(2) Required to be performed only in MODES 1 and 2.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 Three Auxiliary Feedwater (AFW) trains shall be OPERABLE and consist of the following:(1)

a. One motor driven AFW pump with a flow path from WT-TK-10 to each feedwater injection header via the train "A" supply header.

b. One motor driven AFW pump with a flow path from WT-TK-10 to each feedwater injection header via the train "B" supply header.

c. One turbine driven AFW pump capable of being powered from two steam supplies(8) with a flow path from WT-TK-10 to each feedwater injection header via the designated train supply header.

d. One feedwater injection header to each steam generator.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator(s) is relied upon for heat removal.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable when entering MODE 1.

- -

a. With one of the two steam supplies to the turbine driven AFW pump inoperable, restore two steam supplies to OPERABLE status within 7 days and within 10 days from discovery of failure to meet the LCO or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With one feedwater injection header inoperable in MODE 1, 2, or 3, be in HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

---

(1) Only one AFW train (capable of providing flow to the steam generator(s) relied upon for heat removal), which includes a motor driven pump, is required to be OPERABLE in MODE 4.

(8) With one steam supply inoperable, follow ACTION statement a.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and

b. Two separate and independent diesel generators each with:

1. Separate day and engine-mounted fuel tanks containing a minimum of 900 usable gallons of fuel,

2. A separate fuel storage system containing a minimum of 17,500 usable gallons of fuel, and

3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable to diesel generators.

- -

a. With one offsite circuit inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

b. With one diesel generator(1) inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any cause other than an independently testable component, testing or preplanned preventative maintenance, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing

(1) Fuel oil contained in the storage tanks not meeting the properties in accordance with 4.8.1.1.2.d.2 or 4.8.1.1.2.e shall be brought within the specified limits within 7 days.

REFUELING OPERATIONS

3/4.9.14 SPENT FUEL STORAGE POOL

LIMITING CONDITION FOR OPERATION

3.9.14 Fuel is to be stored in the spent fuel storage pool with:

a. The boron concentration in the spent fuel pool maintained greater than or equal to 1050 ppm when moving fuel in the spent fuel pool; and

b. Fuel assembly storage in Region 1 restricted to fuel with an enrichment less than or equal to 5.0 w/o U-235; and

c. Fuel assembly storage in Region 2 restricted to fuel which has been qualified in accordance with Table 3.9-1; and

d. Fuel assembly storage in Region 3 restricted to fuel which has been qualified in accordance with Table 3.9-2.

APPLICABILITY: During storage of fuel in the spent fuel pool.

ACTION:

a. Suspend all actions involving movement of fuel in the spent fuel pool if it is determined a fuel assembly has been placed in the incorrect Region until such time as the correct storage location is determined. Move the assembly to its correct location before resumption of any other fuel movement.

b. Suspend all actions involving the movement of fuel in the spent fuel pool if it is determined the pool boron concentration is less than 1050 ppm, until such time as the boron concentration is increased to 1050 ppm or greater.

c. The provisions of Specifications 3.0.3 ~~and 3.0.4~~ are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.14.1 Prior to placing fuel or moving fuel in the spent fuel pool, verify through fuel receipt records for new fuel, or by burnup analysis and comparison with Table 3.9-1 or Table 3.9-2 for spent fuel, that fuel assemblies to be placed into or moved in the spent fuel pool are within the above enrichment/burnup limits.

4.9.14.2 Verify the spent fuel pool boron concentration is $\geq$ 1050 ppm:

a. Within 8 hours prior to and at least once per 24 hours during movement of fuel in the spent fuel pool, and

b. At least once per 31 days.

Attachment A-2

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

License Amendment Request No. 193

The following is a list of the affected pages:

3/4 0-1
3/4 0-2 *
3/4 0-3
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3/4 3-57
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3/4 4-35
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3/4 4-39a *
3/4 5-3
3/4 5-6
3/4 6-32 *
3/4 6-32a *
3/4 7-1
3/4 7-4
3/4 8-1
3/4 9-15
3/4 9-17

* No changes are proposed. The page is included for information only.

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

LIMITING CONDITION FOR OPERATION

3.0.1 Compliance with the Limiting Conditions for Operation contained in the succeeding specifications is required during the OPERATIONAL MODES or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met, except as provided in Limiting Condition for Operation 3.0.6.

3.0.2 Noncompliance with a specification shall exist when the requirements of the Limiting Condition for Operation and associated ACTION requirements are not met within the specified time intervals. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.

3.0.3 When a Limiting Condition for Operation is not met except as provided in the associated ACTION requirements, within one hour action shall be initiated to place the unit in a MODE in which the specification does not apply by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual specifications.

3.0.4 ~~Entry into an OPERATIONAL MODE or other specified condition shall not be made when the conditions for the Limiting Condition for Operation are not met and the associated ACTION requires a shutdown if they are not met within a specified time interval. Entry into an OPERATIONAL MODE or specified condition may be made in accordance with ACTION requirements when conformance to them permits continued operation of the facility for an unlimited period of time. This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION requirements. Exceptions to these requirements are stated in the individual specifications.~~ When a Limiting Condition for Operation is not met, entry into an OPERATIONAL MODE or other specified condition in the Applicability shall only be made:

a. When the associated ACTIONS to be entered permit continued operation in the OPERATIONAL MODE or other specified condition in the Applicability for an unlimited period of time, or

b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the OPERATIONAL

MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this Specification are stated in the individual Specifications, or

c. When an allowance is stated in the individual value, parameter, or other Specification.

This Specification shall not prevent changes in OPERATIONAL MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3.0.5 When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable limiting Condition for Operation, provided: (1) its corresponding normal or emergency power

LIMITING CONDITION FOR OPERATION (Continued)

source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied within 2 hours, action shall be initiated to place the unit in a MODE in which the applicable Limiting Condition for Operation does not apply, by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

This specification is not applicable in MODES 5 or 6.

3.0.6 Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to Limiting Condition for Operation 3.0.1 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be met during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement. Failure to meet a surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the Limiting Condition for Operation. Failure to perform a surveillance within the allowed surveillance interval, defined by Specification 4.0.2, shall be failure to meet the Limiting Condition for Operation except as provided in Specification 4.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25% of the surveillance interval.

4.0.3 If it is discovered that a Surveillance was not performed within its allowed surveillance interval, defined by Specification 4.0.2, then compliance with the requirement to declare the Limiting Condition for Operation not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified surveillance interval, whichever is greater. This delay period is permitted to allow performance of the Surveillance. A risk

evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the Limiting Condition for Operation must immediately be declared not met, and the applicable ACTION(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the Limiting Condition for Operation must immediately be declared not met, and the applicable ACTION(s) must be entered.

4.0.4 Entry into an OPERATIONAL MODE or other specified condition in the Applicability of a Limiting Condition for Operation shall ~~not~~ only be made ~~unless~~ when the Limiting Condition for Operation Surveillances ~~Requirement(s) associated with a Limiting Condition for Operation has been performed within the stated surveillance interval or as otherwise specified.~~ have been met within their allowed surveillance interval, except as provided by Specification 4.0.3. When a Limiting Condition for Operation is not met due to Surveillances not having been met, entry into an OPERATIONAL MODE or other specified condition in the Applicability shall only be made in accordance with Specification 3.0.4. This provision shall not prevent ~~passage through or to~~entry into OPERATIONAL MODES, or other specified conditions in the Applicability, that are ~~as~~ required to comply with ACTION requirements or that are part of a shutdown of the unit.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2 and 3 components shall be applicable as follows:

a.1 Inservice inspection of ASME Code Class 1, 2 and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g).

a.2 Inservice testing of ASME Code Class 1, 2 and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(f).

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice inspection and testing activities	Required frequencies for performing inservice inspection and testing activities

Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days

No change proposed. Included for information only.

APPLICABILITY

SURVEILLANCE REQUIREMENTS

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.

d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.

e. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

INSTRUMENTATION

ACCIDENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 The accident monitoring instrumentation channels shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Specification 3.0.4.c is applicable.

- -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Total Number of Channels shown in Table 3.3-11, either restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours (follow Specification 3.4.11 when determining ACTIONS for Items 4 and 5).

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3-11, either restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

c. With the number of OPERABLE Reactor Coolant System Subcooling Margin Monitor instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3-11, either restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

~~d. The provisions of Specification 3.0.4 are not applicable.~~

SURVEILLANCE REQUIREMENTS

4.3.3.8 Each accident monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-7.

REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following Reactor Coolant System leakage detection instrumentation shall be OPERABLE:

a. One containment sump (narrow range level or discharge flow) monitor; and

b. One containment atmosphere radioactivity monitor (gaseous or particulate).

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the required containment sump monitor inoperable(1), operations may continue for up to 30 days provided that a Reactor Coolant System water inventory balance measurement (Specification 4.4.6.2.b) is performed at least once per 24 hours. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With the required containment atmosphere radioactivity monitor inoperable(1), operations may continue for up to 30 days provided:

   1. Grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours, or

   2. A Reactor Coolant System water inventory balance measurement (Specification 4.4.6.2.b) is performed at least once per 24 hours.

   Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

---

(1) ~~The provisions of~~ Specification 3.0.4.c is ~~are not~~ applicable.

REACTOR COOLANT SYSTEM

3/4.4.8 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.8 The specific activity of the reactor coolant shall be limited to:

a. ≤ 0.35 μCi/gram DOSE EQUIVALENT I-131, and

b. ≤ $100/\bar{E}$ μCi/gram

APPLICABILITY: MODES 1, 2, 3, 4, and 5

ACTION:

MODES 1, 2 and 3*:

a. With the specific activity of the primary coolant > 0.35 μCi/gram DOSE EQUIVALENT I-131(1) for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in HOT STANDBY with T_{avg} < 500°F within 6 hours.

b. With the specific activity of the primary coolant > $100/\bar{E}$ μCi/gram, be in HOT STANDBY with T_{avg} < 500°F within 6 hours.

MODES 1, 2, 3, 4, and 5

a. With the specific activity of the primary coolant > 0.35 μCi/gram DOSE EQUIVALENT I-131 or >100/E μCi/gram, perform the sampling analysis requirement of item 4a of Table 4.4-12 until the specific activity of the primary coolant is restored to within its limits.

SURVEILLANCE REQUIREMENTS

4.4.8 The specific activity of the primary coolant shall be determined to be within the performance limits of the sampling and analysis program of Table 4.4-12.

---

* With T_{avg} ≥ 500°F.

(1) Specification 3.0.4.c is applicable.

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.9.3 An overpressure protection system shall be OPERABLE with a maximum of one charging pump(1) capable of injecting into the RCS and the accumulators isolated(2) and either a or b below:

a. Two power-operated relief valves (PORVs) with nominal maximum lift settings which vary with the RCS temperature and which do not exceed the limits specified in the PTLR, or

b. The RCS depressurized and an RCS vent of greater than or equal to 3.14 square inches.

APPLICABILITY: MODE 4 when any RCS cold leg temperature is less than or equal to an enable temperature specified in the PTLR, MODE 5, MODE 6 when the reactor vessel head is on.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable when entering MODE 4 or MODE 5.

- -

a. With two or more charging pumps capable of injecting into the RCS, immediately initiate action to verify a maximum of one charging pump is capable of injecting into the RCS or depressurize and vent the RCS through a 3.14 square inch or larger vent within 12 hours.

b. With an accumulator not isolated when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the heatup and cooldown curves in the PTLR, isolate the affected accumulator within 1 hour or increase the RCS cold

(1) Two charging pumps may be capable of injecting into the RCS for pump swap operation for less than or equal to 15 minutes. All charging pumps may be capable of injecting into the RCS for less than or equal to 4 hours immediately following a change from MODE 3 to MODE 4 or prior to the temperature of one or more of the RCS cold legs decreasing below the enable temperature specified in the PTLR minus 25°F, whichever comes first.

(2) Accumulator isolation with power removed from the discharge isolation valves is only required when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the heatup and cooldown curves provided in the PTLR.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

leg temperature above the enable temperature specified in the PTLR within the next 12 hours or depressurize the affected accumulator to less than the maximum RCS pressure for the existing cold leg temperature allowed by the heatup and cooldown curves in the PTLR within the next 12 hours.

c. With one PORV inoperable in MODE 4 (when any RCS cold leg temperature is less than or equal to the enable temperature specified in the PTLR), restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the RCS through a 3.14 square inch or larger vent within the next 12 hours. ~~The provisions of Specification 3.0.4 are not applicable when in this action.~~

d. With one PORV inoperable in MODES 5 or 6, restore the inoperable PORV to OPERABLE status within 24 hours or depressurize and vent the RCS through a 3.14 square inch or larger vent within the next 12 hours.

e. With two PORVs inoperable, depressurize and vent the RCS through a 3.14 square inch or larger vent within 12 hours.

SURVEILLANCE REQUIREMENTS

4.4.9.3.1 Verify at least once per 12 hours that:

a. A maximum of one charging pump is capable of injecting into the RCS, and

b. Each accumulator is isolated; however, with the accumulator pressure less than the low temperature overpressure protection setpoint, the accumulator discharge isolation valves may be opened to perform accumulator discharge check valve testing.

4.4.9.3.2 When PORVs are being used for overpressure protection, demonstrate each PORV is OPERABLE by:

a. Verifying each PORV block valve is open for each required PORV at least once per 72 hours, and

No change proposed. Included for information only.

REACTOR COOLANT SYSTEM

3/4.4.11 RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.4.11 Each Power-Operated Relief Valve (PORV) and associated block valve shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - - -

Separate ACTION statement entry is allowed for each PORV and block valve.

- -

a. With one or more PORVs inoperable and capable of being manually cycled, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) with power maintained to the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With one or two PORV(s) inoperable and not capable of being manually cycled, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valves and remove power from the block valve(s); a minimum of two PORVs are to be OPERABLE within the following 72 hours or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. With one PORV inoperable and isolated, power operation may continue until the next refueling outage.

c. With three PORVs inoperable and not capable of being manually cycled, within 1 hour either restore at least one PORV to OPERABLE status or close the associated block valves and remove power from the block valves and be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

d. With one block valve inoperable and open, within 1 hour either restore the block valve to OPERABLE status or place the associated PORV in manual control. Restore the block valve to OPERABLE status within the following

No change proposed. Included for information only.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

72 hours or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. With one block valve inoperable, restore the block valve to OPERABLE status within 1 hour or close it, power operation may continue until the next refueling outage.

e. With more than one block valve inoperable, within 1 hour either restore the block valves to OPERABLE status or place the associated PORVs in manual control. Restore at least one block valve to OPERABLE status within the next hour if three block valves are inoperable; restore a minimum of two block valves to OPERABLE status within 72 hours; otherwise, be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.11.1 Each PORV shall be demonstrated OPERABLE at least once per 18 months by operating the PORV through one complete cycle of full travel.

4.4.11.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed to meet required ACTIONS b or c.

3/4.5.2 ECCS SUBSYSTEMS - $T_{avg} \geq 350°F$

LIMITING CONDITION FOR OPERATION

3.5.2 Two separate and independent ECCS subsystems shall be OPERABLE[(1)] with each subsystem comprised of:

a. One OPERABLE centrifugal charging pump,

b. One OPERABLE low head safety injection pump,

c. One OPERABLE recirculation spray pump[(~~1~~2)] capable of supplying the safety injection flow path during recirculation phase, and

d. An OPERABLE flow path capable of taking suction from the refueling water storage tank on a safety injection signal and transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODES 1, 2 and 3.[(~~2~~)]

ACTION:

a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted in accordance with 10 CFR 50.4 within 30 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a.1. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operator control circuits disconnected by removal of the plug in the lock out circuit from each circuit:

(~~1~~2) Recirculation spray pump 2RSS-P21C or 2RSS-P21D.

(~~2~~1) ~~The provisions of Specifications 3.0.4 and 4.0.4 are not applicable for entry into~~ In MODE 3, ~~for~~ the centrifugal charging pumps may be~~declared~~ inoperable pursuant to Specification 4.5.3.2 provided the centrifugal charging pumps are restored to OPERABLE status within 4 hours or ~~prior to~~until the temperature of ~~one or more of the~~all RCS cold legs exceed~~sing~~ the OPPS enable temperature specified in the PTLR plus 25°F, whichever comes first.

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - T_{avg} < 350°F

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem comprised of the following shall be OPERABLE:

a. One OPERABLE centrifugal charging pump,

b. One OPERABLE Low Head Safety Injection Pump, and

c. One OPERABLE recirculation spray pump* capable of supplying the safety injection flow path during recirculation phase, and

d. An OPERABLE flow path capable of taking suction from the refueling water storage tank upon being manually realigned and transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODE 4.

ACTION:

- - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable to ECCS centrifugal charging pumps.

- -

a. With no ECCS subsystem OPERABLE because of the inoperability of either the centrifugal charging pump or the flow path from the refueling water storage tank, restore at least one ECCS subsystem to OPERABLE status within 1 hour or be in COLD SHUTDOWN within the next 20 hours.

b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted in accordance with 10 CFR 50.4 within 30 days describing the circumstances of the actuation and the total accumulated actuation cycle to date.

SURVEILLANCE REQUIREMENTS

4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.

4.5.3.2 All charging pumps, except the above required OPERABLE charging pump, shall be demonstrated inoperable** by verifying that the control switches are placed in the PULL-TO-LOCK position and tagged within 4 hours after entering MODE 4 from MODE 3 prior to the temperature of one or more of the RCS cold legs decreasing below the enable temperature specified in the PTLR minus 25°F, whichever comes first, and at least once per 12 hours thereafter.

* Recirculation spray pump 2RSS-P21C or 2RSS-P21D.

** An inoperable pump may be energized for testing provided the discharge of the pump has been isolated from the RCS by a closed isolation valve with power removed from the valve operator, or by a manual isolation valve secured in the closed position.

No change proposed. Included for information only.

ELECTRIC HYDROGEN RECOMBINERS

LIMITING CONDITION FOR OPERATION

3.6.4.2 Two separate and independent containment hydrogen recombiner systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in HOT STANDBY within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.2 Each hydrogen recombiner system shall be demonstrated OPERABLE:

a. At least once per 6 months by verifying during a recombiner system functional test using outside atmospheric flow rate of ≥ 42 scfm that the heater outlet temperature increases to ≥ 700°F within 90 minutes and is maintained for at least 2 hours.

b. At least once per 18 months by:

1. Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits.

2. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiners (i.e., loose wiring or structural connections, deposits of foreign materials, etc.).

3. Performing a hydrogen recombiner system functional test using containment atmospheric air to verify the following:

a. The recombiner blower flow when corrected to 13 psia and 130°F is ≥ 42 scfm, and

b. The heater temperature increases to ≥ 1100°F within 5 hours and is maintained for at least 4 hours while operating at a recombiner blower flow that when corrected to 13 psia and 130°F is ≥ 42 scfm.

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying the integrity of all heater electrical circuits by performing a continuity and resistance to ground test immediately following the above required functional test. The resistance to ground for any heater phase shall be ≥ 10,000 ohms.

c. Verifying that the hydrogen recombiner isolation valves (2HCS-MOV110A&B and 2HCS-MOV113A&B) are closed and de-energized after every surveillance test (per 4.6.4.2.a) is completed or after their use, post-accidents, to recombine hydrogen in the containment is completed.

3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

MAIN STEAM SAFETY VALVES (MSSVs)

LIMITING CONDITION FOR OPERATION

3.7.1.1 Five MSSVs per steam generator shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Separate ACTION entry is allowed for each MSSV.

- -

a. With one or more steam generators with one MSSV inoperable and the Moderator Temperature Coefficient (MTC) zero or negative at all power levels, within 4 hours reduce THERMAL POWER to less than or equal to 61% RTP; otherwise, be in HOT STANDBY within the next 6 hours, and in HOT SHUTDOWN within the next 6 hours.

b. With one or more steam generators with two or more MSSVs inoperable, or with one or more steam generators with one MSSV inoperable and the MTC positive at any power level, within 4 hours reduce THERMAL POWER to less than or equal to the Maximum Allowable % RTP specified in Table 3.7-1 for the number of OPERABLE MSSVs, and reduce the Power Range Neutron Flux-High reactor trip setpoint to less than or equal to the Maximum Allowable % RTP specified in Table 3.7-1 for the number of OPERABLE MSSVs within the next 32 hours(1); otherwise, be in HOT STANDBY within the next 6 hours, and in HOT SHUTDOWN within the next 6 hours.

c. With one or more steam generators with four or more MSSVs inoperable, within 6 hours be in HOT STANDBY and in HOT SHUTDOWN within the next 6 hours.

~~d. The provisions of Specification 3.0.4 are not applicable.~~

SURVEILLANCE REQUIREMENTS

4.7.1.1 Verify(2) each required MSSV lift setpoint per Table 3.7-2 in accordance with the Inservice Testing Program. Following testing, lift settings shall be within ± 1 percent.

(1) Required to be performed only in MODE 1.
(2) Required to be performed only in MODES 1 and 2.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 Three Auxiliary Feedwater (AFW) trains shall be OPERABLE and consist of the following:(1)

a. One motor driven AFW pump with a flow path from TK-210 to each feedwater injection header via the train "A" supply header.

b. One motor driven AFW pump with a flow path from TK-210 to each feedwater injection header via the train "B" supply header.

c. One turbine driven AFW pump capable of being powered from two steam supplies(8) with a flow path from TK-210 to each feedwater injection header via the designated train supply header.

d. One feedwater injection header to each steam generator.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator(s) is relied upon for heat removal.

ACTION:

- - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable when entering MODE 1.

- -

a. With one of the two steam supplies to the turbine driven AFW pump inoperable, restore two steam supplies to OPERABLE status within 7 days and within 10 days from discovery of failure to meet the LCO or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With one feedwater injection header inoperable in MODE 1, 2, or 3, be in HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

---

(1) Only one AFW train (capable of providing flow to the steam generator(s) relied upon for heat removal), which includes a motor driven pump, is required to be OPERABLE in MODE 4.

(8) With one steam supply inoperable, follow ACTION statement a.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and

b. Two separate and independent diesel generators each with:

1. Separate day tank containing a minimum of 350 usable gallons of fuel,

2. A separate fuel storage system containing a minimum of 53,225 usable gallons of fuel,

3. A separate fuel transfer pump,

4. Lubricating oil storage containing a minimum total volume of 504 gallons of lubricating oil, and

5. Capability to transfer lubricating oil from storage to the diesel generator unit.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable to diesel generators.

- -

a. With one offsite circuit inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

b. With one diesel generator[1] inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the diesel

(1) Fuel oil contained in the storage tanks not meeting the properties in accordance with 4.8.1.1.2.d.2 or 4.8.1.1.2.e shall be brought within the specified limits within 7 days.

3/4.9.14 SPENT FUEL POOL STORAGE

LIMITING CONDITION FOR OPERATION

3.9.14 The combination of initial enrichment and burnup of each fuel assembly stored in the spent fuel storage pool shall comply with the limits specified in Table 3.9-1.

APPLICABILITY: Whenever any fuel assembly is stored in the spent fuel storage pool.

ACTION: With the above requirements not satisfied:

a. Immediately initiate action to move the non-complying fuel assembly to a location that complies with Table 3.9-1.

b. The provisions of Specifications 3.0.3 ~~and 3.0.4~~ are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.14 Verify, by administrative means, the initial enrichment and burnup complies with Table 3.9-1 prior to storing a fuel assembly in the spent fuel storage pool.

3/4.9.15 FUEL STORAGE POOL BORON CONCENTRATION

LIMITING CONDITION FOR OPERATION

3.9.15 The fuel storage pool boron concentration shall be greater than or equal to 2000 ppm.

APPLICABILITY: When fuel assemblies are stored in the fuel storage pool.

ACTION: With fuel storage pool boron concentration not within limits,

a. Immediately suspend all operations involving the movement of fuel assemblies in the fuel storage pool and initiate action to restore the fuel storage pool boron concentration to within the limit.

b. The provisions of Specifications 3.0.3 ~~and 3.0.4~~ are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.15 Verify the fuel storage pool boron concentration is within the limit at least once per 7 days.

Attachment B-1

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

License Amendment Request No. 321

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Specification 3.0.1 through 3.0.5 establish the general requirements applicable to Limiting Conditions for Operation. These requirements are based on the requirements for Limiting Conditions for Operation stated in the Code of Federal Regulations, 10 FR 50.36(c)(2):

> "Limiting Conditions for Operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shutdown the reactor or follow any remedial action permitted by the technical specification until the condition can be met."

Specification 3.0.1 establishes the Applicability statement within each individual specification as the requirement for when (i.e., in which OPERATIONAL MODES or other specified conditions) conformance to the Limiting Conditions for Operation is required for safe operation of the facility. The ACTION requirements establish those remedial measures that must be taken within specified time limits when the requirements of a Limiting Conditions for Operation are not met.

There are two basic types of ACTION requirements. The first specifies the remedial measures that permit continued operation of the facility which is not further restricted by the time limits of the ACTION requirements. In this case, conformance to the ACTION requirements provides an acceptable level of safety for unlimited continued operation as long as the ACTION requirements continue to be met. The second type of ACTION requirement specifies a time limit in which conformance to the conditions of the Limiting Condition for Operation must be met. This time limit is the allowable outage time to restore an inoperable system or component to OPERABLE status or for restoring parameters within specified limits. If these actions are not completed within the allowable outage time limits, a shutdown is required to place the facility in a MODE or condition in which the specification no longer applies. It is not intended that the shutdown ACTION requirements be used as an operational convenience which permits (routine) voluntary removal of a system(s) or components(s) from service in lieu of other alternatives that would not result in redundant systems or components being inoperable.

The specified time limits of the ACTION requirements are applicable from the point in time it is identified that a Limiting Condition for Operation is not met. The time limits of the ACTION requirements are also applicable when a system or component is removed from service for surveillance testing or investigation of operational problems. Individual specifications may include a specified time limit for the completion of a Surveillance Requirement when equipment is removed from service. In this case, the allowable outage time limits of the ACTION requirements are applicable when this limit expires if the surveillance has not been completed. When a shutdown is required to comply with ACTION requirements, the plant may have entered a MODE in which a new specification becomes applicable. In this case, the time

limits of the ACTION requirements would apply from the point in time that the new specification becomes applicable if the requirements of the Limiting Condition for Operation are not met.

Specification 3.0.2 establishes that noncompliance with a specification exists when the requirements of the Limiting Condition for Operation are not met and the associated ACTION requirements have not been implemented within the specified time interval. The purpose of this specification is to clarify that (1) implementation of the ACTION requirements within the specified time interval constitutes compliance with a specification and (2) completion of the remedial measures of the ACTION requirements is not required when compliance with a Limiting Condition of Operation is restored within the time interval specified in the associated ACTION requirements.

Specification 3.0.3 establishes the shutdown ACTION requirements that must be implemented when a Limiting Condition For Operation is not met and the condition is not specifically addressed by the associated ACTION requirements. The purpose of this specification is to delineate the time limits for placing the unit in a safe shutdown MODE when plant operation cannot be maintained within the limits for safe operation defined by the Limiting Conditions for Operation and its ACTION requirements. It is not intended to be used as an operational convenience which permits (routine) voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable. One hour is allowed to prepare for an orderly shutdown before initiating a change in plant operation. This time permits the operator to coordinate the reduction in electrical generation with the load dispatcher to ensure the stability and availability of the electrical grid. The time limits specified to reach lower MODES of operation permit the shutdown to proceed in a controlled and orderly manner that is well within the specified maximum cooldown rate and within the cooldown capabilities of the facility assuming only the minimum required equipment is OPERABLE. This reduces thermal stresses on components of the primary coolant system and the potential for a plant upset that could challenge safety systems under conditions for which this specification applies.

If remedial measures permitting limited continued operation of the facility under the provisions of the ACTION requirements are completed, the shutdown may be terminated. The time limits of the ACTION requirements are applicable from the point in time there was a failure to meet a Limiting Condition for Operation. Therefore, a shutdown may be terminated if the ACTION requirements have been met or the time limits of the ACTION requirements have not expired, thus providing an allowance for the completion of the required actions.

APPLICABILITY

BASES

The time limits of Specification 3.0.3 allow 37 hours for the plant to be in the COLD SHUTDOWN MODE when a shutdown is required during the POWER MODE of operation. If the plant is in a lower MODE of operation when a shutdown is required, the time limit for reaching the next lower MODE of operation applies. However, if a lower MODE of operation is reached in less time than allowed, the total allowable time to reach COLD SHUTDOWN, or other applicable MODE, is not reduced. For example, if HOT STANDBY is reached in 2 hours, the time allowed to reach HOT SHUTDOWN is the next 11 hours because the total time to reach HOT SHUTDOWN is not reduced from the allowable limit of 13 hours. Therefore, if remedial measures are completed that would permit a return to POWER operation, a penalty is not incurred by having to reach a lower MODE of operation in less than the total time allowed.

The same principle applies with regard to the allowable outage time limits of the ACTION requirements, if compliance with the ACTION requirements for one specification results in entry into a MODE or condition of operation for another specification in which the requirements of the Limiting Condition for Operation are not met. If the new specification becomes applicable in less time than specified, the difference may be added to the allowable outage time limits of the second specification. However, the allowable outage time limits of ACTION requirements for a higher MODE of operation may not be used to extend the allowable outage time that is applicable when a Limiting Condition for Operation is not met in a lower MODE of operation.

The shutdown requirements of Specification 3.0.3 do not apply in MODES 5 and 6, because the ACTION requirements of individual specifications define the remedial measures to be taken.

Specification 3.0.4 establishes limitations on changes in OPERATIONAL MODES ~~changes~~ or other specified conditions in the Applicability when a Limiting Condition ~~F~~for Operation is not met. It ~~precludes~~ allows placing the ~~facility~~ unit in ~~a higher~~ an OPERATIONAL MODE or other specified condition stated in that Applicability (e. g., the Applicability desired to be entered) when unit conditions are such that the requirements of the Limiting Condition for Operation would not be met, in accordance with Specification 3.0.4.a, Specification 3.0.4.b, or Specification 3.0.4.c. ~~of operation when the requirements for a Limiting Condition For Operation are not met and continued noncompliance to these conditions would result in a shutdown to comply with the ACTION requirements if a change in MODES were permitted. The purpose of this specification is to ensure that facility operation is not initiated or that higher MODES of operation are not entered when corrective action is being taken to obtain compliance with a specification by restoring equipment to OPERABLE status or parameters to specified limits.~~

Specification 3.0.4.a allows entry into an OPERATIONAL MODE or other specified condition in the Applicability with the Limiting Condition for Operation not met when the associated ACTIONS to be entered permit continued operation in the OPERATIONAL MODE or other specified condition in the Applicability for an unlimited period of time. Compliance with ACTION requirements that permit continued operation of the ~~facility~~unit for an unlimited period of time in an OPERATIONAL MODE or other specified condition provides an acceptable level of safety for continued operation. This is without regard to the status of the ~~plant~~ unit before or after ~~a~~ the OPERATIONAL MODE change. Therefore, in ~~this~~ such cases, entry into an OPERATIONAL MODE or

other specified condition in the Applicability may be made in accordance with the provisions of the ACTION requirements.

Specification 3.0.4.b allows entry into an OPERATIONAL MODE or other specified condition in the Applicability with the Limiting Condition for Operation not met after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the OPERATIONAL MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate.

The risk assessment may use quantitative, qualitative, or blended approaches, and the risk assessment will be conducted using the plant program, procedures, and criteria in place to implement 10 CFR 50.65(a)(4), which requires that risk impacts of maintenance activities to be assessed and managed. The risk assessment, for the purposes of Specification 3.0.4.b, must take into account all inoperable Technical Specification equipment regardless of whether the equipment is included in the normal 10 CFR 50.65(a)(4) risk assessment scope. The risk assessments will be conducted using the procedures and guidance endorsed by Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." Regulatory Guide 1.182 endorses the guidance in Section 11 of NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." These documents address general guidance for conduct of the risk assessment, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is acceptable. Consideration should also be given to the probability of completing restoration such that the requirements of the Limiting Condition for Operation would be met prior to the expiration of ACTIONS Completion Times that would require exiting the Applicability.

Specification 3.0.4.b may be used with single, or multiple systems and components unavailable. NUMARC 93-01 provides guidance relative to consideration of simultaneous unavailability of multiple systems and components.

The results of the risk assessment shall be considered in determining the acceptability of entering the OPERATIONAL MODE or other specified condition in the Applicability, and any corresponding risk management actions. The Specification 3.0.4.b risk assessments do not have to be documented.

The Technical Specifications allow continued operation with equipment unavailable in OPERATIONAL MODE 1 for the duration of the Completion Time. Since this is allowable, and since in general the risk impact in that particular OPERATIONAL MODE bounds the risk of transitioning into and through the applicable OPERATIONAL MODES or other specified conditions in the Applicability of the Limiting Condition for Operation, the use of the Specification 3.0.4.b allowance should be generally acceptable, as long as the risk is assessed and managed as stated above. However, there is a small subset of systems and components that have been determined to be more important to risk and use of the Specification 3.0.4.b allowance is prohibited. The Limiting Condition for Operation governing these systems and components contain Notes prohibiting the use of Specification 3.0.4.b by stating that Specification 3.0.4.b is not applicable.

Specification 3.0.4.c allows entry into an OPERATIONAL MODE or other specified condition in the Applicability with the Limiting Condition for Operation not met based on a Note in the Specification which

states Specification 3.0.4.c is applicable. These specific allowances permit entry into OPERATIONAL MODES or other specified conditions in the Applicability when the associated ACTIONS to be entered do not provide for continued operation for an unlimited period of time and a risk assessment has not been performed. This allowance may apply to all the ACTIONS or to a specific Required Action of a Specification. The risk assessments performed to justify the use of Specification 3.0.4.b usually only consider systems and components. For this reason, Specification 3.0.4.c is typically applied to Specifications which describe values and parameters (e.g., Containment Air Temperature, Containment Pressure, Moderator Temperature Coefficient), and may be applied to other Specifications based on NRC plant-specific approval.

The provisions of this Sspecification should not~~, however,~~ be interpreted as endorsing the failure to exercise the good practice ~~in~~of restoring systems or components to OPERABLE status before ~~plant startup~~entering an associated OPERATIONAL MODE or other specified condition in the Applicability.

~~When a shutdown is required to comply with ACTION requirements, the provisions of Specification 3.0.4 do not apply because they would delay placing the facility in a lower MODE of operation.~~
The provisions of Specification 3.0.4 shall not prevent changes in OPERATIONAL MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of Specification 3.0.4 shall not prevent changes in OPERATIONAL MODES or other specified conditions in the Applicability that result from any unit shutdown. In this context, a unit shutdown is defined as a change in OPERATIONAL MODE or other specified condition in the Applicability associated with transitioning from MODE 1 to MODE 2, MODE 2 to MODE 3, MODE 3 to MODE 4, and MODE 4 to MODE 5.

Upon entry into an OPERATIONAL MODE or other specified condition in the Applicability with the Limiting Condition for Operation not met, Specification 3.0.1 and Specification 3.0.2 require entry into the applicable Conditions and Actions until the Condition is resolved, until the Limiting Condition for Operation is met, or until the unit is not within the Applicability of the Technical Specification.

Surveillances do not have to be performed on the associated inoperable equipment (or on variables outside the specified limits), as permitted by Specification 4.0.1. Therefore, utilizing Specification 3.0.4 is not a violation of Specification 4.0.1 or Specification 4.0.4 for any Surveillances that have not been performed on inoperable equipment. However, Surveillance Requirements must be met to ensure OPERABILITY prior to declaring the associated equipment OPERABLE (or variable within limits) and restoring compliance with the affected Limiting Condition for Operation.

No changes proposed. Page included for readability.

APPLICABILITY

BASES

Specification 3.0.5 This specification delineates what additional conditions must be satisfied to permit operation to continue, consistent with the ACTION statements for power sources, when a normal or emergency power source is not OPERABLE. It specifically prohibits operation when one division is inoperable because its normal or emergency power source is inoperable and a system, subsystem, train, component or device in another division is inoperable for another reason.

The provisions of this specification permit the ACTION statements associated with individual systems, subsystems, trains, components, or devices to be consistent with the ACTION statements of the associated electrical power source. It allows operation to be governed by the time limits of the ACTION statement associated with the Limiting Condition For Operation for the normal or emergency power source, not the individual ACTION statements for each system, subsystem, train, component or device that is determined to be inoperable solely because of the inoperability of its normal or emergency power source.

For example, Specification 3.8.1.1 requires in part that two emergency diesel generators be OPERABLE. The ACTION statement provides for a 72 hour out-of-service time when one emergency diesel generator is not OPERABLE. If the definition of OPERABLE were applied without consideration of Specification 3.0.5, all systems subsystems, trains, components and devices supplied by the inoperable emergency power source would also be inoperable. This would dictate invoking the applicable ACTION statements for each of the applicable Limiting Conditions for Operation. However, the provisions of Specification 3.0.5 permit the time limits for continued operation to be consistent with the ACTION statement for the inoperable emergency diesel generator instead, provided the other specified conditions are satisfied. In this case, this would mean that the corresponding normal power source must be OPERABLE, and all redundant systems, subsystems, trains, components, and devices must be OPERABLE, or otherwise satisfy Specification 3.0.5 (i.e., be capable of performing their design function and have at least one normal or one emergency power source OPERABLE). If they are not satisfied, action is required in accordance with this specification.

As a further example, Specification 3.8.1.1 requires in part that two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system be OPERABLE. The ACTION statement provides a 24-hour out-of-service time when both required offsite circuits are not OPERABLE. If the definition of OPERABLE were applied without consideration of Specification 3.0.5, all systems, subsystems, trains, components and devices supplied by the inoperable normal power sources, both of the offsite circuits, would also be inoperable. This would dictate invoking the applicable ACTION statement for the inoperable normal power sources instead, provided the other specified conditions are satisfied. In this case, this would mean that for one division the emergency power source must be OPERABLE (as must be the components supplied by the emergency power source) and all redundant systems, subsystems, trains

components and devices in the other division must be OPERABLE, or likewise satisfy Specification 3.0.5 (i.e., be capable of performing their design functions and have an emergency power source OPERABLE). In other words, both emergency power sources must be OPERABLE and all redundant systems, subsystems, trains, components and devices in both divisions must also be OPERABLE. If these conditions are not satisfied, action is required in accordance with this specification.

In MODES 5 or 6 Specification 3.0.5 is not applicable, and thus the individual ACTION statements for each applicable Limiting Condition for Operation in these MODES must be adhered to.

Specification 3.0.6 establishes the allowance for restoring equipment to service under administrative controls when it has been removed from service or declared inoperable to comply with ACTIONS. The sole purpose of this specification is to provide an exception to Specification 3.0.1 (e.g., to not comply with the applicable ACTIONS) to allow the performance of Surveillance Requirements and post maintenance testing to demonstrate:

a. The OPERABILITY of the equipment being returned to service; or

b. The OPERABILITY of other equipment.

The administrative controls ensure the time the equipment is returned to service in conflict with the requirements of the ACTIONS is limited to the time absolutely necessary to perform the allowed testing. This specification does not provide time to perform any other preventive or corrective maintenance. Minor corrections such as adjustments of limit switches to correct position indication anomalies are considered within the scope of this specification. Other more significant tasks such as valve packing replacement are not permitted by this specification.

It is expected that the testing will confirm equipment operability. Should the testing demonstrate that the equipment is not operable, the provisions of LCO 3.0.1 will be applied.

An example of demonstrating the OPERABILITY of the equipment being returned to service is reopening a containment isolation valve that has been closed to comply with ACTIONS and must be reopened to perform the surveillance requirements.

An example of demonstrating the OPERABILITY of other equipment is taking an inoperable channel or trip system out of the tripped condition to prevent the trip function from occurring during the performance of a surveillance requirement on another channel in the other trip system. A similar example of demonstrating the OPERABILITY of other equipment is taking an inoperable channel or trip system out of the tripped condition to permit the logic to function and indicate the appropriate response during the performance of a surveillance requirement on another channel in the same trip system.

Specification 4.0.1 through 4.0.5 establish the general requirements applicable to Surveillance Requirements. These requirements are based on the Surveillance Requirements stated in the Code of Federal Regulations, 10 CFR 50.36(c)(3):

> "Surveillance requirements are requirements relating to test, calibration, or inspection to ensure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions of operation will be met."

Specification 4.0.1 establishes the requirement that surveillances must be met during the OPERATIONAL MODES or other conditions for which the requirements of the Limiting Conditions for Operation apply unless otherwise stated in an individual Surveillance Requirement. The purpose of this specification is to ensure that surveillances are performed to verify the OPERABILITY of systems and components and that parameters are within specified limits to ensure safe operation of the facility when the plant is in a MODE or other specified condition for which the associated Limiting Conditions for Operation are applicable. Failure to meet a Surveillance within the allowed surveillance interval, in accordance with Specification 4.0.2, constitutes a failure to meet a Limiting Condition for Operation.

Systems and components are assumed to be OPERABLE when the associated Surveillance Requirements have been met. Nothing in this Specification, however, is to be construed as implying that systems or components are OPERABLE when:

a. The systems or components are known to be inoperable, although still meeting the Surveillance Requirements; or

b. The requirements of the Surveillance(s) are known not to be met between required Surveillance performances.

Surveillance Requirements do not have to be performed when the facility is in an OPERATIONAL MODE or other specified condition for which the requirements of the associated Limiting Condition for Operation do not apply unless otherwise specified. The Surveillance

No changes proposed. Page included for readability.

BASES

Requirements associated with a Special Test Exception are only applicable when the Special Test Exception is used as an allowable exception to the requirements of a Specification.

Unplanned events may satisfy the requirements (including applicable acceptance criteria) for a given Surveillance Requirement. In this case, the unplanned event may be credited as fulfilling the performance of the Surveillance Requirement. This allowance includes those Surveillance Requirements whose performance is normally precluded in a given MODE or other specified condition.

Surveillance Requirements, including Surveillances invoked by ACTION requirements, do not have to be performed on inoperable equipment because the ACTIONS define the remedial measures that apply. Surveillances have to be met and performed in accordance with Specification 4.0.2, prior to returning equipment to OPERABLE status.

Upon completion of maintenance, appropriate post maintenance testing is required to declare equipment OPERABLE. This includes ensuring applicable Surveillances are not failed and their most recent performance is in accordance with Specification 4.0.2. Post maintenance testing may not be possible in the current MODE or other specified conditions in the Applicability due to the necessary unit parameters not having been established. In these situations, the equipment may be considered OPERABLE provided testing has been satisfactorily completed to the extent possible and the equipment is not otherwise believed to be incapable of performing its function. This will allow operation to proceed to a MODE or other specified condition where other necessary post maintenance tests can be completed.

An example of this process is Auxiliary feedwater(AFW) pump turbine maintenance during refueling that requires testing at steam pressures > 600 psig. If other appropriate testing is satisfactorily completed, the AFW System can be considered OPERABLE. This allows startup and other necessary testing to proceed until the plant reaches the steam pressure required to perform the testing.

Specification 4.0.2 establishes the limit for which the specified time interval for Surveillance Requirements may be extended. It permits an allowable extension of the normal surveillance interval to facilitate surveillance scheduling and consideration of plant operating conditions that may not be suitable for conducting the surveillance; e.g., transient conditions or other ongoing surveillance or maintenance activities. It also provides flexibility to accommodate the length of a fuel cycle for surveillances that are performed at each refueling outage and are specified with an 18-month surveillance interval. It is not intended that this provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed during

refueling outages. The limitation of Specification 4.0.2 is based on engineering judgement and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the Surveillance Requirements. This provision is sufficient to ensure that the reliability ensured through surveillance activities is not significantly degraded beyond that obtained from the specified surveillance interval.

The term "allowed surveillance interval" is used throughout Section 4.0 of these Technical Specifications to describe the performance interval in which surveillance requirements must be met. As stated in Specification 4.0.1, "failure to perform a surveillance within the allowed surveillance interval, defined by Specification 4.0.2, shall be failure to meet the Limiting Condition for Operation..." In addition, consistent with Specification 4.0.4, "entry into an OPERATIONAL MODE or other specified condition in the Applicability of a Limiting Condition for Operation shall only be made when the Limiting Condition for Operation's Surveillances have been met within their allowed surveillance interval..."

The "allowed surveillance interval" as used in these Technical Specifications includes the "specified surveillance interval" and the applicable extension provided by Specification 4.0.2. The "specified surveillance interval" includes a specified time interval (i.e., 12 hours, 7 days, monthly, or refueling, etc.), as well as any modifying conditions or notes that may be associated with the surveillance requirement.

The notes and conditions that may typically be included in the "specified surveillance interval" may define a surveillance requirement applicability that is different from the applicability of the associated Limiting Condition for Operation. For example, the "specified surveillance interval" may include notes or conditions that specify a required OPERATIONAL MODE, a certain steam generator pressure, or a specific power level that is within the applicability of the associated Limiting Condition for Operation. In addition, an exception to Specification 4.0.4 that may be associated with a surveillance is also considered part of the "specified surveillance interval".

Specification 4.0.3 establishes the flexibility to defer declaring affected equipment inoperable or an affected variable outside the specified limits when a Surveillance has not been completed within the allowed surveillance interval. A delay period of up to 24 hours or up to the limit of the specified surveillance interval, whichever is greater, applies from the point in time that it is discovered that the Surveillance has not been performed in accordance with Specification 4.0.2 (which allows a maximum surveillance interval extension of 25% of the specified time interval), and not at the time that the allowed surveillance interval was not met.

This delay period provides adequate time to complete Surveillances that have been missed. This delay period permits the completion of a

Surveillance before complying with ACTION requirements or other remedial measures that might preclude completion of the Surveillance.

The basis for this delay period includes consideration of unit conditions, adequate planning, availability of personnel, the time required to perform the Surveillance, the safety significance of the delay in completing the required Surveillance, and the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the requirements.

When a Surveillance with a surveillance interval based not on time intervals, but upon specified unit conditions, operating situations, or requirements of regulations (e.g., prior to entering MODE 1 after each fuel loading, or in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, etc.) is discovered to not have been performed when specified, Specification 4.0.3 allows for the full delay period of up to the specified surveillance interval to perform the Surveillance. However, since there is not a time interval specified, the missed Surveillance should be performed at the first reasonable opportunity.

Specification 4.0.3 provides a time limit for, and allowances for the performance of, Surveillances that become applicable as a consequence of MODE changes imposed by ACTION requirements.

Failure to comply with allowed surveillance intervals for the Surveillance requirements is expected to be an infrequent occurrence. Use of the delay period established by Specification 4.0.3 is a flexibility which is not intended to be used as an operational

convenience to extend Surveillance intervals. While up to 24 hours or the limit of the specified surveillance interval is provided to perform the missed Surveillance, it is expected that the missed Surveillance will be performed at the first reasonable opportunity. The determination of the first reasonable opportunity should include consideration of the impact on plant risk (from delaying the Surveillance as well as any plant configuration changes required or shutting the plant down to perform the Surveillance) and impact on any analysis assumptions, in addition to unit conditions, planning, availability of personnel, and the time required to perform the Surveillance. This risk impact should be managed through the program in place to implement 10 CFR 50.65(a)(4) and its implementation guidance, NRC Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." This Regulatory Guide addresses consideration of temporary and aggregate risk impacts, determination of risk management action thresholds, and risk management action up to and including plant shutdown. The missed Surveillance should be treated as an emergent condition as discussed in the Regulatory Guide. The risk evaluation may use quantitative, qualitative, or blended methods. The degree of depth and rigor of the evaluation should be commensurate with the importance of the component. Missed Surveillances for important components should be analyzed quantitatively. If the results of the risk evaluation determine the risk increase is significant, this evaluation should be used to determine the safest course of action. All missed Surveillances will be placed in the Corrective Action Program.

If a Surveillance is not completed within the allowed delay period, then the equipment is considered inoperable or the variable is considered outside the specified limits and the allowed outage times of the ACTION requirements for the applicable Limiting Condition for Operation begins immediately upon expiration of the delay period. If a Surveillance is failed within the delay period, then the equipment is inoperable, or the variable is outside the specified limits and the allowed outage times of the ACTION requirements for the applicable Limiting Condition for Operation begins immediately upon the failure of the Surveillance.

Completion of the Surveillance within the delay period allowed by this Specification, or within the Allowed Outage Time of the applicable ACTIONS, restores compliance with Specification 4.0.1.

Specification 4.0.4 establishes the requirement that all applicable surveillances must be met before entry into an OPERATIONAL MODE or other condition of operation specified in the Applicability ~~statement~~.

~~The purpose of t~~This Sspecification ~~is to~~ ensures that system and component OPERABILITY requirements ~~or parameter~~and variable limits are met before entry into an OPERATIONAL MODE or other specified condition in the Applicability for which these systems and

components ensure safe operation of the ~~facility~~unit. The provisions of this Specification should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to OPERABLE status before entering an associated OPERATIONAL MODE or other specified condition in the Applicability. ~~This provision applies to changes in OPERATIONAL MODES or other specified conditions associated with plant shutdown as well as startup.~~

~~Under the provisions of this specification, the applicable Surveillance Requirements must be performed within the specified surveillance interval to ensure that the Limiting Conditions for Operation are met during initial plant startup or following a plant outage.~~

~~When a shutdown is required to comply with ACTION requirements, the provisions of Specification 4.0.4 do not apply because this would delay placing the facility in a lower MODE of operation.~~
A provision is included to allow entry into an OPERATIONAL MODE or other specified condition in the Applicability when a Limiting Condition for Operation is not met due to Surveillance not being met in accordance with Specification 3.0.4.

However, in certain circumstances, failing to meet a Surveillance Requirement will not result in Specification 4.0.4 restricting an OPERATIONAL MODE change or other specified condition change. When a system, subsystem, division, component, device, or variable is inoperable or outside its specified limits, the associated Surveillance Requirements are not required to be performed, per Specification 4.0.1, which states that surveillances do not have to be performed on inoperable equipment. When equipment is inoperable, Specification 4.0.4 does not apply to the associated Surveillance Requirements since the requirement for the Surveillance Requirements to be performed is removed. Therefore, failing to perform the Surveillance(s) within the allowed surveillance interval does not result in a Specification 4.0.4 restriction to changing OPERATIONAL MODES or other specified conditions of the Applicability. However, since the Limiting Condition for Operation is not met in this instance, Specification 3.0.4 will govern any restrictions that may (or may not) apply to OPERATIONAL MODE or other specified condition changes. Specification 4.0.4 does not restrict changing OPERATIONAL MODES or other specified conditions of the Applicability when a Surveillance has not been performed within the allowed surveillance interval, provided the requirement to declare the Limiting Condition for Operation not met has been delayed in accordance with Specification 4.0.3.

The provisions of Specification 4.0.4 shall not prevent entry into OPERATIONAL MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of Specification 4.0.4 shall not prevent changes in OPERATIONAL MODES or other specified conditions in the Applicability that result from any unit shutdown. In this context, a unit shutdown is defined as a change in OPERATIONAL MODE or other specified

condition in the Applicability associated with transitioning from MODE 1 to MODE 2, MODE 2 to MODE 3, MODE 3 to MODE 4, and MODE 4 to MODE 5.

Specification 4.0.5 establishes the requirement that inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with a periodically updated version of Section XI of the ASME Boiler and Pressure Vessel Code and Addenda as required by 10 CFR 50.55a. These requirements apply except when relief has been provided in writing by the Commission.

This Specification includes a clarification of the frequencies for performing the inservice inspection and testing activities required by Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda. This clarification is provided to ensure consistency in surveillance intervals throughout the Technical Specifications and to remove any ambiguities relative to the frequencies for performing the required inservice inspection and testing activities.

Under the terms of this specification, the more restrictive requirements of the Technical Specifications take precedence over the ASME Boiler and Pressure Vessel Code and applicable Addenda. The requirements of Specification 4.0.4 to perform surveillance activities before entry into an OPERATIONAL MODE or other specified condition takes precedence over the ASME Boiler and Pressure Vessel Code provision which allows pumps and valves to be tested up to one week after return to normal operation. The Technical Specification definition of OPERABLE does not allow a grace period before a component, that is not capable of performing its specified function, is declared inoperable and takes precedence over the ASME Boiler and Pressure Vessel Code provision which allows a valve to be incapable of performing its specified function for up to 24 hours before being declared inoperable.

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criteria 19 of 10 CFR 50.

3/4.3.3.7 (This Specification number is not used.)

3/4.3.3.8 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables during and following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations."

The ACTIONS are modified by a General Note that permits the use of the provisions of Specification 3.0.4.c. This allowance permits entry into the applicable OPERATIONAL MODE(S) while relying on the ACTIONS. This allowance is acceptable due to the passive function of the instruments, the operator's ability to respond to an accident using alternate instruments and methods, and the low probability of an event requiring these instruments, while the plant remains at, or proceeds to power operation.

3/4.4.6.1 LEAKAGE DETECTION INSTRUMENTATION (Continued)

LCO (Continued)

The LCO is satisfied when monitors of diverse measurement means are available. Thus, the containment sump monitor, in combination with a gaseous or particulate radioactivity monitor, provides an acceptable minimum. The containment sump monitor is comprised of the instruments associated with the non-ECCS portion of the containment sump which monitor narrow range level and sump pump discharge flow.

APPLICABILITY

Because of elevated RCS temperature and pressure in MODES 1, 2, 3, and 4, RCS leakage detection instrumentation is required to be OPERABLE.

In MODE 5 or 6, the temperature is to be less than or equal to 200°F and pressure is maintained low or at atmospheric pressure. Since the temperatures and pressures are far lower than those for MODES 1, 2, 3, and 4, the likelihood of leakage and crack propagation are much smaller. Therefore, the requirements of this LCO are not applicable in MODES 5 and 6.

ACTIONS

a. With the required containment sump monitor inoperable, no other form of sampling can provide the equivalent information; however, the containment atmosphere radioactivity monitoring system will provide indications of changes in leakage. Together with the atmosphere monitor, the periodic surveillance for RCS water inventory balance, SR 4.4.6.2.b, must be performed at an increased frequency of 24 hours to provide information that is adequate to detect leakage.

   Restoration of the required sump monitor to OPERABLE status within a Completion Time of 30 days is required to regain the function after the monitor's failure. This time is acceptable, considering the frequency and adequacy of the RCS water inventory balance required by Required Action "a."

3/4.4.6.1 LEAKAGE DETECTION INSTRUMENTATION (Continued)

ACTIONS (Continued)

Required Action "a" is modified by a Note that permits the use of the provisions of Specification 3.0.4.c. This allowance permits entry into the applicable OPERATIONAL MODE(S) while relying on the ACTIONS. ~~indicates that the provisions of LCO 3.0.4 are not applicable.~~ As a result, a MODE change is allowed when the containment sump monitor is inoperable. This allowance is provided because other instrumentation is available to monitor RCS leakage.

b.1. and b.2.

With both gaseous and particulate containment atmosphere radioactivity monitoring instrumentation channels inoperable, alternative action is required. Either grab samples of the containment atmosphere must be taken and analyzed or water inventory balances, in accordance with SR. 4.4.6.2.b, must be performed to provide alternate periodic information.

With a sample obtained and analyzed or water inventory balance performed every 24 hours, the reactor may be operated for up to 30 days to allow restoration of the required containment atmosphere radioactivity monitors.

The 24 hour interval provides periodic information that is adequate to detect leakage. The 30 day Completion Time recognizes at least one other form of leakage detection is available.

Required Action "b" is modified by a Note that permits the use of the provisions of Specification 3.0.4.c. This allowance permits entry into the applicable OPERATIONAL MODE(S) while relying on the ACTIONS. ~~indicates that the provisions of LCO 3.0.4 are not applicable.~~ As a result, a MODE change is allowed when the gaseous and particulate containment atmosphere radioactivity monitor channel is inoperable. This allowance is provided because other instrumentation is available to monitor for RCS LEAKAGE.

c. With all required monitors inoperable, no automatic means of monitoring leakage are available, and immediate plant shutdown is required. The plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within the following 30 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant condition from full power conditions in an orderly manner and without challenging plant systems.

3/4.4.7 (This Specification number is not used.)

3/4.4.8 SPECIFIC ACTIVITY

The primary coolant specific activity is limited in order to maintain offsite and control room operator doses associated with postulated accidents within applicable requirements. Specifically, the 0.10 μCi/gm DOSE EQUIVALENT I-131 limit ensures that the offsite dose does not exceed a small fraction of 10 CFR Part 100 guidelines and that control room operator thyroid dose does not exceed GDC-19 in the event of primary-to-secondary leakage induced by a main steam line break.

Required Action "a" for MODES 1 , 2 and 3 with $T_{avg} \geq 500°F$ is modified by a Note that permits the use of the provisions of Specification 3.0.4.c. This allowance permits entry into the applicable OPERATIONAL MODE(S) while relying on the ACTIONS. This allowance is acceptable due to the significant conservatism incorporated into the specific activity limit, the low probability of an event which is limiting due to exceeding this limit, and the ability to restore transient specific activity excursions while the plant remains at, or proceeds to power operation.

3/4.4.9 PRESSURE/TEMPERATURE LIMITS (Continued)

ACTION

The ACTIONS of LCO 3.4.9.3 are modified by a General Note that prohibits the application of Specification 3.0.4.b to an inoperable OPPS system. There is increased risk associated with entering MODE 4 from MODE 5, and when entering MODE 5 from MODE 6, with OPPS inoperable and the provisions of Specification 3.0.4.b, which allow entry into an OPERATIONAL MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

a. With two or more charging pumps capable of injecting into the RCS, RCS overpressurization is possible.

   To immediately initiate action to restore restricted coolant input capability to the RCS reflects the urgency of removing the RCS from this condition.

b. An unisolated accumulator requires isolation within 1 hour. This is only required when the accumulator pressure is at or more than the maximum RCS pressure for the existing temperature allowed by the PTLR P/T limit curves.

   If isolation is needed and cannot be accomplished in 1 hour, the ACTION provides two options, either of which must be performed in the next 12 hours. By increasing the RCS temperature to more than the enable temperature specified in the PTLR, the accumulator pressure cannot exceed the OPPS limits if the accumulators are fully injected. Depressurizing the accumulators below the OPPS limit specified in the PTLR also gives this protection.

   The completion times are based on operating experience that these activities can be accomplished in these time periods indicating that an event requiring OPPS is not likely in the allowed times.

c. In MODE 4 when any RCS cold leg temperature is less than or equal to the enable temperature specified in the PTLR, with one required RCS relief valve inoperable, the RCS relief valve must be restored to OPERABLE status within a completion time of 7 days. Two RCS relief valves are required to provide low temperature overpressure mitigation while withstanding a single failure of an active component.

   The completion time considers the facts that only one of the RCS relief valves is required to mitigate an overpressure transient and that the likelihood of an active failure of the remaining valve path during this

time period is very low. If plant operation results in transitioning to MODE 5, the completion time to restore an inoperable PORV may not exceed 7 days as required by this ACTION.

3/4.5.1 ACCUMULATORS (Continued)

allowed completion times are reasonable, based on operating experience, to reach the required plant condition from full power in an orderly manner and without challenging plant systems.

The RCS accumulators are isolated when RCS pressure is reduced to 1000 ± 100 psig to prevent borated water from being injected into the RCS during normal plant cooldown and depressurization conditions and also to prevent inadvertent overpressurization of the RCS at reduced RCS temperature. With the accumulator pressure reduced to less than the reactor vessel low temperature overpressure protection setpoint, the accumulator pressure cannot challenge the cold overpressure protection system or exceed the 10 CFR 50 Appendix G limits. Therefore, the accumulator discharge isolation valves may be opened to perform the accumulator discharge check valve testing specified in the IST program.

3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS

The OPERABILITY of two separate and independent ECCS subsystems ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration. Either subsystem operating in conjunction with the accumulators is capable of supplying sufficient core cooling to limit the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double-ended break of the largest RCS cold leg pipe downward. In addition, each ECCS subsystem provides long-term core cooling capability in the recirculation mode during the accident recovery period.

The ACTIONS of LCO 3.5.3 are modified by a General Note that prohibits the application of Specification 3.0.4.b to an inoperable ECCS centrifugal charging pump when entering MODE 4. There is increased risk associated with entering MODE 4 from MODE 5 with inoperable ECCS centrifugal charging pumps and the provisions of Specification 3.0.4.b, which allow entry into an OPERATIONAL MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

The Surveillance Requirements provided to ensure OPERABILITY of each component ensure that at a minimum, the assumptions used in the accident analyses are met and that subsystem OPERABILITY is maintained.

Periodic surveillance testing of ECCS pumps to detect gross degradation caused by impeller structural damage or other hydraulic component problems is required by Section XI of the ASME Code. This type of testing may be accomplished by measuring the pump developed head at only one point on the pump characteristic curve. This verifies both that the measured performance is within an acceptable tolerance of the original pump baseline performance and that the

performance at the test flow is greater than or equal to the performance assumed in the ECCS Flow Analysis. The term "required developed head" refers to the pump performance at a given flow point that is assumed in the ECCS Flow Analysis. This is possible since

3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS (Continued)

the analysis assumes the pump delivers different flows at different times during accident mitigation. These multiple points are represented by a curve. The values at various flow points are defined by the Minimum Operating Point (MOP) curve in the Inservice Testing (IST) Program. The verification that the pump's developed head at the flow test point is greater than or equal to the required developed head is performed by using the MOP curve. Surveillance requirements are specified in the IST Program, which encompasses Section XI of the ASME Code. Section XI of the ASME Code provides the activities and frequencies necessary to satisfy the requirements.

The limitation for a maximum of one charging pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps except the required OPERABLE pump to be inoperable ≤ the enable temperature specified in the PTLR provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV.

MAIN STEAM SAFETY VALVES (MSSVs) (Continued)

~~ACTIONS (Continued)~~

~~d. An exception to Specification 3.0.4 is provided since the above ACTION statements require a shutdown if they are not met within a specified period of time.~~

SURVEILLANCE REQUIREMENTS (SR)

SR 4.7.1.1

This SR verifies the OPERABILITY of the MSSVs by the verification of each MSSV lift setpoint in accordance with the Inservice Testing Program. The ASME Code, Section XI, requires that safety and relief valve tests be performed in accordance with ANSI/ASME OM-1-1987. According to ANSI/ASME OM-1-1987, the following tests are required:

a. Visual examination;

b. Seat tightness determination;

c. Setpoint pressure determination (lift setting); and

d. Compliance with owner's seat tightness criteria.

The ANSI/ASME Standard requires that all valves be tested every 5 years. The ASME Code specifies the activities and frequencies necessary to satisfy the requirements. Table 3.7-2 allows a +1 percent -3 percent setpoint tolerance for OPERABILITY; however, the valves are reset to $\pm$ 1 percent during the Surveillance to allow for drift.

The lift settings according to Table 3.7-2 correspond to ambient conditions of the valve at nominal operating temperature and pressure, as identified by a note.

3/4.7.1.2 AUXILIARY FEEDWATER SYSTEM (AFW) (Continued)

ACTIONS

The ACTIONS are modified by a General Note that prohibits the application of Specification 3.0.4.b to an inoperable AFW train when entering MODE 1. There is increased risk associated with entering MODE 1 with an AFW train inoperable and the provisions of Specification 3.0.4.b, which allow entry into an OPERATIONAL MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

a. If one of the two steam supplies to the turbine driven AFW train is inoperable, action must be taken to restore OPERABLE status within 7 days. The 7 day completion time is reasonable, based on the following reasons:

1. The redundant OPERABLE steam supply to the turbine driven AFW pump;

2. The availability of redundant OPERABLE motor driven AFW pumps; and

3. The low probability of an event occurring that requires the inoperable steam supply to the turbine driven AFW pump.

This condition does not constitute one AFW train being inoperable.

The second completion time for ACTION statement a establishes a limit on the maximum time allowed for any combination of conditions to be inoperable during any continuous failure to meet this LCO.

The 10 day completion time provides a limitation time allowed in this specified condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which ACTION statements a and c are entered concurrently. The AND connector between 7 days and 10 days dictates that both completion times apply simultaneously, and the more restrictive must be met.

If the inoperable steam supply cannot be restored to OPERABLE status within the required completion time, the plant must be placed in a MODE in which the LCO does not apply. To achieve this status, the plant must be placed in at least MODE 3 within 6 hours, and in MODE 4 within the following 6 hours.

The allowed completion times are reasonable, based on operating experience, to reach the required unit conditions

from full power conditions in an orderly manner and without challenging unit systems.

In MODE 4 with one steam supply inoperable, operation is allowed to continue because only one AFW train, which includes a motor driven pump, is required in accordance with

3/4.8 ELECTRICAL POWER SYSTEMS

BASES

3/4.8.1, 3/4.8.2 A.C. SOURCES, D.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS

The OPERABILITY of the A.C. and D.C. power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety related equipment required for 1) the safe shutdown of the facility and 2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criterion 17 of Appendix "A" to 10 CFR 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the safety analyses and are based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss of offsite power and single failure of the other onsite A.C. source.

The ACTIONS of LCO 3.8.1.1 are modified by a General Note that prohibits the application of Specification 3.0.4.b to an inoperable diesel generator. There is increased risk associated with entering an OPERATIONAL MODE or other specified condition in the Applicability with an inoperable diesel generator and the provisions of Specification 3.0.4.b, which allow entry into an OPERATIONAL MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

The ACTION requirements specified in LCOs 3.8.1.2, 3.8.2.2, and 3.8.2.4 address the condition where sufficient power is unavailable to recover from postulated events (i.e. fuel handling accident). Implementation of the ACTION requirements shall not preclude completion of actions to establish a safe conservative plant condition. Completion of the requirements will prevent the occurrence of postulated events for which mitigating actions would be required.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that 1) the facility can be maintained in the shutdown or refueling condition for extended time periods, 2) sufficient instrumentation and control capability is available for monitoring and maintaining the unit status, and 3) sufficient power is available for systems (i.e. Control Room Ventilation System) necessary to recover from postulated events in these MODES, e.g. a fuel handling accident.

In Modes 1 through 4, the specified quantity of 17,500 usable gallons required in each storage tank (35,000 total gallons) ensures a

sufficient volume of fuel oil that, when added to the specified 900 usable gallon volume in the day and engine-mounted tanks, provides the fuel oil necessary to support a minimum of 7 days continuous operation of one diesel generator at full load (UFSAR Sections 8.5.2 and 9.14). The total volume in each of the tanks is greater due to the tank's physical characteristics.

3/4.9.12 FUEL BUILDING VENTILATION SYSTEM (Continued)

prior to discharge to the atmosphere. The spent fuel pool area ventilation system is non-safety related and only recirculates air through the fuel building. The SLCRS portion of the ventilation system is safety-related and maintains a negative pressure in the fuel building. The SLCRS flow is normally exhausted to the atmosphere without filtering, however, the flow is diverted through the main filter banks by manual actuation or on a high radiation signal.

3/4.9.13 (This Specification is not used.)

3/4.9.14 FUEL STORAGE - SPENT FUEL STORAGE POOL

The requirements for fuel storage in the spent fuel pool ensure that: (1) the spent fuel pool will remain subcritical during fuel storage; and (2) a uniform boron concentration is maintained in the water volume in the spent fuel pool to provide negative reactivity for postulated accident conditions under the guidelines of ANSI 16.1-1975. The value of 0.95 or less for K_{eff} which includes all uncertainties at the 95/95 probability/confidence level is the acceptance criteria for fuel storage in the spent fuel pool.

The Action Statement applicable to fuel storage in the spent fuel pool ensures that: (1) the spent fuel pool is protected from distortion in the fuel storage pattern that could result in a critical array during the movement of fuel; and (2) the boron concentration is maintained at $\geq$ 1050 ppm (this includes a 50 ppm conservative allowance for uncertainties and 600 ppm for margin) during all actions involving movement of fuel in the spent fuel pool.

The Surveillance Requirements applicable to fuel storage in the spent fuel pool ensure that: (1) the fuel assemblies satisfy the analyzed U-235 enrichment limits or an analysis has been performed and it was determined that K_{eff} is $\leq$ 0.95; and (2) the boron concentration meets the 1050 ppm limit.

The reracked spent fuel pool consists of discrete Regions 1 and 2 with Region 2 further subdivided and identified as Regions 2 and 3. Region 1 is configured to store fuel with a nominal region average enrichment of 5.0 weight percent (w/o) with individual fuel assembly tolerance of + or - 0.05 w/o U-235. The most reactive of the Westinghouse 17 X 17 STD/Vantage 5H and OFA fuel assemblies yielded a maximum K_{eff} of 0.940 including all biases and uncertainties.

3/4.9.14 FUEL STORAGE - SPENT FUEL STORAGE POOL (Continued)

Region 2 racks are designed to store fuel with burnup consistent with its initial enrichment. A table of enrichment and corresponding required burnup is provided in the technical specification. A conservative value of the required burnup is given by the following linear equation:

> Minimum burnup for unrestricted storage in Region 2 in MWD/MTU = 12100 * E% - 20500, where E is the initial enrichment in w/o.

Storage cells in Region 2, which face the pool wall, are in an area of high neutron leakage and are capable of maintaining the K_{eff} below 0.95 with fuel that does not meet the foregoing burnup restriction. A separate calculation to establish the admissibility of storing low burnup fuel in these cells, designated Region 3, has been performed and a table of enrichment and corresponding required burnup is provided in the technical specification. This calculation was performed using the same analytical models and computer codes which were used in the high density rack design. A conservative value of the required burnup is given by the following linear equation:

> Minimum burnup for fuel storage in Region 3 in MWD/MTU = $- 480 * (E\%)^2 + 12{,}900 * E\% - 27{,}400$, where E is the initial enrichment in weight percent.

The maximum reactivity in Region 2 is 0.945 and in Region 3 is 0.946 if all cells are loaded with fuel with minimum allowable burnup. This includes all biases and uncertainties and appropriate allowance for uncertainty in depletion calculations.

Attachment B-2

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

License Amendment Request No. 193

The following is a list of the affected pages:

B 3/4 0-1 *
B 3/4 0-2 *
B 3/4 0-3
B 3/4 0-4 *
B 3/4 0-5 *
B 3/4 0-6 *
B 3/4 0-7 *
B 3/4 0-8
B 3/4 0-9 *
B 3/4 0-10
B 3/4 3-11
B 3/4 4-4b *
B 3/4 4-4c
B 3/4 4-5
B 3/4 4-15e
B 3/4 4-15f
B 3/4 5-1a
B 3/4 5-1b *
B 3/4 7-1f
B 3/4 7-2c
B 3/4 8-1
B 3/4 9-10 *
B 3/4 9-11 *

* No changes proposed. Page included for readability.

No changes proposed. Page included for readability.

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

BASES

Specification 3.0.1 through 3.0.5 establish the general requirements applicable to Limiting Conditions for Operation. These requirements are based on the requirements for Limiting Conditions for Operation stated in the Code of Federal Regulations, 10 CFR 50.36(c)(2):

"Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specification until the condition can be met."

Specification 3.0.1 establishes the Applicability statement within each individual specification as the requirement for when (i.e., in which OPERATIONAL MODES or other specified conditions) conformance to the Limiting Conditions for Operation is required for safe operation of the facility. The ACTION requirements establish those remedial measures that must be taken within specified time limits when the requirements of a Limiting Condition for Operation are not met.

There are two basic types of ACTION requirements. The first specifies the remedial measures that permit continued operation of the facility which is not further restricted by the time limits of the ACTION requirements. In this case, conformance to the ACTION requirements provides an acceptable level of safety for unlimited continued operation as long as the ACTION requirements continue to be met. The second type of ACTION requirement specifies a time limit in which conformance to the conditions of the Limiting Condition for Operation must be met. This time limit is the allowable outage time to restore an inoperable system or component to OPERABLE status or for restoring parameters within specified limits. If these actions are not completed within the allowable outage time limits, a shutdown is required to place the facility in a MODE or condition in which the specification no longer applies. It is not intended that the shutdown ACTION requirements be used as an operational convenience which permits (routine) voluntary removal of a system(s) or component(s) from service in lieu of other alternatives that would not result in redundant systems or components being inoperable.

The specified time limits of the ACTION requirements are applicable from the point in time it is identified that a Limiting Condition for Operation is not met. The time limits of the ACTION requirements are also applicable when a system or component is removed from service for surveillance testing or investigation of operational problems. Individual specifications may include a specified time limit for the completion of a Surveillance Requirement when equipment is removed from service. In this case, the allowable outage time limits of the ACTION requirements are applicable when this limit expires if the surveillance has not been completed. When a shutdown is required to comply with ACTION requirements, the plant may have entered a MODE in which a new specification becomes applicable. In this case, the time limits of the ACTION requirements would apply from the point in time that the new specification becomes applicable if the requirements of the Limiting Condition for Operation are not met.

No changes proposed. Page included for readability.

Specification 3.0.2 establishes that noncompliance with a specification exists when the requirements of the Limiting Condition for Operation are not met and the associated ACTION requirements have not been implemented within the specified time interval. The purpose of this specification is to clarify that (1) implementation of the ACTION requirements within the specified time interval constitutes compliance with a specification and (2) completion of the remedial measures of the ACTION requirements is not required when compliance with a Limiting Condition for Operation is restored within the time interval specified in the associated ACTION requirements.

Specification 3.0.3 establishes the shutdown ACTION requirements that must be implemented when a Limiting Condition for Operation is not met and the condition is not specifically addressed by the associated ACTION requirements. The purpose of this specification is to delineate the time limits for placing the unit in a safe shutdown MODE when plant operation cannot be maintained within the limits for safe operation defined by the Limiting Conditions for Operation and its ACTION requirements. It is not intended to be used as an operational convenience which permits (routine) voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable. One hour is allowed to prepare for an orderly shutdown before initiating a change in plant operation. This time permits the operator to coordinate the reduction in electrical generation with the load dispatcher to ensure the stability and availability of the electrical grid. The time limits specified to reach lower MODES of operation permit the shutdown to proceed in a controlled and orderly manner that is well within the specified maximum cooldown rate and within the cooldown capabilities of the facility assuming only the minimum required equipment is OPERABLE. This reduces thermal stresses on components of the primary coolant system and the potential for a plant upset that could challenge safety systems under conditions for which this specification applies.

If remedial measures permitting limited continued operation of the facility under the provisions of the ACTION requirements are completed, the shutdown may be terminated. The time limits of the ACTION requirements are applicable from the point in time there was a failure to meet a Limiting Condition for Operation. Therefore, the shutdown may be terminated if the ACTION requirements have been met or the time limits of the ACTION requirements have not expired, thus providing an allowance for the completion of the required actions.

The time limits of Specification 3.0.3 allow 37 hours for the plant to be in the COLD SHUTDOWN MODE when a shutdown is required during the POWER MODE of operation. If the plant is in a lower MODE of operation when a shutdown is required, the time limit for reaching the next lower MODE of operation applies. However, if a lower MODE of operation is reached in less time than allowed, the total allowable time to reach COLD SHUTDOWN, or other applicable MODE, is not reduced. For example, if HOT STANDBY is reached in 2 hours, the time allowed

to reach HOT SHUTDOWN is the next 11 hours because the total time to reach HOT SHUTDOWN is not reduced from the allowable limit of 13 hours. Therefore, if remedial measures are completed that would permit a return to POWER operation, a penalty is not incurred by having to reach a lower MODE of operation in less than the total time allowed.

The same principle applies with regard to the allowable outage time limits of the ACTION requirements, if compliance with the ACTION requirements for one specification results in entry into a MODE or condition of operation for another specification in which the requirements of the Limiting Condition for Operation are not met. If the new specification becomes applicable in less time than specified, the difference may be added to the allowable outage time limits of the second specification. However, the allowable outage time limits of ACTION requirements for a higher MODE of operation may not be used to extend the allowable outage time that is applicable when a Limiting Condition for Operation is not met in a lower MODE of operation.

The shutdown requirements of Specification 3.0.3 do not apply in MODES 5 and 6, because the ACTION requirements of individual specifications define the remedial measures to be taken.

Specification 3.0.4 establishes limitation on changes in OPERATIONAL MODES ~~changes~~ or other specified conditions in the Applicability when a Limiting Condition for Operation is not met. It ~~precludes~~ allows placing the ~~facility~~ unit in ~~a higher~~ an OPERATIONAL MODE or other specified condition stated in that Applicability (e. g., the Applicability desired to be entered) when unit conditions are such that the requirements of the Limiting Condition for Operation would not be met, in accordance with Specification 3.0.4.a, Specification 3.0.4.b, or Specification 3.0.4.c.~~of operation when the requirements for a Limiting Condition for Operation are not met and continued noncompliance to these conditions would result in a shutdown to comply with the ACTION requirements if a change in MODES were permitted. The purpose of this specification is to ensure that facility operation is not initiated or that higher MODES of operation are not entered when corrective action is being taken to obtain compliance with a specification by restoring equipment to OPERABLE status or parameters to specified limits.~~

Specification 3.0.4.a allows entry into an OPERATIONAL MODE or other specified condition in the Applicability with the Limiting Condition for Operation not met when the associated ACTIONS to be entered permit continued operation in the OPERATIONAL MODE or other specified condition in the Applicability for an unlimited period of time. Compliance with ACTION requirements that permit continued operation of the ~~facility~~unit for an unlimited period of time in an OPERATIONAL MODE or other specified condition provides an acceptable level of safety for continued operation. This is without regard to the status of the ~~plant~~ unit before or after a the OPERATIONAL MODE change. Therefore, in ~~this~~ such case, entry into an OPERATIONAL MODE or

other specified condition in the Applicability may be made in accordance with the provisions of the ACTION requirements.

Specification 3.0.4.b allows entry into an OPERATIONAL MODE or other specified condition in the Applicability with the Limiting Condition for Operation not met after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the OPERATIONAL MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate.

The risk assessment may use quantitative, qualitative, or blended approaches, and the risk assessment will be conducted using the plant program, procedures, and criteria in place to implement 10 CFR 50.65(a)(4), which requires that risk impacts of maintenance activities to be assessed and managed. The risk assessment, for the purposes of Specification 3.0.4.b, must take into account all inoperable Technical Specification equipment regardless of whether the equipment is included in the normal 10 CFR 50.65(a)(4) risk assessment scope. The risk assessments will be conducted using the procedures and guidance endorsed by Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." Regulatory Guide 1.182 endorses the guidance in Section 11 of NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." These documents address general guidance for conduct of the risk assessment, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is acceptable. Consideration should also be given to the probability of completing restoration such that the requirements of the Limiting Condition for Operation would be met prior to the expiration of ACTIONS Completion Times that would require exiting the Applicability.

Specification 3.0.4.b may be used with single, or multiple systems and components unavailable. NUMARC 93-01 provides guidance relative to consideration of simultaneous unavailability of multiple systems and components.

The results of the risk assessment shall be considered in determining the acceptability of entering the OPERATIONAL MODE or other specified condition in the Applicability, and any corresponding risk management actions. The Specification 3.0.4.b risk assessments do not have to be documented.

The Technical Specifications allow continued operation with equipment unavailable in OPERATIONAL MODE 1 for the duration of the Completion Time. Since this is allowable, and since in general the risk impact in that particular OPERATIONAL MODE bounds the risk of transitioning into and through the applicable OPERATIONAL MODES or other specified conditions in the Applicability of the Limiting Condition for Operation, the use of the Specification 3.0.4.b allowance should be generally acceptable, as long as the risk is assessed and managed as stated above. However, there is a small subset of systems and components that have been determined to be more important to risk and use of the Specification 3.0.4.b allowance is prohibited. The Limiting Condition for Operation governing these systems and components contain Notes prohibiting the use of Specification 3.0.4.b by stating that Specification 3.0.4.b is not applicable.

Specification 3.0.4.c allows entry into an OPERATIONAL MODE or other specified condition in the Applicability with the Limiting Condition

for Operation not met based on a Note in the Specification which states Specification 3.0.4.c is applicable. These specific allowances permit entry into OPERATIONAL MODES or other specified conditions in the Applicability when the associated ACTIONS to be entered do not provide for continued operation for an unlimited period of time and a risk assessment has not been performed. This allowance may apply to all the ACTIONS or to a specific Required Action of a Specification. The risk assessments performed to justify the use of Specification 3.0.4.b usually only consider systems and components. For this reason, Specification 3.0.4.c is typically applied to Specifications which describe values and parameters (e.g., Containment Air Temperature, Containment Pressure, Moderator Temperature Coefficient), and may be applied to other Specifications based on NRC plant-specific approval.

The provisions of this Sspecification should not~~, however,~~ be interpreted as endorsing the failure to exercise the good practice ~~in~~ of restoring systems or components to OPERABLE status before ~~plant startup~~entering an associated OPERATIONAL MODE or other specified condition in the Applicability.

~~When a shutdown is required to comply with ACTION requirements, the provisions of Specification 3.0.4 do not apply because they would delay placing the facility in a lower MODE of operation.~~
The provisions of Specification 3.0.4 shall not prevent changes in OPERATIONAL MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of Specification 3.0.4 shall not prevent changes in OPERATIONAL MODES or other specified conditions in the Applicability that result from any unit shutdown. In this context, a unit shutdown is defined as a change in OPERATIONAL MODE or other specified condition in the Applicability associated with transitioning from MODE 1 to MODE 2, MODE 2 to MODE 3, MODE 3 to MODE 4, and MODE 4 to MODE 5.

Upon entry into an OPERATIONAL MODE or other specified condition in the Applicability with the Limiting Condition for Operation not met, Specification 3.0.1 and Specification 3.0.2 require entry into the applicable Conditions and Actions until the Condition is resolved, until the Limiting Condition for Operation is met, or until the unit is not within the Applicability of the Technical Specification.

Surveillances do not have to be performed on the associated inoperable equipment (or on variables outside the specified limits), as permitted by Specification 4.0.1. Therefore, utilizing Specification 3.0.4 is not a violation of Specification 4.0.1 or Specification 4.0.4 for any Surveillances that have not been performed on inoperable equipment. However, Surveillance Requirements must be met to ensure OPERABILITY prior to declaring the associated equipment OPERABLE (or variable within limits) and restoring compliance with the affected Limiting Condition for Operation.

No changes proposed. Page included for readability.

Specification 3.0.5 This specification delineates what additional conditions must be satisfied to permit operation to continue, consistent with the ACTION statements for power sources, when a normal or emergency power source is not OPERABLE. It specifically prohibits operation when one division is inoperable because its normal or emergency power source is inoperable and a system, subsystem, train, component or device in another division is inoperable for another reason.

The provisions of this specification permit the ACTION statements associated with individual systems, subsystems, trains, components, or devices to be consistent with the ACTION statements of the associated electrical power source. It allows operation to be governed by the time limits of the ACTION statement associated with the Limiting Condition for Operation for the normal or emergency power source, not the individual ACTION statements for each system, subsystem, train, component or device that is determined to be inoperable solely because of the inoperability of its normal or emergency power source.

For example, Specification 3.8.1.1 requires in part that two emergency diesel generators be OPERABLE. The ACTION statement provides for a 72 hour out-of-service time when one emergency diesel generator is not OPERABLE. If the definition of OPERABLE were applied without consideration of Specification 3.0.5, all system subsystems, trains, components and devices supplied by the inoperable emergency power source would also be inoperable. This would dictate invoking the applicable ACTION statements for each of the applicable Limiting Conditions for Operation. However, the provisions of Specification 3.0.5 permit the time limits for continued operation to be consistent with the ACTION statement for the inoperable emergency diesel generator instead, provided the other specified conditions are satisfied. In this case, this would mean that the corresponding normal power source must be OPERABLE, and all redundant systems, subsystems, trains, components, and devices must be OPERABLE, or otherwise satisfy Specification 3.0.5 (i.e, be capable of performing their design function and have at least one normal or one emergency power source OPERABLE). If they are not satisfied, action is required in accordance with this specification.

As a further example, Specification 3.8.1.1 requires in part that two physically independent circuits between the offsite transmission network and the onsite Class IE distribution system be OPERABLE. The ACTION statement provides a 24-hour out-of-service time when both required offsite circuits are not OPERABLE. If the definition of OPERABLE were applied without consideration of Specification 3.0.5, all systems, subsystems, trains, components and devices supplied by the inoperable normal power sources, both of the offsite circuits, would also be inoperable. This would dictate invoking the applicable ACTION statement for the inoperable normal power sources instead, provided the other specified conditions are satisfied. In this case, this would mean that for one division the emergency power source must be OPERABLE (as must be the components supplied by the emergency power source) and all redundant systems, subsystems,

trains, components and devices in the other division must be OPERABLE, or likewise satisfy Specification 3.0.5 (i.e., be capable of performing their design functions and have an emergency power source OPERABLE). In other words, both emergency power sources must be OPERABLE and all redundant systems, subsystems, trains, components and devices in both divisions must also be OPERABLE. If these conditions are not satisfied, action is required in accordance with this specification.

In MODES 5 or 6 Specification 3.0.5 is not applicable, and thus the individual ACTION statements for each applicable Limiting Condition for Operation in these MODES must be adhered to.

Specification 3.0.6 establishes the allowance for restoring equipment to service under administrative controls when it has been removed from service or declared inoperable to comply with ACTIONS. The sole purpose of this specification is to provide an exception to Specification 3.0.1 (e.g., to not comply with the applicable ACTIONS) to allow the performance of Surveillance Requirements and post maintenance testing to demonstrate:

a. The OPERABILITY of the equipment being returned to service; or

b. The OPERABILITY of other equipment.

The administrative controls ensure the time the equipment is returned to service in conflict with the requirements of the ACTIONS is limited to the time absolutely necessary to perform the allowed testing. This specification does not provide time to perform any other preventive or corrective maintenance. Minor corrections such as adjustments of limit switches to correct position indication anomalies are considered within the scope of this specification. Other more significant tasks such as valve packing replacement are not permitted by this specification.

It is expected that the testing will confirm equipment operability. Should the testing demonstrate that the equipment is not operable, the provisions of LCO 3.0.1 will be applied.

An example of demonstrating the OPERABILITY of the equipment being returned to service is reopening a containment isolation valve that has been closed to comply with ACTIONS and must be reopened to perform the surveillance requirements.

No changes proposed. Page included for readability.

BASES (Continued)

An example of demonstrating the OPERABILITY of other equipment is taking an inoperable channel or trip system out of the tripped condition to prevent the trip function from occurring during the performance of a surveillance requirement on another channel in the other trip system. A similar example of demonstrating the OPERABILITY of other equipment is taking an inoperable channel or trip system out of the tripped condition to permit the logic to function and indicate the appropriate response during the performance of a surveillance requirement on another channel in the same trip system.

Specifications 4.0.1 through 4.0.5 establish the general requirements applicable to Surveillance Requirements. These requirements are based on the Surveillance Requirements stated in the Code of Federal Regulations, 10 CFR 50.36(c)(3):

> "Surveillance requirements are requirements relating to test, calibration, or inspection to ensure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions of operation will be met."

Specifications 4.0.1 establishes the requirement that surveillances must be met during the OPERATIONAL MODES or other conditions for which the requirements of the Limiting Conditions for Operation apply unless otherwise stated in an individual Surveillance Requirement. The purpose of this specification is to ensure that surveillances are performed to verify the OPERABILITY of systems and components and that parameters are within specified limits to ensure safe operation of the facility when the plant is in a MODE or other specified condition for which the associated Limiting Conditions for Operation are applicable. Failure to meet a Surveillance within the allowed surveillance interval, in accordance with Specification 4.0.2, constitutes a failure to meet a Limiting Condition for Operation.

Systems and components are assumed to be OPERABLE when the associated Surveillance Requirements have been met. Nothing in this Specification, however, is to be construed as implying that systems or components are OPERABLE when:

a. The systems or components are known to be inoperable, although still meeting the Surveillance Requirements; or

b. The requirements of the Surveillance(s) are known not to be met between required Surveillance performances.

No changes proposed. Page included for readability.

BASES (Continued)

Surveillance Requirements do not have to be performed when the facility is in an OPERATIONAL MODE or other specified condition for which the requirements of the associated Limiting Condition for Operation do not apply unless otherwise specified. The Surveillance Requirements associated with a Special Test Exception are only applicable when the Special Test Exception is used as an allowable exception to the requirements of a specification.

Unplanned events may satisfy the requirements (including applicable acceptance criteria) for a given Surveillance Requirement. In this case, the unplanned event may be credited as fulfilling the performance of the Surveillance Requirement. This allowance includes those Surveillance Requirements whose performance is normally precluded in a given MODE or other specified condition.

Surveillance Requirements, including Surveillances invoked by ACTION requirements, do not have to be performed on inoperable equipment because the ACTIONS define the remedial measures that apply. Surveillances have to be met and performed in accordance with Specification 4.0.2, prior to returning equipment to OPERABLE status.

Upon completion of maintenance, appropriate post maintenance testing is required to declare equipment OPERABLE. This includes ensuring applicable Surveillances are not failed and their most recent performance is in accordance with Specification 4.0.2. Post maintenance testing may not be possible in the current MODE or other specified conditions in the Applicability due to the necessary unit parameters not having been established. In these situations, the equipment may be considered OPERABLE provided testing has been satisfactorily completed to the extent possible and the equipment is not otherwise believed to be incapable of performing its function. This will allow operation to proceed to a MODE or other specified condition where other necessary post maintenance tests can be completed.

An example of this process is Auxiliary feedwater (AFW) pump turbine maintenance during refueling that requires testing at steam pressures > 600 psig. If other appropriate testing is satisfactorily completed, the AFW System can be considered OPERABLE. This allows startup and other necessary testing to proceed until the plant reaches the steam pressure required to perform the testing.

Specification 4.0.2 establishes the limit for which the specified time interval for Surveillance Requirements may be extended. It permits an allowable extension of the normal surveillance interval to facilitate surveillance scheduling and consideration of plant operating conditions that may not be suitable for conducting the surveillance; e.g., transient conditions or other ongoing surveillance or maintenance activities. It also provides flexibility to accommodate the length of a fuel cycle for surveillances that are performed at each refueling outage and are specified with an 18-month

surveillance interval. It is not intended that this provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed during refueling outages. The limitation of Specification 4.0.2 is based on engineering judgment and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the Surveillance Requirements. This provision is sufficient to ensure that the reliability ensured through surveillance activities is not significantly degraded beyond that obtained from the specified surveillance interval.

The term "allowed surveillance interval" is used throughout Section 4.0 of these Technical Specifications to describe the performance interval in which surveillance requirements must be met. As stated in Specification 4.0.1, "failure to perform a surveillance within the allowed surveillance interval, defined by Specification 4.0.2, shall be failure to meet the Limiting Condition for Operation..." In addition, consistent with Specification 4.0.4, "entry into an OPERATIONAL MODE or other specified condition in the Applicability of a Limiting Condition for Operation shall only be made when the Limiting Condition for Operation's Surveillances have been met within their allowed surveillance interval..."

The "allowed surveillance interval" as used in these Technical Specifications includes the "specified surveillance interval" and the applicable extension provided by Specification 4.0.2. The "specified surveillance interval" includes a specified time interval (i.e., 12 hours, 7 days, monthly, or refueling, etc.), as well as any modifying conditions or notes that may be associated with the surveillance requirement.

The notes and conditions that may typically be included in the "specified surveillance interval" may define a surveillance requirement applicability that is different from the applicability of the associated Limiting Condition for Operation. For example, the "specified surveillance interval" may include notes or conditions that specify a required OPERATIONAL MODE, a certain steam generator pressure, or a specific power level that is within the applicability of the associated Limiting Condition for Operation. In addition, an exception to Specification 4.0.4 that may be associated with a surveillance is also considered part of the "specified surveillance interval".

Specification 4.0.3 establishes the flexibility to defer declaring affected equipment inoperable or an affected variable outside the specified limits when a Surveillance has not been completed within the allowed surveillance interval. A delay period of up to 24 hours or up to the limit of the specified surveillance interval, whichever is greater, applies from the point in time that it is discovered that the Surveillance has not been performed in accordance with Specification 4.0.2 (which allows a maximum surveillance interval extension of 25% of the specified time interval), and not at the time that the allowed surveillance interval was not met.

This delay period provides adequate time to complete Surveillances that have been missed. This delay period permits the completion of a Surveillance before complying with ACTION requirements or other remedial measures that might preclude completion of the Surveillance.

The basis for this delay period includes consideration of unit conditions, adequate planning, availability of personnel, the time required to perform the Surveillance, the safety significance of the delay in completing the required Surveillance, and the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the requirements.

When a Surveillance with a surveillance interval based not on time intervals, but upon specified unit conditions, operating situations, or requirements of regulations (e.g., prior to entering MODE 1 after each fuel loading, or in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, etc.) is discovered to not have been performed when specified, Specification 4.0.3 allows for the full delay period of up to the specified surveillance interval to perform the Surveillance. However, since there is not a time interval specified, the missed Surveillance should be performed at the first reasonable opportunity.

Specification 4.0.3 provides a time limit for, and allowances for the performance of, Surveillances that become applicable as a consequence of MODE changes imposed by ACTION requirements.

No changes proposed. Page included for readability.

BASES (Continued)

Failure to comply with allowed surveillance intervals for the Surveillance requirements is expected to be an infrequent occurrence. Use of the delay period established by Specification 4.0.3 is a flexibility which is not intended to be used as an operational convenience to extend Surveillance intervals. While up to 24 hours or the limit of the specified surveillance interval is provided to perform the missed Surveillance, it is expected that the missed Surveillance will be performed at the first reasonable opportunity. The determination of the first reasonable opportunity should include consideration of the impact on plant risk (from delaying the Surveillance as well as any plant configuration changes required or shutting the plant down to perform the Surveillance) and impact on any analysis assumptions, in addition to unit conditions, planning, availability of personnel, and the time required to perform the Surveillance. This risk impact should be managed through the program in place to implement 10 CFR 50.65(a)(4) and its implementation guidance, NRC Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." This Regulatory Guide addresses consideration of temporary and aggregate risk impacts, determination of risk management action thresholds, and risk management action up to and including plant shutdown. The missed Surveillance should be treated as an emergent condition as discussed in the Regulatory Guide. The risk evaluation may use quantitative, qualitative, or blended methods. The degree of depth and rigor of the evaluation should be commensurate with the importance of the component. Missed Surveillances for important components should be analyzed quantitatively. If the results of the risk evaluation determine the risk increase is significant, this evaluation should be used to determine the safest course of action. All missed Surveillances will be placed in the Corrective Action Program.

If a Surveillance is not completed within the allowed delay period, then the equipment is considered inoperable or the variable is considered outside the specified limits and the allowed outage times of the ACTION requirements for the applicable Limiting Condition for Operation begins immediately upon expiration of the delay period. If a Surveillance is failed within the delay period, then the equipment is inoperable, or the variable is outside the specified limits and the allowed outage times of the ACTION requirements for the applicable Limiting Condition for Operation begins immediately upon the failure of the Surveillance.

Completion of the Surveillance within the delay period allowed by this Specification, or within the Allowed Outage Time of the applicable ACTIONS, restores compliance with Specification 4.0.1.

BASES (Continued)

Specification 4.0.4 establishes the requirement that all applicable surveillances must be met before entry into an OPERATIONAL MODE or other condition of operation specified in the Applicability ~~statement~~.

~~The purpose of t~~This Sspecification ~~is to~~ ensures that system and component OPERABILITY requirements ~~or parameter~~and variable limits are met before entry into an OPERATIONAL MODE or other specified conditions in the Applicability for which these systems and components ensure safe operation of the ~~facility~~unit. The provisions of this Specification should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to OPERABLE status before entering an associated OPERATIONAL MODE or other specified condition in the Applicability. ~~This provision applies to changes in OPERATIONAL MODES or other specified conditions associated with plant shutdown as well as startup.~~

~~Under the provisions of this specification, the applicable Surveillance Requirements must be performed within the specified surveillance interval to ensure that the Limiting Conditions for Operation are met during initial plant startup or following a plant outage.~~

~~When a shutdown is required to comply with ACTION requirements, the provisions of Specification 4.0.4 do not apply because this would delay placing the facility in a lower MODE of operation.~~

A provision is included to allow entry into an OPERATIONAL MODE or other specified condition in the Applicability when a Limiting Condition for Operation is not met due to Surveillance not being met in accordance with Specification 3.0.4.

However, in certain circumstances, failing to meet a Surveillance Requirement will not result in Specification 4.0.4 restricting an OPERATIONAL MODE change or other specified condition change. When a system, subsystem, division, component, device, or variable is inoperable or outside its specified limits, the associated Surveillance Requirements are not required to be performed, per Specification 4.0.1, which states that surveillances do not have to be performed on inoperable equipment. When equipment is inoperable, Specification 4.0.4 does not apply to the associated Surveillance Requirements since the requirement for the Surveillance Requirements to be performed is removed. Therefore, failing to perform the Surveillance(s) within the allowed surveillance interval does not result in a Specification 4.0.4 restriction to changing OPERATIONAL MODES or other specified conditions of the Applicability. However, since the Limiting Condition for Operation is not met in this instance, Specification 3.0.4 will govern any restrictions that may (or may not) apply to OPERATIONAL MODE or other specified condition changes. Specification 4.0.4 does not restrict changing OPERATIONAL MODES or other specified conditions of the Applicability when a Surveillance has not been performed within the allowed surveillance interval, provided the requirement to declare the Limiting Condition

for Operation not met has been delayed in accordance with Specification 4.0.3.

The provisions of Specification 4.0.4 shall not prevent entry into OPERATIONAL MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of Specification 4.0.4 shall not prevent changes in OPERATIONAL MODES or other specified conditions in the Applicability that result from any unit shutdown. In this context, a unit shutdown is defined as a change in OPERATIONAL MODE or other specified condition in the Applicability associated with transitioning from MODE 1 to MODE 2, MODE 2 to MODE 3, MODE 3 to MODE 4, and MODE 4 to MODE 5.

Specification 4.0.5 establishes the requirement that inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with a periodically updated version of Section XI of the ASME Boiler and pressure Vessel Code and Addenda as required by 10 CFR 50.55a. These requirements apply except when relief has been provided in writing by the Commission.

This specification includes a clarification of the frequencies for performing the inservice inspection and testing activities required by Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda. This clarification is provided to ensure consistency in surveillance intervals throughout the Technical Specifications and to remove any ambiguities relative to the frequencies for performing the required inservice inspection and testing activities.

Under the terms of this specification, the more restrictive requirements of the Technical Specifications take precedence over the ASME Boiler and Pressure Vessel Code and applicable Addenda. The requirements of Specification 4.0.4 to perform surveillance activities before entry into an OPERATIONAL MODE or other specified condition takes precedence over the ASME Boiler and Pressure Vessel Code provision which allows pumps and valves to be tested up to one week after return to normal operation. The Technical Specification definition of OPERABLE does not allow a grace period before a component that is not capable of performing its specified function, is declared inoperable and takes precedence over the ASME Boiler and Pressure Vessel Code provision which allows a valve to be incapable of performing its specified function for up to 24 hours before being declared inoperable.

3/4.3.3.3 (This Specification number is not used.)

3/4.3.3.4 (This Specification number is not used.)

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criteria 19 of 10 CFR 50.

3/4.3.3.6 (This Specification number is not used).

3/4.3.3.7 (This Specification number is not used).

3/4.3.3.8 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables during and following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations."

The ACTIONS are modified by a General Note that permits the use of the provisions of Specification 3.0.4.c. This allowance permits entry into the applicable OPERATIONAL MODE(S) while relying on the ACTIONS. This allowance is acceptable due to the passive function of the instruments, the operator's ability to respond to an accident using alternate instruments and methods, and the low probability of an event requiring these instruments. while the plant remains at, or proceeds to power operation.

3/4.4.6.1 LEAKAGE DETECTION INSTRUMENTATION (Continued)

LCO (Continued)

The LCO is satisfied when monitors of diverse measurement means are available. Thus, the containment sump monitor, in combination with a gaseous or particulate radioactivity monitor, provides an acceptable minimum. The containment sump monitor is comprised of the instruments associated with the non-ECCS portion of the containment sump which monitor narrow range level and sump pump discharge flow.

APPLICABILITY

Because of elevated RCS temperature and pressure in MODES 1, 2, 3, and 4, RCS leakage detection instrumentation is required to be OPERABLE.

In MODE 5 or 6, the temperature is to be less than or equal to 200°F and pressure is maintained low or at atmospheric pressure. Since the temperatures and pressures are far lower than those for MODES 1, 2, 3, and 4, the likelihood of leakage and crack propagation are much smaller. Therefore, the requirements of this LCO are not applicable in MODES 5 and 6.

ACTIONS

a. With the required containment sump monitor inoperable, no other form of sampling can provide the equivalent information; however, the containment atmosphere radioactivity monitoring system will provide indications of changes in leakage. Together with the atmosphere monitor, the periodic surveillance for RCS water inventory balance, SR 4.4.6.2.b, must be performed at an increased frequency of 24 hours to provide information that is adequate to detect leakage.

   Restoration of the required sump monitor to OPERABLE status within a Completion Time of 30 days is required to regain the function after the monitor's failure. This time is acceptable, considering the frequency and adequacy of the RCS water inventory balance required by Required Action "a."

3/4.4.6.1 LEAKAGE DETECTION INSTRUMENTATION (Continued)

ACTIONS (Continued)

Required Action "a" is modified by a Note that permits the use of the provisions of Specification 3.0.4.c. This allowance permits entry into the applicable OPERATIONAL MODE(S) while relying on the ACTIONS. ~~indicates that the provisions of LCO 3.0.4 are not applicable.~~ As a result, a MODE change is allowed when the containment sump monitor is inoperable. This allowance is provided because other instrumentation is available to monitor RCS leakage.

b.1 and b.2.

With both gaseous and particulate containment atmosphere radioactivity monitoring instrumentation channels inoperable, alternative action is required. Either grab samples of the containment atmosphere must be taken and analyzed or water inventory balances, in accordance with SR 4.4.6.2.b, must be performed to provide alternate periodic information.

With a sample obtained and analyzed or water inventory balance performed every 24 hours, the reactor may be operated for up to 30 days to allow restoration of the required containment atmosphere radioactivity monitors.

The 24 hour interval provides periodic information that is adequate to detect leakage. The 30 day Completion Time recognizes at least one other form of leakage detection is available.

Required Action "b" is modified by a Note that permits the use of the provisions of Specification 3.0.4.c. This allowance permits entry into the applicable OPERATIONAL MODE(S) while relying on the ACTIONS. ~~indicates that the provisions of LCO 3.0.4 are not applicable.~~ As a result, a MODE change is allowed when the gaseous and particulate containment atmosphere radioactivity monitor channel is inoperable. This allowance is provided because other instrumentation is available to monitor for RCS LEAKAGE.

c. With all required monitors inoperable, no automatic means of monitoring leakage are available, and immediate plant shutdown is required. The plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within the following 30 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant condition from full power conditions in an orderly manner and without challenging plant systems.

3/4.4.7 (This Specification number is not used.)

3/4.4.8 SPECIFIC ACTIVITY

The primary coolant specific activity is limited in order to maintain offsite and control room operator doses associated with postulated accidents within applicable requirements. Specifically, the 0.35 µCi/gm DOSE EQUIVALENT I-131 limit ensures that the offsite dose does not exceed a small fraction of 10 CFR Part 100 guidelines and that control room operator thyroid dose does not exceed GDC-19 in the event of primary-to-secondary leakage induced by a main steam line break.

Required Action "a" for MODES 1 , 2 and 3 with $T_{avg} \geq 500°F$ is modified by a Note that permits the use of the provisions of Specification 3.0.4.c. This allowance permits entry into the applicable OPERATIONAL MODE(S) while relying on the ACTIONS. This allowance is acceptable due to the significant conservatism incorporated into the specific activity limit, the low probability of an event which is limiting due to exceeding this limit, and the ability to restore transient specific activity excursions while the plant remains at, or proceeds to power operation.

The ACTION statement permitting POWER OPERATION to continue for limited time periods with the primary coolant's specific activity > 0.35 µCi/gram DOSE EQUIVALENT I-131, but within the allowable limit shown on Figure 3.4-1, accommodates possible iodine spiking phenomenon which may occur following changes in THERMAL POWER. Operation with specific activity levels exceeding 0.35 µCi/gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limits shown on Figure 3.4-1 must be restricted to ensure that assumptions made in the UFSAR accident analyses are not exceeded.

Reducing T_{avg} to < 500°F minimizes the release of activity should a steam generator tube rupture since the saturation pressure of the primary coolant is below the lift pressure of the atmospheric steam relief valves. This action also reduces the pressure differential across the steam generator tubes reducing the probability and magnitude of main steam line break accident induced primary-to-secondary leakage. The surveillance requirements provide adequate assurance that excessive specific activity levels in the primary coolant will be detected in sufficient time to take corrective action. Information obtained on iodine spiking will be used to assess the parameters associated with spiking phenomena. A reduction in frequency of isotopic analyses following power changes may be permissible if justified by the data obtained.

3/4.4.9 PRESSURE/TEMPERATURE LIMITS (Continued)

LCO (Continued)

The elements of the LCO that provide low temperature overpressure mitigation through pressure relief are:

a. Two OPERABLE PORVS; a PORV is OPERABLE for OPPS when its block valve is open, its lift setpoint is set to the limit and testing proves its ability to open at this setpoint, and motive power is available to the two valves and their control circuits; or

b. A depressurized RCS and an RCS vent.

An RCS vent is OPERABLE when open with an area of 3.14 square inches.

Each of these methods of overpressure prevention is capable of mitigating the limiting OPPS transient.

APPLICABILITY

This LCO is applicable in MODE 4 when any RCS cold leg temperature is less than or equal to the enable temperature specified in the PTLR, in MODE 5, and in MODE 6 when the reactor vessel head is on. When the reactor vessel head is off, overpressurization cannot occur.

Low temperature overpressure prevention is most critical during shutdown when the RCS is water solid, and a mass or heat input transient can cause a very rapid increase in RCS pressure when little or no time allows operator action to mitigate the event.

ACTION

The ACTIONS of LCO 3.4.9.3 are modified by a General Note that prohibits the application of Specification 3.0.4.b to an inoperable OPPS system. There is increased risk associated with entering MODE 4 from MODE 5, and when entering MODE 5 from MODE 6, with OPPS inoperable and the provisions of Specification 3.0.4.b, which allow entry into an OPERATIONAL MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

a. With two or more charging pumps capable of injecting into the RCS, RCS overpressurization is possible.

   To immediately initiate action to restore restricted coolant input capability to the RCS reflects the urgency of removing the RCS from this condition.

b. An unisolated accumulator requires isolation within 1 hour. This is only required when the accumulator pressure is at or more than the maximum RCS pressure for the existing temperature allowed by the PTLR P/T limit curves.

3/4.4.9 PRESSURE/TEMPERATURE LIMITS (Continued)

ACTION (Continued)

If isolation is needed and cannot be accomplished in 1 hour, the ACTION provides two options, either of which must be performed in the next 12 hours. By increasing the RCS temperature to more than the enable temperature specified in the PTLR, the accumulator pressure cannot exceed the OPPS limits if the accumulators are fully injected. Depressurizing the accumulators below the OPPS limit specified in the PTLR also gives this protection.

The completion times are based on operating experience that these activities can be accomplished in these time periods indicating that an event requiring OPPS is not likely in the allowed times.

c. In MODE 4 when any RCS cold leg temperature is less than or equal to the enable temperature specified in the PTLR, with one required RCS relief valve inoperable, the RCS relief valve must be restored to OPERABLE status within a completion time of 7 days. Two RCS relief valves are required to provide low temperature overpressure mitigation while withstanding a single failure of an active component. ~~The exception to Specification 3.0.4 will permit plant heatup with one inoperable PORV. Continued operation is permitted with one PORV inoperable.~~

The completion time considers the facts that only one of the RCS relief valves is required to mitigate an overpressure transient and that the likelihood of an active failure of the remaining valve path during this time period is very low. If plant operation results in transitioning to MODE 5, the completion time to restore an inoperable PORV may not exceed 7 days as required by this ACTION.

d. The consequences of operational events that will overpressurize the RCS are more severe at lower temperature. Thus, with one of the two RCS relief valves inoperable in MODE 5 or in MODE 6 with the head on, the completion time to restore two valves to OPERABLE status is 24 hours.

3/4.5.1 ACCUMULATORS (Continued)

allowed completion times are reasonable, based on operating experience, to reach the required plant condition from full power in an orderly manner and without challenging plant systems.

The RCS accumulators are isolated when RCS pressure is reduced to 1000 ± 100 psig to prevent borated water from being injected into the RCS during normal plant cooldown and depressurization conditions and also to prevent inadvertent overpressurization of the RCS at reduced RCS temperature. With the accumulator pressure reduced to less than the reactor vessel low temperature overpressure protection setpoint, the accumulator pressure cannot challenge the cold overpressure protection system or exceed the 10 CFR 50 Appendix G limits. Therefore, the accumulator discharge isolation valves may be opened to perform the accumulator discharge check valve testing specified in the IST program.

3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS

The OPERABILITY of two separate and independent ECCS subsystems ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration. Either subsystem operating in conjunction with the accumulators is capable of supplying sufficient core cooling to limit the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double-ended break of the largest RCS cold leg pipe downward. In addition, each ECCS subsystem provides long-term core cooling capability in the recirculation mode during the accident recovery period.

The ACTIONS of LCO 3.5.3 are modified by a General Note that prohibits the application of Specification 3.0.4.b to an inoperable ECCS centrifugal charging pump when entering MODE 4. There is increased risk associated with entering MODE 4 from MODE 5 with inoperable ECCS centrifugal charging pumps and the provisions of Specification 3.0.4.b, which allow entry into an OPERATIONAL MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

The surveillance requirements provided to ensure OPERABILITY of each component ensure that at a minimum, the assumptions used in the accident analyses are met and that subsystem OPERABILITY is maintained.

Periodic surveillance testing of ECCS pumps to detect gross degradation caused by impeller structural damage or other hydraulic component problems is required by Section XI of the ASME Code. This type of testing may be accomplished by measuring the pump developed head at only one point on the pump characteristic curve. This verifies both that the measured performance is within an acceptable

tolerance of the original pump baseline performance and that the performance at the test flow is greater than or equal to the performance assumed in the ECCS Flow Analysis. The term "required developed head" refers to the pump performance at a given flow point

3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS (Continued)

that is assumed in the ECCS Flow Analysis. This is possible since the analysis assumes the pump delivers different flows at different times during accident mitigation. These multiple points are represented by a curve. The values at various flow points are defined by the Minimum Operating Point (MOP) curve in the Inservice Testing (IST) Program. The verification that the pump's developed head at the flow test point is greater than or equal to the required developed head is performed by using the MOP curve. Surveillance requirements are specified in the IST Program, which encompasses Section XI of the ASME Code. Section XI of the ASME Code provides the activities and frequencies necessary to satisfy the requirements.

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.

The limitation for a maximum of one charging pump to be OPERABLE and the surveillance requirement to verify all charging pumps except the required OPERABLE pump to be inoperable below the enable temperature specified in the PTLR provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV.

MAIN STEAM SAFETY VALVES (MSSVs) (Continued)

~~ACTIONS (Continued)~~

~~d. An exception to Specification 3.0.4 is provided since the above ACTION statements require a shutdown if they are not met within a specified period of time.~~

SURVEILLANCE REQUIREMENTS (SR)

SR 4.7.1.1

This SR verifies the OPERABILITY of the MSSVs by the verification of each MSSV lift setpoint in accordance with the Inservice Testing Program. The ASME Code, Section XI, requires that safety and relief valve tests be performed in accordance with ANSI/ASME OM-1-1987. According to ANSI/ASME OM-1-1987, the following tests are required:

a. Visual examination;

b. Seat tightness determination;

c. Setpoint pressure determination (lift setting); and

d. Compliance with owner's seat tightness criteria.

The ANSI/ASME Standard requires that all valves be tested every 5 years. The ASME Code specifies the activities and frequencies necessary to satisfy the requirements. Table 3.7-2 allows a +1 percent -3 percent setpoint tolerance for OPERABILITY; however, the valves are reset to $\pm$ 1 percent during the Surveillance to allow for drift.

The lift settings according to Table 3.7-2 correspond to ambient conditions of the valve at nominal operating temperature and pressure, as identified by a note.

3/4.7.1.2 AUXILIARY FEEDWATER SYSTEM (AFW)

LCO (Continued)

requires that the two motor driven AFW pumps be OPERABLE in two diverse paths, each supplying AFW to each steam generator. The turbine driven AFW pump is required to be OPERABLE with redundant steam supplies from at least two of the three main steam lines upstream of the MSIVs, and shall be capable of supplying AFW to the steam generators via the designated train supply header. The piping, valves, instrumentation, and controls in the required flow paths also are required to be OPERABLE.

The LCO is modified by two notes. Note (1) indicates that one AFW train (capable of providing flow to the steam generator(s) relied upon for heat removal), which includes a motor driven pump, is required to be OPERABLE in MODE 4. This is because of the reduced heat removal requirements and short period of time in MODE 4 during which the AFW may be required and the insufficient steam available in MODE 4 to power the turbine driven AFW pump. Note (8) states that with one steam supply inoperable, follow ACTION statement a. This condition does not constitute one AFW train being inoperable. The train associated with the turbine driven AFW pump continues to be capable of performing its intended function assuming no failure of the remaining OPERABLE steam supply.

APPLICABILITY

In MODES 1, 2, and 3, the AFW System is required to be OPERABLE in the event that it is called upon to function when the MFW is lost. In addition, the AFW System is required to supply enough makeup water to replace the steam generator secondary inventory lost as the unit cools to MODE 4 conditions.

In MODE 4, the AFW System may be used for heat removal via the steam generators.

In MODE 5 or 6, the steam generators are not normally used for heat removal, and the AFW System is not required.

ACTIONS

The ACTIONS are modified by a General Note that prohibits the application of Specification 3.0.4.b to an inoperable AFW train when entering MODE 1. There is increased risk associated with entering MODE 1 with an AFW train inoperable and the provisions of Specification 3.0.4.b, which allow entry into an OPERATIONAL MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

a. If one of the two steam supplies to the turbine driven AFW train is inoperable, action must be taken to restore

OPERABLE status within 7 days. The 7 day completion time is reasonable, based on the following reasons:

1. The redundant OPERABLE steam supply to the turbine driven AFW pump;

3/4.8.1, 3/4.8.2 A.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS

The OPERABILITY of the A.C. and D.C. power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety related equipment required for 1) the safe shutdown of the facility and 2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criterion 17 of Appendix "A" to 10 CFR 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the safety analyses and are based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss of offsite power and single failure of the other onsite A.C. source.

The ACTIONS of LCO 3.8.1.1 are modified by a General Note that prohibits the application of Specification 3.0.4.b to an inoperable diesel generator. There is increased risk associated with entering an OPERATIONAL MODE or other specified condition in the Applicability with an inoperable diesel generator and the provisions of Specification 3.0.4.b, which allow entry into an OPERATIONAL MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

The ACTION requirements specified in LCOs 3.8.1.2, 3.8.2.2, and 3.8.2.4 address the condition where sufficient power is unavailable to recover from postulated events, such as a fuel handling accident involving recently irradiated fuel. Due to radioactive decay, electrical power is only required to mitigate fuel handling accidents involving recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous 100 hours). Implementation of the ACTION requirements shall not preclude completion of actions to establish a safe conservative plant condition. Completion of the requirements will prevent the occurrence of postulated events for which mitigating actions would be required.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that 1) the facility can be maintained in the shutdown or refueling condition for extended time periods and 2) sufficient instrumentation and control capability is available for monitoring and maintaining the unit status, and 3) sufficient power is available for systems that may be necessary to recover from postulated events in these MODES, e.g., a fuel handling accident involving recently irradiated fuel.

3/4.9.14 SPENT FUEL POOL STORAGE (Continued)

Westinghouse 17 x 17 Standard fuel assemblies can be stored in a three out of four checkerboard arrangement of a 2 x 2 matrix of storage cells. This configuration is considered Region 2. In the three out of four 2 x 2 checkerboard arrangement, the three fuel assemblies must have an initial nominal enrichment less than or equal to 2.6 w/o U-235, or satisfy a minimum burnup requirement for higher initial enrichments as shown in Table 3.9-1.

Westinghouse 17 x 17 Standard fuel assemblies with nominal enrichments less than or equal to 5.0 w/o U-235 can be stored in a two out of four checkerboard arrangement. This configuration is considered Region 1. In the two out of four checkerboard storage arrangement, the two fuel assemblies shall be stored corner adjacent and cannot be stored face adjacent.

The requirements of this specification ensure that fuel assemblies are stored in the spent fuel racks in accordance with the configurations assumed in the spent fuel rack criticality analysis. The surveillance requirements require "administrative means" be used to verify initial enrichment and burnup of fuel assemblies prior to storage. Administrative means refers to the site refueling procedures.

3/4.9.15 FUEL STORAGE POOL BORON CONCENTRATION

The requirements for boron concentration in the fuel storage pool ensure that a uniform boron concentration is maintained in the water volume in the spent fuel pool to provide negative reactivity for postulated accident conditions under the guidelines of ANSI/ANS 8.1-1983, "Nuclear Criticality Safety in Operations and Fissionable Materials Outside Reactors," Section 4.3. The most limiting accident with respect to the storage configurations assumed in the spent fuel rack criticality analysis is the misplacement of a Westinghouse 17 x 17 Standard 5.0 w/o U-235 fuel assembly between the rack module and pool wall at a corner interface of two rack modules. The amount of soluble boron required to maintain K_{eff} less than 0.95 due to this fuel misload accident is 1400 ppm. The 2000 ppm limit specified in the Limiting Condition for Operation is consistent with the normal boron concentration maintained in the fuel storage pool and bounds the 1400 ppm required for a fuel misload accident.

3/4.9.15 FUEL STORAGE POOL BORON CONCENTRATION (Continued)

Design Feature 5.3.1.1.c. requires a boron concentration of 450 ppm to be maintained in the fuel storage pool to ensure $K_{eff} \leq 0.95$. The soluble boron concentration required to maintain $K_{eff} \leq 0.95$ under normal conditions is 450 ppm. A fuel storage pool boron dilution analysis was performed to determine that sufficient time is available to detect and mitigate dilution of the fuel storage pool prior to exceeding the K_{eff} design basis limit of 0.95. The fuel storage pool boron dilution analysis concluded that an inadvertent or unplanned event that would result in dilution of the fuel storage pool boron concentration from 2000 ppm to 450 ppm is not a credible event.

The action statement ensures that the boron concentration is maintained $\geq$ 2000 ppm during all actions involving movement of fuel in the fuel storage pool and when fuel assemblies are stored in the fuel storage pool.

Attachment C-1

Beaver Valley Power Station, Unit No. 1
Re-typed Unit 1 Technical Specification Pages

License Amendment Request No. 321

The following is a list of the affected pages:

3/4 0-1
3/4 0-2
3/4 0-3
3/4 0-4
3/4 3-50
3/4 4-11
3/4 4-18
3/4 4-27a
3/4 5-6
3/4 7-1
3/4 7-5
3/4 8-1
3/4 9-14

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3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

LIMITING CONDITION FOR OPERATION

3.0.1 Compliance with the Limiting Conditions for Operation contained in the succeeding specifications is required during the OPERATIONAL MODES or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met, except as provided in Limiting Condition for Operation 3.0.6.

3.0.2 Noncompliance with a specification shall exist when the requirements of the Limiting Condition for Operation and associated ACTION requirements are not met within the specified time intervals. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.

3.0.3 When a Limiting Condition for Operation is not met except as provided in the associated ACTION requirements, within one hour action shall be initiated to place the unit in a MODE in which the specification does not apply by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual specifications.

3.0.4 When a Limiting Condition for Operation is not met, entry into an OPERATIONAL MODE or other specified condition in the Applicability shall only be made:

a. When the associated ACTIONS to be entered permit continued operation in the OPERATIONAL MODE or other specified condition in the Applicability for an unlimited period of time, or

b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the OPERATIONAL MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this Specification are stated in the individual Specifications, or

c. When an allowance is stated in the individual value, parameter, or other Specification.

3/4.0 APPLICABILITY

LIMITING CONDITION FOR OPERATION (continued)

This Specification shall not prevent changes in OPERATIONAL MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3.0.5 When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied within 2 hours, action shall be initiated to place the unit in a MODE in which the applicable Limiting Condition for Operation does not apply, by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

This specification is not applicable in MODES 5 or 6.

3.0.6 Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to Limiting Condition for Operation 3.0.1 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be met during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the Limiting Condition for Operation. Failure to perform a Surveillance within the allowed surveillance interval, defined by Specification 4.0.2, shall be failure to meet the Limiting Condition for Operation except as provided in Specification 4.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25% of the surveillance interval.

SURVEILLANCE REQUIREMENTS (continued)

4.0.3 If it is discovered that a Surveillance was not performed within its allowed surveillance interval, defined by Specification 4.0.2, then compliance with the requirement to declare the Limiting Condition for Operation not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified surveillance interval, whichever is greater. This delay period is permitted to allow performance of the Surveillance. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the Limiting Condition for Operation must immediately be declared not met, and the applicable ACTION(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the Limiting Condition for Operation must immediately be declared not met, and the applicable ACTION(s) must be entered.

4.0.4 Entry into an OPERATIONAL MODE or other specified condition in the Applicability of a Limiting Condition for Operation shall only be made when the Limiting Condition for Operation's Surveillances have been met within their allowed surveillance interval, except as provided by Specification 4.0.3. When a Limiting Condition for Operation is not met due to Surveillances not having been met, entry into an OPERATIONAL MODE or other specified condition in the Applicability shall only be made in accordance with Specification 3.0.4. This provision shall not prevent entry into OPERATIONAL MODES or other specified conditions in the Applicability, that are required to comply with ACTION requirements or that are part of a shutdown of the unit.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2 and 3 components shall be applicable as follows:

a.1 Inservice inspection of ASME Code Class 1, 2 and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g).

a.2 Inservice testing of ASME Code Class 1, 2 and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(f).

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SURVEILLANCE REQUIREMENTS (continued)

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice inspection and testing activities	Required frequencies for performing inservice inspection and testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.

d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.

e. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

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INSTRUMENTATION

ACCIDENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 The accident monitoring instrumentation channels shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - -

Specification 3.0.4.c is applicable.

- -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Total Number of Channels shown in Table 3.3-11, either restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours (follow Specification 3.4.11 when determining ACTIONS for Items 5 and 6).

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3-11, either restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.3.3.8 Each accident monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-7.

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following Reactor Coolant System leakage detection instrumentation shall be OPERABLE:

a. One containment sump (narrow range level or discharge flow) monitor; and

b. One containment atmosphere radioactivity monitor (gaseous or particulate).

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the required containment sump monitor inoperable(1), operations may continue for up to 30 days provided that a Reactor Coolant System water inventory balance measurement (Specification 4.4.6.2.b) is performed at least once per 24 hours. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With the required containment atmosphere radioactivity monitor inoperable(1), operations may continue for up to 30 days provided:

   1. Grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours, or

   2. A Reactor Coolant System water inventory balance measurement (Specification 4.4.6.2.b) is performed at least once per 24 hours.

   Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

(1) Specification 3.0.4.c is applicable.

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REACTOR COOLANT SYSTEM

SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.8 The specific activity of the primary coolant shall be limited to:

a. ≤ 0.10 μCi/gram DOSE EQUIVALENT I-131, and

b. ≤ $100/\bar{E}$ μCi/gram.

APPLICABILITY: MODES 1, 2, 3, 4 and 5.

ACTION:

MODES 1, 2, and 3*

a. With the specific activity of the primary coolant > 0.10 μCi/gram DOSE EQUIVALENT I-131(1) for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in HOT STANDBY with T_{avg} < 500°F within 6 hours.

b. With the specific activity of the primary coolant > $100/\bar{E}$ μCi/gram, be in HOT STANDBY with T_{avg} < 500°F within 6 hours.

MODES 1, 2, 3, 4 and 5

a. With the specific activity of the primary coolant > 0.10 μCi/gram DOSE EQUIVALENT I-131 or > $100/\bar{E}$ μCi/gram, perform the sampling and analysis requirement of item 4a of Table 4.4-12 until the specific activity of the primary coolant is restored to within its limits.

SURVEILLANCE REQUIREMENTS

4.4.8 The specific activity of the primary coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-12.

---

* With T_{avg} ≥ 500°F

(1) Specification 3.0.4.c is applicable.

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OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.9.3 An overpressure protection system shall be OPERABLE with a maximum of one charging pump[1] capable of injecting into the RCS and the accumulators isolated[2] and either a or b below:

a. Two power operated relief valves (PORVs) with a nominal maximum lift setting within limits specified in the PTLR, or

b. The RCS depressurized and an RCS vent of greater than or equal to 2.07 square inches.

APPLICABILITY: Mode 4 when any RCS cold leg temperature is less than or equal to an enable temperature specified in the PTLR,
Mode 5,
Mode 6 when the reactor vessel head is on.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable when entering MODE 4 or MODE 5.

- -

a. With two or more charging pumps capable of injecting into the RCS, immediately initiate action to verify a maximum of one charging pump is capable of injecting into the RCS or depressurize and vent the RCS through a 2.07 square inch or larger vent within 12 hours.

b. With an accumulator not isolated when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the heatup and cooldown curves in the PTLR, isolate the affected accumulator within 1 hour or increase the RCS cold leg temperature above the enable temperature specified in the PTLR within the next 12 hours or depressurize the affected accumulator to less than the maximum RCS pressure for the existing cold leg temperature allowed by the heatup and cooldown curves in the PTLR within the next 12 hours.

---

(1) Two charging pumps may be capable of injecting into the RCS for pump swap operation for less than or equal to 1 hour.

(2) Accumulator isolation with power removed from the discharge isolation valves is only required when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the heatup and cooldown curves provided in the PTLR.

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3/4.5.3 ECCS SUBSYSTEMS - T_{avg} < 350°F

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem comprised of the following shall be OPERABLE:

a. One OPERABLE centrifugal charging pump,#

b. One OPERABLE Low Head Safety Injection Pump, and

c. An OPERABLE flow path capable of taking suction from the refueling water storage tank upon being manually realigned and transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODE 4.

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable to ECCS centrifugal charging pumps.

- -

ACTION:

a. With no ECCS subsystem OPERABLE because of the inoperability of either the centrifugal charging pump or the flow path from the refueling water storage tank, restore at least one ECCS subsystem to OPERABLE status within 1 hour or be in COLD SHUTDOWN within the next 20 hours.

b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted in accordance with 10 CFR 50.4 within 30 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

SURVEILLANCE REQUIREMENTS

4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.

4.5.3.2 All charging pumps except the above required OPERABLE pumps, shall be demonstrated inoperable at least once per 12 hours whenever the temperature of one or more of the non-isolated RCS cold legs is ≤ the enable temperature specified in the PTLR by verifying that the control switches are placed in the PULL-TO-LOCK position and tagged.

A maximum of one centrifugal charging pump shall be OPERABLE whenever the temperature of one or more of the non-isolated RCS cold legs is ≤ the enable temperature specified in the PTLR.

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3/4.7.1 TURBINE CYCLE

MAIN STEAM SAFETY VALVES (MSSVs)

LIMITING CONDITION FOR OPERATION

3.7.1.1 Five MSSVs per steam generator shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - - -

Separate ACTION entry is allowed for each MSSV.

- -

a. With one or more steam generators with one MSSV inoperable and the Moderator Temperature Coefficient (MTC) zero or negative at all power levels, within 4 hours reduce THERMAL POWER to less than or equal to 61% RTP; otherwise, be in HOT STANDBY within the next 6 hours, and in HOT SHUTDOWN within the next 6 hours.

b. With one or more steam generators with two or more MSSVs inoperable, or with one or more steam generators with one MSSV inoperable and the MTC positive at any power level, within 4 hours reduce THERMAL POWER to less than or equal to the Maximum Allowable % RTP specified in Table 3.7-1 for the number of OPERABLE MSSVs, and reduce the Power Range Neutron Flux-High reactor trip setpoint to less than or equal to the Maximum Allowable % RTP specified in Table 3.7-1 for the number of OPERABLE MSSVs within the next 32 hours(1); otherwise, be in HOT STANDBY within the next 6 hours, and in HOT SHUTDOWN within the next 6 hours.

c. With one or more steam generators with four or more MSSVs inoperable, within 6 hours be in HOT STANDBY and in HOT SHUTDOWN within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.1 Verify(2) each required MSSV lift setpoint per Table 3.7-2 in accordance with the Inservice Testing Program. Following testing, lift settings shall be within ± 1 percent.

---

(1) Required to be performed only in MODE 1.
(2) Required to be performed only in MODES 1 and 2.

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PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 Three Auxiliary Feedwater (AFW) trains shall be OPERABLE and consist of the following:(1)

a. One motor driven AFW pump with a flow path from WT-TK-10 to each feedwater injection header via the train "A" supply header.

b. One motor driven AFW pump with a flow path from WT-TK-10 to each feedwater injection header via the train "B" supply header.

c. One turbine driven AFW pump capable of being powered from two steam supplies(8) with a flow path from WT-TK-10 to each feedwater injection header via the designated train supply header.

d. One feedwater injection header to each steam generator.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator(s) is relied upon for heat removal.

ACTION:

- - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable when entering MODE 1.

- -

a. With one of the two steam supplies to the turbine driven AFW pump inoperable, restore two steam supplies to OPERABLE status within 7 days and within 10 days from discovery of failure to meet the LCO or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With one feedwater injection header inoperable in MODE 1, 2, or 3, be in HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

---

(1) Only one AFW train (capable of providing flow to the steam generator(s) relied upon for heat removal), which includes a motor driven pump, is required to be OPERABLE in MODE 4.

(8) With one steam supply inoperable, follow ACTION statement a.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

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OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and

b. Two separate and independent diesel generators each with:

1. Separate day and engine-mounted fuel tanks containing a minimum of 900 usable gallons of fuel,

2. A separate fuel storage system containing a minimum of 17,500 usable gallons of fuel, and

3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable to diesel generators.

- -

a. With one offsite circuit inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

b. With one diesel generator(1) inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any cause other than an independently testable component, testing or preplanned preventative maintenance, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing

(1) Fuel oil contained in the storage tanks not meeting the properties in accordance with 4.8.1.1.2.d.2 or 4.8.1.1.2.e shall be brought within the specified limits within 7 days.

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REFUELING OPERATIONS

3/4.9.14 SPENT FUEL STORAGE POOL

LIMITING CONDITION FOR OPERATION

3.9.14 Fuel is to be stored in the spent fuel storage pool with:

a. The boron concentration in the spent fuel pool maintained greater than or equal to 1050 ppm when moving fuel in the spent fuel pool; and

b. Fuel assembly storage in Region 1 restricted to fuel with an enrichment less than or equal to 5.0 w/o U-235; and

c. Fuel assembly storage in Region 2 restricted to fuel which has been qualified in accordance with Table 3.9-1; and

d. Fuel assembly storage in Region 3 restricted to fuel which has been qualified in accordance with Table 3.9-2.

APPLICABILITY: During storage of fuel in the spent fuel pool.

ACTION:

a. Suspend all actions involving movement of fuel in the spent fuel pool if it is determined a fuel assembly has been placed in the incorrect Region until such time as the correct storage location is determined. Move the assembly to its correct location before resumption of any other fuel movement.

b. Suspend all actions involving the movement of fuel in the spent fuel pool if it is determined the pool boron concentration is less than 1050 ppm, until such time as the boron concentration is increased to 1050 ppm or greater.

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.14.1 Prior to placing fuel or moving fuel in the spent fuel pool, verify through fuel receipt records for new fuel, or by burnup analysis and comparison with Table 3.9-1 or Table 3.9-2 for spent fuel, that fuel assemblies to be placed into or moved in the spent fuel pool are within the above enrichment/burnup limits.

4.9.14.2 Verify the spent fuel pool boron concentration is $\geq$ 1050 ppm:

a. Within 8 hours prior to and at least once per 24 hours during movement of fuel in the spent fuel pool, and

b. At least once per 31 days.

Attachment C-2

Beaver Valley Power Station, Unit No. 2
Re-typed Unit 2 Technical Specification Pages

License Amendment Request No. 193

The following is a list of the affected pages:

3/4 0-1
3/4 0-2
3/4 0-3
3/4 0-4
3/4 3-57
3/4 4-17
3/4 4-27
3/4 4-35
3/4 4-36
3/4 5-3
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3/4 7-4
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3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

LIMITING CONDITION FOR OPERATION

3.0.1 Compliance with the Limiting Conditions for Operation contained in the succeeding specifications is required during the OPERATIONAL MODES or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met, except as provided in Limiting Condition for Operation 3.0.6.

3.0.2 Noncompliance with a specification shall exist when the requirements of the Limiting Condition for Operation and associated ACTION requirements are not met within the specified time intervals. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.

3.0.3 When a Limiting Condition for Operation is not met except as provided in the associated ACTION requirements, within one hour action shall be initiated to place the unit in a MODE in which the specification does not apply by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual specifications.

3.0.4 When a Limiting Condition for Operation is not met, entry into an OPERATIONAL MODE or other specified condition in the Applicability shall only be made:

a. When the associated ACTIONS to be entered permit continued operation in the OPERATIONAL MODE or other specified condition in the Applicability for an unlimited period of time, or

b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the OPERATIONAL MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this Specification are stated in the individual Specifications, or

c. When an allowance is stated in the individual value, parameter, or other Specification.

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LIMITING CONDITION FOR OPERATION (Continued)

This Specification shall not prevent changes in OPERATIONAL MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3.0.5 When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied within 2 hours, action shall be initiated to place the unit in a MODE in which the applicable Limiting Condition for Operation does not apply, by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

This specification is not applicable in MODES 5 or 6.

3.0.6 Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to Limiting Condition for Operation 3.0.1 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

SURVEILLANCE REQUIREMENTS

Surveillance Requirements shall be met during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement. Failure to meet a surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the Limiting Condition for Operation. Failure to perform a surveillance within the allowed surveillance interval, defined by Specification 4.0.2, shall be failure to meet the Limiting Condition for Operation except as provided in Specification 4.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25% of the surveillance interval.

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SURVEILLANCE REQUIREMENTS (continued)

4.0.3 If it is discovered that a Surveillance was not performed within its allowed surveillance interval, defined by Specification 4.0.2, then compliance with the requirement to declare the Limiting Condition for Operation not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified surveillance interval, whichever is greater. This delay period is permitted to allow performance of the Surveillance. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the Limiting Condition for Operation must immediately be declared not met, and the applicable ACTION(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the Limiting Condition for Operation must immediately be declared not met, and the applicable ACTION(s) must be entered.

4.0.4 Entry into an OPERATIONAL MODE or other specified condition in the Applicability of a Limiting Condition for Operation shall only be made when the Limiting Condition for Operation Surveillances have been met within their allowed surveillance interval, except as provided by Specification 4.0.3. When a Limiting Condition for Operation is not met due to Surveillances not having been met, entry into an OPERATIONAL MODE or other specified condition in the Applicability shall only be made in accordance with Specification 3.0.4. This provision shall not prevent entry into OPERATIONAL MODES, or other specified conditions in the Applicability, that are required to comply with ACTION requirements or that are part of a shutdown of the unit.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2 and 3 components shall be applicable as follows:

a.1 Inservice inspection of ASME Code Class 1, 2 and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g).

a.2 Inservice testing of ASME Code Class 1, 2 and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(f).

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SURVEILLANCE REQUIREMENTS (continued)

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice inspection and testing activities	Required frequencies for performing inservice inspection and testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.

d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.

e. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

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INSTRUMENTATION

ACCIDENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 The accident monitoring instrumentation channels shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - -

Specification 3.0.4.c is applicable.

- -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Total Number of Channels shown in Table 3.3-11, either restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours (follow Specification 3.4.11 when determining ACTIONS for Items 4 and 5).

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3-11, either restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

c. With the number of OPERABLE Reactor Coolant System Subcooling Margin Monitor instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3-11, either restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.3.3.8 Each accident monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-7.

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following Reactor Coolant System leakage detection instrumentation shall be OPERABLE:

a. One containment sump (narrow range level or discharge flow) monitor; and

b. One containment atmosphere radioactivity monitor (gaseous or particulate).

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the required containment sump monitor inoperable(1), operations may continue for up to 30 days provided that a Reactor Coolant System water inventory balance measurement (Specification 4.4.6.2.b) is performed at least once per 24 hours. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With the required containment atmosphere radioactivity monitor inoperable(1), operations may continue for up to 30 days provided:

   1. Grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours, or

   2. A Reactor Coolant System water inventory balance measurement (Specification 4.4.6.2.b) is performed at least once per 24 hours.

   Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

(1) Specification 3.0.4.c is applicable.

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3/4.4.8 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.8 The specific activity of the reactor coolant shall be limited to:

a. ≤ 0.35 μCi/gram DOSE EQUIVALENT I-131, and

b. ≤ $100/\bar{E}$ μCi/gram

APPLICABILITY: MODES 1, 2, 3, 4, and 5

ACTION:

MODES 1, 2 and 3*:

a. With the specific activity of the primary coolant > 0.35 μCi/gram DOSE EQUIVALENT I-131[1] for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in HOT STANDBY with T_{avg} < 500°F within 6 hours.

b. With the specific activity of the primary coolant > $100/\bar{E}$ μCi/gram, be in HOT STANDBY with T_{avg} < 500°F within 6 hours.

MODES 1, 2, 3, 4, and 5

a. With the specific activity of the primary coolant > 0.35 μCi/gram DOSE EQUIVALENT I-131 or >100/E μCi/gram, perform the sampling analysis requirement of item 4a of Table 4.4-12 until the specific activity of the primary coolant is restored to within its limits.

SURVEILLANCE REQUIREMENTS

4.4.8 The specific activity of the primary coolant shall be determined to be within the performance limits of the sampling and analysis program of Table 4.4-12.

---

* With T_{avg} ≥ 500°F.

(1) Specification 3.0.4.c is applicable.

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OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.9.3 An overpressure protection system shall be OPERABLE with a maximum of one charging pump(1) capable of injecting into the RCS and the accumulators isolated(2) and either a or b below:

a. Two power-operated relief valves (PORVs) with nominal maximum lift settings which vary with the RCS temperature and which do not exceed the limits specified in the PTLR, or

b. The RCS depressurized and an RCS vent of greater than or equal to 3.14 square inches.

APPLICABILITY: MODE 4 when any RCS cold leg temperature is less than or equal to an enable temperature specified in the PTLR, MODE 5, MODE 6 when the reactor vessel head is on.

ACTION:

- - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable when entering MODE 4 or MODE 5.

- -

a. With two or more charging pumps capable of injecting into the RCS, immediately initiate action to verify a maximum of one charging pump is capable of injecting into the RCS or depressurize and vent the RCS through a 3.14 square inch or larger vent within 12 hours.

b. With an accumulator not isolated when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the heatup and cooldown curves in the PTLR, isolate the affected accumulator within 1 hour or increase the RCS cold

(1) Two charging pumps may be capable of injecting into the RCS for pump swap operation for less than or equal to 15 minutes. All charging pumps may be capable of injecting into the RCS for less than or equal to 4 hours immediately following a change from MODE 3 to MODE 4 or prior to the temperature of one or more of the RCS cold legs decreasing below the enable temperature specified in the PTLR minus 25°F, whichever comes first.

(2) Accumulator isolation with power removed from the discharge isolation valves is only required when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the heatup and cooldown curves provided in the PTLR.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

leg temperature above the enable temperature specified in the PTLR within the next 12 hours or depressurize the affected accumulator to less than the maximum RCS pressure for the existing cold leg temperature allowed by the heatup and cooldown curves in the PTLR within the next 12 hours.

c. With one PORV inoperable in MODE 4 (when any RCS cold leg temperature is less than or equal to the enable temperature specified in the PTLR), restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the RCS through a 3.14 square inch or larger vent within the next 12 hours.

d. With one PORV inoperable in MODES 5 or 6, restore the inoperable PORV to OPERABLE status within 24 hours or depressurize and vent the RCS through a 3.14 square inch or larger vent within the next 12 hours.

e. With two PORVs inoperable, depressurize and vent the RCS through a 3.14 square inch or larger vent within 12 hours.

SURVEILLANCE REQUIREMENTS

4.4.9.3.1 Verify at least once per 12 hours that:

a. A maximum of one charging pump is capable of injecting into the RCS, and

b. Each accumulator is isolated; however, with the accumulator pressure less than the low temperature overpressure protection setpoint, the accumulator discharge isolation valves may be opened to perform accumulator discharge check valve testing.

4.4.9.3.2 When PORVs are being used for overpressure protection, demonstrate each PORV is OPERABLE by:

a. Verifying each PORV block valve is open for each required PORV at least once per 72 hours, and

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EMERGENCY CORE COOLING SYSTEMS

3/4.5.2 ECCS SUBSYSTEMS - $T_{avg} \geq 350°F$

LIMITING CONDITION FOR OPERATION

3.5.2 Two separate and independent ECCS subsystems shall be OPERABLE[1] with each subsystem comprised of:

a. One OPERABLE centrifugal charging pump,

b. One OPERABLE low head safety injection pump,

c. One OPERABLE recirculation spray pump[2] capable of supplying the safety injection flow path during recirculation phase, and

d. An OPERABLE flow path capable of taking suction from the refueling water storage tank on a safety injection signal and transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted in accordance with 10 CFR 50.4 within 30 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a.1. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operator control circuits disconnected by removal of the plug in the lock out circuit from each circuit:

---

(1) In MODE 3, the centrifugal charging pumps may be inoperable pursuant to Specification 4.5.3.2 provided the centrifugal charging pumps are restored to OPERABLE status within 4 hours or until the temperature of all RCS cold legs exceeds the OPPS enable temperature specified in the PTLR plus 25°F, whichever comes first.

(2) Recirculation spray pump 2RSS-P21C or 2RSS-P21D.

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EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - T_{avg} < 350°F

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem comprised of the following shall be OPERABLE:

a. One OPERABLE centrifugal charging pump,

b. One OPERABLE Low Head Safety Injection Pump, and

c. One OPERABLE recirculation spray pump* capable of supplying the safety injection flow path during recirculation phase, and

d. An OPERABLE flow path capable of taking suction from the refueling water storage tank upon being manually realigned and transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODE 4.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -
Specification 3.0.4.b is not applicable to ECCS centrifugal charging pumps.
- -

a. With no ECCS subsystem OPERABLE because of the inoperability of either the centrifugal charging pump or the flow path from the refueling water storage tank, restore at least one ECCS subsystem to OPERABLE status within 1 hour or be in COLD SHUTDOWN within the next 20 hours.

b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted in accordance with 10 CFR 50.4 within 30 days describing the circumstances of the actuation and the total accumulated actuation cycle to date.

SURVEILLANCE REQUIREMENTS

4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.

4.5.3.2 All charging pumps, except the above required OPERABLE charging pump, shall be demonstrated inoperable** by verifying that the control switches are placed in the PULL-TO-LOCK position and tagged within 4 hours after entering MODE 4 from MODE 3 prior to the temperature of one or more of the RCS cold legs decreasing below the enable temperature specified in the PTLR minus 25°F, whichever comes first, and at least once per 12 hours thereafter.

---

* Recirculation spray pump 2RSS-P21C or 2RSS-P21D.

** An inoperable pump may be energized for testing provided the discharge of the pump has been isolated from the RCS by a closed isolation valve with power removed from the valve operator, or by a manual isolation valve secured in the closed position.

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3/4.7.1 TURBINE CYCLE

MAIN STEAM SAFETY VALVES (MSSVs)

LIMITING CONDITION FOR OPERATION

3.7.1.1 Five MSSVs per steam generator shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Separate ACTION entry is allowed for each MSSV.

- -

a. With one or more steam generators with one MSSV inoperable and the Moderator Temperature Coefficient (MTC) zero or negative at all power levels, within 4 hours reduce THERMAL POWER to less than or equal to 61% RTP; otherwise, be in HOT STANDBY within the next 6 hours, and in HOT SHUTDOWN within the next 6 hours.

b. With one or more steam generators with two or more MSSVs inoperable, or with one or more steam generators with one MSSV inoperable and the MTC positive at any power level, within 4 hours reduce THERMAL POWER to less than or equal to the Maximum Allowable % RTP specified in Table 3.7-1 for the number of OPERABLE MSSVs, and reduce the Power Range Neutron Flux-High reactor trip setpoint to less than or equal to the Maximum Allowable % RTP specified in Table 3.7-1 for the number of OPERABLE MSSVs within the next 32 hours(1); otherwise, be in HOT STANDBY within the next 6 hours, and in HOT SHUTDOWN within the next 6 hours.

c. With one or more steam generators with four or more MSSVs inoperable, within 6 hours be in HOT STANDBY and in HOT SHUTDOWN within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.1 Verify(2) each required MSSV lift setpoint per Table 3.7-2 in accordance with the Inservice Testing Program. Following testing, lift settings shall be within ± 1 percent.

(1) Required to be performed only in MODE 1.
(2) Required to be performed only in MODES 1 and 2.

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AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 Three Auxiliary Feedwater (AFW) trains shall be OPERABLE and consist of the following:(1)

a. One motor driven AFW pump with a flow path from TK-210 to each feedwater injection header via the train "A" supply header.

b. One motor driven AFW pump with a flow path from TK-210 to each feedwater injection header via the train "B" supply header.

c. One turbine driven AFW pump capable of being powered from two steam supplies(8) with a flow path from TK-210 to each feedwater injection header via the designated train supply header.

d. One feedwater injection header to each steam generator.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator(s) is relied upon for heat removal.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable when entering MODE 1.

- -

a. With one of the two steam supplies to the turbine driven AFW pump inoperable, restore two steam supplies to OPERABLE status within 7 days and within 10 days from discovery of failure to meet the LCO or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With one feedwater injection header inoperable in MODE 1, 2, or 3, be in HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

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(1) Only one AFW train (capable of providing flow to the steam generator(s) relied upon for heat removal), which includes a motor driven pump, is required to be OPERABLE in MODE 4.

(8) With one steam supply inoperable, follow ACTION statement a.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

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OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and

b. Two separate and independent diesel generators each with:

1. Separate day tank containing a minimum of 350 usable gallons of fuel,

2. A separate fuel storage system containing a minimum of 53,225 usable gallons of fuel,

3. A separate fuel transfer pump,

4. Lubricating oil storage containing a minimum total volume of 504 gallons of lubricating oil, and

5. Capability to transfer lubricating oil from storage to the diesel generator unit.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- - - - - - - - - - - - - - - - - GENERAL NOTE - - - - - - - - - - - - - - -

Specification 3.0.4.b is not applicable to diesel generators.

- -

a. With one offsite circuit inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

b. With one diesel generator(1) inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the diesel

(1) Fuel oil contained in the storage tanks not meeting the properties in accordance with 4.8.1.1.2.d.2 or 4.8.1.1.2.e shall be brought within the specified limits within 7 days.

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3/4.9.14 SPENT FUEL POOL STORAGE

LIMITING CONDITION FOR OPERATION

3.9.14 The combination of initial enrichment and burnup of each fuel assembly stored in the spent fuel storage pool shall comply with the limits specified in Table 3.9-1.

APPLICABILITY: Whenever any fuel assembly is stored in the spent fuel storage pool.

ACTION: With the above requirements not satisfied:

a. Immediately initiate action to move the non-complying fuel assembly to a location that complies with Table 3.9-1.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.14 Verify, by administrative means, the initial enrichment and burnup complies with Table 3.9-1 prior to storing a fuel assembly in the spent fuel storage pool.

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3/4.9.15 FUEL STORAGE POOL BORON CONCENTRATION

LIMITING CONDITION FOR OPERATION

3.9.15 The fuel storage pool boron concentration shall be greater than or equal to 2000 ppm.

APPLICABILITY: When fuel assemblies are stored in the fuel storage pool.

ACTION: With fuel storage pool boron concentration not within limits,

a. Immediately suspend all operations involving the movement of fuel assemblies in the fuel storage pool and initiate action to restore the fuel storage pool boron concentration to within the limit.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.15 Verify the fuel storage pool boron concentration is within the limit at least once per 7 days.