Wisconsin Electric
A WISCONSIN ENERGY COMPANY

Point Beach Nuclear Plant
6610 Nuclear Rd.
Two Rivers, WI 54241
Phone 920 755-2321

NPL 2000-0271

June 19, 2000 10 CFR 50.90

Document Control Desk
U.S. NUCLEAR REGULATORY COMMISSION
Mail Station P1-137
Washington, DC 20555

Ladies/Gentlemen:

DOCKETS 50-266 AND 50-301
SUPPLEMENT 3 TO APPLICATION FOR AMENDMENT TO
FACILITY OPERATING LICENSE APPENDIX A:
TECHNICAL SPECIFICATIONS IMPROVEMENT PROJECT
RESPONSE TO RAI ON ITS SECTION 3.6
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

On November 15, 1999, Wisconsin Electric Power Company (WE), licensee for the Point Beach Nuclear Plant (PBNP), submitted an application to amend Appendix A, Technical Specifications, for Facility Operating Licenses DPR-24 and DPR-27 for Point Beach Nuclear Power Plant, Units 1 and 2, respectively (reference letter NPL 99-0669). The application proposed to convert the Point Beach Current Technical Specifications (CTS) to the Point Beach Improved Technical Specifications (ITS). That application contained documentation for ITS Chapters 1.0 and 2.0 and Sections 3.0 through 3.9.
Documentation for ITS Chapters 4.0 and 5.0 was enclosed with Supplement 1 to the PBNP ITS submittal dated March 15, 2000 (reference letter NPL 2000-0142).

In a letter dated April 19, 2000, the NRC issued a Request for Additional Information (RAI) to WE on ITS section 3.6.

Attachment 1 of this letter includes our response to the Staff's questions in the above referenced RAI. In some instances, the response includes changes that are required to the original submittal, including changes to the Current Technical Specification (CTS) markups, Descriptions of Change (DOC), NUREG markups, proposed ITS and associated Bases, Justifications for Deviation (JFD), and No Significant Hazard Considerations (NSHC). These changes are discussed in the response to each question and are included in the attachment. Pages containing the changes required to the DOC, JFD, and NSHC are identified by "Rev. B."

A001

NRR-051

The changes required to the CTS, NUREG, and ITS markups are identified as follows (example):

B

RAI 3.6.4-2

The revision bar identifies the section that has been revised; the B in the triangle identifies revision B; and the RAI number identifies which RAI question the revision relates to. The old markup pages in the original submittal should also be replaced with the new pages enclosed with this letter, following the instructions of attachment 2

Additional changes to the conversion package for the subject ITS Sections have been identified as a result of ITS reviews by WE staff that have occurred after the original ITS submittal. These additional changes have been included (where necessary) in response to each RAI question for completeness. These additional changes include correction of typographical errors, such as spelling, font style, and pagination. These types of typographical corrections appear on the clean copy of the ITS only.

Wisconsin Electric has determined that this supplement does not involve a significant hazards consideration, authorize a significant change in the types or total amounts of effluent release, or result in any significant increase in individual or cumulative occupational radiation exposure. Therefore, Wisconsin Electric concludes that the proposed supplement meets the categorical exclusion requirements of 10 CFR 51.22(c)(9) and that an environmental impact appraisal need not be prepared.

Wisconsin Electric is notifying the State of Wisconsin of this supplement by transmitting a copy of this letter, and its attachments, to the Public Service Commission of Wisconsin.

Other supplements to the PBNP ITS submittal, in response to previous RAIs, are listed for reference:

- Supplement 2 dated June 15, 2000 (ITS section 2.0, 3.1, 3.2, 3.5; reference letter NPL 2000-0260).

To the best of my knowledge and belief, the statements contained in this document are true and correct. In some respects, these statements are not based entirely on my personal knowledge, but on information furnished by cognizant Wisconsin Electric employees, contractor employees, and/or consultants. Such information has been reviewed in accordance with company practice, and I believe it to be reliable.

Should you have any questions on this submittal or require additional information, please contact me.

Sincerely,

for Mark Reddemann
Site Vice President
Point Beach Nuclear Plant

Subscribed to and sworn before me
on this 20th day of June, 2000
Mary B. Koudelka
Notary Public, State of Wisconsin Mary B. Koudelka

My Commission expires on 11/11/2001.

Enclosure

cc: NRC Regional Administrator
NRC Resident Inspector
NRC Project Manager
PSCW

DOCKETS 50-266 AND 50-301
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
TECHNICAL SPECIFICATIONS IMPROVEMENT PROJECT SECTION 3.6
POINT BEACH NUCLEAR PLANT UNITS 1 AND 2

The following information is provided in response to the Nuclear Regulatory Commission staff's requests for additional information dated April 19, 2000.

Each question is restated on the following pages with Wisconsin Electric's response following.

NRC Question 3.6.1-1:

3.6.1-1 DOC A.1
DOC A.3
DOC A.4
JFD 8
CTS 1.D
ITS 3.6.1 and Associated Bases
ITS 3.6.2
ITS 3.6.3

CTS 1.D defines CONTAINMENT INTEGRITY. A markup of CTS 1.D shows that the requirements of CTS 1.D.1, 1.D.3 and a portion of 1.D.4 are relocated to ITS 3.6.2 and 3.6.3 by DOCs A.1. and A.4. The rest of CTS 1.D is incorporated into ITS LCO 3.6.1 and SR 3.6.1.1, and is covered by DOCs A.3 and A.4. While these changes are acceptable with regards to the Administrative changes made to CTS 1.D, the changes made to CTS 1.D are incomplete. The definition is relocated in its entirety to ITS B3.6.1 Bases BACKGROUND which makes this portion of the change a Less Restrictive (LA) change. See Comment Number 3.6.1.-2. Comment: Revise the CTS markup of CTS 1.D and provide a discussion and justification for this Less Restrictive (LA) change.

WE Response:

The entire CTS definition of CONTAINMENT INTEGRITY has been properly accounted for, as follows:

D. Containment Integrity*

Containment integrity is defined to exist when:

This title, footnote, and statement information are introductory and convey no requirements. Therefore, the title and statement information are covered by the A.1 DOCs in sections 3.6.2 and

3.6.3 and DOC A.3 of Section 3.6.1 of the submittal. The footnote is covered under the A.2 DOC in section 3.6.1.

1) Penetrations required to be isolated during accident conditions are either:
  a. Capable of being closed by an operable automatic containment isolation valve,
    OR
  b. Closed by an operable containment isolation valve,
    OR
  c. Closed in accordance with Specifications 15.3.6.A.1.b and 15.3.6.A.1.c.

These requirements are properly covered by DOCs A.1 and A.2 in section 3.6.3.

2) The equipment hatch is properly closed.

This requirement is properly covered by DOC A.4 in section 3.6.1 and DOC A.2 in section 3.6.3.

3) At least one door in each personnel air lock is properly closed.

This requirement is properly covered by DOC A.2 in section 3.6.2.

4) The overall uncontrolled containment leakage is less than La.**

This requirement is properly covered by DOC A.4 in section 3.6.1.

Therefore, the entire definition has been appropriately covered by the applicable DOCs and the associated requirements are contained in the ITS. There is no less restrictive (LA) change involved. The reviewer is correct that this definition information is also contained in the basis; however, this is similar to other administrative changes where the requirements are maintained in the ITS, and Bases information expounds on the associated requirements.

During evaluation of this Staff comment, an administrative error was identified on page 1 of 9 of the CTS markup for ITS 3.6.2. The shaded block encompassing CTS 1.D.1 and 1.D.2 should refer to ITS LCO 3.6.3 vice LCO 3.6.1. A corrected page is provided.

NRC Question 3.6.1-2:

3.6.1-2 DOC A.4
DOC A.2 (Section 3.6.3)
JFD 7
JFD 8
CTS 1.D.2
ITS SR 3.6.1.1
ITS B3.6.1 Bases - BACKGROUND
ITS LCO 3.6.2 and Associated Bases
ITS SR3.6.3.3 and Associated Bases

CTS 1.D defines CONTAINMENT INTEGRITY. A markup of CTS 1.D.2 shows that this requirement is incorporated into ITS SR 3.6.1.1, but does not show that it has been relocated to ITS B3.6.1 Bases - BACKGROUND (See Comment Number 3.6.1-1). In addition CTS 1.D.2 states that the equipment hatch is properly closed. ITS B3.6.1 Bases -BACKGROUND states the following: "To maintain this leak tight barrier: c. The equipment hatch is installed". The CTS markup does not provide a justification for this change - "properly closed" to "installed". DOC A.4 states that proper closure/installation is assured by ITS SR 3.6.1.1 while JFD 8 states that this is covered by ITS LCO 3.6.2. JFD 8 also states that Point Beach only has "a single containment equipment hatch which incorporates an airlock as well." Furthermore, the markup of CTS 1.D.2 in Section 3.6.3 shows that this requirement is covered by ITS SR 3.6.3.3, and justified by DOC A.2 in Section 3.6.3. The staff cannot determine based on the DOCs and JFDs whether this change "properly closed" to "installed" is an acceptable change and whether the change is an Administrative, More Restrictive or Less Restrictive (L) change. It is also unclear if the equipment hatch is an airlock, a small airlock within the overall larger equipment hatch, or a manual valve/blind flange. In addition, it is unclear which specification applies ITS SR 3.6.1.1, SR 3.6.2.1, or SR3.6.3.3 since except for the discussion in ITS B3.6.1. Bases - BACKGROUND, there is no mention of the equipment hatch in the Bases discussions associated with ITS 3.6.2 and 3.6.3. Typically the equipment hatch is covered under ITS SR3.6.1.1. Also "installed" does not connote or imply "properly closed;" the hatch could be installed but not properly closed or sealed. See Comment Number 3.6.1-3.
Comment: Revise the CTS and ITS markups as appropriate to correct this discrepancy and provide additional discussion and justification for this change based on the current licensing basis. See Comment Numbers 3.6.1-1 and 3.6.1-3.

WE Response:

The equipment hatch is a flange with a double O-ring, resilient seal. As stated in DOC A.02 in section 3.6.3, this penetration is classified as Type B. The leakage testing performed in accordance with proposed SR 3.6.1.1 assures proper closure of this penetration by verification of leakage within limits. DOC A.02 in section 3.6.3 also properly describes the disposition of this CTS requirement within that section because SR 3.6.3.3 is the periodic visual verification that the equipment hatch flange is in the required installed/closed position. The use of "installed" and "properly closed" are equivalent and interchangeable for a flange. A flange, by definition, is "properly closed" when it is installed. SR 3.6.1.1 and SR 3.6.3.3 both apply to the equipment hatch and provide assurance that it is properly closed. Therefore, there is no discrepancy associated with this comment.

NRC Question 3.6.1-3:

3.6.1-3 DOC A.4
DOC A.2 (Specification 3.6.3)
JFD 7
JFD 8
CTS 1.D.2
STS B 3.6.1 Bases - BACKGROUND and LCO
ITS B 3.6.1 Bases - BACKGROUND and LCO

CTS 1.D.2 states that "Containment Integrity is defined to exist when: 2) The equipment hatch is properly closed." STS B 3.6.1 Bases - BACKGROUND and ITS B 3.6.1 Bases - BACKGROUND states that "To maintain this leak tight barrier: c. The equipment hatch is " closed/installed. See Comment Number 3.6.1-2 for concern on "closed" versus" "installed". STS B 3.6.1 Bases - LCO states that "Compliance with this LCO will ensure a containment configuration including equipment hatches that is ...." ITS B 3.6.1 Bases - LCO deletes the phrase "including equipment hatches" and justifies the deletion by JFD 7. Based on the discussion in Comment Number 3.6.1-2 it is unclear if the equipment hatch is an airlock, a small airlock that is part of the larger equipment hatch or a manual valve/blind flange. If it is the first item then the deletion is acceptable; however, if it is the latter items then the deletion is unacceptable. The LCO Bases discussion defines or describes what constitutes an OPERABLE system, component or structure. In the latter case, the equipment hatch is a large opening in containment which is not covered by any other STS/ITS 3.6. LCO. Thus it needs to be specified in the LCO Bases as part of what constitutes or is included in containment OPERABILITY. Comment: Based on the resolution of Comment Number 3.6.1-2 revise the ITS markup accordingly.

WE Response:

As stated in the response to comment 3.6.1-2, the equipment hatch is a double O-ring flange, therefore, the phrase has been restored. JFD 7 has been modified to state that PBNP only has one equipment hatch per containment, thus the hatch reference has been converted to singular.

NRC Question 3.6.1-4:

3.6.1-4 DOC A.9
CTS 3.6 OBJECTIVE
CTS 4.4 OBJECTIVE
ITS B3.6.1 Bases

CTS 3.6 OBJECTIVE and CTS 4.4 OBJECTIVE provide an introductory statement of the purpose of these Technical Specifications Sections. DOC A.9 states that this information is contained in the Bases section of ITS 3.6. Based on this statement the change is a Less Restrictive (LA) change - relocation to a licensee controlled document, not an Administrative change.
Comment: Revise the CTS markup and DOC A.9 to show the change as a Less Restrictive (LA) change.

WE Response:

DOC A.9 states that the information contained in the CTS "Objective" does not establish any regulatory requirements. The LCO requirements in the PBNP Technical Specifications LCO section begin after the word Specification. The Applicability and Objective in the PBNP Technical Specifications are equivalent to basis material. Therefore, this change is administrative.

NRC Question 3.6.1-5:

3.6.1-5 JFD 3
CTS 1.D.4
CTS 3.6.E
CTS 4.4.1
STS SR 3.6.1.1 and Associated Bases
ITS SR 3.6.1.1 and Associated Bases

CTS 1D.4, 3.6.E and 4.4.1 require leak rate testing in accordance with the Containment Leak Rate Testing Program which is based on the requirements of 10 CFR 50 Appendix J, Option B. STS SR 3.6.1.1 requires the visual examination and leakage rate testing be performed in accordance with 10 CFR 50 Appendix J as modified by approved exemptions. ITS SR 3.6.1.1 modifies STS SR 3.6.1.1 to conform to CTS 1.D.4, 3.6.E and 4.4.1 as modified in the CTS markup. The STS is based on Appendix J, Option A while the CTS and ITS are based on Appendix J, Option B. Changes to the STS with regards to Option A versus Option B are covered by a letter from Mr. Christopher I. Grimes to Mr. David J. Modeen, NEI, dated 11/2/95 and TSTF - 52, as modified by staff comments of 10/96, 12/98, and1/2000. The changes to ITS 3.6.1., 3.6.2, and their associated Bases are not in conformance with the letter and TSTF-52 as modified by staff comments. See Comment Numbers 3.6.1-6, 3.6.1-7, 3.6.2-1, and 3.6.2-2.

Comment: Licensee should revise its submittal to conform to the 11/2/95 letter and TSTF-52 modified by the staff. See Comment Numbers 3.6.1-6, 3.6.1-7, 3.6.2-1 and 3.6.2-2.

WE Response:

In response to this comment, we have reviewed the latest version of TSTF-52, Revision 3, dated March 8, 2000. Based on this evaluation of the latest revision, it has been concluded that the proposed ITS appropriately modifies the STS to incorporate TSTF-52, Revision 3.

In support of this conclusion, it should be noted that the current licensing basis for PBNP is based on a definition of P_a that differs from 10 CFR 50 Appendix J. Appendix J defines P_a as the calculated peak containment internal pressure. The PBNP current licensing basis defines P_a as the containment design pressure. Therefore, P_a is conservatively established at 60 psig for PBNP, which is about 7 psig greater than the approximately 53 psig peak pressure shown in the PBNP FSAR in section 14.3.4.

Our response to Comment Number 3.6.1-6 contains additional relevant information.

NRC Question 3.6.1-6:

3.6.1-6 JFD 3
CTS Bases for 3.6.A.1 and 4.4
STS B 3.6.1 Bases - BACKGROUND, APPLICABLE SAFETY ANALYSES AND APPLICABILITY
ITS B 3.6.1 Bases -BACKGROUND, APPLICABLE SAFETY ANALYSES AND APPLICABILITY
ITS B 3.6.2 Bases - BACKGROUND Insert B 3.6.2-1

ITS B 3.6.1 Bases - BACKGROUND, APPLICABLE SAFETY ANALYSES and APPLICABILITY changes the STS B 3.6.1 Bases - BACKGROUND, APPLICABLE SAFETY ANALYSES and APPLICABILITY references and discussions to "Design Basis Accident (DBA)" and "DBA" to "Design Basis Loss of Coolant Accident." While some of these changes are acceptable based on TSTF-52 (See Comment Number 3.6.1-5) and the CTS Bases discussions in 3.6.A.1 and 4.4, some of the other changes do not conform to TSTF-52 or the discussions in the CTS Bases for 4.4 and ITS B3.6.2 Bases - BACKGROUND Insert B3.6.2-1. The Bases discussions for CTS 3.6.A.1 states that the safety design basis for the containment is the Design Basis Loss of Coolant Accident. However, the Bases discussion for CTS 4.4 and ITS B 3.6.2 Bases - BACKGROUND Insert B 3.6.2-1 talks about and implies that the design basis for containment is based not only on a Design Basis Loss of Coolant Accident but other DBAs. Comment: Provide a discussion and justification delineating these other DBAs, and why they are not required to be included in the ITS 3.6 Bases discussion as specified in the TSTF-52 changes. See Comment Number 3.6.1-5.

WE Response:

Draft TSTF-52, Revision 3, provides the edited bases pages that provide clarification of the reference to DBA. In cases where this clarification is made, the DBA is further identified as the design basis Loss of Coolant Accident (LOCA). In one instance, (Draft TSTF-52, Revision 3, WOG STS, page B 3.6-6) the LOCA is not specifically identified. In that instance, the basis is specifically referring to the structural integrity of the containment. In the other cases where the term DBA is used in conjunction with the requirement to contain radioactive material that may be released from the reactor core, the clarification is made that this requirement is specifically for LOCA. Therefore, the design requirements for containment include limiting leakage to the environment after a LOCA and structural integrity after any accident.

This is consistent with the PBNP design basis requirements as described in PBNP General Design Criteria (GDC) 10 and 49. GDC 10 pertains to structural integrity. GDC 49 pertains to limiting leakage from containment. These requirements are specifically stated as follows:

Criterion: The containment structure shall be designed (a) to sustain, without undue risk to the health and safety of the public, the initial effects of gross equipment failures, such as large reactor coolant pipe break, without loss of required integrity, and (b) together with other engineered safety features as may be necessary, to retain for as long as the situation requires, the functional capability of the containment to the extent necessary to avoid undue risk to the health and safety of the public. (GDC 10)

Criterion: The reactor containment structure, including openings and penetrations, and any necessary containment heat removal systems, shall be designed so that the leakage of radioactive materials from the containment structure under conditions of pressure and temperature resulting from the largest credible energy release following a loss-of-coolant accident, including calculated energy from metal-water or other chemical reactions that could occur as a consequence of failure of any single active component in the emergency core cooling system, will not result in undue risk to the health and safety of the public. (GDC 49)

The proposed ITS basis was reviewed based on the above information and Draft TSTF-52 and it was determined that on page B 3.6.1-1, in the fourth paragraph, the basis was inappropriately changed to imply that containment structural integrity is based only on the LOCA. We propose to modify this to restore the general "DBA" reference and not include the LOCA in this paragraph as originally proposed.

Additional, specific DBA references are not necessary and there are no specific DBAs other than LOCA contained in the edited STS bases in draft TSTF-52, Revision 3.

NRC Question 3.6.1-7:

3.6.1-7 JFD 3
STS B3.6.1 Bases - LCO and SR 3.6.1.1
ITS B 3.6.1 Bases - LCO and SR 3.6.1.1

ITS B 3.6.1 Bases - LCO and SR 3.6.1.1 modifies the STS B3.6.1 Bases - LCO and SR 3.6.1.1 wording by adding two new phrases. The phrase "limiting minimum pathway leakage" is added to the first sentence of ITS B 3.6.1 Bases - LCO and the phrase "combined Type B and C maximum pathway leakage" is added to ITS B 3.6.1 Bases - SR 3.6.1.1. These phrases are not part of the overall TSTF-52 changes (See Comment Number 3.6.1-5), are not contained in 10 CFR 50 Appendix J Option A or Option B, cannot be found in the CTS specifications (LCO, surveillances or Bases), and are not contained in the Safety Evaluation associated with Amendments 169 and 173 to Point Beach Units 1 and 2, respectively which approved 10 CFR 50 Appendix J Option B for the plant. No justification is provided for the addition of these phrases and the changes could have a potential generic implication.
Comment: Delete these generic changes. See Comment Number 3.6.1-5.

WE Response:

The proposed phrases have been removed.

Additionally, the following changes have been made to Section 3.6.1:

1. Following submittal of ITS Section 5.0, it was determined that SR 3.6.1.2 was no longer required. This determination came as the result of not retaining the Containment Tendon Surveillance Program in ITS Section 5.0. A discussion and justification for not retaining SR 3.6.1.2 are provided in JFD 2 and DOC LB.1.

2. During a review of the proposed ITS 3.6.1 Bases, an error was identified in the last sentence of the second paragraph of the "Applicable Safety Analysis" Section. The proposed ITS Bases incorrectly states, "L_a is assumed to be .04% per day . . ." This has been corrected to, " L_a is assumed to be 0.4% per day . . .", as indicated in the marked up STS Bases for LCO 3.6.1.

NRC Question 3.6.2-1:

3.6.2-1 JFD 4
JFD 9
JFD 10
CTS 1.D.4
CTS 4.4.I
STS SR 3.6.2.1 and Associated Bases
ITS SR 3.6.2.1 and Associated Bases

See Comment Number 3.6.1-5.
Comment: See Comment Number 3.6.1-5.

WE Response

TSTF-52, Revision 3, has been reviewed. It has been concluded that the proposed ITS appropriately modifies the STS to incorporate TSTF-52, Revision 3. See response to Comment Numbers 3.6.1-5 and 3.6.1-6.

NRC Question 3.6.2-2:

3.6.2-2 JFD 4
JFD 10
CTS Bases for 3.6.A.1 and 4.4
STS B3.6.2 Bases - BACKGROUND, APPLICABLE SAFETY ANALYSES AND APPLICABILITY
ITS B3.6.2 Bases - BACKGROUND, APPLICABLE SAFETY ANALYSES and APPLICABILITY

See Comment Number 3.6.1-5 and 3.6.1-6.
Comment: See Comment Number 3.6.1-5 and 3.6.1-6.

WE Response:

TSTF-52, Revision 3, has been reviewed. It has been concluded that the proposed ITS appropriately modifies the STS to incorporate TSTF-52, Revision 3.

The specific reference to the Rod Ejection Accident in the applicable safety analysis section has been deleted, because the component of radiological consequences for Rod Ejection Accident that occur through the containment pathway are based on the Rod Ejection causing a LOCA inside the containment. Therefore, maintaining just the LOCA reference is adequate.

NRC Question 3.6.2-3:

3.6.2-3 JFD 11
CTS 3.6.A.1.d and Associated Bases
STS 3.6.2 ACTION Note 1 and Associated Bases
ITS 3.6.2 ACTION Note 1 and Associated Bases

ITS B3.6.2 Bases - ACTIONS has modified the STS discussion of ACTION Note 1 by the addition of the following words to the second to last sentence of the first paragraph: "but is not required to be locked while repairs are being performed on the inoperable bulkhead." While the STS wording implies that while working on an inoperable airlock door, entry and exit is permissible without requiring the locking of the OPERABLE door while the personnel are actively working on the inoperable door. The ITS modification would also allow this, however, the proposed modification has generic implications. It would also allow the OPERABLE door to remain unlocked indefinitely as long as the air lock is considered under repair even though no work is being done. This was not the intent of the Note or the specification. In addition, the CTS Bases for CTS 3.6.A.1.d which has the same Note does not include this change. Comment: Delete this generic change.

WE Response:

The proposed phrase has been modified to, ". . .but is not required to be locked while repairs are actively being performed on the inoperable bulkhead." The addition of these words to the STS Bases will prevent future misinterpretation of the "implied" allowance to enter and exit the containment without requiring the locking of the OPERABLE door while personnel are actively working on the inoperable airlock door.

NRC Question 3.6.3-1:

3.6.3-1 DOC A.2
CTS 1.D.2
ITS SR 3.6.3.3 and Associated Bases

See Comment Numbers 3.6.1-2 and 3.6.1-3.
Comment: See Comment Numbers 3.6.1-2 and 3.6.1-3.

WE Response:

As stated in the response to comment 3.6.1-2, the surveillance requirements for the equipment hatch, which is a double O-ring flange penetration, are properly covered under SR 3.6.1.1 for the leakage and SR 3.6.3.3 for the visual verification.

NRC Question 3.6.3-2:

3.6.3-2 DOC A.2
DOC M.1
JFD 8
JFD 16
CTS 1.D.1
CTS 4.2.B.3
CTS Table 15.4.1-2 Item 13
STS SR 3.6.3.5, SR 3.6.3.8 and Associated Bases
ITS SR 3.6.3.4 and Associated Bases

The CTS markup of CTS 1.D.1 and Table 15.4.1-2 item 13 shows that these two requirements are covered by ITS SR 3.6.3.4. The CTS markup of CTS 4.2.B.3 does not show to which ITS SR this CTS requirement corresponds. See Comment Number 3.6.3-3 for additional concerns with regards to this CTS requirement. DOC A.2 states that the OPERABILITY of the automatic containment isolation valves is addressed by ITS SRs 3.6.3.4 and 3.6.3.5. Based on the discussion in DOC A.2, ITS SR 3.6.3.4 corresponds to STS 3.6.3.5 and ITS SR 3.6.3.5 corresponds to STS SR 3.6.3.8. The ITS markup shows that STS 3.6.3.5 is deleted by JFDs 8 and 16, while STS 3.6.3.8 is labeled ITS 3.6.3.4. There is an inconsistency between the CTS markup, ITS markup, DOCs and JFDs.
Comment: Correct this discrepancy. See Comment Number 3.6.3-3.

WE Response:

The STS SR 3.6.3.5 is being proposed to be retained as SR 3.6.3.4, see response to comment 3.6.3-3.

NRC Question 3.6.3-3:

3.6.3-3 DOC A.2
JFD 8
JFD 16
CTS 1.D.1
CTS 4.2.B.3
CTS Table 15.4.1-2 Item 13
STS SR 3.6.3.5 and Associated Bases

The CTS markup of CTS 4.2.B.3 shows the portion associated with pumps and snubbers as being relocated to ITS Section 5.0. This is acceptable. However, the aspects of CTS 4.2.B.3 relating to containment isolation valves is shown to be retained in ITS 3.6.3; however, no ITS SR is associated with this requirement. DOC A.2 states that the ITS will contain a SR to verify isolation stroke time testing. See Comment Number 3.6.3-2 for concern on markup/justification

discrepancies. JFD 16 states that "The isolation time of each automatic power operated containment isolation [valve] is fulfilled by performance of ASME Section XI stroke time testing...." JFD 16 deletes STS SR 3.6.3.5 (containment isolation valve isolation time testing) from the ITS, based on a number of justifications. The staff has reviewed these justifications and finds they are unacceptable. The staff finds that the CTS currently requires a containment isolation valve stroke/isolation time testing through CTS 1.D.1 (penetrations capable of being closed by an OPERABLE automatic containment isolation valve which means it will close within its design closure time), CTS Table 15.4.1-2, Item 13 (a functioning test of containment isolation trip which implies a response time type of test to assure closure) and CTS 4.2.B.3 (The stroke time testing required by ASME Section XI). Therefore, STS SR 3.6.3.5 as modified by TSTF-46 or a modification based on the CTS requirements above needs to be included in the ITS. In addition the various ITS B3.6.3 Bases Sections that were deleted or modified to reflect the deletion of the isolation time requirement, need to be retained or modified in light of the retention of STS SR 3.6.3.5.
Comment: Revise the ITS markup to include STS SR 3.6.3.5 as modified by TSTF-46 or a modification thereof, and the associates Bases, and provide any appropriate discussions and justifications. See Comment Number 3.6.3-2.

WE Response:

As stated in JFD 16, ASME Section XI acceptance criteria are used for containment isolation valves. Therefore, STS SR 3.6.3.5 is now being proposed to be retained as ITS SR 3.6.3.4.

NRC Question 3.6.3-4:

3.6.3-4 JFD 13
CTS 3.6.A.1.c
STS B3.6.3 Bases - APPLICABLE SAFETY ANALYSES
ITS SR 3.6.3.1 and Associated Bases

The second paragraph of STS B3.6.3 Bases - APPLICABLE SAFETY ANALYSES states the following: "This ensures that the potential paths to the environment through the containment isolation valves (including containment purge valves) are minimized. The safety analyses... closed at event initiation." ITS B3.6.3 modifies these statements by deleting "(including containment purge valves)" and the entire last sentence. The justification for this deletion JFD 13 states that the purge valves are not rated to close under DBA conditions and the accident analysis does not explicitly assume the purge valves are closed. Based on CTS 3.6.A.1.c and ITS SR 3.6.3.1 and its associated Bases, it would seem that the current licensing basis and thus the accident analysis associated with it requires or assumes that the purge valves are locked closed at event initiation. Therefore, these STS statements would apply to Point Beach. Comment: Revise the ITS markup to retain these STS statements or modify them to reflect the plant's current licensing basis.

WE Response:

The statements have been restored and modified in accordance with JFD 15 for PBNP terminology.

<u>NRC Question 3.6.3-5:</u>

3.6.3-5 JFD 16
JFD 17
ITS B3.6.3 Bases

There are a number of statements in the various ITS B3.6.3 Bases Sections which describe and discuss "non-essential penetrations" and the containment isolation valves associated with them. The implication of these statements is that ITS 3.6.3 only applies to non-essential penetrations. The CTS Bases also uses this terminology and implies that it only applies to non-essential penetrations. No mention is made in the CTS Bases or in ITS B3.6.3 Bases on essential penetrations. There is also the implication, based on ITS B3.3.3 Bases - SR 3.6.3.4 that all non-essential penetrations contain automatic valves, which may or may not be true. The CTS and the ITS do not differentiate the penetrations except in the Bases write-ups. The staff does not differentiate essential versus non-essential penetrations in the STS. All containment penetrations are required to have isolation valves whether the valves are required to be closed during accident conditions depends on the accident, and the valve OPERABILITY as defined by the SRs and ACTION statements. Some containment isolation valves may be required to be closed under certain accident conditions while required to be open under other accident conditions. Based on the CTS, the proposed ITS, the structure and wording of the STS, and other similar plant TS, the staff concludes that the CTS, and thus the ITS apply to all penetrations both essential and non-essential.
Comment: Revise the ITS Bases to remove the terminology or implication that the specification only applies to "non-essential penetrations".

WE Response:

The references to "non-essential" penetrations have been deleted.

<u>NRC Question 3.6.3-6:</u>

3.6.3-6 JFD 17
STS B3.6.3 Bases - SR 3.6.3.8
ITS B3.6.3 Bases - SR 3.6.3.4

The third sentence in STS B3.6.3 Bases - SR 3.6.3.8 states the following: "This surveillance is not required for valves... secured in the required position under administrative controls." ITS B3.6.3 Bases - SR 3.6.3.4 modifies this sentence by changing "secured in the required position"

to "secured in the closed position". The STS does not differentiate on whether the valve is secured open or closed as long as it is locked, sealed or secured in its required position (open or closed) it does not have to be tested in accordance with the SR. By specifying the closed position in the ITS, then all valves secured in the open position would be required to be tested in accordance with the SR. This would require unlocking, unsealing or un-securing the valve, verifying it closes on an isolation signal, opening the valve, verifying it closes on an isolation signal, opening the valve and then locking, sealing or securing it in this position. This was not the intent of the Staff or the OGs in developing the STS.
Comment: Delete this change.

WE Response:

JFD 17 has been deleted and the STS wording has been restored.

<u>NRC Question 3.6.3-7:</u>

3.6.3-7 JFD 19
ITS B3.6.3 Bases - LCO

The third paragraph of ITS B3.6.3 Bases - LCO is modified by Insert B3.6.3-7. The insert states that position verification for normally closed isolation valves "when necessary in accordance with the required actions, is still required for these valves." This sentence is incomplete; position verification is required not only by the required ACTIONS, but by the appropriate SRs.
Comment: Revise the ITS insert to cover SRs as well as ACTIONS.

WE Response:

JFD 19 and the associated insert has been revised to include SRs.

<u>NRC Question 3.6.3-8:</u>

3.6.3-8 JFD 20
STS B3.6.3 Bases - LCO
ITS B3.6.3 Bases - LCO

The fifth paragraph in STS B3.6.3 Bases - LCO states the following: "This LCO provides assurance that the containment isolation valves and purge valves will perform...." ITS B3.6.3 Bases - LCO modifies the STS words by deleting "and purge valves" on the basis that purge valves are containment isolation valves and the words do not add any value or clarification to the statement. While the staff agrees that the purge valves are containment isolation valves, it does not agree that with the deletion justification that the words do not add any value or clarification. Based on the discussions of purge valves in the other sections of the STS and ITS and the specific Notes, SRs and ACTIONS associated with purge valves in the STS and ITS, Staff

believes that the purge valves are somewhat unique from the ordinary containment isolation valve and that in this instance the words do provide an added value and clarification to the statement.
Comment: Revise the ITS markup to include these words.

WE Response:

The wording has been restored in the proposed ITS and the associated JFD 20 has been deleted.

NRC Question 3.6.3-9:

3.6.3-9 CTS 3.0.B
CTS 3.6.A.1.c
ITS 3.6.3 ACTION A, and SR 3.6.3.1

CTS 3.6.A.1.c requires that the purge supply and exhaust valves be locked closed and may not be opened unless the reactor is in the cold shutdown or refueling shutdown condition. The corresponding ITS requirement is ITS SR 3.6.3.1. The only action associated with this CTS requirement is if leakage exceeds the overall containment leakage rate the actions of CTS 3.6.A.1.a apply. If the purge and exhaust valves are not locked closed or are open above cold shutdown and the leakage does not exceed the overall containment leakage rate then the CTS requires an immediate shutdown in accordance with CTS 3.0.B. In the ITS failure to meet ITS SR 3.6.3.1 for the same conditions would require entry in ITS 3.6.3 ACTION A which has a 4 hour Completion Time to isolate the penetration prior to commencement of shutdown. This is a Less Restrictive (L) change which has not been justified.
Comment: Revise the CTS markup and provide a discussion and justification for this Less Restrictive (L) change.

WE Response:

The proposed Condition A and associated ACTIONS notes for LCO 3.6.3 are less restrictive than the CTS requirements for purge supply and exhaust valve inoperability. A new DOC (L.04) has been generated to describe and justify the differences between the CTS and the proposed ITS for proposed Condition A and Condition B and associated ACTIONS Notes 2 and 3.

NRC Question 3.6.3-10:

3.6.3-10 CTS 3.6.A.1.b
CTS 3.6.A.1.c
ITS 3.6.3 ACTIONS Note 2 and 3 and Associated Bases

CTS 3.6.A.1.b already contains the exceptions allowed by ITS 3.6.3 ACTIONS Notes 2 and 3. However, CTS 3.6.A.1.b does not apply to purge supply and exhaust valves. CTS 3.6.A.1.c does

not contain the exceptions allowed by ITS 3.6.3 ACTIONS Notes 2 and 3, but the ITS Notes do apply to the purge supply and exhaust valves. The CTS markup does not show the addition or applicability of these Action Notes to CTS 3.6.A.1.c. The addition of these Notes to CTS 3.6.A.1.c would be a Less Restrictive (L) change to the CTS.
Comment: Revise the CTS markup to add these Notes to CTS 3.6.A.1.c and provide a discussion and justification for this Less Restrictive (L) change.

WE Response:

As stated in the response to comment 3.6.3-9, a new DOC has been generated to describe and justify these changes.

NRC Question 3.6.3-11:

3.6.3-11 CTS 3.6.A.1.c.(2)
ITS 3.6.3 ACTIONS Note 4 and Associated Bases

CTS 3.6.A.1.c.(2) states that if containment purge penetration leakage results in exceeding the overall containment leakage rate acceptance criteria, one enters CTS 3.6.A.1.a. The CTS markup of 3.6.A.1.c.(2) shows this requirement as part of ITS 3.6.1. This is incorrect. This CTS requirement in this case is ITS 3.6.3 ACTION Note 4 with regards to purge valves. Thus the change is an Administrative change.
Comment: Revise the CTS markup and provide the necessary discussion and justification for this Administrative change.

WE Response:

ITS 3.6.1 DOC A.8 has been deleted. The conversion of CTS 15.3.6.A.1.c(2) to ITS 3.6.3 ACTIONS Note 4 can be adequately described utilizing ITS 3.6.3 DOC A.1.

NRC Question 3.6.3-12:

3.6.3-12 CTS 3.6.A.1.b.(2)
STS 3.6.3 ACTION C and Associated Bases
ITS 3.6.3 ACTION C and Associated Bases

STS 3.6.3 ACTION C specifies the required ACTIONS to be taken for an inoperable containment isolation valve in a penetration flow path with only one containment isolation valve and a closed system. STS 3.6.3 ACTION C has been modified by TSTF 30 Rev.2 to extend the Completion Time from 4 hours to 72 hours. This modification in the CTS and ITS is in accordance with TSTF 30 which is acceptable. However, the Bases changes are not in accordance with TSTF-30 Rev.2.

Comment: Licensee to update submittal to be in accordance with TSTF - 30 Rev.2 or provide additional justification for the deviations.

WE Response:

PBNP's licensing and design does not allow it to fully adopt the specifications of TSTF-30, Rev. 2. PBNP is a pre-SRP plant and does not conform to all requirements NUREG-0800, Standard Review Plan, Section 6.2.4 for containment isolation. Specifically, PBNP was not designed and built to General Design Criterion (GDC) 57. Additionally, the service water system is classified as Class 3 in accordance with Regulatory Guide 1.26, Article C.2.b, as a closed system inside containment, and not Class 2 as specified in NUREG-0800.

Routine surveillance of the service water system, as required by the Pressure Test Program, specifies a 40-month pressure test to perform a visual walk down of system components in containment to note any leakage. Since required surveillance verifies closed system integrity, the level of assurance of service water pipe integrity is commensurate with that which would be provided by a Class 2 designation. To summarize, although the closed systems do not meet all the requirements of the Standard Review Plan, the manner in which they are surveilled provides a commensurate level of assurance of safety. Therefore, a completion time of 72 hours for ITS 3.6.3 ACTION C is justified.

<u>NRC Question 3.6.3-13:</u>

3.6.3-13 CTS 3.6.A.1.b.(2)
STS 3.6.3 ACTIONS A, C and Associated Bases
ITS 3.6.3 ACTIONS A, C, and Associated Bases

STS 3.6.3 ACTIONS A and C specifies the required ACTIONS to be taken for an inoperable containment isolation valve. STS 3.6.3 ACTIONS A and C have been modified by TSTF 269 Rev 2 to allow verification of isolation devices that are locked, sealed, or otherwise secured to be by administrative means. This modification in the ITS and associated Bases is in accordance with TSTF 269, Rev 2 except for one minor item. The change to Require Action C.2 Notes should be "NOTES" not "Note".
Comment: Correct this minor error.

WE Response:

The error has been corrected in the NUREG-1431 mark-up and the proposed ITS.

NRC Question 3.6.4-1:

3.6.4-1 DOC A.2
DOC A.5
CTS 3.6 APPLICABILITY
CTS 3.6 OBJECTIVE
CTS 3.6.A.1
CTS 3.6.B.2
CTS Table 15.4.1-1 Item 27
ITS 3.6.4 APPLICABILITY

The CTS markup of CTS 3.6.B.2 is modified to add the ITS 3.6.4 APPLICABILITY of MODES 1,2,3 and 4. This change is justified by DOC A.2 on the basis that the actions of CTS 3.6.B.2.b require the plant to be placed in COLD SHUTDOWN if the containment pressure cannot be maintained. If this were the only factor (Action statement) to take into consideration for this change, the justification probably would have been considered acceptable. However, the APPLICABILITY for containment pressure is controlled in the CTS by CTS 3.6 APPLICABILITY, 3.6 OBJECTIVE, 3.6.A.1 and Table 15.4.1-1 Item 27. The combination of CTS 3.6 APPLICABILITY, 3.6 OBJECTIVE and 3.6.A.1 would imply that the APPLICABILITY for internal pressure would be all plant conditions except the COLD SHUTDOWN and REFUELING SHUTDOWN conditions. However, CTS Table 15.4.1-1 Item 27 requires that the internal pressure requirement is applicable in "ALL" conditions. The change associated with the applicability change to CTS Table 15.4.1-1 (DOC A.5) uses the DOC A.2 justification as its basis. It should be noted that there are a number of specifications in the old and new STS which require a shutdown to COLD SHUTDOWN, but whose APPLICABILITY extends beyond COLD SHUTDOWN, e.g., Control Room Emergency Ventilation System. Based on the above discussion and the CTS, the Staff concludes that the CTS APPLICABILITY for containment pressure is all MODES/Conditions. Thus the changes (DOC A.2 and A.5) to the ITS APPLICABILITY are More Restrictive changes rather than Administrative changes. Comment: Revise the CTS markup and provide a discussion and justification for these More Restrictive changes.

WE Response:

In the PBNP Custom Technical Specifications, the APPLICABILITY of LCO requirements is always determined from the LCO section (i.e. 15.3). As stated in DOC A.05 of Section 3.6.4, CTS 15.4.0.1 states that surveillance requirements shall be met when the system or component is required to be operable. The APPLICABILITY of the containment pressure SR in the CTS, for operability of the associated ESF actuation functions is properly described in Section 3.3.2 of the PBNP ITS submittal. The CTS does not contain a Surveillance Requirement for containment pressure to be within the limits contained in Section 15.3.6 of the CTS, other than the channel check SR for the containment pressure instrumentation. As stated in DOC A.02 of Section 3.6.4, The APPLICABILITY of the containment pressure SR in the CTS for verification that containment pressure is within limits, is based on the requirements of CTS 15.3.6, which ultimately requires the unit to be placed in cold shutdown if the LCO requirements for containment pressure are not met. Therefore, these changes are administrative, as currently described and justified.

NRC Question 3.6.4-2:

3.6.4-2 JFD 2
JFD 6
CTS 3.6 Basis for Specification 15.3.6.A.1.a
CTS 4.4 Basis
CTS 6.12
ITS 5.5.X Containment Leakage Rate Testing Program
ITS B3.6.4 Bases - BACKGROUND, APPLICABLE SAFETY ANALYSES and APPLICABILITY

CTS 3.6 Basis for Specification 15.3.6.A.1.a and CTS 4.4 Basis states that the peak calculated containment internal pressure (P_a) is 60 psig, while CTS 6.12, and ITS B3.6.4 Bases state that P_a is 53 psig. It is assumed that ITS 5.5.X Containment Leakage Rate Testing Program will conform to CTS 6.12 and state that P_a is 53 psig.
Comment: Correct this discrepancy.

WE Response:

As described in the response to comment 3.6.1-5, PBNP conservatively defines P_a as the containment peak design pressure of 60 psig.

NRC Question 3.6.4-3:

3.6.4-3 CTS 3.6 APPLICABILITY
CTS 3.6 OBJECTIVE
CTS 3.6.B

The CTS markup for Containment Pressure, CTS 3.6.B is incomplete. CTS 3.6.B is part of CTS 3.6, therefore, CTS 3.6 APPLICABILITY and 3.6 OBJECTIVE need to be included as part of the markup for containment pressure. The markup can be either like the CTS markup for those sections provided for LCO 3.6.1 or LCO 3.6.2 and LCO 3.6.3.
Comment: Revise the CTS markup and provide any discussions and justification as necessary.

WE Response:

The CTS mark-up has been included. The DOCs associated with these changes (A.05 and A.09) are provided in Section 3.6.1.

NRC Question 3.6.5-1:

3.6.5-1 DOC A.1
DOC M.1
JFD 2
CTS 4.4 Basis
ITS LCO 3.6.5 and Associated Bases

ITS LCO 3.6.5 states that the "Containment average air temperature shall be ≤ 120°F." ITS B3.6.5 Bases - APPLICABLE SAFETY ANALYSES states that with the initial containment average air temperature being 120°F the resulting maximum containment air temperature due to a LOCA is 280°F. It also states that the design temperature is 286°F. This does not correlate to the Basis statements in CTS 4.4 which state that with an initial air temperature condition of 105°F the peak accident pressure and temperature is 60 psig and 286°F. The LCO is based on the limiting DBA. No explanation is provided in the JFDs to account for this discrepancy in initial conditions. The staff concludes that the LCO temperature limit should be ≤ 105°F and that the proposed 120°F limit is a change in current licensing basis which is a beyond scope of review item for this conversion.
Comment: Revise the ITS to reflect the 105°F limit.

WE Response:

The 120°F limit is documented in revised analyses associated with submittals provided in support of Unit 1 Amendment 174 and Unit 2 Amendment 178, approved by the NRC in an SER dated July 9, 1997. Therefore, the 120°F limit is correct. This basis information was inadvertently omitted from that License Amendment request and will be corrected via the conversion to ITS.

NRC Question 3.6.5-2:

3.6.5-2 DOC A.1
DOC M.1
JFD 3
JFD 5
STS B3.6.5 Bases -APPLICABLE SAFETY ANALYSES
ITS B3.6.5 Bases - APPLICABLE SAFETY ANALYSES

JFD 5 states the following: "Containment temp does exceed design temp for DBA for a short period of time as acknowledged in Amendment 174/178 of the CTS. Peak temperature will exceed design temperature for approximately 7.5 seconds. The Bases has been revised to acknowledge that peak temperature exceeds design for a very short period of time and provides reference to NRC review of this limitation." The ITS markup does not show a change associated

with JFD 5. However, the STS does have a paragraph that addresses the subject in JFD 5. The paragraph is the fourth paragraph of STS B3.6.5 Bases - APPLICABLE SAFETY ANALYSES. The ITS deletes this paragraph using JFD 3.
Comment: Revise the ITS markup of ITS B3.6.5 Bases - APPLICABLE SAFETY ANALYSES to retain the fourth paragraph as modified by the discussion in JFD 5.

WE Response:

The fourth paragraph has been retained in the NUREG-1431 mark-up and the proposed ITS. JFD 5 has been deleted. Additionally, the value for peak containment temperature has been revised from 280°F to 291°F, consistent with the results of the analysis that was performed for Amendments 174/178.

NRC Question 3.6.6-1:

3.6.6-1 DOC A.3
CTS 3.3 OBJECTIVE
CTS 4.5 OBJECTIVE
ITS B3.6.6 Bases

CTS 3.3 OBJECTIVE and CTS 4.5 OBJECTIVE provide an introductory statement of the purpose of these Technical Specifications Sections. DOC A.3 states that this information is contained in the Bases section of ITS 3.6.6. Based on this statement, the change is a Less Restrictive (LA) change - relocation to a licensee controlled document, not an Administrative change.
Comment: Revise the CTS markup and DOC A.3 to show the change as a Less Restrictive (LA) change.

WE Response:

DOC A.3 also states that the information contained in the CTS "Objective" does not establish any regulatory requirements. The LCO requirements in the PBNP Technical Specifications LCO section begin after the word Specification. The Applicability and Objective in the PBNP Technical Specifications are equivalent to basis material. Therefore, this change is administrative.

NRC Question 3.6.6-2:

3.6.6-2 DOC A.9
JFD 6
JFD 22
CTS 3.3.B.2.c
ITS 3.6.3 ACTION D and Associated Bases

The markup of CTS 3.3.B.2.c specifies the remedial actions to be taken for inoperable containment spray and containment cooler valves. The corresponding ACTION in the ITS for the containment cooler valves is ITS 3.6.3 ACTION D. The ITS markup shows the addition of ITS 3.6.3 ACTION D as justified by two JFDs - JFD 6 and JFD 22. JFD 22 provides a justification for the addition of ACTION D, while JFD 6 only discusses the deletion of the General Design Criteria from ITS B3.6.3 Bases - BACKGROUND and has nothing to do with ACTION D. The JFD 6 labeling for ACTION D is associated with Insert 3.6.6-01. Comment: Correct this discrepancy.

WE Response:

The NUREG-1431 mark-up has been corrected.

NRC Question 3.6.6-3:

3.6.6-3 DOC A.9
JFD 22
CTS 3.3.B.2.c
ITS 3.6.3 ACTION D and Associated Bases
ITS SR 3.6.6.5 and Associated Bases

The markup of CTS 3.3.B.2.c specifies the remedial actions to be taken for inoperable containment spray and containment cooler valves. The corresponding action in the ITS for containment cooler valves is ITS 3.6.3 ACTION D. The addition of ITS 3.6.3 ACTION D is justified in the ITS by JFD 22. While the staff finds the addition of ITS 3.6.3 ACTION D acceptable, statements made in both the justification - JFD 22 and ITS B3.6.3 Bases - ACTION D are unacceptable. ITS B3.6.3 Bases - ACTION D states the following:

> "If the inoperable valve is capable of passing 100% of the assumed cooling water flow, but is inoperable due to loss of its ability to reposition within its assumed response time (e.g., loss of auto open capability, degraded stoke time, inoperable motor operator, etc;). SR 3.6.6.4 allows the inoperable valve to be secured in its required position (open). thereby eliminating the need for the valve to reposition upon receipt of an actuation signal. Securing the inoperable valve in its open position will result in exiting Condition D."

JFD 22 has similar wording. To start with the wrong ITS SR is referenced in the statements. ITS SR 3.6.6.4 deals with containment spray pumps, the correct SR would be ITS SR 3.6.6.5 which deals with containment spray valves and containment fan cooler service water outlet valves automatic operation. The intent of this SR is that it applies to those valves that during normal operating conditions are locked, sealed or otherwise secured in their normal operating position. Therefore the above Bases statement which states that SR 3.6.6.5 would allow the inoperable valve to be secured open is incorrect and not in accordance with the intent of the specification. Furthermore, locking the valve open does not restore the valve to OPERABLE status per the ACTION statement. The valve may be able to perform its safety function (pass water) but it is still considered inoperable; it cannot actuate when it receives an actuation signal. Thus, the statements are incorrect and do not meet the intent of the specifications.
Comment: Delete these sentences from the justification JFD 22 and ITS B3.6.6 Bases - ACTION D.

WE Response:

The sentences pertaining to restoration of operability of these valves have been deleted from JFD 22 and the proposed ITS Bases for SR 3.6.6.5.

<u>NRC Question 3.6.6-4:</u>

3.6.6-4 DOC M.5
JFD 24
CTS 4.5.I.B
STS SR 3.6.6A.3 and Associated Bases
ITS SR 3.6.6.3 and Associated Bases

CTS 4.5.I.B is modified by the addition of ITS SR 3.6.6.3 which verifies the cooling water flow rate through the containment fan coolers. ITS SR 3.6.6.3 differs from the corresponding STS SR 3.6.6.3 in that the ITS does not specify the design or accident flow rate, it just verifies that the flow rate is within limits. The limits would be specified in some other document. DOC M.5 and JFD 24 state that the safety analyses assumes a specific flow rate for the accident condition. This is the value that should be specified in ITS SR 3.6.6.3. How this value is verified or demonstrated is left up to the licensee, and thus is not specified in the SR or its associated Bases. The Staff recognizes that this value can be verified in any number of ways depending on system configuration. For example, the system could be aligned in the accident alignment assumed in the safety analyses, thus the flow rate would have to equal the specified SR limit. The system could also be aligned in any other alignment. In these cases the licensee would have to show or have documented by calculation or other means that the measured flow rate is at least equivalent to, if not greater than the design/accident flow rate. What the SR is verifying is that the system will operate properly under accident conditions and that the accident flow rate will be achieved.

The proposed SR may not accomplish that or show that the other limits have a Bases associated with the accident condition.
Comment: Revise the CTS/ITS markups of SR 3.6.6.3 to specify the specific design/accident flow rate contained in the safety analyses. Provide additional discussion and justification, as necessary.

WE Response:

The proposed SR 3.6.6.3 has been modified to include the word "design" to describe the flow rate limits. As described in DOC M.05 for Section 3.6.6, the CTS does not contain this SR. The proposed SR is sufficiently specific to verify that the flow rate through the fan cooler units is within the required limits. No further specificity is deemed necessary, consistent with current licensing basis (CLB) requirements. Furthermore, these flow rate limits must be maintained under licensee control to allow temporary or short-term adjustment as necessary if new analyses are performed that require these limits to be changed, consistent with the CLB.

<u>NRC Question 3.6.6-5:</u>

3.6.6-5 DOC LA.1
CTS 4.5.l.B.1
CTS 4.5.l.B.2
ITS SR 3.6.6.5

CTS 4.5.l.B.1 specifies that the Containment Spray System test shall be performed with the isolation valves in the supply lines at the containment blocked closed. CTS 4.5.l.B.2 specifies that the Containment Spray System tests will be considered satisfactory if visual observations indicate all components have operated satisfactorily. The CTS markup shows both of these requirements as being relocated to 10 CFR 50.59 controlled documents, and indicates the change as a Less Restrictive (LA) change. DOC LA.1 only provides a discussion for the deletion of these CTS requirements. Since this is a deletion of a requirement (relocation to a non 10 CFR 50.59 controlled document), these changes are considered to be Less Restrictive (L) changes. See Comment Numbers 3.6.6-6 and 3.6.6-7 for additional concerns with regards to CTS 4.5.l.B.1.
Comment: Revise the CTS markup and provide a discussion and justification for these Less Restrictive (L) changes. See Comment Numbers 3.6.6-6 and 3.6.6.-7.

WE Response:

A new DOC (L.04) has been created to describe and justify this change.

NRC Question 3.6.6-6:

3.6.6-6 DOC LA.1
CTS 4.5.I.B.1
ITS SR 3.6.6.5, SR 3.6.6.6, and Associated Bases

CTS 4.5.I.B.1 specifies that the Containment Spray System test shall be performed with the isolation valves in the supply lines at the containment blocked closed. The ITS breaks this CTS surveillance into two surveillances - ITS SR 3.6.6.5 and SR 3.6.6.6. ITS SR 3.6.6.5 verifies that each automatic containment spray valve that is not locked, sealed or otherwise secured in position actuates to its correct position on an actuation signal. (See Comment Number 3.6.6-6 for additional concerns with regards to actuation signal). It is unclear from the CTS, CTS Basis and ITS SR 3.6.6.5 and its associated Bases if the isolation valves that are blocked closed for the test are manual or automatic valves. If they are manual valves then there is no problem. However, if these valves are automatic, then there is the concern as to when these valves will be tested per ITS SR 3.6.6.5. since the locked, sealed, and secured exception in the SR could result in the valves never being tested for this SR. The exception from testing of locked, sealed or otherwise secured valves was only intended to apply to those valves that during normal operating conditions are locked, sealed, or otherwise secured in position.
Comment: Specify whether the isolation valve is manual or automatic. If automatic, discuss when and how this valve will be tested in accordance with ITS SR 3.6.6.5. See Comment Number 3.6.6-6.

WE Response:

The valves that are blocked closed for the test are manual valves.

NRC Question 3.6.6-7:

3.6.6-7 DOC LA.1
CTS 4.5.I.B.1
ITS SR 3.6.6.5, SR 3.6.6.6 and Associated Bases

CTS 4.5.I.B.1 requires a system test of the Containment Spray System and specifies that "Operation of the system is initiated by tripping the normal actuation instrumentation." The ITS breaks this CTS surveillance up into two surveillances - ITS SR 3.6.6.5 and SR 3.6.6.6, however the ITS tests may be initiated by either an actual or simulated actuation signal. The CTS markup does not show this change "normal actuation" to "actual or simulated actuation" but it does show that the statement is relocated (DOC LA.1). This is incorrect. "Tripping the normal actuation" connotes only a simulated actuation. By adding the words "actual actuation" the change becomes a Less Restrictive (L) change.
Comment: Revise the CTS markup and provide a discussion and justification for this Less Restrictive (L) change.

WE Response:

In this case, tripping the normal actuation instrumentation would be considered the equivalent of the NUREG-1431 actual actuation signal. The introduction of a signal other than the normal actuation circuitry would be considered a simulated actuation. Therefore, we agree that a less restrictive change has been introduced, but it is specifically the allowance to use a "simulated" actuation signal. L.05 has been created to describe and justify this change.

<u>NRC Question 3.6.6-8:</u>

3.6.6-8 DOC LA.1
JFD 27
CTS 4.5.I.C.2
ITS SR 3.6.6.2 and Associated Bases

CTS 4.5.I.C.2 specifies that the containment fan cooler accident fans shall be tested monthly to verify OPERABILITY. It also specifies that the performance shall be acceptable if the fan starts and the running current is verified. The CTS markup shows this requirement as being relocated to a 10 CFR 50.59 controlled document (DOC LA.1). However, DOC LA.1 only discusses relocating requirements to non-10 CFR 50.59 controlled documents which would be a Less Restrictive (L) change, not an LA change. The acceptance criteria is actually relocated to the Bases discussion of ITS B3.6.6 Bases - SR 3.6.6.2 in Insert B3.6.6-14. See Comment Number 3.6.6-9.
Comment: Provide a discussion and justification for this Less Restrictive (LA) change. See Comment Number 3.6.6-9.

WE Response:

The DOC LA.01 has been changed to specifically describe the placement of these CTS requirements into the proposed ITS basis.

<u>NRC Question 3.6.6-9:</u>

3.6.6-9 DOC LA.1
JFD 27
CTS 4.5.I.C.2
STS B3.6.6 Bases - SR 3.6.6A.2
ITS B3.6.6 Bases - SR 3.6.6.2

CTS 4.5.I.C.2 specifies that the containment fan cooler accident fans shall be tested monthly to verify OPERABILITY. It also specifies that the performance shall be acceptable if the fan starts and the running current is verified. The CTS/ITS markups show this requirement as being

relocated to the Bases as Insert B3.6.6-14. See Comment Number 3.6.6-8 for concerns with regards to justifying the relocation. STS B3.6.6 Bases - SR 3.6.6A.2 states that the purpose of the SR is to ensure that all associated controls are functioning properly and that blockage, fan or motor failure or excessive vibration can be detected for corrective action. ITS B3.6.6 Bases - SR 3.6.6.2 deletes all mention of associated controls and the items to be detected for corrective action. The justification (JFD 27) for this deletion states that the containment fan coolers do not have any associated controls nor does it have any installed vibration monitoring equipment. With regards to the deletion of the associated controls aspect, the Insert states explicitly what the associated controls are - fan run indication, motor running amps, and low flow alarms. Thus the deletion of the words associated with the "controls" should not be deleted. With regards to detection of excessive vibration, the STS does not specify or require that vibration monitors be installed. The vibration monitors could be portable, it could be done through visual observation, or through other means.
Comment: Revise the ITS markup to retain the STS wording, or provide additional discussion and justification for its deletion. See Comment Number 3.6.6-8.

WE Response:

The ITS basis for SR 3.6.6.2, as proposed, is appropriate for the design of the PBNP fan coolers. Specifically, the use of the term "controls" in the NUREG-1431 Bases for this SR implies that there is some form of automatic control features. Furthermore, the fan run indication, motor running amps, and low flow alarms, only provide indication of fan cooler status. These indicators do not have any control function over the fan coolers. Therefore, this terminology is not being adopted.

The PBNP CTS does not currently require vibration monitoring. Therefore, the proposed ITS Bases are consistent with the current licensing basis for the PBNP system.

<u>NRC Question 3.6.6-10:</u>

3.6.6-10 DOC LA.1
CTS 4.5.ll.A.2
ITS SR 3.6.6.4 and Associated Bases

CTS 4.5.ll.A.2 specifies the containment spray pump acceptance criteria that each pump starts, reaches the required developed head and operates for at least 15 minutes. ITS SR 3.6.6.4 maintains these requirements except that the criterion to operate the pump for at least 15 minutes is deleted. The CTS markup show this as a Less Restrictive (LA) change (DOC LA.1), relocation to a 10 CFR 50.59 controlled document. However, DOC LA.1 only discuss deletion of the requirement. Since this is a deletion of a requirement (relocation to a non-10CFR 50.59 controlled document), this change is considered to be a Less Restrictive (L) change.
Comment: Revise the CTS markup and provide a discussion and justification for this Less Restrictive (L) change.

WE Response:

The deletion of this requirement is now described in L.04 of Section 3.6.6 (see response to RAI 3.6.6-5). This requirement was in the original TS for PBNP. There is no known fundamental safety basis for this limit. The limit is considered arbitrary. Pump testing is performed in accordance with ASME Section XI requirements. A specific time limit to run the pump is not necessary.

<u>NRC Question 3.6.6-11:</u>

3.6.6-11 JFD 8
STS B3.6.6A Bases - BACKGROUND
ITS B3.6.6 BACKGROUND

STS B3.6.6.A Bases - BACKGROUND makes a number of statements with regards to operation of the Containment Spray System in the re-circulation mode of operation. The STS statements are general in nature and explains how re-circulation flow is accomplished and when re-circulation flow is necessary or desired. The ITS deletes these words using justification JFD 8. JFD 8 does state that the system can be aligned in a re-circulation flow mode of operation, but the accident analysis does not assume it. Even though the re-circulation mode of operation is not assumed in the safety analysis, it is a mode of system operation that can be used and may be specified in plant operating or emergency procedures. Therefore, the Staff believes that the STS words or a modification of these words to reflect plant operation should be in ITS B3.6.6 Bases - BACKGROUND to fully describe the system and its operating modes.
Comment: Revise ITS B3.6.6 Bases - BACKGROUND to describe the containment spray system re-circulation mode of operation.

WE Response:

Analyses for the ECCS and Containment Spray systems for PBNP show that insufficient NPSH and/or runout on some pumps could occur if the containment spray system is run in the recirculation phase of a LOCA under certain conditions. Inclusion of this information in the BACKGROUND could cause confusion that operation of the Containment Spray system during recirculation is discretionary. Therefore, the ITS basis, as proposed, properly describes the current PBNP design.

NRC Question 3.6.6-12:

3.6.6-12 JFD 18
JFD 19
STS B3.6.6A Bases - LCO
ITS B3.6.6 Bases - LCO

STS B3.6.6A Bases - LCO states the following: "Additionally, one containment spray train... safety analysis." The ITS markup deletes this sentence and replaces it with Insert B3.6.6-09; this change is justified by JFD 19. However, Insert B3.6.6-09 indicates that JFD 18 applies. JFD 18 deals with reference renumbering.
Comment: Correct this discrepancy.

WE Response:

The JFD reference has been corrected.

NRC Question 3.6.6-13:

3.6.6-13 JFD 18
ITS B3.6.6 Bases - SR 3.6.6.4 and REFERENCES

ITS B3.6.6 Bases - SR 3.6.6.4 states the following: "Flow and pressure differential... required by Section XI of the ASME Code (Ref.3)." ITS B3.6.6 Bases - REFERENCES shows that reference 3 IS "FSAR Section 14" while the ASME Code, Section XI is reference 4.
Comment: Correct this discrepancy.

WE Response:

The reference has been changed.

NRC Question 3.6.7-1:

3.6.7-1 DOC A.3
CTS 3.3
CTS 4.5 OBJECTIVE
ITS B3.6.7 Bases

CTS 3.3 OBJECTIVE and CTS 4.5 OBJECTIVE provides an introductory statement of the purpose of these Technical Specification Sections. DOC A.3 states that this information is contained in the Bases section of ITS 3.6.7. Based on this statement, the change is a Less Restrictive (LA) change - relocation to a licensee controlled document, not an Administrative change.

Comment: Revise the CTS markup and DOC A.3 to show the change as a Less Restrictive (LA) change.

WE Response:

DOC A.3 also states that the information contained in the CTS "Objective" does not establish any regulatory requirements. The LCO requirements in the PBNP Technical Specifications LCO section begin after the word Specification. The Applicability and Objective in the PBNP Technical Specifications are equivalent to basis material. Therefore, this change is administrative.

NRC Question 3.6.7-2:

3.6.7-2 DOC A.5
CTS 3.3.B.1.d
ITS B3.6.7 Bases - LCO

CTS 3.3.B.1.d states that "All valves and piping associated with the above components and required to function during accident conditions, are operable." The CTS markup shows this requirement as being deleted by DOC A.5. DOC A.5 justifies the deletion based on definition of OPERABILITY. This is incorrect. This statement is not deleted, but has been relocated to ITS B3.6.7 Bases - LCO and is part of the discussion in this ITS Section describing what constitutes an OPERABLE Spray Additive System. Therefore, the change is a Less Restrictive (LA) change rather than an Administrative change.
Comment: Revise the CTS markup and provide additional discussion and justification for this Less Restrictive (LA) change.

WE Response:

The reviewer is correct in noting that CTS 3.3.B.1.d has been relocated to ITS rather than deleted. However, this CTS requirement has actually been relocated to ITS LCO 3.6.7. The CTS states, "All valves and piping, associated with the above components and required to function during accident conditions, are operable. This is equivalent to the proposed ITS LCO statement, "The Spray Additive System shall be OPERABLE." These components (valves and piping) are parts of the system and hence covered by the LCO statement. Therefore, this change is administrative. DOC A.5 and the associated CTS markup have been modified to correct this issue.

NRC Question 3.6.7-3:

3.6.7-3 DOC LA.1
CTS 4.5.I.B.1
CTS 4.5.B.2
ITS SR 3.6.7.4

CTS 4.5.I.B.1 specifies that the Spray Additive System test shall be performed with the isolation valves in the supply lines at the containment blocked closed. CTS 4.5.I.B.2 specifies that the Spray Additive System tests will be considered satisfactory if visual observations indicate all components have operated satisfactorily. The CTS markup shows both of these requirements as being relocated to 10 CFR 50.59 controlled document and indicates the change as a Less Restrictive (LA) change. DOC LA.1 only provides a discussion for the deletion of these CTS requirements. Since this is a deletion of a requirement (relocation to a non 10 CFR 50.59 controlled document), these changes are considered to be Less Restrictive (L) changes. See Comment Numbers 3.6.7-4 and 3.6.7-5 for additional concerns with regards to CTS 4.5.I.B.1. Comment: Revise the CTS markup and provide a discussion and justification for these Less Restrictive (L) changes. See Comment Numbers 3.6.7-4 and 3.6.7-5.

WE Response:

A new DOC (L.04) has been created to describe and justify this change.

NRC Question 3.6.7-4:

3.6.7-4 DOC LA.1
CTS 4.5.I.B.1
ITS SR 3.6.7.4 and Associated Bases

CTS 4.5.I.B.1 specifies that the Spray Additive System test shall be performed with the isolation valves in the supply lines at the containment blocked closed. The corresponding ITS SR is ITS SR 3.6.7.4. ITS SR 3.6.7.4 verifies that each automatic spray additive valve that is not locked, sealed or otherwise secured in position actuates to its correct position on an actuation signal. (See Comment Number 3.6.7-5 for additional concerns with regards to actuation signal). It is unclear from the CTS, CTS Basis and ITS SR 3.6.7.4 and its associated Bases if the isolation valves that are blocked closed for the test are manual or automatic valves. If they are manual valves then there is no problem. However, if these valves are automatic then there is the concern as to when these valves will be tested per ITS SR 3.6.7.4 since the locked, sealed, and secured exception in the SR could result in the valves never being tested per this SR. The exception from testing of locked, sealed or otherwise secured valves was only intended to apply to those valves that during normal operating conditions are locked, sealed, or otherwise secured in position.

Comment: Specify whether the isolation valve is manual or automatic. If automatic, discuss when and how this valve will be tested in accordance with ITS SR 3.6.7.4. See Comment Number 3.6.7-5.

WE Response:

The valves that are blocked closed for the test are manual valves.

NRC Question 3.6.7-5:

3.6.7-5 DOC LA.1
CTS 4.5.1.B.1
ITS SR 3.6.7.4 and Associated Bases

CTS 4.5.1.B.1 requires a system test of the Spray Additive System and specifies that "Operation of the system is initiated by tripping the normal actuation instrumentation." The corresponding ITS SR is ITS SR 3.6.7.4, however the ITS tests may be initiated by either an actual or simulated actuation signal. The CTS markup does not show this change "normal actuation" to "actual or simulated actuation" but it does show that the statement is relocated (DOC LA.1). This is incorrect. "Tripping the normal actuation" connotes only a simulated actuation. By adding the words "actual actuation" the change becomes a Less Restrictive (L) change. Comment: Revise the CTS markup and provide a discussion and justification for this Less Restrictive (L) change.

WE Response:

In this case, tripping the normal actuation instrumentation would be considered the equivalent of the NUREG-1431 actual actuation signal. The introduction of a signal other than the normal actuation circuitry would be considered a simulated actuation. Therefore, we agree that a less restrictive change has been introduced, but it is specifically the allowance to use a "simulated" actuation signal. L.05 has been created to describe and justify this change.

NRC Question 3.6.7-6:

3.6.7-6 DOC L.1
CTS 3.0.B
CTS 3.3.B.1.a
CTS 3.3.B.2.c
ITS 3.6.7 ACTION A

ITS 3.6.7 ACTION A is added to the CTS markup of CTS 3.3.B.2.c. This addition is justified by DOC L.1. The Staff agrees that the addition of ITS 3.6.7 ACTION A is a Less Restrictive (L) change, however DOC L.1 does not provide sufficient discussion and justification for this change. The following CTS items have not been addressed by the addition of ACTION A:

1. CTS 3.3.B.1.a specifies the spray additive tank level and NaOH concentration in the tank. If either of these limits are not met, the CTS requires an immediate shutdown per CTS 3.0.B. ITS 3.6.7 ACTION A would allow 72 hours to restore level or concentration before shutdown commences. The CTS markup does not show any relation between violation of the requirements of CTS 3.3.B.1.a and ITS 3.6.7 ACTION A. The CTS markup only shows ITS 3.6.7 ACTION A as applying to inoperable spray additive valves (CTS 3.3.B.2.c). Thus DOC L.1 does not provide any discussion or justification as to why this change is acceptable.

2. The Spray Additive System consists of one spray additive tank and two flow paths from the tank to the containment spray pumps. CTS 3.3.B.1.c only allows one of these flow paths to be inoperable for 72 hours before a shutdown is required as implied by the "Prior to initiating repairs..." statement. If both flow paths are inoperable, an immediate shutdown per CTS 3.0.B is required. The ITS would allow 72 hours to restore both flow paths before requiring a shutdown. DOC L.1 does not provide any discussion or justification as to why this change is acceptable.

Comment: Revise the CTS markup to address item 1 above and provide additional discussion and justification for this Less Restrictive (L) change.

WE Response:

ITS 3.6.7 has been modified to more closely reflect the requirements of CTS 15.3.3.B. Condition A will allow 72 hours to restore an inoperable Spray Additive System flowpath. Condition B applies to all other system inoperabilities and allows 1 hour to restore at least one flowpath to an operable status. If the Required Action and Completion Time of Condition A or B are not met, Condition C requires the unit to be in MODE 3 in 6 hours and MODE 5 in 84 hours. The additional time to reach MODE 5 is justified in DOC L.2. Additionally, statements in DOC L.1 and JFDs 5 and 7 have been modified to reflect current licensing basis for the addition of NaOH to containment spray, to aid in the absorption of iodine from the containment atmosphere. The changes made to ITS SR 3.6.7.2, per JFD 8, have been removed to enable the insertion of a spray additive tank volume requirement, consistent with CTS 15.3.3.B.1.a. Lastly, JFDs 1 and 3 were modified to clarify a subjective statement and an imprecise statement that could potentially be misinterpreted.

ATTACHMENT 2
DISCARD AND INSERTION INSTRUCTIONS

VOLUME 7	
SECTION 3.6.1	
DISCARD	**INSERT**
DOC pages 1 of 6 through 6 of 6	DOC pages 1 of 5 through 5 of 5
CTS markup pages 3 of 10 and 5 of 10	CTS markup pages 3 of 10 and 5 of 10
JFD pages 1 of 4 through 4 of 4	JFD pages 1 of 4 through 4 of 4
ISTS markup page 3.6-2	ISTS markup page 3.6-2
ISTS Bases markup pages B 3.6.1-1, B 3.6.1-3, B 3.6.1-4 and B 3.6.1-5	ISTS Bases markup pages B 3.6.1-1, B 3.6.1-3, B 3.6.1-4 and B 3.6.1-5
NSHC pages 1 of 3 through 3 of 3	NSHC pages 1 of 4 through 4 of 4
ITS page 3.6-1	ITS page 3.6.1-1
ITS Bases pages B 3.6.1-1 through B 3.6.1-5	ITS Bases pages B 3.6.1-1 through B 3.6.1-4
SECTION 3.6.2	
DISCARD	**INSERT**
CTS markup page 1 of 9	CTS markup page 1 of 9
JFD pages 1 of 5 through 5 of 5	JFD pages 1 of 5 through 5 of 5
ISTS Bases markup page B 3.6.2-3	ISTS Bases markup page B 3.6.2-3
ITS Bases pages B 3.6.2-1 through B 3.6.2-9	ITS Bases pages B 3.6.2-1 through B 3.6.2-7
SECTION 3.6.3	
DISCARD	**INSERT**
DOC pages 1 of 9 through 9 of 9	DOC pages 1 of 7 through 7 of 7
CTS markup pages 1 of 15, 6 of 15, 12 of 15 and 15 of 15	CTS markup pages 1 of 15, 6 of 15, 12 of 15 and 15 of 15
JFD pages 1 of 9 through 9 of 9	JFD pages 1 of 8 through 8 of 8
ISTS markup pages 3.6-10, 3.6-13 and 3.6-14	ISTS markup pages 3.6-10, 3.6-13 and 3.6-14
ISTS Bases markup pages B 3.6.3-3, B 3.6.3-4, B 3.6.3-13 and B 3.6.3-14	ISTS Bases markup pages B 3.6.3-3, B 3.6.3-4, B 3.6.3-13 and B 3.6.3-14

ATTACHMENT 2
DISCARD AND INSERTION INSTRUCTIONS

SECTION 3.6.3 (continued)	
DISCARD	**INSERT**
ISTS Bases markup inserts	ISTS Bases markup inserts
NSHC pages 1 of 5 through 5 of 5	NSHC pages 1 of 6 through 6 of 6
ITS pages 3.6-9 and 3.6-11	ITS pages 3.6.3-3 and 3.6.3-5
ITS Bases pages 3.6.3-1 through 3.6.3-11	ITS Bases pages B 3.6.3-1 through B 3.6.3-9
SECTION 3.6.4	
DISCARD	**INSERT**
CTS markup pages 1 of 4 through 4 of 4	CTS markup pages 1 of 5 through 5 of 5
SECTION 3.6.5	
DISCARD	**INSERT**
JFD page 2 of 3	JFD page 2 of 3
ISTS Bases markup page B 3.6.5A-2	ISTS Bases markup page B 3.6.5A-2
ITS Bases pages B 3.6.5-1 through B 3.6.5-4	ITS Bases pages B 3.6.5-1 through B 3.6.5-3
SECTION 3.6.6	
DISCARD	**INSERT**
DOC pages 1 of 9 through 9 of 9	DOC pages 1 of 8 through 8 of 8
CTS markup pages 6 of 8 and 7 of 8	CTS markup pages 6 of 8 and 7 of 8
JFD page 10 of 13	JFD page 10 of 13
ISTS markup pages 3.6-25 and 3.6-26	ISTS markup pages 3.6-25 and 3.6-26
ISTS Bases markup pages B 3.6.6A-4 and B 3.6.6A-9	ISTS Bases markup pages B 3.6.6A-4 and B 3.6.6A-9
ISTS Bases markup insert pages	ISTS Bases markup insert pages
NSHC pages 1 of 6 through 6 of 6	NSHC pages 1 of 8 through 8 of 8
ITS page 3.6-16	ITS page 3.6.6-3
ITS Bases pages B 3.6.6-1 through B 3.6.6-11	ITS Bases pages B 3.6.6-1 through B 3.6.6-9

ATTACHMENT 2
DISCARD AND INSERTION INSTRUCTIONS

SECTION 3.6.7	
DISCARD	**INSERT**
DOC pages 1 of 7 through 7 of 7	DOC pages 1 of 7 through 7 of 7
CTS markup pages 2 of 8 and 6 of 8	CTS markup pages 2 of 8 and 6 of 8
JFD pages 1 of 3 through 3 of 3	JFD pages 1 of 3 through 3 of 3
ISTS markup pages 3.6-38 and 3.6-39	ISTS markup pages 3.6-38 and 3.6-39
ISTS Bases markup pages B 3.6.7-1, B 3.6.7-3, B 3.6.7-4 and inserts	ISTS Bases markup pages B 3.6.7-1, B 3.6.7-3, B 3.6.7-4 and inserts
NSHC pages 1 of 8 through 8 of 8	NSHC pages 1 of 8 through 8 of 8
ITS pages 3.6.7-1 and 3.6.7-2	ITS pages 3.6.7-1 and 3.6.7-2
ITS Bases pages B 3.6.7-1 through B 3.6.7-4	ITS Bases pages B 3.6.7-1 through B 3.6.7-4

ENCLOSURE

Description of Changes - NUREG-1431 Section 3.06.01

17-May-00

DOC Number	DOC Text
A.01 Rev. A	In the conversion of Point Beach current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the Standard Technical Specifications, Westinghouse Plants, NUREG-1431, Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).

CTS:	ITS:
15.03.06.A	LCO 3.06.01
15.03.06.A.01.A	DELETED
15.03.06.A.01.A.01	LCO 3.06.01 COND A
	LCO 3.06.01 COND A RA.1
15.03.06.A.01.A.02	LCO 3.06.01 COND B
15.03.06.A.01.A.02.A	LCO 3.06.01 COND B RA B.1
15.03.06.A.01.A.02.B	LCO 3.06.01 COND B RA B.2
15.03.06.E	LCO 3.06.01
	SR 3.06.01.01
15.04.02.B.02	SR 3.06.01.01
15.04.04.I	SR 3.06.01.01
15.04.04.II	SR 3.06.01.01

DOC Number	DOC Text
A.02 Rev. A	The CTS contains a footnote which provides reference to the section in the FSAR which discusses containment isolation valves. Reference to the FSAR in this fashion does not establish any regulatory requirements, as it is merely a reference. It is unnecessary to provide references in the Technical Specifications, references when necessary are provided in the Bases of the Improved Technical Specifications. Based on the reference not establishing any regulatory requirement, deletion of this reference from the Technical Specification is administrative in nature.

CTS:	ITS:
15.01.D *	DELETED

DOC Number	DOC Text
A.03 Rev. A	The definition of Containment Integrity has been moved from the Definitions Section of the Current Technical Specifications to proposed ITS LCO 3.6.1, Containment; LCO 3.6.2, Containment Air Locks; and LCO 3.6.3, Containment Isolation Valves. This change is administrative in that all of the CTS requirements continue to be addressed within the aforementioned LCOs. This change eliminates confusion associated with meeting the definition of CONTAINMENT INTEGRITY when required equipment/components are inoperable. This change is administrative in nature.

CTS:	ITS:
15.01.D	LCO 3.06.01

DOC Number	DOC Text
A.04 Rev. A	The CTS Definition of Containment integrity states that the overall uncontrolled containment leakage shall be maintained less than La. The CTS definition and the Containment Leakage Rate Testing Program establishes the as found and as left leakage limits at 1.0 La, and 0.6 La for combined Type B and C tests and 0.75 La for Type A tests. In the proposed ITS, the requirement to maintain Type A, B, and C leakage less than La is contained in LCO 3.6.1. The proposed ITS Containment Leakage Rate Testing Program contains the as found and as left containment leakage limits consistent with the CTS limits. CTS item 15.1.D.2, requires the equipment hatch to be properly closed. The equipment hatch is a Type B penetration. Proper installation is concluded through performance of an acceptable Type B leakage test as required by proposed ITS SR 3.6.1.1. Proposed SR 3.6.3.3 requires isolation valves and blind flanges located inside the containment to be verified closed prior to entry into Mode 4 from Mode 5 if not performed in the previous 92 days. The combination of these two SRs provides assurance that the equipment hatch is properly closed, thereby incorporating CTS item 15.1.D.2 into LCO 3.6.1 and 3.6.3. These changes are administrative. All of the CTS requirements continue to be addressed within the aforementioned LCOs and Surveillance Requirements. These changes eliminate confusion associated with meeting the definition of containment integrity when required equipment/components are inoperable. **CTS:** 15.01.D.02 — **ITS:** SR 3.06.01.01 15.01.D.04 — SR 3.06.01.01 15.01.D.04 ** — SR 3.06.01.01
A.05 Rev. A	The CTS provides an introductory statement (Applicability) which simply states which systems/components are addressed within a given section. This same information while worded differently is contained within the title of each ITS LCO. Accordingly, this change is a change in format with no change in technical requirement. **CTS:** 15.03.06 APPL — **ITS:** LCO 3.06.01 15.04.04 APPL — LCO 3.06.01

DOC Number	DOC Text	
A.06 Rev. A	The Bases of the current Technical Specifications for this section have been completely replaced by revised Bases that reflect the format and applicable content of PBNP ITS, consistent with the Standard Technical Specifications for Westinghouse Plants, NUREG-1431. The revised Bases are as shown in the PBNP ITS Bases.	
	CTS:	**ITS:**
	BASES	B 3.06.01
		B 3.06.01
		B 3.06.01
		B 3.06.01
		B 3.06.01
		B 3.06.01
A.07 Rev. A	CTS 15.3.6.A.1 requires containment integrity whenever a nuclear core is installed in the reactor, unless the reactor is in the cold shutdown condition. Proposed ITS LCO 3.6.1 require the containment to be operable in Modes 1, 2, 3, and 4. The ITS definition of Mode requires there to be fuel in the reactor to be in a defined Mode of Applicability (e.g. Mode 1, 2, 3, 4, 5, or 6) making the CTS and ITS equivalent regarding the presence of fuel. The CTS definition of Cold Shutdown requires the reactor to have a shutdown margin of at least 1% with RCS temperature less than or equal to 200 degrees. The ITS definition of Cold Shutdown (ITS Table 1.1-1 - Mode 5), is defined as Keff less than 0.99 with RCS temperature of less than or equal to 200 degrees making the CTS and ITS equivalent relative to temperature and reactivity. Based on the above, this change is administrative.	
	CTS:	**ITS:**
	15.03.06.A.01	LCO 3.06.01
A.08 Rev. B	Not used.	
	CTS:	**ITS:**
	N/A	N/A
A.09 Rev. A	The CTS provides an introductory statement (Objective) at the beginning of this Section of the Technical Specifications which provide a brief summary of the purpose for this Section. This information is contained in the Bases Section of the ITS. This information does not establish any regulatory requirements for the systems and components addressed within this Section. Accordingly, deletion of this information does not alter any requirement set forth in the Technical Specifications. This change is administrative and consistent with the format and presentation for the ITS as provided in NUREG 1431.	
	CTS:	**ITS:**
	15.03.06 OBJ	DELETED
	15.04.04 OBJ	DELETED

17-May-00

DOC Number	DOC Text
L.01 Rev. A	The CTS requires containment integrity under a number of conditions to include: 1) Whenever a nuclear core is installed in the reactor and the reactor is not in the cold shutdown condition; 2) When the reactor vessel head is removed unless the reactor is in the refueling shutdown condition; 3) Whenever positive reactivity changes are made by rod drive motion, except when testing one bank of rods at a time, rod disconnecting, and rod reconnecting provided the reactor is initially subcritical by at least 5% delta k/k; and 4) Whenever making positive reactivity changes by boron dilution unless the RCS boron concentration is maintained > 2100 ppm. The ITS will require containment integrity to be maintained in Modes 1, 2, 3, and 4 (whenever the reactor is not in cold shutdown). All other conditions and limitations have been deleted from the Technical Specifications. There are no shutdown accidents (RCS temperature less than or equal to 200 degrees) in the Point Beach current licensing basis which credits containment integrity for accident mitigation. Specifically; inadvertent RCS dilution in cold shutdown and refueling is terminated by operator action before the reactor reaches a Keff of 1.0, inadvertent rod withdrawal is terminated by the reactor protection system before fuel damage occurs, and accidental release of liquid and gaseous wastes are independent of containment status. This relaxation is consistent with analysis assumptions for Point Beach. Accordingly, these requirements may be deleted from the Technical Specifications as they are not required to provide adequate protection of public health and safety. **CTS:** — **ITS:** 15.03.06.A.01 — LCO 3.06.01 15.03.06.C — DELETED 15.03.06.D — DELETED 15.03.06.D * — DELETED BASES — DELETED
LB.01 Rev. B	The Tendon Surveillance Program of CTS 15.4.4.II is not being retained in the ITS. 10 CFR 50.55.a requires facilities to adopt the ASME Section XI, Subsection IWE and IWL programs by September 2001. Point Beach will adopt these Section XI programs prior to ITS implementation. Therefore, the Tendon Surveillance Program will be duplicative of the requirements specified by ASME Section XI, as endorsed and required under 10 CFR 50.55a. Inclusion of these requirements via reference into 10 CFR 50.55a makes these requirement applicable to Point Beach without the need to duplicate these requirements in the Technical Specifications. **CTS:** — **ITS:** 15.03.06.E — N/A

17-May-00

DOC Number	DOC Text
M.01 Rev. A	CTS 15.3.10.E.1 and 2 contain remedial actions for single and multiple containment tendon failures. Dependent upon the level of degradation incurred, either 15 days or 72 hours is allowed to restore the tendon(s) to operable status before requiring the unit to be placed into Hot Shutdown within 6 hours and Cold Shutdown within the following 30 hours. The Point Beach containment structure is constructed with sufficient margin to allow up to three adjacent tendons to be detensioned (inoperable) without a detrimental effect on containment integrity. The proposed ITS does not contain an explicit condition for tendon inoperabilities; however, upon discovery of a degraded condition, an assessment must be made relative to containment integrity. If the assessment concludes that containment integrity cannot be maintained, the proposed ITS will allow 1 hour to restore the containment to operable status before requiring the unit to be placed into Mode 3 within 6 hours and Mode 5 within 36 hours. Accordingly, deletion of the CTS provision which could allow containment integrity to be impaired for up to 72 hours before requiring the unit to be shutdown is a more restrictive change

CTS:	**ITS:**
15.03.06.E.01	DELETED
15.03.06.E.02	DELETED

< See LCO 3.6.3 >

c. Containment Purge Supply and Exhaust Valves

The containment purge supply and exhaust valves shall be locked closed and may not be opened unless the reactor is in the cold shutdown or refueling shutdown condition.

(1) One of the redundant valves in the purge supply and exhaust lines may be opened to perform the repairs required to conform with the Containment Leakage Rate Testing Program.

(2) If containment purge supply and exhaust penetration leakage results in exceeding the overall containment leakage rate acceptance criteria (L_a), enter 15.3.6.A.1.a.

B
RAI 3 6 3-11

A.1

LCO 3.6.1

SR 3.6.1.1

E. CONTAINMENT STRUCTURAL INTEGRITY

The structural integrity of the reactor containment shall be maintained in accordance with the surveillance criteria specified in the Containment Leakage Rate Testing Program and ~~15.4.4.II.~~ LB.1

B
RAI 3.6.1-7

M.1

1. If more than one tendon is observed with a prestressing force between the predicted lower limit (PLL) and 90% of the PLL or if one tendon is observed with prestressing force less than 90% of the PLL, the tendon(s) shall be restored to the required level of integrity within 15 days or the reactor shall be in hot standby within the next six hours and in cold shutdown within the following 30 hours. An engineering evaluation of the situation shall be conducted and a special report submitted in accordance with Specification 15.4.4.II.D within 30 days.

2. With an abnormal degradation of the containment structural integrity in excess of that specified in 15.3.6.E.1, and at a level below the acceptance criteria of Specification 15.4.4.II, restore the containment structural integrity to the required level within 72 hours or be in hot shutdown within the next six hours and in cold shutdown within the following 30 hours. Perform an engineering evaluation of the containment structural integrity and provide a special report in accordance with Specification 15.4.4.II.D within 30 days.

< See Section 5.0. >

Justification For Deviations - NUREG-1431 Section 3.06.01

17-May-00

JFD Number	JFD Text	
01 Rev. A	The Bases for LCO 3.6.1 of NUREG 1431 was developed to address four groups of containment Designs; Ice Condensers, Sub-Atmospheric, Dual, and Atmospheric. Point Beach containment is an atmospheric design, as such the Bases for the Ice Condenser, Dual, and Sub-Atmospheric designs have not been incorporated. The Titles for LCO 3.6.1 and it associated Bases have been shortened to simply state "Containment". Inclusion of the type of design (e.g. Ice Condenser, Dual, Atmospheric, or Sub-Atmospheric) is a detail only relevant in distinguishing the NUREG variations.	
	ITS:	**NUREG:**
	B 3.06.01	B 3.06.01
	LCO 3.06.01	LCO 3.06.01
02 Rev. B	The Pre-Stressed Concrete Containment Tendon Surveillance Program, is not being retained in ITS. 10 CFR 50.55.a requires facilities to adopt the ASME Section XI, Subsection IWE and IWL programs by September 2001. Point Beach will adopt these Section XI programs prior to ITS implementation. Therefore, the Pre-Stressed Concrete Containment Tendon Surveillance Program will be duplicative of the requirements specified by ASME Section XI, as endorsed and required under 10 CFR 50.55a. Inclusion of these requirements via reference into 10 CFR 50.55a makes these requirement applicable to Point Beach without the need to duplicate these requirements in the Technical Specifications.	
	ITS:	**NUREG:**
	B 3.06.01	B 3.06.01
	N/A	SR 3.06.01.02

JFD Number	JFD Text
03 Rev. A	LCO 3.6.1 and its associated Bases have been modified to incorporate Option B to 10 CFR 50 Appendix J. These modifications include: 1) Revision of SR 3.6.1.1 to reference the Containment Leakage Rate Testing Program for containment inspections and leakage testing requirements, frequencies and acceptance criteria. Moving the details associated with containment leakage rate testing to a program facilitates the presentation of details necessary to implement Option B in accordance with 10 CFR 50 Appendix J. This presentation is also consistent with the implementation of Option B in the Current Technical Specification. The Frequency Note stating that the provisions of SR 3.0.2 are not applicable, was similarly moved to the CLRTP to facilitate usage. 2) The Bases of LCO 3.6.1 states that the containment is designed to contain radioactive material following a design basis accident. This statement was revised to state that the containment is designed to contain radioactive material following a design basis "loss of coolant accident". As re-enforced by the positions established in Appendix J, Option B of 10 CFR 50 and its implementing documents, radioactive release from the containment as the result of a design basis accident is assumed to occur from primary system loss of coolant accidents. This change is consistent with the CTS Bases wording approved in amendment 169/173 on October 9, 1996 for the implementation of Option B. This change results in defining DBA as an acronym for Design Basis Accident in a later paragraph in this Bases section. 3) Various references to 10 CFR 50 Appendix J have been revised to 10 CFR 50 Appendix J Option B to provide for proper and complete reference to Appendix J. 4) Bases discussions regarding test acceptance criteria and actions associated with exceeding leakage limits have been revised to reference the limit contained in the Containment Leakage Rate Testing Program. These changes are consistent with the Point Beach current licensing basis as approved in Amendment 169/173 on October 9, 1996. **ITS:** B 3.06.01; SR 3.06.01.01 **NUREG:** B 3.06.01; SR 3.06.01.01; SR 3.06.01.01
04 Rev. A	The Bases for NUREG 1431 LCO 3.6.1 lists the pressurized sealing mechanism as an attribute associated with the containment penetration boundaries as a bracketed (design specific) discussion. Point Beach does not have a penetration pressurization system, therefore, reference to this bracketed attribute has been omitted. **ITS:** B 3.06.01 **NUREG:** B 3.06.01

Justification For Deviations - NUREG-1431 Section 3.06.01

17-May-00

JFD Number	JFD Text	
05 Rev. A	The brackets have been removed and the proper plant specific information has been provided.	
	ITS:	**NUREG:**
	B 3.06.01	B 3.06.01
06 Rev. A	NUREG 1431 contains the Surveillance Requirements and Actions for containment purge valves with resilient seals in LCO 3.6.3. This presentation establishes surveillance frequencies and Actions for containment purge valves which differ from those contained in LCO 3.6.1 for other containment isolation valves. Surveillance frequencies and Actions above and beyond those established in LCO 3.6.1 and through the Containment Leakage Rate Testing Program (SR 3.6.1.1) are not necessary for Point Beach. The CTS prior to October 9, 1996 (Technical Specification Amendment 169/173) required testing of the containment purge valves every 6 months based on the findings of generic issue B-20 "Containment Leakage Due to Seal Degradation". Amendment 169/173 eliminated the requirement for increased testing of the containment purge valves. As cited in the SER for amendments 169/173, the containment purge valve can be tested in accordance with the Regulatory Guide 1.163 "Performance-Based Containment Leak-Testing Program". The basis of this conclusion was that there has not been observable degradation supportive of increased testing frequencies which were established as part of Generic issue B-20. Since 1992 there had been no leakage rate failures in excess of the previous Technical Specification or Appendix J acceptance criteria, nor were there failures in excess of the administrative leakage limit of 2000 standard cubic centimeters per minute. Accordingly, the bracketed information contained in the Bases of SR 3.6.1.1, referring to LCO 3.6.3 for purge valve leakage limitations was not adopted.	
	ITS:	**NUREG:**
	B 3.06.01	B 3.06.01
07 Rev. B	PBNP only has one equipment hatch for each containment, therefore the word "hatches" has been changed to singular form to reflect this.	
	ITS:	**NUREG:**
	B 3.06.01	B 3.06.01
08 Rev. A	The Bases of NUREG 1431 LCO 3.6.1 describes the containment penetrations that form the containment leakage barrier. Contained within the listing is a statement that "all equipment hatches are closed". The Point Beach containment has only a single containment equipment hatch which incorporates an airlock as well. As such, the ITS Bases has been changed requiring "the equipment hatch to be installed". The requirement for the airlock, which is incorporated into the equipment hatch to be closed and sealed is addressed as part of the previous Bases statement requiring each airlock to be operable. This deviation from the NUREG is necessary to reflect the Point Beach design.	
	ITS:	**NUREG:**
	B 3.06.01	B 3.06.01

Justification For Deviations - NUREG-1431 Section 3.06.01

17-May-00

JFD Number	JFD Text
09 Rev. A	NUREG 1431 LCO 3.9.2, "Unborated Water Source Isolation Valves", is not applicable to Point Beach as described in Justification for Deviation 01 of LCO 3.9.2. Corresponding reference changes have been made as necessary to maintain proper reference. **ITS:** B 3.06.01 **NUREG:** B 3.06.01

1

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY	Markup
SR 3.6.1.1	Perform required visual examinations and leakage rate testing ~~except for containment air lock testing,~~ in accordance with ~~10 CFR 50, Appendix J, as modified by approved exemptions.~~ ~~The leakage rate acceptance criterion is ≤ 1.0 L_a. However, during the first unit startup following testing performed in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, the leakage rate acceptance criteria are < 0.6 L_a for the Type B and Type C tests, and < 0.75 L_a for the Type A test.~~	~~-------------------NOTE-------------------~~ ~~SR 3.0.2 is not applicable~~ ~~--~~ In accordance with ~~10 CFR 50, Appendix J, as modified by approved exemptions~~	3: containment; the Containment Leakage Rate Testing Program.
~~SR 3.6.1.2~~	~~Verify containment structural integrity in accordance with the Containment Tendon Surveillance Program~~	~~In accordance with the Containment Tendon Surveillance Program~~	2

B
RAI 3.6.1-7

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1 Containment ~~(Atmospheric)~~ 1

BASES

BACKGROUND

3
design basis Loss of Coolant Accident

The containment consists of the concrete r eactor building, its steel liner, and the penetrations through this structure. The structure is designed to contain radioactive material that may be released from the reactor core following a ~~Design Basis Accident (DBA)~~. Additionally, this structure provides shielding from the fission products that may be present in the containment atmosphere following accident conditions.

The containment is a reinforced concrete structure with a cylindrical wall, a flat foundation mat, and a shallow dome roof. The inside surface of the containment is lined with a carbon steel liner to ensure a high degree of leak tightness during operating and accident conditions.

2
The

~~For containments with ungrouted tendons, the~~ cylinder wall is prestressed with a post tensioning system in the vertical and horizontal directions, and the dome roof is prestressed utilizing a three way post tensioning system.

3
Design Basis Accident (DBA)

The concrete reactor building is required for structural integrity of the containment under ~~DBA~~ conditions. The steel liner and its penetrations establish the leakage limiting boundary of the containment. Maintaining the containment OPERABLE limits the leakage of fission product radioactivity from the containment to the environment. SR 3.6.1.1 leakage rate requirements comply with 10 CFR 50, Appendix J (Ref. 1), as modified by approved exemptions. B RAI 3.6.1-6

3
, Option B

The isolation devices for the penetrations in the containment boundary are a part of the containment leak tight barrier. To maintain this leak tight barrier:

a. All penetrations required to be closed during accident conditions are either:

   1. capable of being closed by an OPERABLE automatic containment isolation system, or

APPLICABLE SAFEETY ANALYSES (Continued)

The containment satisfies Criterion 3 of the NRC Policy Statement.

B RAI 3.6.1-7

LCO

Containment OPERABILITY is maintained by limiting leakage to ≤ 1.0 L_a, except prior to the first startup after performing a required ~~10 CFR 50, Appendix J~~, [Containment Leakage Rate Testing Program] leakage test. At this time, ~~the combined Type B and C leakage must be < 0.6 L_a,~~ ~~and the overall Type A leakage must be < 0.75 L_a~~. [the leakage limits contained in the Containment Leakage Rate Testing Program must be met.] Compliance with this LCO will ensure a containment configuration, ~~including equipment hatches,~~ [including the equipment hatch] (7) that is structurally sound and that will limit leakage to those leakage rates assumed in the safety analysis.

B RAI 3.6.1-3

Individual leakage rates specified for the containment air lock (LCO 3.6.2) ~~[and purge valves with resilient seals~~ ~~(LCO 3.6.3)]~~ (3) (6) are not specifically part of the acceptance criteria of 10 CFR 50, Appendix J [, Option B]. Therefore, leakage rates exceeding these individual limits only result in the containment being inoperable when the leakage results in exceeding the [overall] acceptance criteria ~~of Appendix J~~ [specified in the Containment Leakage Rate Testing Program].

APPLICABILITY

In MODES 1, 2, 3, and 4, a ~~DBA~~ [design basis Loss of Coolant Accident] (3) could cause a release of radioactive material ~~into~~ containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, containment is not required to be OPERABLE in MODE 5 to prevent leakage of radioactive material from containment. The requirements for containment during MODE 6 are addressed in LCO 3.9.~~4~~ (3) (9) "Containment Penetrations."

ACTIONS

A.1

In the event containment is inoperable, containment must be restored to OPERABLE status within 1 hour. The 1 hour Completion Time provides a period of time to correct the problem commensurate with the importance of maintaining containment during MODES 1, 2, 3, and 4. This time period

ACTIONS (Continued)

also ensures that the probability of an accident (requiring containment OPERABILITY) occurring during periods when containment is inoperable is minimal.

B.1 and B.2

If containment cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.1.1

containment

6

3

Maintaining the containment OPERABLE requires compliance with the visual examinations and leakage rate test requirements of ~~10 CFR 50, Appendix J (Ref. 1), as modified by approved exemptions~~. Failure to meet air lock ~~[and purge valve with resilient seal]~~ leakage limits specified in LCO 3.6.2 ~~[and LCO 3.6.3]~~ does not invalidate the acceptability of these overall leakage determinations unless their contribution to overall Type A, B, and C leakage causes that to exceed limits. As left leakage prior to the first startup after performing a required ~~10 CFR 50, Appendix J~~, leakage test is required to be < 0.6 L_a for combined Type B and C leakage, and ≤ 0.75 L_a for overall Type A leakage. At all other times between required leakage rate tests, the acceptance criteria is based on an overall Type A leakage limit of ≤ 1.0 L_a. At ≤ 1.0 L_a the offsite dose consequences are bounded by the assumptions of the safety analysis. SR Frequencies are as required by ~~Appendix J, as modified by approved exemptions. Thus, SR 3.0.2 (which allows Frequency extensions) does not apply~~. These periodic testing requirements verify that the containment leakage rate does not exceed the leakage rate assumed in the safety analysis.

the Containment Leakage Rate Testing Program.

Containment Leakage Rate Testing Program

following an outage or shutdown that included a Type A test

3

≤

3

following an outage or shutdown that included Type B and C testing only

3

B
RAI 3.6.1-7

BASES

SURVEILLANCE REQUIREMENTS (continued)

2 → ~~[SR 3.6.1.2~~

~~For ungrouted, post tensioned tendons, this SR ensures that the structural integrity of the containment will be maintained in accordance with the provisions of the Containment Tendon Surveillance Program. Testing and Frequency are consistent with the recommendations of Regulatory Guide 1.35 (Ref. 4).]~~

B RAI 3.6.1-7

REFERENCES

1. 10 CFR 50, Appendix J, Option B ← 3
2. FSAR, Chapter ~~[15]~~ 14 ← 5
3. FSAR, Section ~~[6.2]~~ 5.1 ← 5
4. ~~Regulatory Guide 1.35, Revision [1]~~ ← 2

B RAI 3.6.1-7

No Significant Hazards Considerations - NUREG-1431 Section 3.06.01

17-May-00

NSHC Number	NSHC Text
A Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change involves reformatting and rewording of the current Technical Specifications. The reformatting and rewording process involves no technical changes to existing requirements. As such, this change is administrative in nature and does not impact initiators of analyzed events or assumed mitigation of accident or transient events. Therefore, this change does not increase the probability or consequences of an accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will not impose any new or eliminate any old requirements. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The proposed change will not significantly reduce the margin of safety because it has no impact on any safety analysis assumptions. This change is administrative. As such, there is no technical change to the requirements and, therefore, there is no reduction in the margin of safety.

NSHC Number	NSHC Text
L.01 Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? Containment integrity is not an initial condition of, or event precursor in any analyzed shutdown event (less than or equal to 200 degrees). Fuel handling events do not credit containment integrity nor filtration; dilution and rod withdrawal events are not impacted by containment status and are terminated prior to any release taking place; and liquid and gaseous release events are not impacted by containment status as the containment is not the assumed source of release for these events. Accordingly, the probability for analyzed event is not significantly increased as a result of this change. As previously stated, containment integrity is not assumed for any shutdown event, therefore, the consequences of an analyzed event is not significantly increased as a result of this change. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. This proposed change makes the Mode of Applicability for the Containment consistent with the accident analyses which assume containment integrity. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The change in applicability for containment integrity is consistent with the assumptions made in the various Point Beach accident analyses. Containment integrity will continue to be maintained in the various Operational Modes and Conditions for which containment integrity was assumed to be met. Therefore, the margin of safety is not significantly reduced as a result of this change

NSHC Number	NSHC Text
LB Rev. B	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? This change involves deletion of a Specifications/information which is duplicative of information contained in the Code of Federal Regulations (CFRs). This information is more appropriately addressed by the CFRs and serves no purpose in the Technical Specifications. Deletion of this information will not result in an increase in the probability of an accident. Regulatory requirements do not alter plant design or configuration; therefore, this does not alter any event precursor. Accordingly, there will be no effect on the consequences of any accident. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change deletes materials from the Technical Specifications which are adequately addressed in the CFRs. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The proposed change deletes materials from the Technical Specifications which are duplicative of requirements contained in the CFRs. These items are not an input to any accident analysis and, therefore, have no impact on margin of safety.

17-May-00

NSHC Number	NSHC Text
M Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change provides more restrictive requirements for operation of the facility. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter the assumptions relative to the mitigation of an accident or transient event. These more restrictive requirements continue to ensure process variables, structures, systems and components are maintained consistent with the safety analyses. Therefore, this change does not increase the probability or consequences of an accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change does impose different requirements. However, these changes are consistent with assumptions made in the safety analysis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The imposition of more restrictive requirements either has no affect on or increases the margin of safety. Each change is providing additional restrictions to enhance plant safety. These changes are consistent with the safety analysis. Therefore, this change does not involve a reduction in a margin of safety.

3.6 CONTAINMENT SYSTEMS

3.6.1 Containment

LCO 3.6.1 Containment shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Containment inoperable.	A.1 Restore containment to OPERABLE status.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.1	Perform required visual examinations and containment leakage rate testing in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program

B
RAI 3.6.1-7

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1 Containment

BASES

BACKGROUND

The containment consists of the concrete reactor building, its steel liner, and the penetrations through this structure. The structure is designed to contain radioactive material that may be released from the reactor core following a design basis Loss of Coolant Accident. Additionally, this structure provides shielding from the fission products that may be present in the containment atmosphere following accident conditions.

The containment is a reinforced concrete structure with a cylindrical wall, a flat foundation mat, and a shallow dome roof. The inside surface of the containment is lined with a carbon steel liner to ensure a high degree of leak tightness during operating and accident conditions.

The cylinder wall is prestressed with a post tensioning system in the vertical and horizontal directions, and the dome roof is prestressed utilizing a three way post tensioning system.

The concrete reactor building is required for structural integrity of the containment under Design Basis Accident (DBA) conditions. The steel liner and its penetrations establish the leakage limiting boundary of the containment. Maintaining the containment OPERABLE limits the leakage of fission product radioactivity from the containment to the environment. SR 3.6.1.1 leakage rate requirements comply with 10 CFR 50, Appendix J, Option B (Ref. 1), as modified by approved exemptions. B RAI 3.6.1-6

The isolation devices for the penetrations in the containment boundary are a part of the containment leak tight barrier. To maintain this leak tight barrier:

a. All penetrations required to be closed during accident conditions are either:

    1. capable of being closed by an OPERABLE automatic containment isolation system, or

    2. closed by manual valves, blind flanges, or de-activated automatic valves secured in their closed positions, except as provided in LCO 3.6.3, "Containment Isolation Valves";

b. Each air lock is OPERABLE, except as provided in LCO 3.6.2, "Containment Air Locks"; and

c. The equipment hatch is installed.

BASES

APPLICABLE SAFETY ANALYSES

The safety design basis for the containment is that the containment must withstand the pressures and temperatures of the limiting design basis Loss of Coolant Accident without exceeding the design leakage rate.

For the design basis Loss of Coolant Accident analyses, it is assumed that the containment is OPERABLE such that, the release of fission product radioactivity, release to the environment is controlled by the rate of containment leakage. The containment was designed with an allowable leakage rate of 0.4% of containment air weight per day (Ref. 3). This leakage rate, used to evaluate offsite doses resulting from accidents, is defined in 10 CFR 50, Appendix J, Option B (Ref. 1), as L_a: the maximum allowable containment leakage rate at the calculated peak containment internal pressure (P_a) resulting from the limiting design basis LOCA. The allowable leakage rate represented by L_a forms the basis for the acceptance criteria imposed on all containment leakage rate testing. L_a is assumed to be 0.4% per day in the safety analysis at P_a = 60 psig (Ref. 3). B RAI 3.6.1-7

Satisfactory leakage rate test results are a requirement for the establishment of containment OPERABILITY.

The containment satisfies Criterion 3 of the NRC Policy Statement.

LCO

Containment OPERABILITY is maintained by limiting leakage to ≤ 1.0 L_a, except prior to the first startup after performing a required Containment Leakage Rate Testing Program leakage test. At this time, the leakage limits contained in the Containment Leakage Rate Testing Program must be met. B RAI 3.6.1-7

Compliance with this LCO will ensure a containment configuration, including the equipment hatch, that is structurally sound and that will limit leakage to those leakage rates assumed in the safety analysis. B RAI 3.6.1-3

Individual leakage rates specified for the containment air lock (LCO 3.6.2) are not specifically part of the acceptance criteria of 10 CFR 50, Appendix J, Option B. Therefore, leakage rates exceeding these individual limits only result in the containment being inoperable when the leakage results in exceeding the overall acceptance criteria specified in the Containment Leakage Rate Testing Program.

BASES

APPLICABILITY

In MODES 1, 2, 3, and 4, a design basis Loss of Coolant Accident could cause a release of radioactive material into containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, containment is not required to be OPERABLE in MODE 5 to prevent leakage of radioactive material from containment. The requirements for containment during MODE 6 are addressed in LCO 3.9.3, "Containment Penetrations."

ACTIONS

A.1

In the event containment is inoperable, containment must be restored to OPERABLE status within 1 hour. The 1 hour Completion Time provides a period of time to correct the problem commensurate with the importance of maintaining containment during MODES 1, 2, 3, and 4. This time period also ensures that the probability of an accident (requiring containment OPERABILITY) occurring during periods when containment is inoperable is minimal.

B.1 and B.2

If containment cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.1.1

Maintaining the containment OPERABLE requires compliance with the visual examinations and containment leakage rate test requirements of the Containment Leakage Rate Testing Program. Failure to meet air lock leakage limits specified in LCO 3.6.2 does not invalidate the acceptability of these overall leakage determinations unless their contribution to overall Type A, B, and C leakage causes that to exceed limits. As left leakage prior to the first startup after performing a required Containment Leakage Rate Testing Program, leakage test is required to be $\leq 0.6\ L_a$ for combined Type B and C leakage following an outage or shutdown that included Type B and C testing only, and $\leq 0.75\ L_a$ for overall Type A leakage following an outage or shutdown that included a Type A test. At all other times between required leakage B RAI 3.6.1-7

BASES

SURVEILLANCE REQUIREMENTS (continued)

rate tests, the acceptance criteria is based on an overall Type A leakage limit of $\leq 1.0\ L_a$. At $\leq 1.0\ L_a$ the offsite dose consequences are bounded by the assumptions of the safety analysis. SR Frequencies are as required by the Containment Leakage Rate Testing Program. These periodic testing requirements verify that the containment leakage rate does not exceed the leakage rate assumed in the safety analysis. B RAI 3.6.1-7

REFERENCES

1. 10 CFR 50, Appendix J, Option B.
2. FSAR, Chapter 14.
3. FSAR, Section 5.1. B RAI 3.6.1-7

A.1

D. Containment Integrity* < See LCO 3.6.1 >

< See LCO 3.6.3 > B

Containment integrity is defined to exist when:

A.2

1) Penetrations required to be isolated during accident conditions are either:
   a. Capable of being closed by an operable automatic containment isolation valve,
      OR
   b. Closed by an operable containment isolation valve,
      OR
   c. Closed in accordance with Specifications 15.3.6.A.1.b and 15.3.6.A .1.c.
2) The equipment hatch is properly closed.
3) At least one door in each personnel air lock is properly closed. B
4) The overall uncontrolled containment leakage is less than La.** < See LCO 3.6.1 >

E. Protective Instrumentation Logic
   1) Analog Channel
      An analog channel is an arrangement of components and modules as required to generate a single protective action signal when required by a plant condition. An analog channel loses its identity where single action signals are combined.

< See Section 1.0 >

< See LCO 3.6.1 >

* Containment isolation valves are discussed in FSAR Section 5.2.

** Prior to the first startup after performing a required Containment Leakage Rate Testing Program leakage test, the applicable leakage limits specified in TS 15.6.12.D.2 must be met.

Justification For Deviations - NUREG-1431 Section 3.06.02

17-May-00

JFD Number	JFD Text	
01 Rev. A	The Titles for LCO 3.6.2 and it associated Bases have been shortened to simply state "Containment Airlocks". Inclusion of the type of design (e.g. Ice Condenser, Dual, Atmospheric, or Sub-Atmospheric) is a detail relevant only in distinguishing which variation of NUREG 1431 is to be used.	
	ITS:	**NUREG:**
	B 3.06.02	B 3.06.02
	LCO 3.06.02	LCO 3.06.02
02 Rev. A	The containment for Point Beach has two airlocks. Accordingly, the bracketed statement applicable to designs with two airlock are retained in the proposed Point Beach ITS.	
	ITS:	**NUREG:**
	LCO 3.06.02 COND A RA A.1 NOTE 2	LCO 3.06.02 COND A RA A.1 NOTE 2
	SR 3.06.02.02	SR 3.06.02.02
03 Rev. A	NUREG 1431 Condition C Required Action C.3 allows 24 hours to restore an inoperable air lock to operable status as long as the overall containment Type A, B, and C leakage limits are met. CTS 15.3.6.A.1.D.3 allows 36 hours to restore an inoperable containment to operable status when the overall containment Type A, B, and C leakage limits are met. The proposed ITS for Point Beach retains the CTS 36 hour restoration period based on unique plant design considerations. The Point Beach airlocks are exposed to ambient temperature conditions which make the 24 hour restoration period allowed in NUREG 1431 insufficient. Additional time is necessary to perform the return to service leakage rate testing based on an increase in leakage rate temperature stabilization time. The 36 hour return to service period was accepted in Amendment 160/169 of the Point Beach CTS, approved on January 18, 1995.	
	ITS:	**NUREG:**
	B 3.06.02	B 3.06.02
	LCO 3.06.02 COND C RA C.3	LCO 3.06.02 COND C RA C.3

Justification For Deviations - NUREG-1431 Section 3.06.02

17-May-00

JFD Number	JFD Text	
04 Rev. A	LCO 3.6.2 and its associated Bases have been modified to incorporate Option B to 10 CFR 50 Appendix J. These modifications include: 1) Revision of SR 3.6.2.1 to reference the Containment Leakage Rate Testing Program (CLRTP) for containment airlock leakage testing requirements, frequencies and acceptance criteria. Moving the details associated with containment airlock leakage rate testing to a program facilitates the presentation of details necessary to implement Option B. This presentation is consistent with the implementation of Option B relative to containment leakage rate testing in the Current Technical Specification. The Frequency Note stating that the provisions of SR 3.0.2 are not applicable, was similarly moved to the CLRTP to facilitate usage. 2) The Bases of LCO 3.6.2 provides reference to 10 CFR 50 Appendix J and its associated definition of peak containment pressure. This statement was revised to provide reference to 10 CFR 50, Appendix J, Option B and its revised definition of peak containment pressure (Pa) for design basis "loss of coolant accident" conditions. This change is consistent with the CTS Bases wording approved in amendment 169/173 on October 9, 1996 for the implementation of Option B. 3) Various references to 10 CFR 50 Appendix J have been revised to 10 CFR 50 Appendix J Option B to provide for proper and complete reference to Appendix J. 4) Bases discussions regarding surveillance test acceptance criteria have been revised to reference the limit contained in the Containment Leakage Rate Testing Program. These changes are consistent with the Point Beach current licensing basis as approved in Amendment 169/173 on October 9, 1996.	
	ITS:	**NUREG:**
	B 3.06.02	B 3.06.02
	SR 3.06.02.01	SR 3.06.02.01
05 Rev. A	SR 3.6.2.1 contains a Note which requires containment air lock leakage test result to be utilized in the determination of Type B and C containment leakage. The Bases for this SR states that it is used for determining overall leakage. The Bases has been clarified to reference the combined Type B and C leakage limits as stated in 10 CFR 50 Appendix J and required by the Containment Leakage Rate Testing Program.	
	ITS:	**NUREG:**
	B 3.06.02	B 3.06.02
06 Rev. A	The Bases for LCO 3.6.2 provides a description of the containment airlocks which includes the diameter of the airlock. The diameter referenced is 10 feet, while the diameter of the Point Beach air locks is approximately nine feet 2 inches. Accordingly, this statement has been revised to contain the diameter of Point Beach's air locks.	
	ITS:	**NUREG:**
	B 3.06.02	B 3.06.02

Justification For Deviations - NUREG-1431 Section 3.06.02

17-May-00

JFD Number	JFD Text	
07 Rev. A	The Bases of LCO 3.6.2 has been modified to reflect the alarms/indications associated with the air lock doors. The Bases makes reference to an alarm in the control room that alerts operators when the containment air lock interlock mechanism is defeated. This alarm does not exist in the Point Beach design. This statement has been omitted from the proposed ITS for Point Beach. In addition, an indication of door position is provided via limit switches on each door's latch.	
	ITS:	**NUREG:**
	B 3.06.02	B 3.06.02
08 Rev. A	The brackets have been removed and the proper plant specific information has been provided.	
	ITS:	**NUREG:**
	B 3.06.02	B 3.06.02
09 Rev. A	The Bases for SR 3.6.2.1 states that the acceptance criteria for airlock leakage is based upon data obtained during initial airlock and containment operability testing. The air lock leakage limits for Point Beach were not established using initial testing data, but are rather based on a small percentage of the overall acceptable Type B and C leakage limit. The Bases has been revised to reflect this as the basis for the leakage limit.	
	ITS:	**NUREG:**
	B 3.06.02	B 3.06.02

Justification For Deviations - NUREG-1431 Section 3.06.02

17-May-00

JFD Number	JFD Text
10 Rev. A	NUREG 1431 LCO 3.6.2 and its associated Bases have been modified to reflect the Point Beach containment airlock design and licensing basis. Each airlock has two bulkheads that form redundant pressure boundaries. Each bulkhead includes; a bulkhead door and seals, a pressure equalizing vent valve, and bulkhead actuating shaft seals. In addition to these pressure retaining components, the airlock outer bulkhead also includes pressure retaining penetrations on the cylindrical portion of the airlock. The bulkhead doors are interlocked with each other to prevent simultaneous opening of the doors and or equalizing valves in the redundant bulkheads. The equalizing valves are interlocked to open prior to the bulkhead door, equalizing pressure across the door prior to the latching mechanism disengaging, allowing the door to be opened. Similarly, the equalizing valve closes after its respective bulkhead door is closed and latched. Only one of the two bulkheads is required to provide assurance of containment integrity. The CTS recognizes the airlock design by defining each door in the Bases to includes its associated equalizing valve, operating mechanisms and seals, while the ITS only recognizes the existence of the doors themselves. As such, the ITS is silent in regards to verification of equalization valve function and interlock, and the ITS also does not establish appropriate Conditions and Required Actions for failure of pressure retaining barriers other than the door itself (e.g. equalization valve, shaft seals, electrical penetrations, etc;). The ITS has been modified to address the Point Beach design and licensing basis. Equalization valve function and interlock have been added to the door interlock test, the Conditions and Required Actions have been changed to reflect an inoperable bulkhead, and complementary Bases changes proposed. As addressed by the CTS and it's associated Bases, bulkhead inoperability is equivalent to door inoperability, as in either case overall air lock leakage must be maintained within analytical limits, and for a single bulkhead being inoperable, the redundant barrier is required to be operable to support continued operation.

ITS:	NUREG:
B 3.06.02	B 3.06.02
LCO 3.06.02 COND A	LCO 3.06.02 COND A
LCO 3.06.02 COND A RA A.1	LCO 3.06.02 COND A RA A.1
LCO 3.06.02 COND A RA A.1 NOTE 1	LCO 3.06.02 COND A RA A.1 NOTE 1
LCO 3.06.02 COND A RA A.2	LCO 3.06.02 COND A RA A.2
LCO 3.06.02 COND A RA A.3	LCO 3.06.02 COND A RA A.3
LCO 3.06.02 COND A RA A.3 NOTE	LCO 3.06.02 COND A RA A.3 NOTE
LCO 3.06.02 COND B RA B.1	LCO 3.06.02 COND B RA B.1
LCO 3.06.02 COND B RA B.1 NOTE 1	LCO 3.06.02 COND B RA B.1 NOTE 1
LCO 3.06.02 COND B RA B.2	LCO 3.06.02 COND B RA B.2
LCO 3.06.02 COND B RA B.3	LCO 3.06.02 COND B RA B.3

Justification For Deviations - NUREG-1431 Section 3.06.02

01-Jun-00

JFD Number	JFD Text	
	LCO 3.06.02 COND B RA B.3 NOTE	LCO 3.06.02 COND B RA B.3 NOTE
	LCO 3.06.02 COND C RA C.2	LCO 3.06.02 COND C RA C.2
	SR 3.06.02.02	SR 3.06.02.02
11 Rev. B	Entry into containment or air lock may be necessary to effect repairs. It is possible that entry will need to be through the locked door on an operable bulkhead. It is necessary to unlock the door to effect entry. This is an allowable condition by the NUREG LCO. If entry is through a locked door in an air lock, the door is allowed to remain unlocked while repairs are actively in progress to facilitate egress of personnel.	
	ITS:	**NUREG:**
	B 3.06.02	B 3.06.02

1

LCO (continued)

is not being used for normal entry into and exit from containment.

4

design basis LOCA

a design basis LOCA

APPLICABILITY

4

as a result of a design basis LOCA

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of ~~these events~~ are reduced due to the pressure and temperature limitations of these MODES. Therefore, the containment air locks are not required in MODE 5 to prevent leakage of radioactive material from containment. The requirements for the containment air locks during MODE 6 are addressed in LCO 3.9.3, "Containment Penetrations."

ACTIONS

The ACTIONS are modified by a Note that allows entry and exit to perform repairs on the affected air lock component. If the outer door is inoperable, then it may be easily accessed for most repairs. It is preferred that the air lock be accessed from inside primary containment by entering through the other OPERABLE air lock. However, if this is not practicable, or if repairs on either door must be performed from the barrel side of the door then it is permissible to enter the air lock through the OPERABLE door, which means there is a short time during which the containment boundary is not intact (during access through the OPERABLE door). The ability to open the OPERABLE door, even if it means the containment boundary is temporarily not intact, is acceptable due to the low probability of an event that could pressurize the containment during the short time in which the OPERABLE door is expected to be open. After each entry and exit, the OPERABLE door must be immediately closed. If ALARA conditions permit, entry and exit should be via an OPERABLE air lock.

11

but is not required to be locked while repairs are actively being performed on the inoperable bulkhead

B
RAI 3.6.2-3

A second Note has been added to provide clarification that, for this LCO, separate Condition entry is allowed for each air lock. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable air lock. Complying with the Required

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2 Containment Air Locks

BASES

BACKGROUND

Containment air locks form part of the containment pressure boundary and provide a means for personnel access during all MODES of operation.

Each air lock is nominally a right circular cylinder, approximately 9 feet 2 inches in diameter, with a bulkhead at each end. Each bulkhead includes; a bulkhead door and seals, a pressure equalizing vent valve, and bulkhead actuating shaft seals. In addition to these pressure retaining components, the airlock outer bulkhead also includes pressure retaining penetrations on the cylindrical portion of the airlock. The bulkhead doors are interlocked with each other to prevent simultaneous opening of the doors and or equalizing valves in the redundant bulkheads. The equalizing valves are interlocked to open prior to the bulkhead door, equalizing pressure across the door prior to the latching mechanism disengaging, allowing the door to be opened. Similarly, the equalizing valve closes after its respective bulkhead door is closed and latched. During periods when containment is not required to be OPERABLE, the interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary. Each air lock bulkhead has been designed and tested to certify its ability to withstand a pressure in excess of the maximum expected pressure following a Design Basis Accident (DBA) in containment. As such, OPERABILITY of a single bulkhead supports containment OPERABILITY. Each of the bulkhead doors contains double gasketed seals and local leakage rate testing capability to ensure pressure integrity. To effect a leak tight seal, the air lock design uses pressure seated doors (i.e., an increase in containment internal pressure results in increased sealing force on each door).

Each personnel air lock is provided with limit switches on both door's latches that provide control room indication of door position.

The containment air locks form part of the containment pressure boundary. As such, air lock integrity and leak tightness is essential for maintaining the containment leakage rate within limit in the event of a DBA. Not maintaining air lock integrity or leak tightness may result in a leakage rate in excess of that assumed in the unit safety analyses.

BASES

APPLICABLE SAFETY ANALYSES

The DBA that results in a release of radioactive material within containment is a loss of coolant accident (Ref. 2). In the analysis of this accident, it is assumed that containment is OPERABLE such that release of fission products to the environment is controlled by the rate of containment leakage. The containment was designed with an allowable leakage rate of 0.4% of containment air weight per day (Ref. 2). This leakage rate is defined in 10 CFR 50, Appendix J, Option B (Ref. 1), as the maximum allowable containment leakage rate at the calculated peak design containment internal pressure, P_a of 60 psig, following a design basis LOCA. This allowable leakage rate forms the basis for the acceptance criteria imposed on the SRs associated with the air locks.

The containment air locks satisfy Criterion 3 of the NRC Policy Statement.

LCO

Each containment air lock forms part of the containment pressure boundary. As part of containment, the air lock safety function is related to control of the containment leakage rate resulting from a DBA. Thus, each air lock's structural integrity and leak tightness are essential to the successful mitigation of such an event.

Each air lock is required to be OPERABLE. For the air lock to be considered OPERABLE, the air lock interlock mechanism must be OPERABLE, the air lock must be in compliance with the Type B air lock leakage test, and both air lock bulkheads must be OPERABLE. The interlock allows only one air lock door and its associated equalization valve of an air lock to be opened at one time. This provision ensures that a gross breach of containment does not exist when containment is required to be OPERABLE. The OPERABILITY of a single bulkhead (e.g., bulkhead door, door seals, equalization valve, interlock shaft seals, etc;) in each air lock is sufficient to provide a leak tight barrier following postulated events. Nevertheless, both doors and their associated equalization valves are kept closed when the air lock is not being used for normal entry into and exit from containment.

APPLICABILITY

In MODES 1, 2, 3, and 4, a design basis LOCA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of a design basis LOCA are reduced due to the pressure and temperature limitations of these MODES. Therefore, the containment air locks are not required in MODE 5 to prevent leakage of radioactive material from containment as a result of a design basis LOCA. The requirements for the containment air locks during MODE 6 are addressed in LCO 3.9.3, "Containment Penetrations."

BASES

ACTIONS

The ACTIONS are modified by a Note that allows entry and exit to perform repairs on the affected air lock component. If the outer door is inoperable, then it may be easily accessed for most repairs. It is preferred that the air lock be accessed from inside primary containment by entering through the other OPERABLE air lock. However, if this is not practicable, or if repairs on either door must be performed from the barrel side of the door then it is permissible to enter the air lock through the OPERABLE door, which means there is a short time during which the containment boundary is not intact (during access through the OPERABLE door). The ability to open the OPERABLE door, even if it means the containment boundary is temporarily not intact, is acceptable due to the low probability of an event that could pressurize the containment during the short time in which the OPERABLE door is expected to be open. After each entry and exit, the OPERABLE door must be immediately closed, but is not required to be locked while repairs are actively being performed on the inoperable bulkhead. If ALARA conditions permit, entry and exit should be via an OPERABLE air lock. B RAI 3.6.2-3

A second Note has been added to provide clarification that, for this LCO, separate Condition entry is allowed for each air lock. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable air lock. Complying with the Required Actions may allow for continued operation, and a subsequent inoperable air lock is governed by subsequent Condition entry and application of associated Required Actions.

In the event the air lock leakage results in exceeding the overall containment leakage rate, Note 3 directs entry into the applicable Conditions and Required Actions of LCO 3.6.1, "Containment."

<u>A.1, A.2, and A.3</u>

With one air lock bulkhead in one or more containment air locks inoperable, the door and its associated equalization valve in the OPERABLE bulkhead must be verified closed (Required Action A.1) in each affected containment air lock. This ensures that a leak tight containment barrier is maintained by the use of an OPERABLE bulkhead. This action must be completed within 1 hour. This specified time period is consistent with the ACTIONS of LCO 3.6.1, which requires containment be restored to OPERABLE status within 1 hour.

In addition, the affected air lock penetration must be isolated by locking closed the bulkhead door and equalization valve on the OPERABLE bulkhead within the 24 hour Completion Time. The 24 hour Completion

BASES

ACTIONS (continued)

Time is reasonable for locking the bulkhead door and equalization valve on the OPERABLE bulkhead, considering the bulkhead door and equalization valve on the OPERABLE bulkhead of the affected air lock is being maintained closed.

Required Action A.3 verifies that an air lock with an inoperable bulkhead has been isolated by the use of a locked and closed bulkhead door and equalization valve on the OPERABLE bulkhead. This ensures that an acceptable containment leakage boundary is maintained. The Completion Time of once per 31 days is based on engineering judgment and is considered adequate in view of the low likelihood of a locked door or equalization valve being mispositioned and other administrative controls. Required Action A.3 is modified by a Note that applies to air lock doors and equalization valves located in high radiation areas and allows these doors and valves to be verified locked closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of the door or equalization valve, once it has been verified to be in the proper position, is small.

The Required Actions have been modified by two Notes. Note 1 ensures that only the Required Actions and associated Completion Times of Condition C are required if both bulkheads in the same air lock are inoperable. With both bulkheads in the same air lock inoperable, an OPERABLE isolation boundary is not available. Required Actions C.1 and C.2 are the appropriate remedial actions. The exception of Note 1 does not affect tracking the Completion Time from the initial entry into Condition A; only the requirement to comply with the Required Actions. Note 2 allows use of the air lock for entry and exit for 7 days under administrative controls if both air locks have an inoperable bulkhead. This 7 day restriction begins when the second air lock is discovered inoperable. Containment entry may be required on a periodic basis to perform Technical Specifications (TS) Surveillances and Required Actions, as well as other activities on equipment inside containment that are required by TS or activities on equipment that support TS-required equipment. This Note is not intended to preclude performing other activities (i.e., non-TS-required activities) if the containment is entered, using the inoperable air lock, to perform an allowed activity listed above. This allowance is acceptable due to the low probability of an event that could pressurize the containment during the short time that the OPERABLE door is expected to be open.
consistent with those specified in Condition A.

BASES

ACTIONS (continued)

B.1, B.2, and B.3

With an air lock interlock mechanism inoperable in one or more air locks, the Required Actions and associated Completion Times are The Required Actions have been modified by two Notes. Note 1 ensures that only the Required Actions and associated Completion Times of Condition C are required if both bulkheads in the same air lock are inoperable. With both bulkheads in the same air lock inoperable, an OPERABLE isolation boundary is not available. Required Actions C.1 and C.2 are the appropriate remedial actions. Note 2 allows entry into and exit from containment under the control of a dedicated individual stationed at the air lock to ensure that only one bulkhead door and its associated equalization valve is opened at a time (i.e., the individual performs the function of the interlock).

Required Action B.3 is modified by a Note that applies to air lock doors and equalization valves located in high radiation areas and allows these doors and valves to be verified locked closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of the door or equalization valve, once it has been verified to be in the proper position, is small.

C.1, C.2, and C.3

With one or more air locks inoperable for reasons other than those described in Condition A or B, Required Action C.1 requires action to be initiated immediately to evaluate previous combined leakage rates using current air lock test results. An evaluation is acceptable, since it is overly conservative to immediately declare the containment inoperable if both bulkheads in an air lock are inoperable. In many instances (e.g., only one seal per door has failed), containment remains OPERABLE, yet only 1 hour (per LCO 3.6.1) would be provided to restore the air lock bulkhead to OPERABLE status prior to requiring a plant shutdown. In addition, even with both doors failing the seal test, the overall containment leakage rate can still be within limits.

Required Action C.2 requires that one door and its associated equalization valve in the affected containment air lock must be verified to be closed within the 1 hour Completion Time. This specified time period is consistent with the ACTIONS of LCO 3.6.1, which requires that containment be restored to OPERABLE status within 1 hour.

Additionally, the affected air lock(s) must be restored to OPERABLE status within the 36 hour Completion Time. The specified time period is considered reasonable for restoring an inoperable air lock to

ACTIONS (continued)

OPERABLE status, assuming that at least one door and its associated equalization valve are maintained closed in each affected air lock.

D.1 and D.2

If the inoperable containment air lock cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.2.1

Maintaining containment air locks OPERABLE requires compliance with the leakage rate test requirements of the Containment Leakage Rate Testing Program. This SR reflects the leakage rate testing requirements with regard to air lock leakage (Type B leakage tests). The acceptance criteria specified in the Containment Leakage Rate Testing Program for the air locks, limits airlock leakage to a small percentage of the combined Type B and C leakage limit.

The Frequency is required by the Containment Leakage Rate Testing Program.

The SR has been modified by two Notes. Note 1 states that an inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. This is considered reasonable since either air lock door is capable of providing a fission product barrier in the event of a DBA. Note 2 has been added to this SR requiring the results to be evaluated against the acceptance criteria of SR 3.6.1.1. This ensures that air lock leakage is properly accounted for in determining the combined Type B and C containment leakage rate.

SR 3.6.2.2

The bulkhead doors and equalization valves are interlocked with each other to prevent simultaneous opening of the doors and or equalizing valves in the redundant bulkheads. Since both the inner and outer bulkheads of an air lock are designed to withstand the maximum expected post accident containment pressure, OPERABILITY of either bulkhead will support containment OPERABILITY. Thus, the airlock

BASES

SURVEILLANCE REQUIREMENTS (continued)	interlock feature supports containment OPERABILITY while the air lock is being used for personnel transit in and out of the containment. Periodic testing of this interlock demonstrates that the interlock will function as designed and that simultaneous opening of the inner and outer doors and or equalizing valves in redundant bulkheads will not inadvertently occur. Due to the purely mechanical nature of this interlock, and given that the interlock mechanism is not normally challenged when the containment air lock door is used for entry and exit (procedures require strict adherence to single door opening), this test is only required to be performed every 24 months. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage, and the potential for loss of containment OPERABILITY if the Surveillance were performed with the reactor at power. The 24 month Frequency for the interlock is justified based on generic operating experience. The Frequency is based on engineering judgment and is considered adequate given that the interlock is not challenged during the use of the airlock.
REFERENCES	1. 10 CFR 50, Appendix J, Option B. 2. FSAR, Section 5.5.

Description of Changes - NUREG-1431 Section 3.06.03

17-May-00

DOC Number	DOC Text
A.01 Rev. B	In the conversion of Point Beach current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretation). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the Standard Technical Specifications, Westinghouse Plants, NUREG-1431, Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).

CTS:	ITS:
15.01.D.01.c	LCO 3.06.03 COND A
	LCO 3.06.03 COND B
	LCO 3.06.03 COND C
15.03.06.A.01.B	LCO 3.06.03 COND NOTE 1
	LCO 3.06.03 COND NOTE 2
	LCO 3.06.03 COND NOTE 3
	LCO 3.06.03 COND NOTE 4
15.03.06.A.01.B.01	LCO 3.06.03 COND A NOTE
	LCO 3.06.03 COND B NOTE
15.03.06.A.01.B.01.A	LCO 3.06.03 COND A
15.03.06.A.01.B.01.A.I	LCO 3.06.03 COND A RA A.1
15.03.06.A.01.B.01.A.II	LCO 3.06.03 COND A RA A.2
	LCO 3.06.03 COND A RA A.2 NOTE 1
15.03.06.A.01.B.01.A.II.01	LCO 3.06.03 COND A RA A.2
15.03.06.A.01.B.01.A.II.02	LCO 3.06.03 COND A RA A.2
15.03.06.A.01.B.01.B	LCO 3.06.03 COND B
15.03.06.A.01.B.01.B.I	LCO 3.06.03 COND B RA B.1
15.03.06.A.01.B.02	LCO 3.06.03 COND C NOTE
15.03.06.A.01.B.02.A	LCO 3.06.03 COND C
15.03.06.A.01.B.02.A.II	LCO 3.06.03 COND C RA C.2
	LCO 3.06.03 COND C RA C.2 NOTE 1
15.03.06.A.01.B.02.A.II.01	LCO 3.06.03 COND C RA C.2
15.03.06.A.01.B.02.A.II.02	LCO 3.06.03 COND C RA C.2
15.03.06.A.01.B.03	LCO 3.06.03 COND D
15.03.06.A.01.B.03.A	LCO 3.06.03 COND D RA D.1
15.03.06.A.01.B.03.B	LCO 3.06.03 COND D RA D.2
15.03.06.A.01.C	LCO 3.06.03
15.03.06.A.01.C.01	LCO 3.06.03 COND NOTE 4
15.03.06.A.01.C.02	LCO 3.06.03 COND NOTE 4
15.04.01 T 15.04.01-02 23	SR 3.06.03.01
15.04.02.B.03	SR 3.06.03.04

Description of Changes - NUREG-1431 Section 3.06.03

17-May-00

DOC Number	DOC Text	
	BASES	SR 3.06.03.01

A.02
Rev. B

The CTS definition of containment integrity requires all penetrations which are required to be isolated during accident conditions to be capable of being closed by an operable containment isolation valve; closed by an operable containment isolation valve; or closed in accordance with the Technical Specification Actions for an inoperable valve. In addition, the definition requires the equipment hatch to be properly closed. The definition of containment integrity has been omitted for the ITS, however, all of the attributes addressed above are captured in the proposed Technical Specifications.

The operability of automatic containment isolation valves (CTS 15.1.D.1.a) is addressed by proposed SR 3.6.3.4 and SR 3.6.3.5. SR 3.6.3.4 verifies that each power operated automatic containment isolation valve is capable of closure by performing isolation stroke timing in accordance with the Inservice Testing Program. SR 3.6.3.5 verifies the capability of each automatic containment isolation valve which is not locked, sealed, or otherwise secured in position to actuate to its correct position on a simulated or actual containment isolation signal. These surveillances define the operability requirements for automatic containment isolation valves as addressed in LCO 3.6.3, thereby incorporating CTS item 15.1.D.1.a into LCO 3.6.1.

CTS item 15.1.D.1.b (penetration closed by an operable containment isolation valve) is addressed through SR 3.6.3.4 and SR 3.6.3.5 above relative to automatic valves which may be closed, while SR 3.6.3.2 and SR 3.6.3.3 verify that manual valves and blank flanges are closed, thereby incorporating CTS item 15.1.D.1.b into LCO 3.6.3.

CTS item 15.1.D.1.c addresses inoperable containment isolation valves and purge valves. These actions allow continued operation as long as the penetration is isolated and verified closed on a periodic basis. The proposed ITS continues this practice through LCO Conditions A, B, and C, thereby incorporating CTS item 15.1.D.1.c into LCO 3.6.3.

CTS item 15.1.D.2, requires the equipment hatch to be properly closed. The equipment hatch is a Type B penetration. Proper installation is concluded through performance of an acceptable Type B leakage test as addressed by ITS SR 3.6.1.1. Proposed SR 3.6.3.3 requires isolation valves and blind flanges located inside the containment to be verified closed prior to entry into Mode 4 from Mode 5 if not performed in the previous 92 days. The combination of these two SRs provides assurance that the equipment hatch is properly closed, thereby incorporating CTS item 15.1.D.2 into LCO 3.6.3 and LCO 3.6.1.

CTS:	**ITS:**
15.01.D	LCO 3.06.03
15.01.D.01.A	SR 3.06.03.05
15.01.D.01.B	SR 3.06.03.02
	SR 3.06.03.03
15.01.D.02	SR 3.06.03.03

Description of Changes - NUREG-1431 Section 3.06.03

17-May-00

DOC Number	DOC Text	
A.03 Rev. A	CTS 15.3.6.A.1 requires containment integrity (isolation valve operability) whenever a nuclear core is installed in the reactor, unless the reactor is in the cold shutdown condition. Proposed ITS LCO 3.6.3 require the containment to be operable in Modes 1, 2, 3, and 4. The ITS definition of Mode requires there to be fuel in the reactor to be in a defined Mode of Applicability (e.g. Mode 1, 2, 3, 4, 5, or 6) making the CTS and ITS equivalent regarding the presence of fuel. The CTS definition of Cold Shutdown requires the reactor to have a shutdown margin of at least 1% with RCS temperature less than or equal to 200 degrees. The ITS definition of Cold Shutdown (ITS Table 1.1-1 - Mode 5), is defined as Keff less than 0.99 with RCS temperature of less than or equal to 200 degrees making the CTS and ITS equivalent relative to temperature and reactivity. Based on the above, this change is administrative.	
	CTS:	**ITS:**
	15.03.06.A.01	LCO 3.06.03
A.04 Rev. A	CTS 15.3.6.A.1.b requires each penetration to be operable to satisfy containment integrity. This requirement is fulfilled through meeting proposed ITS LCOs 3.6.1, 3.6.2, and 3.6.3. LCO 3.6.1 encompasses meeting the containment leakage rate requirements for containment penetrations with the exception of the containment airlocks which are addressed by LCO 3.6.2, while LCO 3.6.3 addresses the containment isolation valve operability with the exception of leakage. The combination of these three LCOs ensures that the containment penetrations are operable. Deletion of this statement is administrative based on the necessary attributes for operability being addressed in the aforementioned LCOs.	
	CTS:	**ITS:**
	15.03.06.A.01.B	DELETED
A.05 Rev. A	CTS 15.3.6.A.1.b.1.b.ii requires isolation devices which are closed to isolate a penetration flow path with two inoperable containment isolation valves to be verified closed on a periodic basis. This periodic verification has been incorporated into proposed Action A.2 of ITS LCO 3.6.3. Condition A is applicable to penetrations with two containment isolation valves and must be performed anytime there is one or more inoperable valve. As such, the CTS periodic verification is still required to be performed, making this change administrative.	
	CTS:	**ITS:**
	15.03.06.A.01.B.01.B.II	LCO 3.06.03 COND A RA A.2
		LCO 3.06.03 COND A RA A.2 NOTE 1
	15.03.06.A.01.B.01.B.II.01	LCO 3.06.03 COND A RA A.2
	15.03.06.A.01.B.01.B.II.02	LCO 3.06.03 COND A RA A.2

DOC Number	DOC Text	
A.06 Rev. A	CTS 15.3.6.A.1.c.1 requires the containment purge supply and exhaust valves to be locked closed (control board locking devices) however, a single containment purge supply or exhaust valve may be opened to allow repair of a penetration which is leaking in excess of that allowed by the Containment Leakage Rate Testing Program. ITS SR 3.6.3.1 requires the containment purge supply and exhaust to be secured in the closed position, but will allow one containment purge valve to be opened in a penetration flowpath to perform leakage rate corrective maintenance. This change is administrative.	
	CTS:	**ITS:**
	15.03.06.A.01.C	SR 3.06.03.01
	15.03.06.A.01.C.01	SR 3.06.03.01
A.07 Rev. A	The CTS does not require performance of the surveillance which verifies closure of the containment purge supply and exhaust valve when the unit is in the cold shutdown or refueling shutdown condition; however, performance of this surveillance prior to exceeding 200 degrees is required if the test had not been performed within its required frequency of 31 days. The Mode of Applicability for this LCO and hence its associated Surveillance Requirement has been revised to Modes 1, 2, 3, and 4 (greater than or equal to 200 degrees) as addressed in Description of Change A.3 and L.1 of this LCO conversion package. ITS SR 3.0.4 precludes entry into a Mode or specified condition unless all surveillances associated with the LCO are met (inclusive of the specified interval). Accordingly, the CTS requirement which requires the containment purge valves be verified locked closed prior to exceeding 200 degrees is not necessary in the ITS. This requirement is adequately addressed through the defined Mode of Applicability for the purge valves in addition to the general usage rule associated with LCO SR 3.0.4. Deletion of this CTS item is administrative.	
	CTS:	**ITS:**
	15.04.01 T 15.04.01-02 23 (9)	DELETED
A.08 Rev. A	The Bases of the current Technical Specifications for this section have been completely replaced by revised Bases that reflect the format and applicable content of PBNP ITS, consistent with the Standard Technical Specifications for Westinghouse Plants, NUREG-1431. The revised Bases are as shown in the PBNP ITS Bases.	
	CTS:	**ITS:**
	BASES	B 3.06.03

Description of Changes - NUREG-1431 Section 3.06.03

17-May-00

DOC Number	DOC Text	
L.01 Rev. B	The CTS requires containment integrity (isolation valve operability) under a number of condition to include: 1) Whenever a nuclear core is installed in the reactor and the reactor is not in the cold shutdown condition; 2) When the reactor vessel head is removed unless the reactor is in the refueling shutdown condition; 3) Whenever positive reactivity changes are made by rod drive motion, except when testing one bank of rods at a time, rod disconnecting, and rod reconnecting provided the reactor is initially subcritical by at least 5% delta k/k; and 4) Whenever making positive reactivity changes by boron dilution unless the RCS boron concentration is maintained > 2100 ppm. In addition, the containment purge supply and exhaust isolation valves are required to be verified closed once per month except during periods of cold shutdown or refueling shutdown. The ITS will require containment integrity to be maintained in Modes 1, 2, 3, and 4 (whenever the reactor is not in cold shutdown). The Mode of Applicability for this LCO also establish the required mode of performance for the containment purge valve surveillances as well. All conditions and limitations other than Mode 1, 2, 3, and 4 have been deleted from the Technical Specifications. There are no shutdown events (RCS temperature less than or equal to 200 degrees) in the Point Beach licensing basis which credit containment integrity for event mitigation. Specifically; inadvertent RCS dilution in cold shutdown and refueling is terminated by operator action before the reactor reaches a Keff of 1.0, inadvertent rod withdrawal is terminated by the reactor protection system before fuel damage occurs, and accidental release of liquid and gaseous wastes are independent of containment status. This relaxation is consistent with analysis assumptions for Point Beach. Accordingly, these requirements may be deleted from the Technical Specifications as they are not required to provide adequate protection of public health and safety.	
	CTS:	**ITS:**
	15.01.G.03	SR 3.06.03.05
	15.03.06.A.01	DELETED
	15.04.01 T 15.04.01-02 23 (9)	DELETED
L.02 Rev. A	CTS 15.3.6.A.1.b.2.a.i requires isolation of containment penetrations which are equipped with only one containment isolation valve to be isolated within four hours if that isolation valve becomes inoperable. The ITS will allow 72 hours to isolate these types of penetrations. Penetrations with single isolation valves use closed systems to provide a second isolation boundary. Closed systems are designed to maintain their integrity during postulated design basis events for which containment integrity is credited. 72 hours is an acceptable time frame to isolate an affected penetration based on the stability and reliability of a penetration which uses a closed system as a redundant isolation barrier.	
	CTS:	**ITS:**
	15.03.06.A.01.B.02.A.I	LCO 3.06.03 COND C RA C.1

Description of Changes - NUREG-1431 Section 3.06.03

17-May-00

DOC Number	DOC Text
L.03 Rev. A	CTS allows isolation devices that are used to isolate penetration flowpaths to comply with the required actions to be verified shut by administrative means when the isolation device is located in high radiation areas. The ITS will also allow administrative means to verify a penetration flowpath is isolated when the isolation device is locked, sealed or otherwise secured in position. Locking, sealing, or otherwise securing components in position is a normal practice to ensure certain system and components remain in the desired condition and are not inadvertently repositioned. Therefore, the addition of this allowance is acceptable. **CTS:** NEW **ITS:** LCO 3.06.03 COND A RA A.2 NOTE 2 LCO 3.06.03 COND C RA C.2 NOTE 2
L.04 Rev. B	CTS 15.3.6.A.1.c provides LCO requirements for the containment purge supply and exhaust valves. There are no specific associated allowed conditions for failure to meet the CTS LCO requirements for these valves. The proposed ITS establishes Condition A, with Required Actions, for one inoperable valve in a penetration and Condition B, with Required Actions, for two inoperable valves in a penetration, along with the associated Notes for the Action table. The CTS requirement for failure to meet the LCO would default to CTS 15.3.0.B. The proposed actions for inoperable purge supply and exhaust valves are consistent with the NUREG-1431 requirements. In particular, proposed ITS Condition A allows 4 hours to isolate the affected penetration flowpath, with subsequent verification every 31 days. Proposed Condition B allows 1 hour to isolate the affected penetration flowpath. CTS 15.3.0.B requires 1 hour to commence shutdown and 7 hours to be in Hot Shutdown. The proposed changes provide appropriate actions for inoperability of containment isolation valves and establishes consistent actions for all penetrations. The additional periods of time (3 hours allowed to complete Required Action A.1) is reasonable considering the penetration remains isolated with an OPERABLE valve. **CTS:** NEW **ITS:** LCO 3.06.03 COND A LCO 3.06.03 COND A RA A.1 LCO 3.06.03 COND A RA A.2 LCO 3.06.03 COND B LCO 3.06.03 COND B RA B.1

Description of Changes - NUREG-1431 Section 3.06.03

17-May-00

DOC Number	DOC Text	
M.01 Rev. B	CTS Table 15.4.1-2 item 13 requires the performance of a functional test of the containment isolation trip function once each refueling shutdown. Refueling shutdown is defined in the CTS as being a shutdown for the purpose of moving fuel to and from the reactor core. ITS SR 3.6.3.5 requires each automatic containment isolation valve that is not locked, sealed or otherwise secured in position to be actuated by an actual or simulated actuation signal to its required position once per 18 months. These tests are intended to ensure that all automatic containment isolation valves receive their isolation signal. Accordingly, while the CTS and the ITS require the same basic testing, the CTS does not define a specific frequency of performance for these Surveillances. The CTS test interval is considered to be a plant evolution, which can vary significantly from outage to outage with no bounding limit. Changes in cycle lengths by default establish the required frequency. Accordingly, the adoption of a bounding frequency (18 months) is a more restrictive change.	
	CTS:	**ITS:**
	15.04.01 T 15.04.01-02 13	SR 3.06.03.05
M.02 Rev. A	CTS 15.1.D defines containment integrity to exist when containment penetrations required to be isolated during an accident are capable of being closed by an operable automatic containment isolation valve or are closed by an operable containment isolation valve. The definition does not contain blank flanges, nor are there any Surveillance specified which perform periodic verifications of the isolation devices. The ITS has proposed two new surveillances (SR 3.6.3.2 and 3.6.3.3) which verify closure of manual isolation valves and blank flanges. SR 3.6.3.2 is applicable to manual valves and blank flanges located outside of the containment and is required to be performed on a 31 day frequency. SR 3.6.3.3 is applicable to manual valves and blank flanges located inside the containment and is required to be performed prior to entry into Mode 4 from Mode 5 if not performed in the previous 92 days. Both of these SRs are modified by notes which allow verification of devices located in high radiation areas to be performed by administrative means. In addition valves which are open under administrative controls are exempted from both SRs. These frequencies, notes, and exceptions are acceptable based on accessibility and access control over high radiation and limited access locations, the controls placed on valves which are unisolated under administrative controls, and the low probability of misalignment.	
	CTS:	**ITS:**
	NEW	SR 3.06.03.02 SR 3.06.03.02 NOTE SR 3.06.03.03 SR 3.06.03.03 NOTE

B
RAI 3.6.3-3

A.1

A.2 → SR 3.6.3.2 / SR 3.6.3.3 / SR 3.6.3.4 / SR 3.6.3.5 / Cond A/B/C

D. Containment Integrity* ← < See LCO 3.6.1 >

Containment integrity is defined to exist when:

1) Penetrations required to be isolated during accident conditions are either:
   a. Capable of being closed by an operable automatic containment isolation valve,
   OR
   b. Closed by an operable containment isolation valve,
   OR
   c. Closed in accordance with Specifications 15.3.6.A.1.b and 15.3.6.A.1.c.

A.1 → Cond A/B/C

2) The equipment hatch is properly closed.

A.2 → SR 3.6.3.3

~~3) At least one door in each personnel air lock is properly closed.~~ ← < See LCO 3.6.2 >

~~4) The overall uncontrolled containment leakage is less than La.**~~ ← < See LCO 3.6.1 >

E. Protective Instrumentation Logic

1) Analog Channel

An analog channel is an arrangement of components and modules as required to generate a single protective action signal when required by a plant condition. An analog channel loses its identity where single action signals are combined.

< See Section 1.0 >

M.2 → ADD NEW SRS 3.6.3.2 AND 3.6.3.3 TO PERIODICALLY VERIFY POSITION OF MANUAL CONTAINMENT ISOLATION VALVES AND BLANK FLANGES

< See LCO 3.6.1 >

* Containment isolation valves are discussed in FSAR Section 5.2.

~~** Prior to the first startup after performing a required Containment Leakage Rate Testing Program leakage test, the applicable leakage limits specified in TS 15.6.12.D.2 must be met.~~

< See LCO 3.6.1 and the CLRTP 5.5.16 >

c. Containment Purge Supply and Exhaust Valves

A.6

SR 3.6.3.1

The containment purge supply and exhaust valves shall be locked closed and may not be opened unless the reactor is in the cold shutdown or refueling shutdown condition.

(1) One of the redundant valves in the purge supply and exhaust lines may be opened to perform the repairs required to conform with the Containment Leakage Rate Testing Program.

(2) If containment purge supply and exhaust penetration leakage results in exceeding the overall containment leakage rate acceptance criteria (L_a), enter 15.3.6.A.1.a.

B
RAI 3.6.3-11

L.4

Add LCO 3.6.3 Condition A and Condition B and associated ACTION Notes.

B
RAI 3.6.3-9
RAI 3.6.3-10

TABLE 15.4.1-2 (Continued)

		Test	Frequency
7.	Spent Fuel Pit < See LCOs 3.7.15 and 3.7.16 >	a) Boron Concentration b) Water Level Verification	Monthly Weekly
8.	Secondary Coolant < See LCO 3.7.18 >	Gross Beta-gamma Activity or gamma isotopic analysis Iodine concentration	Weekly(6) Weekly when gross Beta-gamma activity equals or exceeds 1.0 μCi/g (6)
9.	Control Rods < See LCO 3.1.5 >	a) Rod drop times of all full length rods (3) b) Rodworth measurement shutdown prior to	Each refueling or after maintenance that could affect proper functioning (4) Following each refueling commencing power operation
10.	Control Rod	Partial movement of all rods	Every 2 weeks (18)
11.	Pressurizer Safety Valves	Set point < See LCO 3.4.10 >	Every five years (11)
12.	Main Steam Safety Valves	Set Point < See LCO 3.7.1 >	Every five years (11)
13.	Containment Isolation Trip	Functioning	~~Each refueling shutdown~~ 18 months — SR 3.6.3.5 — B RAI 3 6 3-3 — M.1
14.	Refueling System Interlocks	Functioning < See LCO 3.9.1 >	Each refueling shutdown
15.	Service Water System	Functioning < See LCO 3.7.8 >	Each refueling shutdown
16.	Primary System Leakage	Evaluate < See LCO 3.4.13 >	Monthly (6)
17.	Diesel Fuel Supply	Fuel inventory < See LCO 3.8.3 >	Daily
18.	Deleted		
19.	Deleted		
20.	Boric Acid System < See LCO 3.5.2 >	Storage Tank and piping temperatures ≥ temperature required by Table 15.3.2-1	Daily(19)

B. In-Service Inspection and Testing of Safety Class Components Other than Steam Generator Tubes

1. Inservice inspection of ASME Code Class 1, Class 2 and Class 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) modified by Section 50.55a(b), except where specific written relief is granted by the NRC, pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

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

2. Containment isolation valves will be tested in accordance with the Containment Leakage Rate Testing Program.

3. Inservice testing of ASME Code Class 1, 2, and 3 pumps, valves, and snubbers shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50.55a. B RAI 3 6 3-3

< See 5.0 >

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

Basis

The steam generator tube inspection requirements are based on the guidance given in NRC Regulatory Guide 1.83, "Inservice Inspection of Pressurized Water Reactor Steam Generator Tubes." ASME Section XI Appendix IV is being used for defining the basic requirements or the inspection method. However, at the present time, changes and improvements in steam generator eddy current inspection are occurring faster than the code can be revised. Thus, in order to ensure that the best possible exam of the tubing and/or sleeves is being done, the technique utilized will, in general, be the latest industry-accepted technique. This means that complete word-for-word compliance with Appendix IV may not be possible. However, the basic requirements and intent will be met, to the extent practical.

Specification 15.4.2.B delineates programmatic requirements for establishing Inservice Inspection and Testing programs in accordance with the ASME Section XI Code and 10 CFR 50.55a requirements. The Code establishes criteria for system and component inspection and testing to ensure an appropriate level of reliability and detection of abnormal conditions. Failure to meet Code requirements is evaluated on an individual system or component bases to determine operability. Appropriate LCOs are entered if a system or component is determined to be inoperable.

As stated in 15.4.2.B.1, safety class components, other than the steam generator tubing, will be inspected in accordance with ASME Section XI. The code edition/addenda utilized for the inspection interval will be as defined in

< See Section 5.0 >

Justification For Deviations - NUREG-1431 Section 3.06.03

17-May-00

JFD Number	JFD Text	
01 Rev. A	The Titles for LCO 3.6.3 and it associated Bases have been shortened to simply state "Containment Isolation Valves". Inclusion of the type of design (e.g. Ice Condenser, Dual, Atmospheric, or Sub-Atmospheric) is relevant only in distinguishing which variation of NUREG 1431 is to be used.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
	LCO 3.06.03	LCO 3.06.03
02 Rev. B	The brackets have been removed and the proper plant specific information has been provided.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
	SR 3.06.03.01	SR 3.06.03.01
	SR 3.06.03.05	SR 3.06.03.08
03 Rev. A	The bracketed information contained in LCO 3.6.3 relative to Actions and Surveillance Requirements for shield building bypass leakage has been omitted from the Point Beach ITS. Point Beach does not have as part of its design a shield building. Accordingly, these statements are not applicable to Point Beach.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
	LCO 3.06.03 COND A	LCO 3.06.03 COND A
	LCO 3.06.03 COND B	LCO 3.06.03 COND B
	N/A	LCO 3.06.03 COND D LCO 3.06.03 COND D RA D.1 SR 3.06.03.11 SR 3.06.03.11 FREQ NOTE

17-May-00

JFD Number	JFD Text
04 Rev. A	The containment purge valves at Point Beach contain resilient seals, however, specific penetration flowpath leakage limits and surveillance frequencies above and beyond those established through the Containment Leakage Rate Testing Program are not necessary. The CTS prior to October 9, 1996 (Technical Specification Amendment 169/173) required testing of the containment purge valves every 6 months based on the findings of generic issue B-20 "Containment Leakage Due to Seal Degradation". Amendment 169/173 eliminated the requirement for increased testing of the containment purge valves. As cited in the SER for amendments 169/173, the containment purge valve can be tested in accordance with the Regulatory Guide 1.163 "Performance-Based Containment Leak-Testing Program". The basis of this conclusion was that there has not been observable degradation supportive of increased testing frequencies which were established as part of Generic issue B-20. Since 1992 there had been no leakage rate failures in excess of the previous Technical Specification or Appendix J acceptance criteria, nor were there failures in excess of the administrative leakage limit of 2000 standard cubic centimeters per minute. Reference to Generic Issue 20 in the references section has been omitted based on the deletion of this material.

ITS:	NUREG:
B 3.06.03	B 3.06.03
LCO 3.06.03 COND A	LCO 3.06.03 COND A
LCO 3.06.03 COND B	LCO 3.06.03 COND B
N/A	LCO 3.06.03 COND E
	LCO 3.06.03 COND E RA E.1
	LCO 3.06.03 COND E RA E.2
	LCO 3.06.03 COND E RA E.2 NOTE
	LCO 3.06.03 COND E RA E.3
	SR 3.06.03.07

Justification For Deviations - NUREG-1431 Section 3.06.03

17-May-00

JFD Number	JFD Text	
05 Rev. A	ITS LCO 3.6.3, Condition C is applicable to containment penetrations which have only one containment isolation valve and a closed system. NUREG 1431 Required Action C.2 requires the performance of a periodic verification of isolation devices (once every 31 days), which is based on designs for which the isolation device would be located outside of containment. The Point Beach design includes containment penetration provisions consisting of a closed system outside containment with a single containment isolation valve (device) located inside the containment. Based on this design consideration, the CTS contains a provision which allows verification every 31 days for devices outside containment and prior to exceeding 200 degrees if not performed in the previous 92 days for devices located inside the containment. Based on this design, the frequency for verification of isolation devices from the CTS has been retained. The revised frequency is consistent with NUREG 1431 Required Action A.2 which allows verification of isolation devices located inside the containment prior to entry into Mode 4 from Mode 5 if not performed within the previous 92 days. This frequency is considered acceptable based on engineering judgment, the inaccessibility of isolation devices inside the containment, and administrative controls that will ensure that isolation device misalignment is unlikely.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
	LCO 3.06.03 COND C RA C.2	LCO 3.06.03 COND C RA C.2
		LCO 3.06.03 COND C RA C.2
		LCO 3.06.03 COND C RA C.2
06 Rev. B	Required Actions, Surveillance Requirements, and References have been renumbered to reflect Conditions, Surveillance Requirements, and References that were not adopted as part of the conversion to the ITS. These changes are administrative.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
	LCO 3.06.03 COND D	LCO 3.06.03 COND F
	LCO 3.06.03 COND D RA D.1	LCO 3.06.03 COND F RA F.1
	LCO 3.06.03 COND D RA D.2	LCO 3.06.03 COND F RA F.2
	SR 3.06.03.02	SR 3.06.03.03
	SR 3.06.03.02 NOTE	SR 3.06.03.03 NOTE
	SR 3.06.03.03	SR 3.06.03.04
	SR 3.06.03.03 NOTE	SR 3.06.03.04 NOTE
	SR 3.06.03.04	SR 3.06.03.05
	SR 3.06.03.05	SR 3.06.03.08

JFD Number	JFD Text	
07 Rev. A	Several bracketed surveillance requirements were not adopted. These components are not incorporated into Point Beach's design and are therefore not appropriate to adopt. These components include: containment mini purge valves, spring or weight loaded vacuum breaker check valves, and blocking devices installed on containment purge valves.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
	N/A	SR 3.06.03.02
		SR 3.06.03.06
		SR 3.06.03.09
		SR 3.06.03.10
08 Rev. B	The automatic power operated containment isolation valves at Point Beach are tested in accordance with the inservice test program.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
	SR 3.06.03.04	SR 3.06.03.05
09 Rev. A	NUREG 1431 SR 3.6.3.1 contains a provision which allows one purge valve in a penetration flowpath to be opened while in Condition E of LCO 3.6.3 (purge valve leakage not within limits). CTS 15.3.6.A1.c.1 contains this same provision, allowing a containment purge supply or exhaust valve to be opened to perform repairs required to conform to the Containment Leakage Rate Testing Program. Proposed ITS SR 3.6.3.1 retains a provision which will allow one containment purge valve in a flowpath to be opened to perform leakage rate corrective maintenance. As discussed in Justification for Deviation 4 of this section, containment purge valve leakage was not adopted as an attribute of purge valve operability under LCO 3.6.3, but was retained as part of ITS SR 3.6.1.1 which addresses the Type A, B, and C leakage testing requirements. Accordingly, reference of the SR 3.6.3.1 to Condition E is not appropriate as condition E was not adopted. Reference to the performance of leakage rate repairs provides the flexibility necessary to do corrective maintenance in accordance with the current licensing basis.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
	SR 3.06.03.01	SR 3.06.03.01
		SR 3.06.03.01

Justification For Deviations - NUREG-1431 Section 3.06.03

17-May-00

JFD Number	JFD Text	
10 Rev. A	NUREG 1431 SR 3.6.1.1 and its associated Bases have been modified to reflect the Point Beach current licensing basis relative to securing containment purge supply and exhaust valves in the closed position during operation. SR 3.6.1.1 states that the containment purge supply and exhaust valves are to be sealed closed. The Bases states that the containment purge supply and exhaust valves are sealed closed when the motive power to the valve actuator is removed (e.g. breaker de-energized, air removed from the valve actuator). The manner in which the purge supply and exhaust valves are secured closed consists of locking devices on the control switches for the valves. This method was reviewed and accepted by the NRC in SER dated October 4, 1982 for amendment 69/74 of the Point Beach Technical Specifications.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
	SR 3.06.03.01	SR 3.06.03.01
11 Rev. A	The Bases of NUREG 1431 LCO 3.6.3 contains a bracketed discussion regarding design of the containment purge valves which is not applicable to the Point Beach Design. NUREG 1431 states that the single failure criterion is addressed by having diverse power sources (motor operated valve and a pneumatic operator) for the inboard and outboard containment purge valves. Point Beach's containment purge valves are of similar design, but are required to be closed with their control switches locked in the closed position in Modes 1, 2, 3, and 4. Application of a single active failure in this configuration would only result in a single valve in the penetration being affected, thereby maintaining containment integrity.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
12 Rev. A	The Bases for SR 3.6.1.1 states that for some units the containment purge supply and exhaust valves are not rated to close under DBA conditions. This is true for Point Beach; therefore, the statement has been changed from its current form to an absolute statement reflective of Point Beach's design. In addition the Bases discusses purge valves which have blocking devices installed to limit valve travel. The Point Beach containment vent and purge valves do not have blocking devices; therefore, this statement has been omitted.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
13 Rev. B	Not used.	
	ITS:	**NUREG:**
	N/A	N/A

Justification For Deviations - NUREG-1431 Section 3.06.03

17-May-00

JFD Number	JFD Text	
14 Rev. A	The Bases elaborates on entering the conditions and required actions of LCO 3.6.1 if "containment airlock" leakage results in exceeding the overall containment leakage limit, while the LCO Note itself requires entry if "containment isolation valves" result in exceeding the leakage limits. The Bases is in error and appears to be a copy of the Bases for LCO 3.6.2. The Bases has been corrected to state "containment isolation valves" versus "airlocks".	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
15 Rev. A	Point Beach has only one set of containment vent and purge lines, which are the 36 inch lines required to be closed with their control switches secured in the locked position in Modes 1, 2, 3, and 4. Based on there being only one set vent and purge valves, the terminology used in the ITS and its associated Bases has been changed from a presentation which discriminates based on the size, type, and usage of the valve (e.g. mini-purge, 42 inch, etc;) to simply "purge supply and exhaust". This change is reflects the Point Beach design and plant terminology used.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
	LCO 3.06.03 COND NOTE 1	LCO 3.06.03 COND NOTE 1
	SR 3.06.03.01	SR 3.06.03.01

Justification For Deviations - NUREG-1431 Section 3.06.03

17-May-00

JFD Number	JFD Text	
16 Rev. B	NUREG SR 3.6.3.5 has been modified, as specific automatic power operated containment isolation valve closure times are not contained or tested for in the current Technical Specifications, and there is no specific analytical acceptance criteria assumed in any Point Beach accident analysis. The isolation time of each automatic power operated containment isolation is fulfilled by performance of ASME section XI stoke time testing which will continue to be required by 10CFR 50.55a and Section 5.0 of the Improved Technical Specifications. Containment isolation times are established for the purpose of ensuring that ECCS performance is not impaired through a reduction in containment backpressure and to minimize the release of containment atmosphere to the environs following a loss of coolant accident. The Point Beach offsite dose analysis simply assumes that containment isolation occurs in a manner that will maintain containment leakage rates less than or equal to La (0.4% of containment air weight per day). All automatic non-essential penetrations are associated with; closed systems, or involve torturous release paths through systems and components which would result in significant system resistance, transport times, and dispersion factors. The only containment penetrations which provides a direct pathway from the containment are the containment vent and purge lines (36 inch). These penetrations are required to be closed, with their control switches locked in the closed position (rendered non-active) during Modes 1, 2, 3, and 4. Similarly, there are no active automatic containment penetrations which will create a significant containment pressure release path. These factors render the offsite dose and ECCS performance analysis insensitive to isolation time lesser than those imposed by the valve performance testing (ASME isolation times) required by Section 5.0 of the Improved Technical Specifications and 10CFR 50.55.a.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
	SR 3.06.03.04	SR 3.06.03.05
17 Rev. B	Not used.	
	ITS:	**NUREG:**
	N/A	N/A
18 Rev. A	The LOCA acronym has been previously defined, therefore defining LOCA in this section of the Bases is not necessary.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03

Justification For Deviations - NUREG-1431 Section 3.06.03

17-May-00

JFD Number	JFD Text	
19 Rev. B	A clarification has been made to the Bases to ensure that position verification of passive isolation valves (normally closed manual valves, or closed and deactivated automatic isolation valves) is performed as necessary to comply with required actions and/or surveillance requirements. The reference has been corrected to point to the location of the plant specific information. These changes are administrative only.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
20 Rev. B	Not Used.	
	ITS:	**NUREG:**
	N/A	N/A
21 Rev. A	The Bases of NUREG 1431 LCO 3.6.3 states that Condition C is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with only one containment isolation valve and a closed system. This Note is necessary since this Condition is written to specifically address those penetration flow paths in a closed system. Penetration flowpaths do not exist in a closed system. Closed systems are a containment isolation boundary. As such, the Bases has been modified to reflect the actual usage of the closed system relative to containment isolation boundaries.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03
22 Rev. A	The Bases of LCO 3.6.3 states that the containment is designed to contain radioactive material following a design basis accident. This statement was revised to state that the containment is designed to contain radioactive material following a design basis "loss of coolant accident". As re-enforced by the positions established in Appendix J, Option B of 10 CFR 50 and its implementing documents, radioactive release from the containment as the result of a design basis accident is assumed to occur from primary system loss of coolant accidents. This change is consistent with the CTS Bases wording approved in amendment 169/173 on October 9, 1996 for the implementation of Option B. This change results in defining DBA as an acronym for Design Basis Accident in a later paragraph in this Bases section.	
	ITS:	**NUREG:**
	B 3.06.03	B 3.06.03

1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ---------NOTE--------- Only applicable to penetration flow paths with only one containment isolation valve and a closed system. ---------------------- One or more penetration flow paths with one containment isolation valve inoperable.	C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	[4] hours 72 Approved TSTF 30
Approved TSTF 269	AND	
3	C.2 --------NOTE-------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed or otherwise secured may be verified by use of administrative means. -------------------- Verify the affected penetration flow path is isolated. Approved TSTF 269 S	5 Once per 31 days for isolation devices outside containment AND Prior to entering Mode 4 from Mode 5 if not performed within the previous 92 days for isolation devices inside containment Once per 31 days B RAI 3.6.3-13
[D. Shield building bypass leakage not within limit.	D.1 Restore leakage within limit.	4 hours]
[E. One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits.	E.1 Isolate the affected penetration flow path by use of at least one [closed and de-activated automatic valve, closed manual valve, or blind flange]. AND	24 hours

(continued)

4

and not locked, sealed, or otherwise secured

Approved TSTF 45

1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.3.4 (3) (6)	------------------NOTE------------------ Valves and blind flanges in high radiation areas may be verified by use of administrative means. -- Verify each containment isolation manual valve and blind flange that is located inside containment and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days
SR 3.6.3.5 (4) (6)	Verify the isolation time of ~~each power operated and~~ each automatic power operated containment isolation valve is within limits. Inservice Testing Program (16) Approved TSTF 46	(8) In accordance with the Inservice Testing Program ~~or 92 days~~ (16)
~~SR 3.6.3.6~~	~~Cycle each weight or spring loaded check valve testable during operation through one complete cycle of full travel, and verify each check valve remains closed when the differential pressure in the direction of flow is ≤ [1.2] psid and opens when the differential pressure in the direction of flow is ≥ [1.2] psid and < [5.0] psid.~~	~~92 days~~

(continued)

7

B RAI 3.6.3-3

1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.3.7	Perform leakage rate testing for containment purge valves with resilient seals.	184 days AND Within 92 days after opening the valve
SR 3.6.3.8	Verify each automatic containment isolation valve that is not locked, sealed or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	[18] months
SR 3.6.3.9	Cycle each weight or spring loaded check valve not testable during operation through one complete cycle of full travel, and verify each check valve remains closed when the differential pressure in the direction of flow is ≤ [1 2] psid and opens when the differential pressure in the direction of flow is ≥ [1 2] psid and < [5.0] psid.	18 months
SR 3.6.3.10	Verify each [ ] inch containment purge valve is blocked to restrict the valve from opening > [50]%.	[18] months

(continued)

2 4 5 6 7

B RAI 3.6.3-3

1

BASES

APPLICABLE SAFETY ANALYSES (Continued)

analyses of any event requiring isolation of containment is applicable to this LCO.

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22 — s

The DBAs that result in a release of radioactive material within containment are a loss of coolant accident (LOCA) and a rod ejection accident (Ref. 1). In the analyses for each of these accidents, it is assumed that containment isolation valves are either closed or function to close within the required isolation time following event initiation. This ensures that potential paths to the environment through containment isolation valves (including containment purge valves) are minimized. The safety analyses assume that the [42] inch purge valves are closed at event initiation.

18

22 — this

16 — capable of closure to isolate non-essential penetrations.

16

15 — purge supply and exhaust

B RAI 3.6.3-4

The DBA analysis assumes that, within 60 seconds after the accident, isolation of the containment is complete and leakage terminated except for the design leakage rate, L a. The containment isolation total response time of 60 seconds includes signal delay, diesel generator startup (for loss of offsite power), and containment isolation valve stroke times.

Replace with Insert B 3.6.3-4

16

[The single failure criterion required to be imposed in the conduct of plant safety analyses was considered in the original design of the containment purge valves. Two valves in series on each purge line provide assurance that both the supply and exhaust lines could be isolated even if a single failure occurred. The inboard and outboard isolation valves on each line are provided with diverse power sources, motor operated and pneumatically operated spring closed, respectively. This arrangement was designed to preclude common mode failures from disabling both valves on a purge line.]

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closed with its control switch locked in the closed position

10

2

[The purge valves may be unable to close in the environment following a LOCA. Therefore, each of the purge valves is required to remain sealed closed during MODES 1, 2, 3, and 4. In this case, the single failure criterion remains applicable to the containment purge valves due to failure in the control circuit associated with each valve. Again, the purge system valve design precludes a single failure from compromising the containment boundary as long as the system is operated in accordance with the subject LCO.]

The

However,

is still

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the potential for a

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BASES

APPLICABLE SAFETY ANALYSES (Continued)

The containment isolation valves satisfy Criterion 3 of the NRC Policy Statement.

LCO

Containment isolation valves form a part of the containment boundary. The containment isolation valves' safety function is related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during a DBA.

Replace with Insert B 3.6.3-5

10/16

12

The automatic power operated isolation valves are required to have isolation times within limits and to actuate on an automatic isolation signal. The [42] inch purge valves must be maintained sealed closed [or have blocks installed to prevent full opening]. [Blocked purge valves also actuate on an automatic signal.] The valves covered by this LCO are listed along with their associated stroke times in the FSAR (Ref. 2).

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Insert B 3.6.3-7

2

The normally closed isolation valves are considered OPERABLE when manual valves are closed, automatic valves are de-activated and secured in their closed position, blind flanges are in place, and closed systems are intact. These passive isolation valves/devices are those listed in Reference 1.

4

Purge valves with resilient seals [and secondary containment bypass valves] must meet additional leakage rate requirements. The other containment isolation valve leakage rates are addressed by LCO 3.6.1, "Containment," as Type C testing.

This LCO provides assurance that the containment isolation valves and purge valves will perform their designed safety functions to minimize the loss of reactor coolant inventory and establish the containment boundary during accidents. B
RAI 3.6.3-8

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

accident leakage of radioactive fluids or gases outside of the containment boundary is within design limits. For containment isolation valves inside containment, the Frequency of "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is appropriate since these containment isolation valves are operated under administrative controls and the probability of their misalignment is low. The SR specifies that containment isolation valves that are open under administrative controls are not required to meet the SR during the time they are open. ← Insert B 3.6.3-02 ← **Approved TSTF 45**

This Note allows valves and blind flanges located in high radiation areas to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, 3, and 4, for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in their proper position, is small.

Approved TSTF 46 → power operated

SR 3.6.3.~~5~~ 4 ← 6

16 → Inservice Testing Program

Verifying that the isolation time of each ~~power operated and~~ automatic containment isolation valve is within limits is required to demonstrate OPERABILITY. The isolation time test ensures the valve will isolate in a time period less than or equal to that assumed in the safety analyses. [The isolation time and Frequency of this SR are in accordance with the Inservice Testing Program ~~or 92 days~~]. ← 8

16

B RAI 3.6.3-3

7 →

~~[SR 3.6.3.6~~

~~In subatmospheric containments, the check valves that serve a containment isolation function are weight or spring loaded to provide positive closure in the direction of flow. This ensures that these check valves will remain closed when the inside containment atmosphere returns to subatmospheric conditions following a DBA. SR 3.6.3.6 requires verification of the operation of the check valves that are testable during unit operation. The Frequency of 92 days is consistent with the Inservice Testing Program requirement for valve testing on a 92 day Frequency.]~~

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BASES

SURVEILLANCE REQUIREMENTS (continued)

4

[SR 3.6.3.7

For containment purge valves with resilient seals, additional leakage rate testing beyond the test requirements of 10 CFR 50, Appendix J, is required to ensure OPERABILITY. Operating experience has demonstrated that this type of seal has the potential to degrade in a shorter time period than do other seal types. Based on this observation and the importance of maintaining this penetration leak tight (due to the direct path between containment and the environment), a Frequency of 184 days was established as part of the NRC resolution of Generic Issue B-20, "Containment Leakage Due to Seal Deterioration" (Ref. 3).

Additionally, this SR must be performed within 92 days after opening the valve. The 92 day Frequency was chosen recognizing that cycling the valve could introduce additional seal degradation (beyond that occurring to a valve that has not been opened). Thus, decreasing the interval (from 184 days) is a prudent measure after a valve has been opened]

SR 3.6.3.8 5 6

B RAI 3.6.3-3 RAI 3.6.3-5

Automatic containment isolation valves close on a containment isolation signal to prevent leakage of radioactive material from containment following a DBA. This SR ensures that each automatic containment isolation valve will actuate to its isolation position on a containment isolation signal. This surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass this Surveillance when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

B RAI 3.6.3-5

2

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LCO 3.6.3 BASES INSERTS

Insert B 3.6.3-01:

The Completion Time of "once per 31 days for isolation devices outside containment" is appropriate considering the fact that the devices are operated under administrative controls and the probability of their misalignment is low. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

Insert B 3.6.3-02:

This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

Insert B 3.6.3-03:

The containment isolation valves form part of the containment pressure boundary and provide a means for penetrations to be provided with two isolation barriers. These isolation barriers are either passive or active. Manual valves, de-activated automatic valves secured in their closed position (including check valves with flow through the valve secured), blind flanges, and closed systems are considered passive barriers. Valves designed to close either automatically or manually (including check valves with flow through the valve not secured), are considered active barriers. Two barriers in series are provided for each penetration so that no single credible failure or malfunction of an active barrier can result in a loss of isolation or leakage that exceeds limits assumed in the safety analyses. These barriers (typically containment isolation valves) make up the Containment Isolation System. B RAI 3.6.3-5

An automatic containment isolation signal is produced upon receipt of a safety injection signal. The containment isolation signal isolates process lines in order to minimize leakage of fission product radioactivity. As a result, the containment isolation valves (and passive barriers) help ensure that the containment atmosphere will be isolated from the environment in the event of a release of fission product radioactivity to the containment atmosphere as a result of a Design Basis Loss of Coolant Accident (LOCA). B RAI 3.6.3-5

LCO 3.6.3 BASES INSERTS

Insert B 3.6.3-4:

No specific containment isolation time was assumed in the LOCA analysis. However, containment isolation is an implicit assumption in maintaining containment leakage within it's design leakage rate, La, and containment back pressure relative to RCS blowdown rate.

Insert B 3.6.3-5:

The automatic power operated isolation valves are required to actuate to the closed position on an automatic isolation signal. The containment purge supply and exhaust valves must be maintained closed with their control switches in the locked closed position. The valves covered by this LCO are listed in the FSAR (Ref. 2).

Insert B 3.6.3-6:

under LOCA conditions. Therefore, these valves are required to be in the closed position with their control switches locked in the closed position during MODES 1, 2, 3, and 4.

Insert B 3.6.3-7:

Position verification, when necessary in accordance with the required actions and/or surveillance requirements, is still required for these valves. B RAI 3.6.3-7

Insert B 3.6.3-8:

Note 2 applies to isolation devices that are locked sealed or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned.

Insert B 3.6.3-9:

Required Action E.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned.

No Significant Hazards Considerations - NUREG-1431 Section 3.06.03

17-May-00

NSHC Number	NSHC Text
A Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change involves reformatting and rewording of the current Technical Specifications. The reformatting and rewording process involves no technical changes to existing requirements. As such, this change is administrative in nature and does not impact initiators of analyzed events or assumed mitigation of accident or transient events. Therefore, this change does not increase the probability or consequences of an accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will not impose any new or eliminate any old requirements. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The proposed change will not significantly reduce the margin of safety because it has no impact on any safety analysis assumptions. This change is administrative. As such, there is no technical change to the requirements and, therefore, there is no reduction in the margin of safety.

NSHC Number	NSHC Text
L.01 Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? Containment integrity (Containment Isolation Valve - CIV operability) is not an initial condition of, or event precursor in any analyzed shutdown event (less than or equal to 200 degrees). Fuel handling events do not credit containment integrity or filtration. Dilution and rod withdrawal event are not impacted by containment status and are terminated prior to any release taking place. Liquid and gaseous release events are not impacted by containment status as the containment is not the assumed source of release for these events. Accordingly, the probability for previously analyzed events is not significantly increased. As previously stated, containment integrity and CIV operability is not assumed for any shutdown event, therefore the consequences of previously analyzed event is similarly not increased significantly. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. This change makes the Mode of Applicability for the CIVs consistent with the current accident analyses assumptions. The Mode in which containment integrity/CIV operability is established is not directly linked to any chain of event which could present an event giving rise to public health and safety. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The change in applicability for CIV applicability is consistent with the assumptions made in the various Point Beach accident analyses. Containment integrity/CIV operability will continue to be maintained in the various Operational Modes and Conditions for which containment integrity was assumed. Therefore, the margin of safety is not reduced as a result of this change.

NSHC Number	NSHC Text
L.02 Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. The CTS requires containment penetrations which are equipped with only one containment isolation valve to be isolated within 4 hours if that penetrations containment isolation valve becomes inoperable. The ITS will allow 72 hours to isolate these types of penetrations allowing an additional 68 hours to restore the penetration to operable status before requiring a unit shutdown. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? This change does not result in any hardware changes. The allowable time period that a containment isolation valve may be inoperable before requiring a plant shutdown is not assumed to be an initiator of any analyzed event. Extending the Completion Time to restore closed system isolation valves to operable status does not affect the probability of an accident. The consequences of an event occurring during the proposed Completion Time are the same as the consequences of an event occurring under the current Actions. The proposed 72 hour Completion Time is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will provide an additional 68 hours to restore an inoperable closed system isolation valve before requiring a plant shutdown. Based on this change altering only the restoration time, and not introducing any new failure modes, it has been concluded that this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The additional 68 hours to restore a closed system isolation valve to operable status prior to requiring a unit shutdown is reasonable considering the relative stability and reliability of closed systems to act as isolation boundaries. Allowing an additional 68 hours to return an isolation valve to operable status will minimize the potential for plant transients that can occur during the shutdown seeing that most penetrations involving closed systems cannot be isolated during power operation. As such, any reduction in a margin of safety will be insignificant and most likely offset by the benefit of avoiding an unnecessary plant transient.

NSHC Number	NSHC Text
L.03 Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not present a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change involves an additional allowance to administratively verify isolation devices that are shut to comply with the actions that are locked, sealed or otherwise secured in position. Locking, sealing, or otherwise securing the penetration flowpath isolation ensures the device is not inadvertently repositioned. Thus, assurance is provided that the isolation device remains in a condition in which the safety function, isolation of the penetration flowpath, is performed. Therefore, the probability or consequences of a previously evaluated accident is not significantly increased. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change ensures that the safety function of containment penetration isolation is accomplished by ensuring the isolation device is in the required position. The locking, sealing or securing of components is a normal means of ensuring the component is in the proper position. Since the safety function or means of accomplishing the function of isolation is not being altered, a new or different kind of accident from any previously evaluated is not created. 3. Does this change involve a significant reduction in a margin of safety? The proposed change allows administrative means of verifying that the safety function of the penetration isolation is being performed. Since reasonable assurance is provided that the safety function is being accomplished, a margin of safety is not reduced.

17-May-00

NSHC Number	NSHC Text
L.04 Rev. B	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not present a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change establishes Conditions and associated Required Actions for inoperable containment purge supply and exhaust valves. The proposed Required Actions will replace the requirement to enter CTS 15.3.0.B for one or more inoperable containment purge supply and exhaust valves. This change results in extending the allowed time one containment purge supply or exhaust valve can be inoperable by 3 hours. This proposed change will establish consistent actions for all containment penetrations and is reasonable considering the penetration remains isolated with an OPERABLE valve. Therefore, the probability or consequences of a previously evaluated accident are not significantly increased.

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

The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change establishes Conditions and associated Required Actions for inoperable containment purge supply and exhaust valves, replacing the requirement to enter CTS 15.3.0.B and resulting in extending the allowed time for an inoperable valve by 3 hours. This proposed change will establish consistent actions for all containment penetrations and is reasonable considering the penetration remains isolated with an OPERABLE valve. Establishing a 4 hour allowable outage time for the containment purge supply and exhaust valves is consistent with the allowance afforded to other containment penetrations. Based on this change altering only the restoration time, and not introducing any new failure modes, it has been concluded that this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

This proposed change will establish consistent actions for all containment penetrations. Since reasonable assurance is provided that the safety function is being accomplished, a margin of safety is not reduced.

NSHC Number	NSHC Text
M Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change provides more restrictive requirements for operation of the facility. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter the assumptions relative to the mitigation of an accident or transient event. These more restrictive requirements continue to ensure process variables, structures, systems and components are maintained consistent with the safety analyses. Therefore, this change does not increase the probability or consequences of an accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change does impose different requirements. However, these changes are consistent with assumptions made in the safety analysis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The imposition of more restrictive requirements either has no affect on or increases the margin of safety. Each change is providing additional restrictions to enhance plant safety. These changes are consistent with the safety analysis. Therefore, this change does not involve a reduction in a margin of safety.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. -----------NOTE----------- Only applicable to penetration flow paths with only one containment isolation valve and a closed system. ----------------------------- One or more penetration flow paths with one containment isolation valve inoperable.	C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	72 hours
	AND	
	C.2 -----------NOTES---------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ----------------------------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment AND Prior to entering Mode 4 from Mode 5 if not performed within the previous 92 days for isolation devices inside containment

B RAI 3.6.3-13

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.3.3	------------NOTE------------ Valves and blind flanges in high radiation areas may be verified by use of administrative means. ---------------------------- Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days
SR 3.6.3.4	Verify the isolation time of each automatic power operated containment isolation valve is within Inservice Testing Program limits.	In accordance with the Inservice Testing Program
SR 3.6.3.5	Verify each automatic containment isolation valve that is not locked, sealed or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	18 months

B
RAI 3.6.3-3

B 3.6 CONTAINMENT SYSTEMS

B 3.6.3 Containment Isolation Valves

BASES

BACKGROUND

The containment isolation valves form part of the containment pressure boundary and provide a means for penetrations to be provided with two isolation barriers. These isolation barriers are either passive or active. Manual valves, de-activated automatic valves secured in their closed position (including check valves with flow through the valve secured), blind flanges, and closed systems are considered passive barriers. Valves designed to close either automatically or manually (including check valves with flow through the valve not secured), are considered active barriers. Two barriers in series are provided for each penetration so that no single credible failure or malfunction of an active barrier can result in a loss of isolation or leakage that exceeds limits assumed in the safety analyses. These barriers (typically containment isolation valves) make up the Containment Isolation System. B RAI 3.6.3-5

An automatic containment isolation signal is produced upon receipt of a safety injection signal. The containment isolation signal isolates process lines in order to minimize leakage of fission product radioactivity. As a result, the containment isolation valves (and passive barriers) help ensure that the containment atmosphere will be isolated from the environment in the event of a release of fission product radioactivity to the containment atmosphere as a result of a Design Basis Loss of Coolant Accident (LOCA). B RAI 3.6.3-5

The OPERABILITY requirements for containment isolation valves help ensure that containment integrity is established and maintained in accordance with the safety analysis. Therefore, the OPERABILITY requirements provide assurance that the containment function assumed in the safety analyses will be maintained.

Containment Purge System (purge supply and exhaust valves)

The Containment Purge System can be operated to supply outside air into the containment for ventilation and cooling or heating and may also be used to reduce the concentration of noble gases within containment whenever the unit is not in MODES 1, 2, 3, or 4. The supply and exhaust lines each contain two isolation valves. Because of their large size, the containment purge supply and exhaust valves are not qualified for automatic closure from their open position under DBA conditions. Therefore, the purge supply and exhaust valves are normally maintained closed with their control switches locked in the closed position in MODES 1, 2, 3, and 4 to ensure the containment boundary is maintained.

BASES

APPLICABLE SAFETY ANALYSES

The containment isolation valve LCO was derived from the assumptions related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during major accidents. As part of the containment boundary, containment isolation valve OPERABILITY supports leak tightness of the containment. Therefore, the safety analyses of any event requiring isolation of containment is applicable to this LCO.

The DBA that results in a release of radioactive material within containment is a LOCA (Ref. 1). In the analyses for this accident, it is assumed that containment isolation valves are either closed or capable of closure to isolate non-essential penetrations. This ensures that potential paths to the environment through containment isolation valves (including containment purge valves) are minimized. The safety analyses assume that the purge supply and exhaust valves are closed at event initiation. B RAI 3.6.3-4

No specific containment isolation time was assumed in the LOCA analysis. However, containment isolation is an implicit assumption in maintaining containment leakage within it's design leakage rate, L_a, and containment back pressure relative to RCS blowdown rate.

The purge valves may be unable to close in the environment following a LOCA. Therefore, each of the purge valves is required to remain closed with its control switch locked in the closed position during MODES 1, 2, 3, and 4. The single failure criterion is still applicable to the containment purge valves due to the potential for a failure in the control circuit associated with each valve. However, the purge system valve design precludes a single failure from compromising the containment boundary as long as the system is operated in accordance with the subject LCO.

The containment isolation valves satisfy Criterion 3 of the NRC Policy Statement.

LCO

Containment isolation valves form a part of the containment boundary. The containment isolation valves' safety function is related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during a DBA.

The automatic power operated isolation valves are required to actuate to the closed position on an automatic isolation signal. The containment purge supply and exhaust valves must be maintained closed with their control switches in the locked closed position. The valves covered by this LCO are listed in the FSAR (Ref. 2).

BASES

LCO (continued)

The normally closed isolation valves are considered OPERABLE when manual valves are closed, automatic valves are de-activated and secured in their closed position, blind flanges are in place, and closed systems are intact. Position verification, when necessary in accordance with the required actionsand/or surveillance requirements, is still required for these valves. These passive isolation valves/devices are those listed in Reference 2. B RAI 3.6.3-7

This LCO provides assurance that the containment isolation valves and purge valves will perform their designed safety functions to minimize the loss of reactor coolant inventory and establish the containment boundary during accidents. B RAI 3.6.3-8

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, the containment isolation valves are not required to be OPERABLE in MODE 5. The requirements for containment isolation valves during MODE 6 are addressed in LCO 3.9.4, "Containment Penetrations."

ACTIONS

The ACTIONS are modified by a Note allowing penetration flow paths, except for containment purge supply and exhaust penetration flow paths, to be unisolated intermittently under administrative controls. These administrative controls consist of stationing a dedicated operator at the valve controls, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for containment isolation is indicated. Due to the size of the containment purge line penetrations and the fact that those penetrations exhaust directly from the containment atmosphere to the environment, the penetration flow path containing these valves may not be opened under administrative controls in MODES 1, 2, 3, and 4. A single purge valve in a penetration flow path may be opened to effect repairs to an inoperable valve, as allowed by SR 3.6.3.1.

A second Note has been added to provide clarification that, for this LCO, separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable containment isolation valve. Complying with the Required Actions may allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent Condition entry and application of associated Required Actions.

ACTIONS (continued)

The ACTIONS are further modified by a third Note, which ensures appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

In the event the containment isolation valve leakage results in exceeding the overall containment leakage rate, Note 4 directs entry into the applicable Conditions and Required Actions of LCO 3.6.1.

A.1 and A.2

In the event one containment isolation valve in one or more penetration flow paths is inoperable, the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For a penetration flow path isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available one to containment. Required Action A.1 must be completed within 4 hours. The 4 hour Completion Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4.

For affected penetration flow paths that cannot be restored to OPERABLE status within the 4 hour Completion Time and that have been isolated in accordance with Required Action A.1, the affected penetration flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that containment penetrations required to be isolated following an accident and no longer capable of being automatically isolated will be in the isolation position should an event occur. This Required Action does not require any testing or device manipulation. Rather, it involves verification, through a system walkdown, that those isolation devices outside containment and capable of being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside containment" is appropriate considering the fact that the devices are operated under administrative controls and the probability of their misalignment is low.

For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and

BASES

ACTIONS (continued)

other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

Condition A has been modified by two Notes. Note 1 indicating that this Condition is only applicable to those penetration flow paths with two containment isolation valves. For penetration flow paths with only one containment isolation valve and a closed system, Condition C provides the appropriate actions. Required Action A.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed or otherwise secured in position and allows these devices to be verified closed by administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment of these devices once they have been verified to be in the proper position, is small.

B.1

With two containment isolation valves in one or more penetration flow paths inoperable, the affected penetration flow path must be isolated within 1 hour. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1. In the event the affected penetration is isolated in accordance with Required Action B.1, the affected penetration must be verified to be isolated on a periodic basis per Required Action A.2, which remains in effect. This periodic verification is necessary to assure leak tightness of containment and that penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying each affected penetration flow path is isolated is appropriate considering the fact that the valves are operated under administrative control and the probability of their misalignment is low.

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two containment isolation valves. Condition A of this LCO addresses the condition of one containment isolation valve inoperable in this type of penetration flow path.

BASES

ACTIONS (continued) C.1 and C.2

With one or more penetration flow paths with one containment isolation valve inoperable, the inoperable valve flow path must be restored to OPERABLE status or the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration flow path. Required Action C.1 must be completed within the 72 hour Completion Time. The specified time period is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of maintaining containment integrity during MODES 1, 2, 3, and 4. In the event the affected penetration flow path is isolated in accordance with Required Action C.1, the affected penetration flow path must be verified to be isolated on a periodic basis. This periodic verification is necessary to assure leak tightness of containment and that containment penetrations requiring isolation following an accident are isolated. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

Condition C is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with only one containment isolation valve and a closed system. This Note is necessary since this Condition is written to specifically address those penetration flow paths which utilize closed systems as one of the two containment barrier.

Required Action C.2 is modified by two Notes. Note 1 applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment of these valves, once they have been verified to be in the proper position, is small.

BASES

ACTIONS (continued)

D.1 and D.2

If the Required Actions and associated Completion Times are not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.3.1

Each containment purge supply and exhaust valve is required to be verified closed with their control board switches locked in the closed position at 31 day intervals. This Surveillance is designed to ensure that a gross breach of containment is not caused by an inadvertent or spurious opening of a containment purge valve. Detailed analysis of the purge valves failed to conclusively demonstrate their ability to close under LOCA conditions. Therefore, these valves are required to be in the closed position with their control switches locked in the closed position during MODES 1, 2, 3, and 4. The Frequency is a result of an NRC initiative, Generic Issue B-24 (Ref. 3), related to containment purge valve use during plant operations. In the event of purge valve leakage in excess of that allowed by the Containment Leakage Rate Testing Program, the Surveillance permits opening one purge valve in a penetration flow path to perform repairs.

SR 3.6.3.2

This SR requires verification that each containment isolation manual valve and blind flange located outside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside of the containment boundary is within design limits. This SR does not require any testing or valve manipulation. Rather, it involves verification, through a system walkdown, that those containment isolation valves outside containment and capable of being mispositioned are in the correct position. Since verification of valve position for containment isolation valves outside containment is relatively easy, the 31 day Frequency is based on engineering judgment and was chosen to provide added assurance of the correct positions. The SR specifies that containment isolation valves that are open under administrative controls are not required to meet the SR during the time the valves are open. This SR does not

BASES

SURVEILLANCE REQUIREMENTS (continued)

apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

The Note applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, 3 and 4 for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in the proper position, is small.

SR 3.6.3.3

This SR requires verification that each containment isolation manual valve and blind flange located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside of the containment boundary is within design limits. For containment isolation valves inside containment, the Frequency of "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is appropriate since these containment isolation valves are operated under administrative controls and the probability of their misalignment is low. The SR specifies that containment isolation valves that are open under administrative controls are not required to meet the SR during the time they are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

This Note allows valves and blind flanges located in high radiation areas to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, 3, and 4, for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in their proper position, is small.

SR 3.6.3.4

Verifying that the isolation time of each automatic power operated containment isolation valve is within Inservice Testing Program limits is required to demonstrate OPERABILITY. The isolation time test ensures the valve will isolate in a time period less than or equal to that assumed in the safety analyses. The isolation time and Frequency of this SR are in accordance with the Inservice Testing Program.

B
RAI 3 6 3-3

BASES

SURVEILLANCE REQUIREMENTS (continued)	SR 3.6.3.5 (B) RAI 3.6.3-3 Automatic containment isolation valves close on a containment isolation signal to prevent leakage of radioactive material from containment following a DBA. (B) RAI 3.6.3-5 This SR ensures that each automatic containment isolation valve will actuate to its isolation position on a containment isolation signal. This surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. (B) RAI 3.6.3-5 The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass this Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.
REFERENCES	1. FSAR, Section 14. 2. FSAR, Section 5.2. 3. Generic Issue B-24.

15.3.6 CONTAINMENT SYSTEM

< See LCO 3.6.1 >

Applicability: Applies to the integrity of reactor containment.

Objective:

To define the operating status of the reactor containment for plant operation.

Specification:

< See LCO 3.6.1, LCO 3.6.2 and LCO 3.6.3 for Containment Vessel/Tendons/Leakage and Containment Isolation Valve provisions

A. Containment Integrity

1. The containment integrity (as defined in 15.1) shall be maintained when a nuclear core is installed in the reactor unless the reactor is in the cold shutdown condition. The containment integrity shall be maintained when the reactor vessel head is removed unless the reactor is in the refueling shutdown condition. If containment integrity is not maintained when required, enter the applicable LCO(s) listed below. If the LCO is met or is no longer applicable prior to expiration of the specified completion time(s), completion of the required action(s) is not required unless otherwise stated.

B

RAI 3 6 4-3

< See LCO 3.6.1 >

a. Containment Operability

(1) If the containment is inoperable, restore the containment to operable status within one hour.

(2) If the above action cannot be completed within the time specified, place the affected unit in:
(a) hot shutdown within six hours,
AND
(b) cold shutdown within 36 hours.

< See LCO 3.6.1 >

B RAI 3.6.4-3

B. Internal Pressure A.1

Cond A and RA

1. If the internal pressure exceeds 3 psig or the internal vacuum exceeds 2.0 psig, the condition shall be corrected within one hour.

Cond B and RA

2. If the above action cannot be completed within the time specified, place the
affected unit in:
   a. hot shutdown within six hours, AND
   b. cold shutdown within 36 hours.

Add LCO Applicability - Modes 1, 2, 3, and 4 A.2

C. Positive reactivity changes shall not be made by rod drive motion when the containment integrity is not intact except for the testing of one bank of rods at a time, rod
disconnecting, and rod reconnecting provided the reactor is initially subcritical by at least
5% Δk/k.

D. Positive reactivity changes shall not be made by boron dilution when the containment
integrity is not intact unless the boron concentration in the reactor is maintained > 2100 ppm*.

* This boron concentration value is in effect following U1R25 for Unit 1 and following
U2R23 for Unit 2: and takes effect prior to loading fuel for those outages. Prior to
U1R25, the Unit 1 boron concentration value of this specification is 1800 ppm.
Prior to U2R23, the Unit 2 boron concentration value of this specification is 1800 ppm.

< See LCO 3.6.1 >

< See LCO 3.6.2 >

A.1

B

RAI 3 6 4-3

Specification 15.3.6.A.1.d.(3) may be exited as soon as the air lock is repaired to the extent that Specification 15.3.6.A.1.d.(1) or (2) applies.

Specification 15.3.6.A.1.d.(4)

If the required actions and associated completion times are not met, the plant must be brought to a condition in which the LCO does not apply. To achieve this status, the plant must be brought to at least hot shutdown within six hours and to cold shutdown within 36 hours of entering 15.3.6.A.1.d.(4). The allowed completion times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

Specification 15.3.6.B.

Regarding internal pressure limitations, the containment design pressure of 60 psig would not be exceeded if the internal pressure before a major loss-of-coolant accident were as much as 6 psig. [2] The containment is designed to withstand an internal vacuum of 2.0 psig.[3]

Specification 15.3.6.B.1

When containment pressure is not within the limits of the LCO, it must be restored to within these limits within one hour. The required action is necessary to return operation to within the bounds of the containment analysis. The one hour completion time is consistent with the actions of Specification 15.3.6.A.1.a., which requires the containment be restored to operable status within one hour.

Specification 15.3.6.B.2.

If containment pressure cannot be restored to within limits within the required completion time, the plant must be brought to a condition in which the LCO does not apply. To achieve this status, the plant must be brought to at least hot shutdown within six hours and to cold shutdown within 36 hours of entering 15.3.6.B.2. The allowed completion times are reasonable, based on operating

A.3

experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

B
RAI 3.6.4-3

Specifications 15.3.6.C. and D.

The shutdown conditions of the reactor are selected based on the type of activities that are being carried out. When the reactor head is not to be removed, the specified cold shutdown margin of 1% Δk/k precludes criticality under any occurrence. During refueling the reactor is subcritical by 5% Δk/k. Positive reactivity changes for the purpose of rod assembly testing will not result in criticality because no control bank worth exceeds 3%. Positive reactivity changes by boron dilution may be required or small concentration fluctuations may occur during preparation for, recovery from, or during refueling but maintaining the boron concentration greater than 2100 ppm* precludes criticality under these circumstances. 2100 ppm* is a nominal value that ensures 5% shutdown for typical reload cores. Should continuous dilution occur, the time intervals for this incident are discussed in Section 14.1.4 of the FSAR.

References

(1) FSAR - Section 5.1.1

(2) FSAR - Section 14.3.4

(3) FSAR - Section 5.5.2

< See LCO 3.6.1 >

* This boron concentration value is in effect following U1R25 for Unit 1 and following U2R23 for Unit 2; and takes effect prior to loading fuel for those outages. Prior to U1R25, the Unit 1 boron concentration value of this specification is 1800 ppm. Prior to U2R23, the Unit 2 boron concentration value of this specification is 1800 ppm.

< See LCO 3.6.1 >

B
RAI 3.6.4-3

A.1

TABLE 15.4.1-1 (continued)

NO.	CHANNEL DESCRIPTION	CHECK	CALIBRATE	TEST	PLANT CONDITIONS WHEN REQUIRED	
20.	Auxiliary Feedwater Flowrate	(13)	R	-	ALL	< See Section 3.3 >
21.	Boric Acid Control System	-	R	-	ALL	
22.	Boric Acid Tank Level	D	R	-	ALL	< See Section 3.5 >
23.	Charging Flow	-	R	-	ALL	
24.	Condensate Storage Tank Level	S(1)	R	-	ALL	< See Section 3.3 and 3.7 >
25.	Containment High Range Radiation	M(1)	R(14)	-	ALL	
26.	Containment Hydrogen Monitor	D	-	-	ALL	
	-Gas Calibration	-	Q(15)	-	ALL	
	-Electronic Calibration	-	R	-	ALL	
27.	Containment Pressure	S	R	Q(1,3,9)	ALL	
28.	Containment Water Level	M	R	-	ALL	< See Section 3.3 >
29.	Emergency Plan Radiation Survey Instruments	Q	A	Q	ALL	
30.	DELETED					
31.	In-Core Thermocouples	M	R(14)	-	ALL	
32.	Low Temperature Overpressure Protection System	S(12)	R	(10)	ALL	< See LCO 3.4.12 >
33.	PORV Block Valve Position Indicator	Q	R	-	ALL	< See LCO 3.4.11>
34.	PORV Operability	-	R	Q(11)	ALL	
35.	PORV Position Indicator	S(21)	R	R	ALL	

A.4 (Containment Pressure) L.1 (S) A.5 (ALL) SR 3.6.4.1

Justification For Deviations - NUREG-1431 Section 3.06.05

15-May-00

JFD Number	JFD Text	
02 Rev. A	The brackets have been removed and the proper plant specific information has been provided.	
	ITS:	**NUREG:**
	B 3.06.05	B 3.06.05
	LCO 3.06.05	LCO 3.06.05A
03 Rev. A	The NUREG Bases has been modified to reflect the loss of coolant accident and steam line break containment pressure and integrity analyses reflective of the Point Beach current licensing basis. The LOCA containment integrity evaluation is accomplished by use of the digital computer code, COCO. The SLB containment pressure calculation is a parameter by parameter comparison of a reference 2-loop plant to Point Beach. Mass/energy released from a LOCA is greater than that calculated for the SLB; therefore, the peak containment pressure and temperature resulting from a LOCA bound the SLB break.	
	ITS:	**NUREG:**
	B 3.06.05	B 3.06.05
04 Rev. A	The Bases for NUREG 1431 LCO 3.6.5, states that containment temperature is also used as an input into the containment depressurization analysis, to ensure containment pressure is maintained within limit following an inadvertent containment spray actuation. The containment is designed to withstand the maximum creditable containment depressurization without exceeding its design limits; however, the Point Beach licensing basis does not include any depressurization events. The negative containment pressure limit contained in LCO 3.6.4 is simply the containment design pressure. Accordingly, reference to any depressurization events in LCO 3.6.4 and here have been omitted.	
	ITS:	**NUREG:**
	B 3.06.05	B 3.06.05
05 Rev. B	Not used.	
	ITS:	**NUREG:**
	N/A	N/A

Insert B 3.6.5-1 ← 3

1

APPLICABLE SAFETY ANALYSES (continued)

[analyzed using computer codes designed to predict the resultant containment pressure transients.] No two DBAs are assumed to occur simultaneously or consecutively. The postulated DBAs are analyzed with regard to Engineered Safety Feature (ESF) systems, assuming the loss of one ESF bus, which is the worst case single active failure, resulting in one train each of the Containment Spray System, Residual Heat Removal System, and Containment Cooling System being rendered inoperable.

LOCA ← 3

The limiting DBA for the maximum peak containment air temperature is an [SLB]. The initial containment average air temperature assumed in the design basis analyses (Ref. 1) is [120]°F. This resulted in a maximum containment air temperature of [384.9]°F. The design temperature is [320]°F.

2 → 120, 291, 286

The temperature limit is used to establish the environmental qualification operating envelope for containment. The maximum peak containment air temperature was calculated to exceed the containment design temperature for only a few seconds during the transient. The basis of the containment design temperature, however, is to ensure the performance of safety related equipment inside containment (Ref. 2). Thermal analyses showed that the time interval during which the containment air temperature exceeded the containment design temperature was short enough that the equipment surface temperatures remained below the design temperature. Therefore, it is concluded that the calculated transient containment air temperature is acceptable for the DBA SLB.

B
RAI 3.6.5-2

4

[The temperature limit is also used in the depressurization analyses to ensure that the minimum pressure limit is maintained following an inadvertent actuation of the Containment Spray System (Ref. 2).]

The containment pressure transient is sensitive to the initial air mass in containment and, therefore, to the initial containment air temperature. The limiting DBA for establishing the maximum peak containment internal pressure is a LOCA. The temperature limit is used in this analysis to ensure that in the event of an accident the maximum containment internal pressure will not be exceeded.

B 3.6 CONTAINMENT SYSTEMS

B 3.6.5 Containment Air Temperature

BASES

BACKGROUND

The containment structure serves to contain radioactive material that may be released from the reactor core following a Design Basis Accident (DBA). The containment average air temperature is limited during normal operation to preserve the initial conditions assumed in the accident analyses for a loss of coolant accident (LOCA) or steam line break (SLB).

The containment average air temperature limit is derived from the input conditions used in the containment functional analyses and the containment structure external pressure analyses. This LCO ensures that initial conditions assumed in the analysis of containment response to a DBA are not violated during unit operations. The total amount of energy to be removed from containment by the structural heat sinks and Containment Spray and Cooling systems during post accident conditions is dependent upon the energy released to the containment due to the event, as well as the initial containment temperature and pressure. Higher initial containment temperatures result in higher peak containment pressure and temperature. Exceeding containment design pressure may result in leakage greater than that assumed in the accident analysis. Operation with containment temperature in excess of the LCO limit violates an initial condition assumed in the accident analysis.

APPLICABLE SAFETY ANALYSES

Containment average air temperature is an initial condition used in the DBA analyses that establishes the containment environmental qualification operating envelope for both pressure and temperature. The limit for containment average air temperature ensures that operation is maintained within the assumptions used in the DBA analyses for containment (Ref. 1).

The limiting DBAs considered relative to containment OPERABILITY are the LOCA and SLB. The LOCA is analyzed using computer codes designed to predict the resultant containment pressure and temperature transients. The SLB containment pressure calculation is a parameter by parameter comparison of a reference 2-loop plant to Point Beach. Each parameter is evaluated to determine if the Point Beach value is conservative, non-conservative or nominal. The mass and energy release from a SLB is less than that calculated for a LOCA; therefore, the containment pressure and temperature analysis for the LOCA bounds the SLB event.

BASES

APPLICABLE SAFETY ANALYSES (continued)

No two DBAs are assumed to occur simultaneously or consecutively. The postulated DBAs are analyzed with regard to Engineered Safety Feature (ESF) systems, assuming the loss of one ESF bus, which is the worst case single active failure, resulting in one train each of the Containment Spray System, Residual Heat Removal System, and Containment Cooling System being rendered inoperable.

The limiting DBA for the maximum peak containment air temperature is a LOCA. The initial containment average air temperature assumed in the design basis analyses (Ref. 1) is 120°F. This resulted in a maximum containment air temperature of 291°F. The design temperature is 286°F.

The temperature limit is used to establish the environmental qualification operating envelope for containment. The maximum peak containment air temperature was calculated to exceed the containment design temperature for only a few seconds during the transient. The basis of the containment design temperature, however, is to ensure the performance of safety related equipment inside containment (Ref. 2). Thermal analyses showed that the time interval during which the containment air temperature exceeded the containment design temperature was short enough that the equipment surface temperatures remained below the design temperature. Therefore, it is concluded that the calculated transient containment air temperature is acceptable for the DBA SLB.

B
RAI 3.6.5-2

The containment pressure transient is sensitive to the initial air mass in containment and, therefore, to the initial containment air temperature. The limiting DBA for establishing the maximum peak containment internal pressure is a LOCA. The temperature limit is used in this analysis to ensure that in the event of an accident the maximum containment internal pressure will not be exceeded.

Containment average air temperature satisfies Criterion 2 of the NRC Policy Statement.

LCO

During a DBA, with an initial containment average air temperature less than or equal to the LCO temperature limit, the resultant peak accident temperature is maintained below the containment design temperature. As a result, the ability of containment to perform its design function is ensured.

BASES

APPLICABILITY	In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, maintaining containment average air temperature within the limit is not required in MODE 5 or 6.

ACTIONS

A.1

When containment average air temperature is not within the limit of the LCO, it must be restored to within limit within 8 hours. This Required Action is necessary to return operation to within the bounds of the containment analysis. The 8 hour Completion Time is acceptable considering the sensitivity of the analysis to variations in this parameter and provides sufficient time to correct minor problems.

B.1 and B.2

If the containment average air temperature cannot be restored to within its limit within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.5.1

Verifying that containment average air temperature is within the LCO limit ensures that containment operation remains within the limit assumed for the containment analyses. In order to determine the containment average air temperature, an arithmetic average is calculated using measurements taken at locations within the containment selected to provide a representative sample of the overall containment atmosphere. The 24 hour Frequency of this SR is considered acceptable based on observed slow rates of temperature increase within containment as a result of environmental heat sources (due to the large volume of containment).

REFERENCES

1. FSAR, Section 14.
2. 10 CFR 50.49.

Description of Changes - NUREG-1431 Section 3.06.06

17-May-00

DOC Number	DOC Text	
A.01 Rev. A	In the conversion of Point Beach current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the Standard Technical Specifications, Westinghouse Plants, NUREG-1431, Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).	
	CTS:	**ITS:**
	15.03.03.B.02	LCO 3.06.06 COND B
		LCO 3.06.06 COND B RA B.1
	15.03.03.B.02.A	LCO 3.06.06 COND C
		LCO 3.06.06 COND C RA C.1
	15.03.03.B.02.B	LCO 3.06.06 COND A
	15.04.02.B.03	SR 3.06.06.04
	15.04.05.I.B.03	SR 3.06.06.09
	15.04.05.I.C.01	SR 3.06.06.05
		SR 3.06.06.08
	15.04.05.I.C.02	SR 3.06.06.02
	15.04.05.II.A.01	SR 3.06.06.04
	15.04.05.II.A.02	SR 3.06.06.04
	15.04.05.II.B.02	SR 3.06.06.01
	NEW	LCO 3.06.06
A.02 Rev. A	The CTS provides an introductory statement (Applicability) which simply states which systems/components are addressed within a given section. This same information, while worded differently, is contained within the title of each ITS LCO. Accordingly, this change is a change in format with no change in technical requirement.	
	CTS:	**ITS:**
	15.03.03 APPL	LCO 3.06.06
	15.04.05 APPL	LCO 3.06.06
A.03 Rev. A	The CTS provides an introductory statement (Objective) at the beginning of this Section of the Technical Specifications which provide a brief summary of the purpose for this Section. This information is contained in the Bases Section of the ITS. This information does not establish any regulatory requirements for the systems and components addressed within this Section. Accordingly, deletion of this information does not alter any requirement set forth in the Technical Specifications. This change is administrative and consistent with the format and presentation for the ITS as provided in NUREG 1431.	
	CTS:	**ITS:**
	15.03.03 OBJ	DELETED
	15.04.05 OBJ	DELETED

Description of Changes - NUREG-1431 Section 3.06.06

17-May-00

DOC Number	DOC Text	
A.04 Rev. A	The CTS 15.3.3.B.1 requires the Containment Spray and Containment Fan Coolers to be operable prior to the reactor being made critical. However, CTS 15.3.3.B.2 requires the unit to be placed into Hot Shutdown (ITS Mode 3) within 6 hours and Cold Shutdown (ITS Mode 5) within 36 hours, if these systems are inoperable in excess of the allowable outage time, implying an Applicability of Modes 1, 2, 3, and 4 (ITS Modes). Proposed LCO 3.6.6 will require the Containment Spray System and the Containment Fan Cooler Units to be operable in Modes 1, 2, 3, and 4. This change is considered administrative as it is clarifying an ambiguous LCO Applicability and Action Statements.	
	CTS:	**ITS:**
	15.03.03.B.01	LCO 3.06.06
A.05 Rev. A	CTS 15.3.3.B.1.b requires two containment spray pumps and CTS 15.3.3.B.1.d establishes a requirement to maintain all valves and piping associated with the containment spray pumps operable. CTS 15.3.3.B.1.b and CTS 15.3.3.B.1.d lists components associated with system design and configuration which ultimately define what constitutes a "train" of Containment Spray. In changing the terminology used to two "trains" of Containment Spray the component listed in CTS 15.3.3.B.1.b and 15.3.3.B.1.d are captured. Further, valves are addressed through the valve testing requirements specified in the proposed ITS SR 3.6.6.5 and the Inservice Testing Program (IST-Specification 5.5.8), while pump testing is addressed through SR 3.6.6.3 and the IST Program. This change is administrative.	
	CTS:	**ITS:**
	15.03.03.B.01.B	LCO 3.06.06
	15.03.03.B.01.D	LCO 3.06.06
A.06 Rev. A	CTS 15.3.3.B.1.c requires four accident fan-cooler units to be operable and CTS 15.3.3.B.1.d establishes a requirement to maintain all valves and piping associated with the accident fan cooler units operable. ITS LCO 3.6.6 will continue to require four containment fan cooler to be operable. Fan cooler operability will be verified by SR 3.6.6.1 while the requirement to maintain the valves associated with the fan cooler unit operable will be addressed within SR 3.6.6.4 and the Inservice Testing Program (Specification 5.5.8). This change is administrative.	
	CTS:	**ITS:**
	15.03.03.B.01.C	LCO 3.06.06
	15.03.03.B.01.D	LCO 3.06.06

17-May-00

DOC Number	DOC Text	
A.07 Rev. A	CTS Action 15.3.3.B.2 allows the inoperability of either one containment spray pump, or any valve which supports the containment spray system. However, CTS 15.3.3.B.2.c provides an allowance for the valves associated with an inoperable containment spray pump to be inoperable concurrent with their respective pump's inoperability. The proposed ITS has rephrased the LCO for the containment spray pumps, calling for two "trains" of containment spray to be operable. Similarly, the Conditions and Required Actions have been rephrased to allow entry whenever a "train" of containment spray becomes inoperable. The valves associated with an inoperable containment spray pump are part of that system's train, therefore, the ITS condition of a train inoperable is equivalent to CTS items 15.3.3.B.2 as modified by CTS 15.3.3.B.2.c. Accordingly, while phrased differently, the ITS will continue to allow the valves associated with an inoperable containment spray pump to be inoperable concurrent with the pump, making this change administrative.	
	CTS:	**ITS:**
	15.03.03.B.02.C	LCO 3.06.06 COND A
A.08 Rev. A	The CTS allows component inoperabilities for up to 72 hours providing that the redundant or remaining components are operable (e.g. second containment spray pump, remaining two accident fan coolers, or redundant valves are operable). If the redundant or remaining components are not operable, the CTS requires entry into LCO 15.3.0.b which requires the unit to be placed into hot shutdown (ITS Mode 3) within 7 hours and cold shutdown (ITS Mode 5) within 37 hours. The ITS contains this same concept, specifying Conditions and Actions which only address the loss of a single train of containment spray or loss of up to two accident fan coolers. The ITS does not explicitly state that the redundant or remaining components must be operable; however, if more than the number of components specified in the condition are inoperable (meaning that the redundant or remaining components are inoperable), the ITS will require entry into LCO 3.0.3 which requires the unit to be placed into Mode 3 within 7 hours, Mode 4 within 13 hours, and Mode 5 within 37 hours. While the shutdown time limits are more restrictive than the existing Technical Specifications, the concept of assuring that the redundant or remaining components are operable during the 72 hour restoration period allowed for an inoperable containment spray pump, accident fan cooler, or valve required to support these systems has been maintained. This change is administrative.	
	CTS:	**ITS:**
	15.03.03.B.02.A	LCO 3.06.06 COND C
	15.03.03.B.02.B	LCO 3.06.06 COND A
	15.03.03.B.02.C	LCO 3.06.06 COND A
A.09 Rev. A	CTS 15.3.3.B.2.c allows any valve required for the functioning of the containment spray pumps or containment coolers to be inoperable for up to 72 hours. Relative to the containment spray pumps, this Action has been incorporated into Condition A of the ITS as the valves are a subset of the containment spray train itself. The containment fan cooler outlet valves have been addresses in Condition D of the proposed ITS. Both of these Actions require restoration within a 72 hour period, Accordingly, this change is administrative.	
	CTS:	**ITS:**
	15.03.03.B.02.C	LCO 3.06.06 COND A

Description of Changes - NUREG-1431 Section 3.06.06

17-May-00

DOC Number	DOC Text	
A.10 Rev. A	CTS 15.3.3.B.2 requires the unit to be placed into hot shutdown (ITS Mode 3) within 6 hours and cold shutdown (ITS Mode 5) within 36 hours if one or two accident fan cooler units, or their associated valves are inoperable in excess of 72 hours. The ITS will similarly require the unit to be placed into Mode 3 within 6 hours and Mode 5 within 36 hours if accident fan cooler(s) (Condition C) or their associated service water outlet valves (Condition D) are not restored to operable status within 72 hours	
	CTS:	**ITS:**
	15.03.03.B.02	LCO 3.06.06 COND E LCO 3.06.06 COND E RA E.1 LCO 3.06.06 COND E RA E.2
A.11 Rev. A	The Bases of the current Technical Specifications for this section have been completely replaced by revised Bases that reflect the format and applicable content of PBNP ITS, consistent with the Standard Technical Specifications for Westinghouse Plants, NUREG-1431. The revised Bases are as shown in the PBNP ITS Bases.	
	CTS:	**ITS:**
	BASES	B 3.06.06

Description of Changes - NUREG-1431 Section 3.06.06

17-May-00

DOC Number	DOC Text
L.01 Rev. A	CTS Action 15.3.3.B.2 allows the inoperability of only one of the following at a given time; 1) one or two accident containment fan cooler(s), 2) one containment spray pump, or 3) any valve which supports the containment fan coolers. The proposed ITS will allow any combination of aforementioned components to be inoperable concurrently. The Point Beach containment pressure analysis assumed the operation of a single containment spray pump in combination with two accident fan coolers. The ITS preserves these assumptions and will require a plant shutdown in accordance with LCO 3.0.3 (Mode 3 in 7 hours, Mode 4 in 13 hours, and Mode 5 in 37 hours) if the minimum complement of components assumed are not available. This change affords two relaxation's to the CTS. The first relaxation allows the valves and piping associated with an inoperable accident fan cooler to be inoperable concurrent with an inoperable accident fan cooler(s). This is considered acceptable based on maintaining at least two fan coolers operable. A single inoperable service water valve represents a failure to met single failure criteria; however, the remaining valve assures that the design function of the fan coolers is preserved. One service water outlet valve is adequate to provide 100% of the assumed flow rate to all four accident fan coolers. Any combination of the above two inoperabilities (fan coolers and service water outlet valves) will still leave at least two fan coolers operable, which is the minimum assumed in the containment pressure analysis. The second relaxation allows operation with a containment spray pump and up to two accident fans cooler inoperable concurrently. This condition is considered acceptable because at least two fan cooler units and one containment spray train operable will continue to be available for accident mitigation. 72 hours for all the above combinations is considered acceptable, as functionality is maintained; only single failure capability has been lost. 72 hours is consistent with the loss of single failure capability for other systems of equivalent importance. **CTS:** 15.03.03.B.02 — **ITS:** DELETED
L.02 Rev. A	CTS 15.3.3.B.2 requires the unit to be placed into Hot Shutdown (ITS Mode 3) within 6 hours and Cold Shutdown, (ITS Mode 5) within 36 hours if the containment spray pumps or their associated valves and piping are not restored to operable status within the allowed completion time. The ITS will require the unit to be placed into Mode 3 within 6 hours and Mode 5 within 84 hours, extending the time allowed to reach Mode 4 by 48 hours. The extended interval allows additional time to restore the inoperable containment spray train to operable status. This additional time is acceptable based on the conservatism inherent to the unit being placed in Mode 3. Dose considerations (offsite and control room) are projected based on a core operating at 102% of rated power and the containment pressure analysis is based upon a higher energy state (temperature) for the reactor coolant system. The reduced consequences from these specifics alone are judged to offset the increased time allowed to operate in a condition capable of event mitigation, but incapable of a single failure. **CTS:** 15.03.03.B.02 — **ITS:** LCO 3.06.06 COND B RA B.2

DOC Number	DOC Text	
L.03 Rev. A	CTS 15.4.5.I.B.3 requires the containment spray nozzles to be checked to ensure they are not obstructed at intervals not exceeding five years. The proposed ITS (SR 3.6.6.8) will require performances of this test once every 10 years, plus the 25% surveillance frequency extension allowed through application of SR 3.0.2 (a maximum of 12.5 years). This increase in frequency is considered acceptable based on the passive nature of the components. The containment spray nozzles are located near the top of the containment dome, in an area not subject to damage from personnel nor other components and debris. The containment spray nozzles are configured as "dry piping" and accordingly, are not subject to a harsh environment (contact with acids, caustics or other chemicals) during normal operation which could introduce significant age related degradation.	
	CTS:	**ITS:**
	15.04.05.I.B.03	SR 3.06.06.09
L.04 Rev. B	CTS 15.4.5.I.B.1 and CTS 15.4.5.I.B.2 provides details on surveillance testing which are not necessary to describe the actual regulatory requirement. The requirement to run the pumps for at least 15 minutes in accordance with CTS 15.4.5.II.A.2 is an arbitrary requirement with no fundamental safety basis. Therefore, these details are being removed. The proposed ITS specifies the safety objective that must be fulfilled by the surveillance tests, while leaving the details associated with testing methods and acceptance verifications to licensee control. These type of details are better suited for procedural control and are not required to be in the ITS to provide adequate protection to the public health and safety. Changes to plant procedures and other plant controlled documents are subject to controls imposed by plant administrative procedures, which endorse applicable regulations and standards.	
	CTS:	**ITS:**
	15.04.05.I.B.01	DELETED
	15.04.05.I.B.02	DELETED
	15.04.05.II.A.02	DELETED
L.05 Rev. B	CTS 15.4.5.I.B.1 requires the Containment Spray System test to be initiated by tripping the normal actuation instrumentation. The proposed ITS requirement in SR 3.6.6.5 and SR 3.6.6.6 allow initiation by an actual or simulated signal. The proposed ITS is less restrictive because it allows a simulated signal. This change is insignificant because the actuation instrumentation for this system is appropriately surveilled in accordance with the requirements in Section 3.3 of the proposed ITS.	
	CTS:	**ITS:**
	15.04.05.I.B.01	DELETED

Description of Changes - NUREG-1431 Section 3.06.06

17-May-00

DOC Number	DOC Text	
LA.01 Rev. B	CTS 15.4.5.I.C.2 specifies acceptable performance of the containment fan cooler accident fan test shall be that the fan starts and running current is verified. This acceptance criteria is relocated to the Bases. This detail is not required to be in the technical specifications to provide adequate protection to the public health and safety. The requirement that the containment fan cooler accident fan be tested to verify operability is being maintained.	
	CTS:	**ITS:**
	15.04.05.I.C.02	B 3.06.06
M.01 Rev. A	CTS 15.3.3.B.1 contains a provision exempting the requirement to maintain the Containment Spray and Containment Fan Coolers operable during low power physics testing. This provision has been deleted in the proposed Technical Specifications. Low power physics testing in the Improved Technical Specifications is a subset of Mode 2. While Mode 2 is typically a non limiting Mode, the operability requirements of these systems are independent of physics testing, accordingly this provision has been deleted. This change represents a more restrictive change as it involves the deletion of a flexibility that currently exists.	
	CTS:	**ITS:**
	15.03.03.B.01	DELETED
M.02 Rev. A	CTS 15.4.5.I.B.1 requires the performance of a containment spray system test "during reactor shutdowns once every major fuel reloading". This test is intended to verify proper operation of all component which are actuated on a containment spray actuation signal. This testing has been translated to ITS SR 3.6.6.4 and SR 3.6.6.5 which are performed on a frequency of once every 18 months. The CTS frequency is not specific in that it is tied to a plant evolution ("during reactor shutdowns for major fuel reloading") as opposed to an explicit performance interval. Requiring performance of these surveillances on a fixed frequency of 18 months is more restrictive, as the previous frequency has no bounding limit and is considered vague in regards to what constitutes a "major fuel reloading". An 18 month interval for actuation testing is more prescriptive that the CTS and is acceptable based on industry reliability data.	
	CTS:	**ITS:**
	15.04.05.I.B.01	SR 3.06.06.05 SR 3.06.06.06
M.03 Rev. A	CTS 15.4.5.I.C.1 requires each fan cooler and fan cooler service water outlet bypass valve to be tested at each refueling to verify proper operation of the backdraft dampers and valves. These tests has been translated to ITS SR 3.6.6.7 and SR 3.6.6.4 respectively, which are performed on a frequency of once every 18 months. The CTS frequency is not specific in that it is tied to a plant evolution (each refueling) as opposed to an explicit performance interval. Requiring performance of these surveillances on a fixed frequency of 18 months is more restrictive, as the previous frequency has no bounding limit. An 18 month interval for verification of damper function is acceptable based on past performance data.	
	CTS:	**ITS:**
	15.04.05.I.C.01	SR 3.06.06.05 SR 3.06.06.08

DOC Number	DOC Text	
M.04 Rev. A	The CTS require the containment cooler unit's accident fan to be operable, for which auto start capability from a safety injection signal is an attribute; however, the CTS does not contain any surveillance requirement which verifies this attribute. Accordingly, the proposed ITS contains a surveillance requirement, SR 3.6.6.6, which specifically requires verification of the auto start capability associated with the containment cooler unit's accident fan on an 18 month frequency. This surveillance and its associated frequency of performance are consistent with the other equipment actuation tests, and is considered acceptable based on industry reliability data. The addition of this surveillance is a more restrictive change.	
	CTS:	**ITS:**
	NEW	SR 3.06.06.07
M.05 Rev. B	The CTS require each containment fan cooler unit to be operable. Implicit is the assumption that each fan cooler unit can achieve a cooling water flow rate of greater than or equal to that assumed in the accident analysis when at least one fan cooler service outlet isolation valve is opened. The CTS does not contain any surveillance requirement which verifies containment fan cooler service water flow rate. Accordingly, the proposed ITS contains a surveillance requirement, SR 3.6.6.3, which specifically requires verification that each containment fan cooler unit can achieve it required flow rate on an 31 day frequency. The proposed ITS will require flow to be verified to be within design limits, retaining the limitations themselves within licensee control, because fan cooler unit service water flow is not a fixed limit. Flow rate must be verified to meet a specific value with cooling coil differential pressure within a specified range to ensure that the cooling coils will achieve a flow rate greater than or equal to that assumed in the accident analysis. The Service Water limits are derived using system flow models. This difference is based on the design of the Service Water system, which is discussed in further detail in Justification for Deviation 1 of the Service Water LCO, 3.7.8. Based on the number of variable involved, and the limits themselves being based on system configuration, control over the limits themselves are proposed to be maintained within licensee control.	
	CTS:	**ITS:**
	NEW	SR 3.06.06.03
M.06 Rev. A	The CTS does not contain a time limit for the total time that the LCO requirements for containment cooling can be not met. The proposed ITS time limit of 144 hours is consistent with the NUREG-1431 convention that the total time is consistent with the combination of the individual completion times. In this case, fan cooler operability completion time is 72 hours and the spray pump operability completion time is 72 hours, thus 144 hours total time is appropriate.	
	CTS:	**ITS:**
	15.03.03.B.02.A	LCO 3.06.06 COND C RA C.1
	15.03.03.B.02.B	LCO 3.06.06 COND A RA A.1
	15.03.03.B.02.C	LCO 3.06.06 COND D RA D.1

< See Section 3.5 > A.1

That is, the appropriate pump motor breakers shall have opened and closed, and all valves shall have completed their travel.

SR 3.6.6.5 and SR 3.6.6.6

B. Containment Spray System

18 months M.2

1. System tests shall be performed during reactor shutdowns for major fuel reloading. The test shall be performed with the isolation valves in the spray supply lines at the containment blocked closed. Operation of the system is initiated by tripping the normal actuation instrumentation. The motor breakers for the pumps shall be placed in the "test" position for this test. (L.4, L.5)

B RAI 3.6.6-5 RAI 3.6.6-7

2. The test will be considered satisfactory if visual observations indicate all components have operated satisfactorily. (L.4)

3. The spray nozzles shall be checked to verify that they are not obstructed at intervals not exceeding five years. (SR 3.6.6.9; L.3 → 10 years)

C. Containment Fan Coolers

1. Each fan cooler unit shall be tested at each refueling to verify proper operation of the backdraft dampers and the service water bypass valves. (SR 3.6.6.8, SR 3.6.6.5; M.3 → 18 months)

2. Containment fan cooler accident fans shall be tested monthly to verify operability. ~~Acceptable performance shall be that the accident fan starts and running current is verified.~~ (SR 3.6.6.2; LA.1)

II. Component Tests and Surveillances

A. Pumps

1. The safety injection pumps, residual heat removal pumps, and

< See LCO 3.5.2 >

M.4 →

ADD NEW SR 3.6.6.7

SR 3.6.6.7	Verify each containment fan cooler unit accident fan starts automatically on an actual or simulated actuation signal.	18 months

M.5 →

ADD NEW SR 3.6.6.3

SR 3.6.6.3	Verify each containment fan cooler unit can achieve a cooling water flow rate within design limits with a fan cooler service water outlet valve open.	31 days

B RAI 3.6.6-4

A.1

SR 3.6.6.4

containment spray pumps shall be tested in accordance with the Inservice Test Program.

2. Acceptable levels of performance shall be that the pumps start, reach their required developed head at, and operate for ~~at least~~ fifteen ~~minutes on the full-flow test lines.~~

L.4

B RAI 3.6.6-5

B. Other

< See LCO 3.5.2 >

1. **At least every refueling, verify by visual inspection each containment sump suction inlet is not restricted by debris and the debris strainers show no evidence of structural distress or abnormal corrosion.**

SR 3.6.6.1

2. Verify each manual, power operated, and automatic valve necessary to insure system operability in the emergency core cooling and containment spray systems that is not locked, sealed, or otherwise secured in position, is in the correct position at least once every 31 days.

< See Section 3.5 >

Basis

The Safety Injection System and the Containment Spray System are principal plant Safety Systems that are normally inoperative during reactor operation. Complete systems tests cannot be performed when the reactor is operating because a safety injection signal causes containment isolation and a Containment Spray System test requires the system to be temporarily disabled. The method of assuring operability of these systems is therefore to combine systems tests to be performed during refueling shutdowns, with more frequent component tests, which can be performed during reactor operation.

A.11

15-May-00

JFD Number	JFD Text	
22 Rev. B	Condition D (two containment cooling trains inoperable) has been omitted as two inoperable trains (three or more inoperable containment fan cooler units) is an unanalyzed condition as previously addressed. Condition D has been used to address the Required Actions associated with an inoperable containment fan cooler service water outlet valve. The containment fan cooler outlet isolation valves are a site specific feature which is not addressed in the Standard Technical Specifications, but is an active feature addressed in the current Technical Specifications which is required for operability of the fan cooler units. Each fan cooler unit is cooled by service water which merges into a single discharge header for all fan cooler units containing two parallel path cooling water motor operated valves which open upon receipt of a safety injection signal to increase cooling water flow to greater than or equal to analysis values. Only one outlet isolation valve is required to function to provide 100% flow from all four fan cooler units. The inoperability of a single isolation valve represent a loss of redundancy. Required Actions have been provided to restore an inoperable outlet isolation valve to operable status within 72 hours, which is consistent with the Completion Time allowed for one or two inoperable containment fan cooler units, which similarly represents a loss of redundancy. Condition D is modified by a second completion time which requires Condition D to be exited within 144 hours from discovery of failure to meet the LCO. This limitation is intended to prevent indefinite operation in non-compliance with the LCO. The completion Time limit is the same duration as that proposed in Conditions A and C and is based on the sum of the longest two completion times which could be alternated between.	
	ITS:	**NUREG:**
	B 3.06.06	B 3.06.06
	LCO 3.06.06 COND D	N/A
23 Rev. A	Condition F has not been adopted. NUREG 1431 is based on a plant design where the containment fan coolers and the containment spray trains are equivalent to each other relative to cooling, with no credit taken for iodine removal by the spray system. The NUREG construction establishes a set of Conditions which would allow a loss of function to be presented for up to 72 hours if Condition F did not exist. In not adopting Condition D of NUREG 1431, a loss of function cannot exist in the proposed Point Beach ITS without resulting in entry into LCO 3.0.3 making Condition F unnecessary.	
	ITS:	**NUREG:**
	B 3.06.06	B 3.06.06
	N/A	LCO 3.06.06A COND F
		LCO 3.06.06A COND F RA F.1

1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.6A.2 [1]	Operate each [required] containment cooling train fan unit for ≥ 15 minutes. [4] [28] [2] accident	31 days
SR 3.6.6A.3 [1]	Verify each [required] containment cooling train cooling water flow rate is ≥ [700] gpm. [4] fan cooler unit can achieve a cooling water flow rate within design limits with a fan cooler service water outlet valve open .	31 days [24] B RAI 3.6.6-4
SR 3.6.6A.4 [1]	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head. [26] and containment fan cooler unit service water outlet	In accordance with the Inservice Testing Program
SR 3.6.6A.5 [1]	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	[18] months [3]
SR 3.6.6A.6 [1]	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	[18] months
SR 3.6.6A.7 [1]	Verify each [required] containment cooling train starts automatically on an actual or simulated actuation signal. containment fan cooler unit accident fan [2/4]	[18] months

(continued)

1

SURVEILLANCE REQUIREMENTS (continued)

21 → 9 SURVEILLANCE		FREQUENCY
SR 3.6.6A.8	Verify each spray nozzle is unobstructed.	[At first refueling AND] 10 years

1 3

SR 3.6.6.8	Verify proper operation of the accident fan cooler unit backdraft dampers	18 months

21 26

INSERT 3.6.6-01

D. One required accident fan cooler unit service water outlet valve inoperable	D.1 Restore required accident fan cooler unit outlet valve to OPERABLE status	72 hours AND 144 hours from discovery of failure to meet the LCO

22

B
RAI 3.6.6-2

1

BASES

APPLICABLE SAFETY ANALYSES (continued)

17 is is

Insert B 3.6.6-08

following a DBA. The limiting DBAs considered are the loss of coolant accident (LOCA) and the steam line break (SLB). The LOCA and SLB are analyzed using computer codes designed to predict the resultant containment pressure and temperature transients. No DBAs are assumed to occur simultaneously or consecutively. The postulated DBAs are analyzed with regard to containment ESF systems, assuming the loss of one ESF bus, which is the worst case single active failure and results in one train of the Containment Spray System and Containment Cooling System being rendered inoperable.

2

two containment accident fan cooler units

17

The analysis and evaluation show that under the worst case scenario, the highest peak containment pressure is [44.1] psig (experienced during a LOCA). The analysis shows that the peak containment temperature is [384.5]°F (experienced during an SLB). Both results meet the intent of the design basis. (See the Bases for LCO 3.6.4A, "Containment Pressure," and LCO 3.6.5A for a detailed discussion.) The analyses and evaluations assume a unit specific power level of [100]%, one containment spray train and one containment cooling train operating, and initial (pre-accident) containment conditions of [120]°F and [1.5] psig. The analyses also assume a response time delayed initiation to provide conservative peak calculated containment pressure and temperature responses.

and temperature are approximately 52-53 psig and 291°F respectively (experienced during a LOCA)

B RAI 3.6.5-2

1

17 3 102

3 120

0.0

two containment accident fan cooler units with their accident fans in operation

7

For certain aspects of transient accident analyses, maximizing the calculated containment pressure is not conservative. In particular, the effectiveness of the Emergency Core Cooling System during the core reflood phase of a LOCA analysis increases with increasing containment backpressure. For these calculations, the containment backpressure is calculated in a manner designed to conservatively minimize, rather than maximize, the calculated transient containment pressures in accordance with 10 CFR 50, Appendix K (Ref. 2).

15

The effect of an inadvertent containment spray actuation has been analyzed. An inadvertent spray actuation results in a [2.0] psig containment pressure and is associated with the sudden cooling effect in the interior of the leak tight

1

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

Containment Spray System operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these were verified to be in the correct position prior to locking, sealing, or securing. This SR does not require any testing or valve manipulation. Rather, it involves verification, through a system walkdown, that those valves outside containment (only check valves are inside containment) and capable of potentially being mispositioned are in the correct position.

1 2 4 28

unit's accident

SR 3.6.6A.2

accident fans

Operating each [required] containment cooling train fan unit for ≥ 15 minutes ensures that all trains are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action. The 31 day Frequency was developed considering the known reliability of the fan units and controls, the two train redundancy available, and the low probability of significant degradation of the containment cooling train occurring between surveillances. It has also been shown to be acceptable through operating experience.

2 27

Replace with Insert B 3.6.6-14

24 1 4

accident fan cooler unit can achieve its assumed post accident flow rate with at least one fan cooler service water outlet valve open

SR 3.6.6A.3

Verifying that each [required] containment cooling train ESW cooling flow rate to each cooling unit is ≥ [700] gpm provides assurance that the design flow rate assumed in the safety analyses will be achieved (Ref. 3). The Frequency was developed considering the known reliability of the Cooling Water System, the two train redundancy available, and the low probability of a significant degradation of flow occurring between surveillances.

2

1

SR 3.6.6A.4

Verifying each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head ensures that spray pump performance has not degraded during the cycle. Flow and differential pressure are normal tests of centrifugal pump performance required by Section XI of the ASME Code (Ref. 8). Since the containment

4 18

B

RAI 3.6.6-13

1

3.6.6. BASES INSERTS

Insert B 3.6.6-01:

7

The containment spray system provides sufficient cooling to reduce containment pressure in the event of a DBA. However, the containment peak pressure analyses assumes the operation of one containment spray pump and two accident fan cooler units to ensure that containment design limits are not exceeded.

Insert B 3.6.6-02:

Each containment spray train has two motor operated discharge isolation valves. One discharge valve is powered from the same safeguards power supply as the pump, while the other valve is powered from the opposite train's safeguards power. Only the valve associated with the same safeguards power supply as the pump is assumed to open due to single failure considerations. The "A" train contains discharge valves, SI 860A and SI 860B, with the SI 860A being the only valve required to be capable of opening automatically. The "B" train contains discharge valves SI 860C and SI 860D, with the SI 860D being the only valve required to be capable of opening automatically. Valves SI 860B and SI 860C are not required for system operability

11

Insert B 3.6.6-03:

at which time the containment spray system is secured from operation

8

3.6.6.BASES INSERTS

Insert B 3.6.6-04: 2

The containment cooling system consists of four containment accident fan cooler units, each supplied from a common air intake duct, discharging to a common distribution duct. Gravity operated backdraft dampers are installed in the discharge duct work of each containment accident fan cooler unit. These dampers isolate inactive containment accident fan cooler unit from the distribution duct. Duct work distributes the cooled air to the various containment compartments and areas.

Each containment accident fan cooler unit contains an expanded metal screen, plate-fin cooling coils, two vane axial fan/motor units, and a backdraft damper. One fan (the accident fan) and motor are designed for post accident pressure, temperature, and density, while the second fan (the normal fan) and motor is designed for normal operation. The normal fan is not required to operate under post accident conditions and is therefore not required for the containment accident fan cooler unit to be OPERABLE. Only the accident fan in each containment accident fan cooler unit is connected to an emergency power supply. A gravity operated backdraft damper is installed on the normal fan discharge to prevent back flow when it is not in operation and the accident fan is in operation.

The containment accident fan cooler units are cooled by the service water system The service water outlet from each containment accident fan cooler unit is routed to a common outlet header outside of containment. The common outlet header contains an orifice which is the normal outlet flowpath and a orifice bypass line containing two motor operated valves which open upon receipt of a safety injection signal The opening of a single service water outlet valve is sufficient to provide 100% of the assumed cooling water flow to all four containment accident fan cooler units.

3.6.6.BASES INSERTS

Insert B 3.6.6-05:

13

Operation of the containment accident fan cooler units will

13

Insert B 3.6.6-06:

Upon receipt of a Safety Injection signal, the containment cooler unit's accident mode fans will auto start if they are not already running. The containment accident fan cooler units provide sufficient cooling to reduce containment pressure in the event of a DBA. However, the containment pressure analyses assumes the operation of one containment spray pump and two containment accident fan cooler units. Service water temperature is an important factor in the heat removal capability of the containment accident fan units.

3.6.6.BASES INSERTS

Insert B 3.6.6-07:

The results of the analysis show that one train of containment spray and two containment accident fan cooler units will provide 100% of the required cooling capacity during the post accident condition

7

Insert B 3.6.6-08:

The SLB containment pressure calculation is a parameter by parameter comparison of a reference 2-loop plant to Point Beach. Each parameter is evaluated to determine if the Point Beach value is conservative, non-conservative or nominal. The mass and energy release from a SLB is less than that calculated for a LOCA therefore, the containment pressure and temperature analysis for the LOCA bounds the SLB event.

17

Insert B 3.6.6-09:

Additionally, one containment spray train is also required for containment temperature and pressure control, to remove iodine from the containment atmosphere, and to introduce sodium hydroxide to the containment sump water.

19

B RAI 3.6.6-12

Insert B 3.6.6-10:

four containment accident fan cooler units and two containment accident fan cooler service water outlet valves must be OPERABLE

2

Insert B 3.6.6-11:

of containment spray and two containment accident fan cooler units operate, and one service water outlet valve opens.

2

3.6.6.BASES INSERTS

Insert B 3.6.6-12:

With one containment cooler service water outlet valve inoperable, the containment cooling water outlet valve must be restored to OPERABLE status within 72 hours. During this period, the remaining containment cooler service water outlet valve is capable of providing 100% of assumed cooling water flow to all four containment accident fan coolers. The 72 hour Completion Time was developed taking into account the auto open and flow capability afforded by the redundant cooling water outlet valve, and the low probability of DBA occurring during this period. B RAI 3.6.6-3

22

Insert B 3.6.6-13:

Each Containment Accident Fan Cooler Unit consists of cooling coils, accident backdraft damper, accident fan, service water outlet valves, and controls necessary to ensure an OPERABLE service water flow path.

2

Insert B 3.6.6-14:

27 . Acceptable performance is verified through verification of main control panel accident fan run indication, motor running amps, and clearing of low flow alarms.

No Significant Hazards Considerations - NUREG-1431 Section 3.06.06

17-May-00

NSHC Number	NSHC Text
A Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change involves reformatting and rewording of the current Technical Specifications. The reformatting and rewording process involves no technical changes to existing requirements. As such, this change is administrative in nature and does not impact initiators of analyzed events or assumed mitigation of accident or transient events. Therefore, this change does not increase the probability or consequences of an accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will not impose any new or eliminate any old requirements. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The proposed change will not significantly reduce the margin of safety because it has no impact on any safety analysis assumptions. This change is administrative. As such, there is no technical change to the requirements and, therefore, there is no reduction in the margin of safety.

NSHC Number	NSHC Text
L.01 Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change will allow multiple equipment inoperability to exist simultaneously for a limited period of time, but will limit the maximum amount of time for LCO non-compliance, such that overlapping inoperabilities cannot exist indefinitely. This change does not result in the introduction of any new or different equipment. Therefore, this change would not result in a significant change in the probability of previously evaluated accidents. The consequences of previously evaluated accidents remain the same during the limited extension in restoration time allowed through this change, as the allowable plant configurations will continue be bounded by the existing containment pressure analysis. Accordingly, the consequences of previously evaluated accidents remain the same. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will allow operation for a limited period of time with multiple inoperabilities, while still bounded by the existing analysis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The allowable combination of inoperabilities involve equipment which provides similar functions but are diverse in their design (e.g. fans, pumps, valves); therefore, any overlapping inoperabilities will most probably be from differing failure mechanisms. Based on this, the potential for common mode failure within redundant components during the increased time allowed for overlapping inoperabilities is insignificant. In this fashion the margin inherent to redundant systems and components is not significantly impacted by the small increase in allowable restoration time. Considering the low probability of coincident entry into multiple Conditions coupled with the low probability of an accident occurring during this time, the margin of safety is not significantly affected. The allowable plant configurations are bounded by the existing containment pressure analysis, thereby not significantly affecting containment margin.

NSHC Number	NSHC Text
L.02 Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? This change does not result in any equipment or hardware changes. The containment spray systems allowable restoration time is not an initiator of any analyzed event. The proposed change extends the allowable time to reach Mode 5 after the unit is placed into Mode 3 by 48 hours. During this added 48 hours, the consequences of an event are the same as the consequences of an event occurring for the previous 28 hours (72 hour restoration period plus 6 hours to Mode 3) currently allowed. The minimum number of systems and components assumed in the accident analysis will continue to be preserved. Therefore, the proposed change does not significantly increase the probability or consequences of an accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will not allow continuous operation with an inoperable containment spray train. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The increased time allowed is acceptable based on the containment cooling function continuing to be provided by independent systems, the accident fan coolers and the containment spray system. In the event of a design basis accident, either of these systems will provide sufficient cooling to reduce containment pressure. This additional time is acceptable based on the conservatism inherent to the unit being placed in Mode 3. Dose considerations (both offsite and control room) are projected based on a core operating at 102% of rated power and the containment pressure analysis is based upon a higher energy state (temperature) for the reactor coolant system. The reduced consequences from these specifics alone will offset the increased time allowed to operated in a condition capable of event mitigation, but incapable of a single failure. Based on the above discussion, this change does not significantly reduce the margin of safety.

NSHC Number	NSHC Text
L.03 Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? This change does not result in any equipment or hardware changes. The proposed change extends the containment spray header nozzles testing from once every five years to once every 10 years. The frequency of testing for the containment spray nozzles is not an initiator of any analyzed event. This increase in frequency is acceptable based on the passive nature of the components. In maintaining the equipment in an operable state, the consequence for previously evaluated accidents remains unchanged. Accordingly, the probability and consequences of previously evaluated accident is not significantly changed. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. No nozzle failures have been reported as a result of routine testing. The only known nozzle testing failures within the industry are related to construction activity and were disclosed during post construction testing. The containment spray nozzles are located near the top of the containment dome, in an area not subject to damage from personnel nor other components and debris. The containment spray nozzles are configured as "dry piping" and accordingly, are not subject to a harsh environment (contact with acids, caustics or other chemicals) during normal operation which could introduce significant age related degradation. Based on the above, it has been concluded that increasing the testing interval will not result in any significant increase in undetectable failures. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The increased surveillance interval is acceptable based on the industry data that has concluded that the likelihood of nozzle failure is low based on the passive nature of the components and their physical location which minimizes the likelihood of damage. The likelihood for an undetectable failure mode is insignificant, and it has been concluded that the nozzles are not susceptible to significant age related degradation based on the extended test interval. Based on the above, it has been concluded that this change does not represent a significant reduction in a margin of safety.

NSHC Number	NSHC Text
L.04 Rev. B	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change results in the deletion of details which are not necessary to describe the actual regulatory requirement, or provide adequate protection of the public health and safety. Accordingly, there will be no significant change in the probability or consequences of accidents previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not involve any physical alteration of plant systems, structures or components, nor does it alter parameters governing normal plant operation. The proposed change does not introduce a new mode of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created. 3. Does this change involve a significant reduction in a margin of safety? The deletion of details which are not necessary to describe the actual regulatory requirement, or provide adequate protection of the public health and safety, does not result in a significant reduction in the margin of safety.

NSHC Number	NSHC Text
L.05 Rev. B	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. CTS 15.4.5.I.B.1 specifies the Containment Spray System test be initiated by tripping the normal actuation instrumentation. ITS SR 3.6.6.5 and SR 3.6.6.6 permit initiation by an actual or simulated signal to satisfy the requirements. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The Containment Spray System is used to mitigate the consequences of an accident; however, it is not an initiator of any previously analyzed accident. As such the relaxing the requirements under which the Containment Spray System testing is performed does not affect the results of the surveillance and will not increase the probability of any accident previously evaluated. The proposed actions continue to provide adequate assurance of Operability for required equipment and therefore, do not involve an increase in the consequences of any accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? This change does not involve a significant reduction in a margin of safety because the Operability of the equipment continues to be evaluated in the same manner. The results of the Containment Spray System testing are not affected by the nature of the initiating signal, because the system cannot discriminate whether the signals are actual or simulated. The intent of the surveillance requirement has not been altered and does not result in a reduction in the margin of safety.

NSHC Number	NSHC Text
LA Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change relocates requirements from the Technical Specifications to the Bases, FSAR, or other plant controlled documents. The Bases and FSAR will be maintained using the provisions of 10 CFR 50.59. In addition to 10 CFR 50.59 provisions, the Technical Specifications Bases are subject to the change process in the Administrative Controls Chapter of the ITS. Plant procedures and other plant controlled documents are subject to controls imposed by plant administrative procedures, which endorse applicable regulations and standards. Changes to the Bases, FSAR, or other plant controlled documents will be evaluated in accordance with the requirements of the Bases Control Program in Chapter 5.0 of the ITS, 10 CFR 50.59, or plant administrative processes. Therefore, no increase in the probability or consequences of an accident previously evaluated will be allowed. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will not impose any different requirements and adequate control of the information will be maintained. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The proposed change will not reduce a margin of safety because it has no impact on any safety analysis assumptions. In addition, the requirements to be moved from the Technical Specifications to the Bases, FSAR, or other plant controlled documents are as they currently exist. Future changes to the requirements in the Bases, FSAR, or other plant controlled documents will be evaluated in accordance with the requirements of 10 CFR 50.59, the Bases Control Program in Chapter 5.0 of the ITS, or the applicable plant process and no reduction in a margin of safety will be allowed.

NSHC Number	NSHC Text
M Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change provides more restrictive requirements for operation of the facility. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter the assumptions relative to the mitigation of an accident or transient event. These more restrictive requirements continue to ensure process variables, structures, systems and components are maintained consistent with the safety analyses. Therefore, this change does not increase the probability or consequences of an accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change does impose different requirements. However, these changes are consistent with assumptions made in the safety analysis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The imposition of more restrictive requirements either has no affect on or increases the margin of safety. Each change is providing additional restrictions to enhance plant safety. These changes are consistent with the safety analysis. Therefore, this change does not involve a reduction in a margin of safety.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.6.3	Verify each containment fan cooler unit can achieve a cooling water flow rate within design limits with a fan cooler service water outlet valve open.	31 days
SR 3.6.6.4	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.6.6.5	Verify each automatic containment spray and containment fan cooler unit service water outlet valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	18 months
SR 3.6.6.6	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	18 months
SR 3.6.6.7	Verify each containment fan cooler unit accident fan starts automatically on an actual or simulated actuation signal.	18 months
SR 3.6.6.8	Verify proper operation of the accident fan cooler unit backdraft dampers.	18 months
SR 3.6.6.9	Verify each spray nozzle is unobstructed.	10 years

B
RAI 3.6.6-4

B 3.6 CONTAINMENT SYSTEMS

B 3.6.6 Containment Spray and Cooling Systems

BASES

BACKGROUND

The Containment Spray and Containment Cooling systems provide containment atmosphere cooling to limit post accident pressure and temperature in containment to less than the design values. Reduction of containment pressure and the iodine removal capability of the spray reduces the release of fission product radioactivity from containment to the environment, in the event of a Design Basis Accident (DBA), to within limits. The Containment Spray and Containment Cooling systems are designed to meet the Point Beach Design Criteria as specified in FSAR Section 1.3.

The Containment Cooling System and Containment Spray System are Engineered Safety Feature (ESF) systems. They are designed to ensure that the heat removal capability required during the post accident period can be attained.

Containment Spray System

The Containment Spray System consists of two separate trains of equal capacity, each capable of meeting the design bases. Each train includes a containment spray pump, spray header, nozzles, valves, and piping. Each train is powered from a separate ESF bus. The refueling water storage tank (RWST) supplies borated water to the Containment Spray System during the injection phase of operation.

The Containment Spray System provides a spray of cold borated water mixed with sodium hydroxide (NaOH) from the spray additive tank into the upper regions of containment to reduce the containment pressure and temperature and to reduce fission products from the containment atmosphere during a DBA. The RWST solution temperature is an important factor in determining the heat removal capability of the Containment Spray System during the injection phase. In the recirculation mode of operation, heat is removed from the containment sump water by the residual heat removal coolers. The containment spray system provides sufficient cooling to reduce containment pressure in the event of a DBA. However, the containment peak pressure analyses assumes the operation of one containment spray pump and two containment accident fan cooler units to ensure that containment design limits are not exceeded.

The Spray Additive System injects an NaOH solution into the spray. The NaOH added in the spray also ensures an alkaline pH for the solution recirculated in the containment sump. The alkaline pH of the

BACKGROUND (continued)

containment sump water minimizes the evolution of iodine and minimizes the occurrence of chloride and caustic stress corrosion on mechanical systems and components exposed to the fluid.

The Containment Spray System is actuated either automatically by a containment Hi-Hi pressure signal or manually. An automatic actuation opens the containment spray pump discharge valves, starts the two containment spray pumps, and begins the injection phase. A manual actuation of the Containment Spray System requires the operator to actuate two separate switches on the main control board to begin the same sequence. Each containment spray train has two motor operated discharge isolation valves. One discharge valve is powered from the same safeguards power supply as the pump, while the other valve is powered from the opposite train's safeguards power. Only the valve associated with the same safeguards power supply as the pump is assumed to open due to single failure considerations. The “A” train contains discharge valves, SI 860A and SI 860B, with the SI 860A being the only valve required to be capable of opening automatically. The “B” train contains discharge valves SI 860C and SI 860D, with the SI 860D being the only valve required to be capable of opening automatically. Valves SI 860B and SI 860C are not required for system operability. The injection phase continues until an RWST level Low-Low alarm is received at which time the containment spray system is secured from operation.

Containment Cooling System

The containment cooling system consists of four containment accident fan cooler units, each supplied from a common air intake duct, discharging to a common distribution duct. Gravity operated backdraft dampers are installed in the discharge duct work of each containment accident fan cooler unit. These dampers isolate inactive containment accident fan cooler units from the distribution duct. Duct work distributes the cooled air to the various containment compartments and areas.

Each containment accident fan cooler unit contains an expanded metal screen, plate-fin cooling coils, two vane axial fan/motors, and a backdraft damper. One fan (the accident fan) and motor is designed for post accident pressure, temperature, and density, while the second fan (the normal fan) and motor is designed for normal operation. The normal fan is not required to operate under post accident conditions and is, therefore, not required for the containment accident fan cooler unit to be OPERABLE. Only the accident fan in each containment accident fan cooler unit is connected to an emergency power supply. A gravity operated backdraft damper is installed on the normal fan discharge to prevent back flow when it is not in operation and the accident fan is in operation.

BASES

BACKGROUND (continued)

The containment accident fan cooler units are cooled by the service water system. The service water outlet from each containment accident fan cooler unit is routed to a common outlet header outside of containment. The common outlet header contains an orifice which is the normal outlet flowpath and a orifice bypass line containing two motor operated valves which open upon receipt of a safety injection signal. The opening of a single service water outlet valve is sufficient to provide 100% of the assumed cooling water flow to all four containment accident fan cooler units.

Operation of the containment accident fan cooler units will limit the ambient containment air temperature during normal unit operation to less than the limit specified in LCO 3.6.5, "Containment Air Temperature." This temperature limitation ensures that the containment temperature does not exceed the initial temperature conditions assumed for the DBAs.

Upon receipt of a Safety Injection signal, the containment cooler unit's accident mode fans will auto start if they are not already running. The containment accident fan cooler units provide sufficient cooling to reduce containment pressure in the event of a DBA. However, the containment pressure analyses assumes the operation of one containment spray pump and two containment accident fan cooler units. Service water temperature is an important factor in the heat removal capability of the containment accident fan units.

APPLICABLE SAFETY ANALYSES

The Containment Spray System and Containment Cooling System limit the temperature and pressure that could be experienced following a DBA. The limiting DBA is the loss of coolant accident (LOCA). The LOCA is analyzed using computer codes designed to predict the resultant containment pressure and temperature transients. The SLB containment pressure calculation is a parameter by parameter comparison of a reference 2-loop plant to Point Beach. Each parameter is evaluated to determine if the Point Beach value is conservative, non-conservative or nominal. The mass and energy release from a SLB is less than that calculated for a LOCA, therefore, the containment pressure and temperature analysis for the LOCA bounds the SLB event. No DBAs are assumed to occur simultaneously or consecutively. The postulated DBAs are analyzed with regard to containment ESF systems, assuming the loss of one ESF bus, which is the worst case single active failure and results in one train of the Containment Spray System and two containment accident fan cooler units being rendered inoperable.

The analysis and evaluation show that under the worst case scenario, the peak containment pressure and temperature are approximately

BASES

APPLICABLE SAFETY ANALYSES (continued)

52-53 psig and 291°F respectively (experienced during a LOCA.) Both results meet the intent of the design basis. (See the Bases for LCO 3.6.4, "Containment Pressure," and LCO 3.6.5 for a detailed discussion). The analyses and evaluations assume a unit specific power level of 102%, one containment spray train and two containment accident fan cooler units with their accident fans in operation, and initial (pre-accident) containment conditions of 120°F and 0.0 psig. The analyses also assume a response time delayed initiation to provide conservative peak calculated containment pressure and temperature responses. B RAI 3.6.5-2

For certain aspects of transient accident analyses, maximizing the calculated containment pressure is not conservative. In particular, the effectiveness of the Emergency Core Cooling System during the core reflood phase of a LOCA analysis increases with increasing containment backpressure. For these calculations, the containment backpressure is calculated in a manner designed to conservatively minimize, rather than maximize, the calculated transient containment pressures in accordance with 10 CFR 50, Appendix K (Ref. 2).

The modeled Containment Spray System actuation from the containment analysis is based on a response time associated with exceeding the containment Hi-Hi pressure setpoint to achieving full flow through the containment spray nozzles. The Containment Spray System total response time of 63 seconds includes diesel generator (DG) startup (for loss of offsite power), block loading of equipment, containment spray pump startup, and spray line filling (Ref. 3).

Containment accident fan cooler unit performance for post accident conditions is given in Reference 3. The results of the analysis show that one train of containment spray and two containment accident fan cooler units will provide 100% of the required cooling capacity during the post accident condition.

The modeled containment accident fan cooler unit actuation from the containment analysis is based upon a response time associated with exceeding the containment Hi pressure setpoint to achieving full Containment Cooling System air and service water flow. The Containment Cooling System total response time of 67 seconds, includes signal delay, DG startup (for loss of offsite power), and accident fan start and acceleration times (Ref. 3).

The Containment Spray System and the Containment Cooling System satisfy Criterion 3 of the NRC Policy Statement.

BASES

LCO

During a DBA, a minimum of two containment accident fan cooler units with their accident fans running and one containment spray train are required to maintain the containment peak pressure and temperature below the design limits (Ref. 3). Additionally, one containment spray train is also required for containment temperature and pressure control, to remove iodine from the containment atmosphere, and to introduce sodium hydroxide to the containment sump water. To ensure that these requirements are met, two containment spray trains and four containment accident fan cooler units and two containment accident fan cooler service water outlet valves must be OPERABLE. Therefore, in the event of an accident, at least one train of containment spray and two containment accident fan cooler units operate, and one service water outlet valve opens, assuming the worst case single active failure occurs.

Each Containment Spray System consists of a spray pump, spray header, nozzles, valves, piping, instruments, and controls to ensure an OPERABLE flow path capable of taking suction from the RWST upon an ESF actuation signal.

Each Containment Accident Fan Cooler Unit consists of cooling coils, accident backdraft damper, accident fan, service water outlet valves, and controls necessary to ensure an OPERABLE service water flow path.

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment and an increase in containment pressure and temperature requiring the operation of the containment spray trains and containment accident fan cooler units.

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Thus, the Containment Spray System and the Containment Cooling System are not required to be OPERABLE in MODES 5 and 6.

ACTIONS

A.1

With one containment spray train inoperable, the inoperable containment spray train must be restored to OPERABLE status within 72 hours. In this Condition, the remaining OPERABLE spray and cooling trains are adequate to perform the iodine removal and containment cooling functions. The 72 hour Completion Time takes into account the redundant heat and iodine removal capability, and sodium hydroxide delivery capability afforded by the Containment Spray System, reasonable time for repairs, and low probability of a DBA occurring during this period.

BASES

ACTIONS (continued)

The 144 hour portion of the Completion Time for Required Action A.1 is based upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

B.1 and B.2

If the inoperable containment spray train cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 84 hours. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE 5 allows additional time for attempting restoration of the containment spray train and is reasonable when considering the driving force for a release of radioactive material from the Reactor Coolant System is reduced in MODE 3.

C.1

With one or two containment accident fan cooler units inoperable, the inoperable containment accident fan cooler units must be restored to OPERABLE status within 72 hours. The remaining operable components in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs. The 72 hour Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of DBA occurring during this period.

The 144 hour portion of the Completion Time for Required Action C.1 is based upon engineering judgement. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3 for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

BASES

ACTIONS (continued)

D.1

With one containment cooler service water outlet valve inoperable, the containment cooling water outlet valve must be restored to OPERABLE status within 72 hours. During this period, the remaining containment cooler service water outlet valve is capable of providing 100% of assumed cooling water flow to all four containment accident fan coolers. The 72 hour Completion Time was developed taking into account the auto open and flow capability afforded by the redundant cooling water outlet valve, and the low probability of DBA occurring during this period. B RAI 3 6.6-3

E.1 and E.2

If the Required Action and associated Completion Time of Condition C or D of this LCO are not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.6.1

Verifying the correct alignment for manual, power operated, and automatic valves in the containment spray flow path provides assurance that the proper flow paths will exist for Containment Spray System operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these were verified to be in the correct position prior to locking, sealing, or securing. This SR does not require any testing or valve manipulation. Rather, it involves verification, through a system walkdown, that those valves outside containment (only check valves are inside containment) and capable of potentially being mispositioned are in the correct position.

SR 3.6.6.2

Operating each containment cooling unit's accident fan ensures that all accident fans are OPERABLE. Acceptable performance is verified through verification of main control panel accident fan run indication, motor running amps, and clearing of low flow alarms. The 31 day Frequency was developed considering the known reliability of the accident fans, the redundancy available, and the low probability of

BASES

SURVEILLANCE REQUIREMENTS (continued)

significant degradation of the accident fans occurring between surveillances. It has also been shown to be acceptable through operating experience.

SR 3.6.6.3

Verifying that each containment accident fan cooler unit can achieve its assumed post accident flow rate with at least one containment accident fan cooler service water outlet valve open provides assurance that the design flow rate assumed in the safety analyses will be achieved (Ref. 3). The Frequency was developed considering the known reliability of the Cooling Water System, the redundancy available, and the low probability of a significant degradation of flow occurring between surveillances.

SR 3.6.6.4

Verifying each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head ensures that spray pump performance has not degraded during the cycle. Flow and differential pressure are normal tests of centrifugal pump performance required by Section XI of the ASME Code (Ref. 4). B RAI 3.6.6-13 Since the containment spray pumps cannot be tested with flow through the spray headers, they are tested on recirculation flow. This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice tests confirm component OPERABILITY, trend performance, and detect incipient failures by abnormal performance. The Frequency of the SR is in accordance with the Inservice Testing Program.

SR 3.6.6.5 and SR 3.6.6.6

These SRs require verification that each automatic containment spray and containment accident fan cooler service water outlet valve actuates to its correct position and that each containment spray pump starts upon receipt of an actual or simulated actuation of a containment Hi-Hi pressure signal. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 18 month Frequency is based on the need to perform these Surveillances under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillances were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillances when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6.7

This SR requires verification that each containment accident fan cooler unit accident fan actuates upon receipt of an actual or simulated safety injection signal. The 18 month Frequency is based on engineering judgment and has been shown to be acceptable through operating experience. See SR 3.6.6.5 and SR 3.6.6.6, above, for further discussion of the basis for the 18 month Frequency.

SR 3.6.6.8

This SR verifies proper operation of the containment accident fan cooler unit backdraft dampers. The backdraft damper of concern is the one installed in the discharge flowpath of the normal fan. This damper prevents back flow which would bypass the cooler coils when the accident fan is in operation and the normal fan is not in operation. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and engineering judgment.

SR 3.6.6.9

With the containment spray inlet valves closed and the spray header drained of any solution, low pressure air or smoke can be blown through test connections. This SR ensures that each spray nozzle is unobstructed and provides assurance that spray coverage of the containment during an accident is not degraded. Due to the passive design of the nozzle, a test at 10 year intervals is considered adequate to detect obstruction of the nozzles.

REFERENCES

1. FSAR, Section 1.3.
2. 10 CFR 50, Appendix K.
3. FSAR, Section 14.
4. ASME, Boiler and Pressure Vessel Code, Section XI.

Description of Changes - NUREG-1431 Section 3.06.07

17-May-00

DOC Number	DOC Text	
A.01 Rev. A	In the conversion of Point Beach current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the Standard Technical Specifications, Westinghouse Plants, NUREG-1431, Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).	
	CTS:	**ITS:**
	15.03.03	LCO 3.06.07
	15.03.03.B.01.A	SR 3.06.07.02
	15.03.03.B.02	LCO 3.06.07 COND B
		LCO 3.06.07 COND B RA B.1
	15.03.03.B.02.C	LCO 3.06.07 COND A
		LCO 3.06.07 COND A RA A.1
	15.04.05.II.B.02	SR 3.06.07.01
A.02 Rev. A	The CTS provides an introductory statement (Applicability) which simply states which systems/components are addressed within a given section. This same information, while worded differently, is contained within the title of each ITS LCO. Accordingly, this change is a change in format with no change in technical requirement.	
	CTS:	**ITS:**
	15.03.03 APPL	LCO 3.06.07
	15.04.05 APPL	LCO 3.06.07
A.03 Rev. A	The CTS provides an introductory statement (Objective) at the beginning of this Section of the Technical Specifications which provide a brief summary of the purpose for this Section. This information is contained in the Bases Section of the ITS. This information does not establish any regulatory requirements for the systems and components addressed within this Section. Accordingly, deletion of this information does not alter any requirement set forth in the Technical Specifications. This change is administrative and consistent with the format and presentation for the ITS as provided in NUREG 1431.	
	CTS:	**ITS:**
	15.03.03 OBJ	DELETED
	15.04.05 OBJ	DELETED

Description of Changes - NUREG-1431 Section 3.06.07

17-May-00

DOC Number	DOC Text	
A.04 Rev. A	The CTS 15.3.3.B.1 requires the Iodine Removal System to be operable prior to the reactor being made critical. However, CTS 15.3.3.B.2 requires the unit to be placed into Hot Shutdown (ITS Mode 3) within 6 hours and Cold Shutdown (ITS Mode 5) within 36 hours, if this system is inoperable in excess of the allowable outage time, implying an Applicability of Modes 1, 2, 3, and 4 (ITS Modes). Proposed LCO 3.6.7 will require the Spray Additive System to be operable in Modes 1, 2, 3, and 4. This change is considered administrative as it is clarifying an ambiguous relationship between the LCO Applicability and Action Statement.	
	CTS:	**ITS:**
	15.03.03.B.01	LCO 3.06.07
A.05 Rev. B	CTS 15.3.3.B.1.d establishes a requirement to maintain all valves and piping "associated" with the Iodine Removal System "and required to function during accident conditions" to be operable. This requirement is subsumed by the LCO statement, "The spray additive system shall be OPERABLE." Application of this concept is addressed through the definition of operability, which requires all equipment required for the system to perform its specified safety function to be capable of performing their related support function. Further, valves are addressed through the valve testing requirements specified in the proposed ITS SR 3.6.7.8 and the Inservice Testing Program (Specification 5.5.8). This change is administrative.	
	CTS:	**ITS:**
	15.03.03.B.01.D	LCO 3.06.07
A.06 Rev. A	The Bases of the current Technical Specifications for this section have been completely replaced by revised Bases that reflect the format and applicable content of PBNP ITS, consistent with the Standard Technical Specifications for Westinghouse Plants, NUREG-1431. The revised Bases are as shown in the PBNP ITS Bases.	
	CTS:	**ITS:**
	BASES	B 3.06.07
A.07 Rev. A	CTS 15.4.5.I.b.2 Requires the performance of a system test during reactor shutdowns for major fuel reloadings. The CTS defines system test as being an actuation test, for which the only components in the spray additive system that receive an actuation signal are the spray additive tank outlet valves. Proposed ITS SR 3.6.7.4 requires verification that each automatic valve in the spray additive system that is not secured in its required position be actuated to its correct position on an actual or simulated actuation signal once every 18 months. This change is administrative, revising the CTS surveillance to a format and wording consistent with that used in NUREG 1431. The change in proposed frequency in addressed is Description of Change M.3 of this section.	
	CTS:	**ITS:**
	15.04.05.I.B.01	SR 3.06.07.04

07-Jun-00

DOC Number	DOC Text	
A.08 Rev. A	CTS 15.3.3.B.1.a specifies that the spray additive tank shall contain sodium hydroxide with a minimum concentration of 30% by weight. This limitation has been moved to ITS surveillance requirement SR 3.6.7.3. Moving this limitation to SR 3.6.7.3 is administrative. An upper limit has been proposed for inclusion into this SR as discussed in Description of Change M.2 of this section.	
	CTS:	**ITS:**
	15.03.03.B.01.A	SR 3.06.07.03
A.09 Rev. B	Not used.	
	CTS:	**ITS:**
	N/A	N/A
A.10 Rev. B	CTS 15.3.3.B.1.a specifies the spray additive tank level and NaOH concentration in the tank. If either of these limits are not met, CTS 15.3.0.B requires action to be initiated within 1 hour to place the affected unit in hot shutdown within the next 6 hours and cold shutdown within 36 hours. These required actions will be reflected in ITS 3.6.7, Conditions B and C, with the exception of allowing 84 hours to reach MODE 5 as discussed in DOC L.2.	
	CTS:	**ITS:**
	15.03.0.B	LCO 3.06.07 COND B LCO 3.06.07 COND B RA B.1 LCO 3.06.07 COND C LCO 3.06.07 COND C RA C.1 LCO 3.06.07 COND C RA C.2

DOC Number	DOC Text
L.01 Rev. B	CTS Action 15.3.3.B.2 in combination with CTS 15.3.3.B.2.c allows the inoperability of a valve which supports the iodine removal system, providing that the valve in the opposite system which provides the redundant function is still operable. In addition, CTS 15.3.3.B.2 will not allow the simultaneous inoperability of any of the components/systems specified within the CTS LCO (i.e., a single containment spray pump system, one or two containment fan cooler units, or a valve in either the Iodine Removal System or containment fan coolers system). The proposed ITS will allow the spray additive system to be inoperable concurrent with the containment fan coolers or containment spray train. Concurrent containment spray pump and accident fan coolers inoperability is addressed in LCO 3.6.6 of this conversion. Inoperability of the spray additive system (Iodine Removal System) concurrent with any allowable combination of fan cooler inoperabilities is acceptable. The spray additive system is required to be operable to promote retention of iodines in the recirculation fluids after a primary side Loss of Coolant Accident (LOCA), in addition to long term containment corrosion considerations. To obtain the advantages of the high partition coefficient which results in a high absorption rate and nearly complete removal of iodine at equilibrium, the chemisty of the spray solution is modified by adding NaOH, raising the pH to approximately 8.5 to 9.5. As directed in SRP 6.5.2, Rev. 2, the removal coefficient was limited to 20 1/hr in the LOCA radiological analysis. The containment fan coolers are designed to maintain containment pressure and temperature within limits, the containment fan coolers and the spray additive system have no functional relationships nor dependencies. The containment spray system provides containment pressure and temperature control in addition to delivery of sodium hydroxide to the containment to minimize the evolution of iodines from the containment recirculation fluids. The spray additive system consists of one spray additive tank that is shared by the two trains of spray additive components. Each train provides a flow path from the spray additive tank to a containment spray pump and consists of an eductor for each containment spray pump, valves, instrumentation, and connecting piping. Each eductor draws the sodium hydroxide spray solution from the common tank using a portion of the borated water discharged by the containment spray pump as the motive flow. Based on the system design, a loss of a pump and spray additive valve within the same train, independent or concurrently, results in the same level of degradation relative to the spray additive function. CTS 15.3.3.B.2.c allows 72 hours to restore an inoperable valve provided the redundant valve is operable. Any inoperability which results in a comparable loss of redundant capability will not result in an increase in risk. Therefore, allowing 72 hours to restore an inoperable flowpath will not reduce the margin of safety, and is consistent with the allowance afforded to a loss of redundancy for other safety systems. Any inoperability which results in a loss of both spray additive system flowpaths (including an inoperable NaOH tank level or concentration, or system components common to both flowpaths), will require actions commensurate with a loss of function, i.e., restore at least one flowpath to operable status within 1 hour, or commence unit shutdown.

CTS:	ITS:
15.03.03.B.02	DELETED
15.03.03.B.02.C	LCO 3.06.07 COND A

DOC Number	DOC Text	
	15.03.03.B.02.C	LCO 3.06.07 COND A RA A.1
L.02 Rev. B	CTS 15.3.3.B.2 requires the unit to be placed into hot shutdown within 6 hours and cold shutdown within 36 hours if any valve within the Spray Additive System is inoperable in excess of 72 hours as allowed by CTS 15.3.3.B.2.c. Additionally, if the Spray Additive System is inoperable for any other reason, CTS 15.3.0.B applies and actions are required to be initiated in 1 hour to place the unit in hot shutdown within 6 hours and cold shutdown within 36 hours. The ITS will require the unit to be placed into Mode 3 (hot shutdown) within 6 hours and Mode 5 (cold shutdown) within 84 hours if the Required Actions and Completion Times above are not met. The ITS will allow an additional 48 hour to place the unit into Mode 5. This is reasonable when considering the reduced pressure and temperature conditions in MODE 3 for the release of radioactive material from the Reactor Coolant System. This additional time period can be utilized in restoring the inoperable components to operable status potentially averting the need to incur an unnecessary unit cool down and depressurization.	
	CTS:	**ITS:**
	15.03.03.B.02	LCO 3.06.07 COND C RA C.2
L.03 Rev. A	CTS Table 15.4.1-2, item number 5 requires the performance of a spray additive tank concentration sample once a month. The proposed ITS will require performance of this surveillance once every 184 days. The spray additive tank is normally static, it is not used as a process tank, and there are no permanently connected fill lines; therefore, this tank is not subject to rapid or uncontrolled changes in level and concentration. Intentional changes to tank level and concentration are performed in a controlled manner and will include post evolution sampling when necessary. The proposed frequency of 184 days has been proven through industry experience to be sufficient in ensuring that sodium hydroxide concentration is maintained within limits.	
	CTS:	**ITS:**
	15.04.01 T 15.04.01-02 05	SR 3.06.07.03
L.04 Rev. B	CTS 15.4.5.I.B.1 and CTS 15.4.5.I.B.2 provides details on surveillance testing which are not necessary to describe the actual regulatory requirement. Therefore, these details are being removed. The proposed ITS specifies the safety objective that must be fulfilled by the surveillance tests, while leaving the details associated with testing methods and acceptance verifications to licensee control. These type of details are better suited for procedural control and are not required to be in the ITS to provide adequate protection to the public health and safety. Changes to plant procedures and other plant controlled documents are subject to controls imposed by plant administrative procedures, which endorse applicable regulations and standards.	
	CTS:	**ITS:**
	15.04.05.I.B.01	DELETED
	15.04.05.I.B.02	DELETED

DOC Number	DOC Text	
L.05 Rev. B	CTS 15.4.5.I.B.1 requires the Spray Additive System test to be initiated by tripping the normal actuation instrumentation. The proposed ITS requirement in SR 3.6.7.4 allows initiation by an actual or simulated signal. The proposed ITS is less restrictive because it allows a simulated signal. This change is insignificant because the actuation instrumentation for this system is appropriately surveilled in accordance with the requirements in Section 3.3 of the proposed ITS.	
	CTS:	**ITS:**
	15.04.05.I.B.01	DELETED
LA.01 Rev. B	Not used.	
	CTS:	**ITS:**
	N/A	N/A
M.01 Rev. A	CTS 15.3.3.B.1 contains a provision exempting the requirement to maintain the Iodine Removal System operable during low power physics testing. This provision has been deleted in the proposed Technical Specifications. Low power physics testing in the Improved Technical Specifications is a subset of Mode 2. While Mode 2 is typically a non limiting Mode, the operability requirements of this system is independent of physics testing, accordingly this provision has been deleted. This change represent a more restrictive changes as it involves the deletion of a flexibility that currently exists.	
	CTS:	**ITS:**
	15.03.03.B.01	DELETED
M.02 Rev. A	CTS 15.3.3.B.1.a establishes the operational limits for the spray additive tank as being; not less than 2675 gallons in volume, and not less than 30% in concentration. The spray additive system is designed to establish a post Design Basis primary side Loss of Coolant Accident containment recirculation fluid pH of between approximately 7.0 and 9.0. This range is intended to minimize the evolution of iodines from the recirculation fluid as well as minimizing the potential for chloride and caustic stress corrosion. To maintain a pH range of approximately 7.0 to 9.0 an upper limit for concentration have been proposed. The addition of this limit will provide assurance that the upper pH limit is not exceeded. The addition of this limit is a more restrictive requirement.	
	CTS:	**ITS:**
	15.03.03.B.01.A	SR 3.06.07.03

DOC Number	DOC Text	
M.03 Rev. A	CTS 15.4.5.I.B.1 requires the performance of a spray additive system test during reactor shutdowns once every major fuel reloading. This test is intended to verify proper operation of the spray additive tank outlet valves by an actuation signal. This testing has been translated to ITS SR 3.6.7.4 as discussed in Description of Change A.7 of this section. The proposed frequency for this test is once every 18 months. The CTS frequency is not specific in that it is tied to a plant evolution (reactor shutdown for major fuel reloading) as opposed to an explicit performance interval. Requiring performance of these surveillances on a fixed frequency of 18 months is more restrictive, as the previous frequency has no bounding limit. An 18 month interval for actuation testing is acceptable based on industry reliability data for this type of testing.	
	CTS:	**ITS:**
	15.04.05.I.B.01	SR 3.06.07.04
M.04 Rev. A	CTS 15.3.3.B.1.a establishes a minimum required level for the spray additive tank however, the CTS does not contain any surveillance requirement to verify that this limit is met on a periodic basis. The ITS has moved the operational limit from the LCO Statement to Surveillance Requirement SR 3.6.7.2, which is administrative and imposed a frequency for verifying that the limitation is met (every 184 days). The spray additive tank is normally static, it is not used as a process tank, and there are no permanently connected fill lines or drain lines, therefore, this tank is not subject to rapid or uncontrolled changes in level. The proposed frequency for verifying tank volume is considered acceptable based on industry data for this type of testing.	
	CTS:	**ITS:**
	15.03.03.B.01.A	SR 3.06.07.02

B. Containment Cooling and Iodine Removal Systems

M.1 M.2

M.4 A.4 1. A reactor shall not be made critical ~~except for low temperature physics tests,~~ unless the following conditions ~~associated with that reactor are met:~~

SR 3.6.7.2
A.9
a. The spray additive tank contains not less than 2675 gal. of solution with a sodium hydroxide concentration of not less than 30% by weight. [and ≤ 33 %]

SR 3.6.7.3
A.8
b. Two containment spray pumps are operable.

c. Four accident fan-cooler units are operable.

A.5
d. All valves and piping, associated with the above components and required to function during accident conditions, are operable.

B RAI 3 6 7-2

L.1
2. ~~During power operation, the requirements of 15.3.3.B-1 may be modified to allow any ONE of the following limitations (a., b., or c.) to be in effect at any one time.~~ ~~If the system is not restored to meet the requirements of 15.3.3.B-1 within the time period specified,~~ [If the Required Action and completion Time of Condition A or B are not met] the reactor shall be placed in the hot shutdown condition within six hours and in cold shutdown within ~~36~~ [84] hours.

A.10 L.2

B RAI 3 6 7-6

a. One or two accident fan cooler may be out of service provided the fan coolers are restored to operable status within 72 hours. The remaining accident fan coolers shall be operable.

b. One containment spray pump may be out of service provided the pump is restored to operable status within 72 hours. The remaining containment spray pump shall be operable.

c. ~~Any valve required for the functioning of the system during accident conditions~~ [One Spray Additive System flowpath] may be inoperable provided repairs are completed within 72 hours. ~~Prior to initiating repairs, all valves in the system that provide the duplicate function shall be operable.~~ ~~(Exception: If a spray pump is removed from service per b. above, valves associated with that train may be removed from service for the period specified for the pump.)~~

L.1

< See LCO 3.6.6 >

A.10

B RAI 3 6 7-6

B. Spray Additive System inoperable for any reason other than Condition A.	B.1 Restore at least one Spray Additive System flowpath to OPERABLE status.	1 hour

A.1

< See Section 3.5 >

That is, the appropriate pump motor breakers shall have opened and closed, and all valves shall have completed their travel.

B. Containment Spray System

SR 3.6.7.4

1. System tests shall be performed during reactor shutdowns for major fuel reloading. (L.4) The test shall be performed with the isolation valves in the spray supply lines at the containment blocked closed. (L.5) Operation of the system is initiated by tripping the normal actuation instrumentation. (L.4) The motor breakers for the pumps shall be placed in the "test" position for this test.

2. The test will be considered satisfactory if visual observations indicate all components have operated satisfactorily.

(B) RAI 3.6.7-3 RAI 3.6.7-5

< See LCO 3.6.6 >

3. The spray nozzles shall be checked to verify that they are not obstructed at intervals not exceeding five years.

C. Containment Fan Coolers

1. Each fan cooler unit shall be tested at each refueling to verify proper operation of the backdraft dampers and the service water bypass valves.

2. Containment fan cooler accident fans shall be tested monthly to verify operability. Acceptable performance shall be that the accident fan starts and running current is verified.

II. Component Tests and Surveillances

A. Pumps

1. The safety injection pumps, residual heat removal pumps, and

< See LCOs 3.5.2 aand 3.5.3 >

SR 3.6.7.4	Verify each spray additive automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal	18 months

A.7 M.3

Justification For Deviations - NUREG-1431 Section 3.06.07

15-Jun-00

JFD Number	JFD Text	
01 Rev. B	The LCO 3.6.7 of NUREG 1431 addresses numerous designs which are stated in the title of the LCO (i.e. Ice Condensers, Sub-Atmospheric, Atmospheric, and Dual). Point Beach's containment is an atmospheric design. Inclusion of the design classification (i.e. Ice Condenser, Dual, Atmospheric, and Sub-Atmospheric) in the LCO and Bases titles is a detail relevant only in distinguishing the NUREG variations. This information has been omitted from the site specific ITS.	
	ITS:	**NUREG:**
	B 3.06.07	B 3.06.07
	LCO 3.06.07	LCO 3.06.07
02 Rev. B	Brackets have been removed and the proper plant specific information has been provided. In some instances, even though the information was designated as being site specific information in the LCO (bracketed), the corresponding Bases information was not bracketed. These cases are self evident, corresponding to the bracketed information in the LCO and have had the appropriate site specific information provided.	
	ITS:	**NUREG:**
	B 3.06.07	B 3.06.07
	SR 3.06.07.02	SR 3.06.07.02
	SR 3.06.07.03	SR 3.06.07.03
	SR 3.06.07.04	SR 3.06.07.04
03 Rev. B	The five year spray additive eductor flow rate surveillance has not been adopted. The current Technical Specifications do not contain a sodium hydroxide flow rate limitation. To obtain the advantages of the high partition coefficient which results in a high absorption rate and nearly complete removal of iodine at equilibrium, the chemistry of the spray solution is modified by adding NaOH, raising the pH to approximately 8.5 to 9.5. However, as directed in SRP 6.5.2, Rev. 2, the removal coefficient was limited to 20 1/hr in the LOCA radiological analysis. The addition of sodium hydroxide to the containment is assumed for long term corrosion control and to aid in iodine retention in the containment sump fluids. The delivery rate is not significant. Therefore, the proposed system actuation tests, in combination with the periodic system alignment verifications, provides sufficient assurance that sodium hydroxide will be delivered to the containment as assumed.	
	ITS:	**NUREG:**
	B 3.06.07	B 3.06.07
	N/A	SR 3.06.07.05

Justification For Deviations - NUREG-1431 Section 3.06.07

08-Jun-00

JFD Number	JFD Text	
04 Rev. A	The Bases background section for the spray additive system contains two discussions, one for eductor feed spray additive systems and one for gravity feed. Point Beach's spray additive system utilizes an eductor feed system therefore, this section of the Bases will be retained, while the gravity feed discussions are omitted.	
	ITS:	**NUREG:**
	B 3.06.07	B 3.06.07
05 Rev. B	The proposed ITS Bases has been modified to address Point Beach's licensing basis. Point Beach's spray additive system utilizes an eductor feed system which provides sodium hydroxide to the containment sump fluid for the purpose of iodine retention and long term corrosion concerns. The assumed pH range is 7.0 to 9.0.	
	ITS:	**NUREG:**
	B 3.06.07	B 3.06.07
06 Rev. A	The Bases discussion regarding spray additive and automatic valve operation have been changed to reflect Point Beach's design.	
	ITS:	**NUREG:**
	B 3.06.07	B 3.06.07
07 Rev. B	The Bases has been revised to reflect Point Beach's licensing basis relative to the spray additive system. The spray additive system is credited in the delivery of sodium hydroxide to the containment, to assure an equilibrium containment recirculation fluid pH of between 7.0 and 9.0. This pH range ensures that the iodines removed from the containment atmosphere by the containment spray system will be retained in solution without significant re-evolution. The spray additive system also provides sodium hydroxide to the containment spray flow stream for the purpose of removing iodine from the containment atmosphere.	
	ITS:	**NUREG:**
	B 3.06.07	B 3.06.07
08 Rev. B	Not used.	
	ITS:	**NUREG:**
	N/A	N/A

Justification For Deviations - NUREG-1431 Section 3.06.07

07-Jun-00

JFD Number	JFD Text	
09 Rev. A	CTS 15.3.3.B.1.a, specifies only a minimum volume limit for the Spray Additive Tank. NUREG 1431 SR 3.6.7.2 specifies both a minimum and a maximum volume for the Spray Additive Tank to ensure an equilibrium containment sump fluid pH of between 7.0 and 9.0 for long term iodine retention. Proposed SR 3.6.7.3 will require the concentration of NaOH to be maintained greater than or equal to 30% and less than or equal to 33% which in combination with the lower tank level limit proposed in SR 3.6.7.2, will ensure the lower pH limit of 7.0 is achieved for a limiting DBA. However, no upper Spray Additive Tank level limit is being proposed. Calculations based on the maximum allowable Spray Additive NaOH concentration (33%), maximum spray additive flow rates and delivery time, yield a maximum NaOH delivery of approximately 3600 gallons, which is insufficient to raise the equilibrium containment sump fluid pH above the 9.0 analysis limit. Therefore, no upper Spray Additive Tank volume limit is being proposed for inclusion into the ITS, consistent with the Point Beach CTS.	
	ITS:	**NUREG:**
	SR 3.06.07.02	SR 3.06.07.02
10 Rev. B	ITS 3.6.7 Required Actions have been modified to more closely reflect the requirements of CTS 15.3.3.B.2. Proposed ITS Condition A will allow 72 hours to restore an inoperable flowpath to operable status. Additionally, Condition B has been added to allow 1 hour to restore at least one Spray Additive System flowpath to operable status for inoperabilities other than Condition A. Finally, if the Required Action and Completion Time of Condition A or B can not be met, ITS Condition C requires placing the unit in a condition where the requirements of LCO 3.6.7 no longer apply.	
	ITS:	**NUREG:**
	B 3.06.07	B 3.06.07
	LCO 3.06.07 COND A	LCO 3.06.07 COND A
	LCO 3.06.07 COND A RA A.1	LCO 3.06.07 COND A RA A.1
	LCO 3.06.07 COND B	N/A
	LCO 3.06.07 COND B RA B.1	N/A
	LCO 3.06.07 COND C	LCO 3.06.07 COND B
	LCO 3.06.07 COND C RA C.1	LCO 3.06.07 COND B RA B.1
	LCO 3.06.07 COND C RA C.2	LCO 3.06.07 COND B RA B.2

1

3.6 CONTAINMENT SYSTEMS

3.6.7 Spray Additive System (Atmospheric, Subatmospheric, Ice Condenser, and Dual)

LCO 3.6.7 The Spray Additive System shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Spray Additive System inoperable.	A.1 Restore Spray Additive System to OPERABLE status.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 84 hours

Markup: 10 → "One" inserted before CONDITION; 10 → "flowpath" inserted in A (condition and required action); 10 → B relettered C, "of Condition A or B" inserted.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.7.1 Verify each spray additive manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days

(continued)

Inserted (10):

B. Spray Additive System inoperable for any reason other than Condition A.	B.1 Restore at least one Spray Additive System flowpath to OPERABLE status	1 hour

B
RAI 3.6.7-6

10

1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.7.2	Verify spray additive tank solution volume is ≥ [2568] gal and ≤ [4000] gal. (2 → 2675; 9)	184 days
SR 3.6.7.3	Verify spray additive tank [NaOH] solution concentration is ≥ [30]% and ≤ [32]% by weight. (2 → 30; 2 → 33)	184 days
SR 3.6.7.4	Verify each spray additive automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	[18] months (2)
SR 3.6.7.5	Verify spray additive flow [rate] from each solution's flow path.	5 years

3

B
RAI 3.6.7-6

1

B 3.6 CONTAINMENT SYSTEMS

B 3.6.7 Spray Additive System (Atmospheric, Subatmospheric, Ice Condenser, and Dual)

BASES

BACKGROUND

The Spray Additive System is a subsystem of the Containment Spray System that assists in reducing the iodine fission product inventory in the containment atmosphere resulting from a Design Basis Accident (DBA).

Radioiodine in its various forms is the fission product of primary concern in the evaluation of a DBA. It is absorbed by the spray from the containment atmosphere. To enhance the iodine absorption capacity of the spray, the spray solution is adjusted to an alkaline pH that promotes iodine hydrolysis, in which iodine is converted to nonvolatile forms. Because of its stability when exposed to radiation and elevated temperature sodium hydroxide (NaOH) is the preferred spray additive. The NaOH added to the spray also ensures a pH value of between 8.5 and 11.0 of the solution recirculated from the containment sump. This pH band minimizes the evolution of iodine as well as the occurrence of chloride and caustic stress corrosion on mechanical systems and components.

2 — 8.5 and 9.5

B — RAI 3.6.7-6

Eductor Feed Systems Only — 4

The Spray Additive System consists of one spray additive tank that is shared by the two trains of spray additive equipment. Each train of equipment provides a flow path from the spray additive tank to a containment spray pump and consists of an eductor for each containment spray pump, valves, instrumentation, and connecting piping. Each eductor draws the NaOH spray solution from the common tank using a portion of the borated water discharged by the containment spray pump as the motive flow. The eductor mixes the NaOH solution and the borated water and discharges the mixture into the spray pump suction line. The eductors are designed to ensure that the pH of the spray mixture is between 8.5 and 11.0.

5

APPLICABLE SAFETY ANALYSES (continued)

7

Replace with Insert B 3.6.7-03

~~discussed in the Bases for LCO 3.6.6, "Containment Spray and Cooling Systems."~~

~~The DBA analyses assume that one train of the Containment Spray System/Spray Additive System is inoperable and that the entire spray additive tank volume is added to the remaining Containment Spray System flow path.~~

The Spray Additive System satisfies Criterion 3 of the NRC Policy Statement.

LCO

7

Replace with Insert B 3.6.7-01

The Spray Additive System is necessary to reduce the release of radioactive material to the environment in the event of a DBA. ~~To be considered OPERABLE, the volume and concentration of the spray additive solution must be sufficient to provide NaOH injection into the spray flow until the Containment Spray System suction path is switched from the RWST to the containment sump, and to raise the average spray solution pH to a level conducive to iodine removal, namely, to between [7.2 and 11.0]. This pH range maximizes the effectiveness of the iodine removal mechanism without introducing conditions that may induce caustic stress corrosion cracking of mechanical system components.~~ In addition, it is essential that valves in the Spray Additive System flow paths are properly positioned and that automatic valves are capable of activating to their correct positions.

B
RAI 3.6.7-6

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment requiring the operation of the Spray Additive System. The Spray Additive System assists in reducing the iodine fission product inventory prior to release to the environment.

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Thus, the Spray Additive System is not required to be OPERABLE in MODE 5 or 6.

B
RAI 3.6.7-6

1

BASES

ACTIONS (continued)

ACTIONS

A.1

Replace with Insert B 3.6.7-04

10

If the Spray Additive System is inoperable, it must be restored to OPERABLE within 72 hours. The pH adjustment of the Containment Spray System flow for corrosion protection and iodine removal enhancement is reduced in this condition. The Containment Spray System would still be available and would remove some iodine from the containment atmosphere in the event of a DBA. The 72 hour Completion Time takes into account the redundant flow path capabilities and the low probability of the worst case DBA occurring during this period.

B
RAI 3.6.7-6

Insert B 3.6.7-05

B.1 and B.2 ← C.1 and C.2 ← 10

Replace with Insert B 3.6.7-06

10

~~If the Spray Additive System cannot be restored to OPERABLE status within the required Completion Time,~~ the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 84 hours. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE 5 allows 48 hours for restoration of the Spray Additive System in MODE 3 and 36 hours to reach MODE 5. This is reasonable when considering the reduced pressure and temperature conditions in MODE 3 for the release of radioactive material from the Reactor Coolant System.

SURVEILLANCE REQUIREMENTS

SR 3.6.7.1

Verifying the correct alignment of Spray Additive System manual, power operated, and automatic valves in the spray additive flow path provides assurance that the system is able to provide additive to the Containment Spray System in the event of a DBA. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves were verified to be in the correct position prior to locking, sealing, or securing. This SR does not require any testing or valve manipulation. Rather, it

BASES INSERTS

Insert B-3.6.7-01:

Sodium hydroxide addition to the containment also ensures a containment sump fluid pH of between approximately 7.0 and 9.0 to assist in minimizing the evolution of iodine from the containment recirculation fluids. This ph band also minimizes the effects of chloride and caustic stress corrosion on containment systems, components, and structures. To be considered OPERABLE, the volume and concentration of the spray additive solution must be sufficient to provide NaOH injection into the containment.

B RAI 3.6.7-6

5/7

Insert B 3.6.7-02:

The Containment Spray System actuation signal opens the valves from the spray additive tank to the spray train eductors after a 2 minute delay.

6

Insert B 3.6.7-03:

Following a design basis LOCA, the containment is assumed to leak at its analysis leakage limit (1.0 La) for the first 24 hours of the event and 50% of La for the remainder of the calculated 30 day dose period. The containment spray system is assumed to remove elemental iodine from the containment atmosphere until a decontamination factor of 200 is achieved. Once removed from the atmosphere, iodine is assumed to stay in solution with the containment sump fluids. In order to assure long term iodine retention with no significant re-evolution an equilibrium sump fluid pH of between 7.0 and 9.0 is desired.

B RAI 3.6.7-6

7

B RAI 3.6.7-6

BASES INSERTS

Insert B 3.6.7-04:

With one Spray Additive System flowpath inoperable, the inoperable flowpath must be restored to OPERABLE status within 72 hours. In this condition, the remaining OPERABLE portion of the Spray Additive System is adequate to inject sufficient NaOH into the containment. The 72 hour Completion Time takes into account the redundant NaOH delivery capability and the low probability of a DBA occurring during this period.

10

Insert B 3.6.7-05:

B.1 If the Spray Additive System is inoperable for any reason other than Condition A, at least one flowpath must be restored to OPERABLE status within 1 hour. The Completion Time of 1 hour reflects the loss of the capability to add NaOH to the containment sump during an accident and the importance of restoring the system to an OPERABLE status.

B
RAI 3.6.7-6

10

Insert B 3.6.7-06:

If the Required Action and Completion Time of Condition A or B are not met.

10

No Significant Hazards Considerations - NUREG-1431 Section 3.06.07

17-May-00

NSHC Number	NSHC Text
A Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change involves reformatting and rewording of the current Technical Specifications. The reformatting and rewording process involves no technical changes to existing requirements. As such, this change is administrative in nature and does not impact initiators of analyzed events or assumed mitigation of accident or transient events. Therefore, this change does not increase the probability or consequences of an accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will not impose any new or eliminate any old requirements. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The proposed change will not significantly reduce the margin of safety because it has no impact on any safety analysis assumptions. This change is administrative. As such, there is no technical change to the requirements and, therefore, there is no reduction in the margin of safety.

No Significant Hazards Considerations - NUREG-1431 Section 3.06.07

08-Jun-00

NSHC Number	NSHC Text
L.01 Rev. B	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

The proposed change will allow the spray additive system to be inoperable concurrent with the containment fan coolers or containment spray train, in addition to addressing a loss of redundancy for the spray additive system. Inoperability of the spray additive system concurrent with the containment fan cooler units is acceptable based on the fact that these two systems perform functions which are not interrelated. The spray additive system is required to promote retention of iodines in the recirculation fluids after a Loss of Coolant Accident (LOCA), in addition to long term containment corrosion considerations. Sodium hydroxide is added to the containment spray flow stream for reduction of containment iodine. The containment fan coolers are designed to maintain containment pressure and temperature within limits, the containment fan coolers and the spray additive system have no functional relationships nor dependencies. The containment spray system provides containment pressure and temperature control in addition to delivery of sodium hydroxide to the containment to maximize the absorption of iodines from the containment atmosphere and minimize the evolution of iodines from the containment recirculation fluids. Based on the system design, the loss of a containment spray train and spray additive flowpath within the same train, independent or concurrently results in the same level of degradation relative to the spray additive function. Additionally, an inoperable spray additive system flowpath results in the same level of degradation as an inoperable redundant valve.

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

This change does not result in the introduction of any new or different equipment. Through not introducing any new failure modes and mechanisms, this change would not result in a significant change in the probability of previously evaluated accidents. The consequences of previously evaluated accidents are not significantly altered by allowing multiple inoperabilities to exist. As discussed above, the allowable inoperabilities either result in the same level of degradation as a single inoperability, or are in unrelated functions. The allowable plant configurations will continue to be bounded by the existing containment pressure analysis. Accordingly, the consequences of previously evaluated accidents are not significantly changed.

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

The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will allow operation for a limited period of time with multiple inoperabilities, while still bounded by the existing analysis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

NSHC Number	NSHC Text
	The allowable combination of inoperabilities involve equipment which does not result in any increase in risk state or are associated with unrelated functions which do not have any interdependencies. Based on this, the potential for common mode failure within redundant components during the increased time allowed for overlapping inoperabilities is insignificant. In this fashion, the margin inherent to redundant systems and components is not significantly impacted by the small increase in allowable restoration time. Considering the low probability of coincident entry into multiple Conditions with the low probability of an accident occurring during this time, the margin of safety is not significantly reduced.

NSHC Number	NSHC Text
L.02 Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? This change does not result in any equipment or hardware changes. The spray additive systems allowable restoration time is not assumed to be an initiators of any analyzed event. The proposed change extends the allowable time to reach Mode 5 after the unit is placed into Mode 3 by 48 hours. During this added 48 hours relative to multiple inoperabilities, the consequences of an event will continue be bounded by the existing containment pressure analysis. Loss of functional capability is acceptable based on the absence of an iodine re-evolution mechanism over the pH range of concern. Secondarily, any re-evolution should be offset by the conservatisms used in the offsite and onsite dose calculations relative to containment leakage rates. Accordingly, the consequences of previously evaluated accidents are not significantly changed. Therefore, the proposed change does not increase the probability or consequences of an accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will not allow continuous operation with an inoperable containment spray train. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The increased time allowed to reach Mode 5 is acceptable based on the allowable combinations of inoperabilities involving equipment which does not result in any increase in risk state or are associated with unrelated functions which do not have an interdependencies. In addition, this additional time is acceptable based on the conservatisms inherent to the unit being placed in Mode 3. Dose considerations (both offsite and control room) are projected based on a core operating at 102% of rated power and the containment pressure analysis is based upon a higher energy state (temperature) for the reactor coolant system. The reduced consequences from these specifics alone offset the increased time allowed to operate in a condition capable of event mitigation, but incapable of a single failure. Loss of functional capability for the spray additive function does not result in any significant changes in onsite or offsite doses. This is based on conservative assumption made relative to containment leakage rate, and the lack of a significant driver which would result in re-evolution of iodines back into the containment atmosphere over the containment sump pH range of concern. Considering the low probability of coincident entry into multiple Conditions or loss of functional capability with the low probability of an accident occurring during this time, an increase in the

NSHC Number	NSHC Text
	allowable time to reach Mode 5 does not significantly affect any margin of safety.
L.03 Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? This change does not result in any equipment or hardware changes. The proposed change extends the spray additive tank sodium hydroxide sampling frequency from once every month to once every 184 days. There are no permanently connected fill or drain lines; therefore, this tank is not subject to rapid or uncontrolled changes in level and concentration. The frequency of surveillance testing is not an initiator of any analyzed event. This increase in frequency is acceptable based on the static nature of the tank. Further, the proposed frequency is acceptable based on industry data, which supports that the proposed frequency is adequate in providing assurance that tank concentration will be maintained thereby, maintaining the equipment in an operable state. Based on the equipment being maintained in an operable state, the consequence for previously evaluated accidents remains unchanged. Accordingly, the probability and consequences of previously evaluated accident is not significantly changed. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The spray additive tank is normally static, it is not used as a process tank, and there are no permanently connected fill or drain lines, therefore this tank is not subject to rapid or uncontrolled changes in level and concentration. Intentional changes to tank level and concentration are performed in a controlled manner and will include post evolution sampling when necessary. Based on the above, it has been concluded that increasing the testing interval will not result in any significant increase in undetectable surveillance failures. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The increased surveillance interval is acceptable based on the industry data that has concluded that the likelihood of a concentration change is low based on the static nature of the tank. The likelihood for an uncontrolled chemistry change is insignificant, and it has been concluded that sodium hydroxide concentration does not significantly change due to aging. Based on the above, this change does not represent a significant reduction in a margin of safety.

17-May-00

NSHC Number	NSHC Text
L.04 Rev. B	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change results in the deletion of details which are not necessary to describe the actual regulatory requirement, or provide adequate protection of the public health and safety. Accordingly, there will be no significant change in the probability or consequences of accidents previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not involve any physical alteration of plant systems, structures or components, nor does it alter parameters governing normal plant operation. The proposed change does not introduce a new mode of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created. 3. Does this change involve a significant reduction in a margin of safety? The deletion of details which are not necessary to describe the actual regulatory requirement, or provide adequate protection of the public health and safety, does not result in a significant reduction in the margin of safety.

NSHC Number	NSHC Text
L.05 Rev. B	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. CTS 15.4.5.I.B.1 specifies the Spray Additive System test to be initiated by tripping the normal actuation instrumentation. ITS SR 3.6.7.4 permits initiation by an actual or simulated signal to satisfy the requirements. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The Spray Additive System is used to mitigate the consequences of an accident; however, it is not an initiator of any previously analyzed accident. As such the relaxing the requirements under which the Spray Additive System testing is performed does not affect the results of the surveillance and will not increase the probability of any accident previously evaluated. The proposed actions continue to provide adequate assurance of Operability for required equipment and therefore, do not involve an increase in the consequences of any accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? This change does not involve a significant reduction in a margin of safety because the Operability of the equipment continues to be evaluated in the same manner. The results of the Spray Additive System testing are not affected by the nature of the initiating signal, because the system cannot discriminate whether the signals are actual or simulated. The intent of the surveillance requirement has not been altered and does not result in a reduction in the margin of safety.
LA Rev. B	Not used.

NSHC Number	NSHC Text
M Rev. A	In accordance with the criteria set forth in 10 CFR 50.92, PBNP has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion. 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated? The proposed change provides more restrictive requirements for operation of the facility. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter the assumptions relative to the mitigation of an accident or transient event. These more restrictive requirements continue to ensure process variables, structures, systems and components are maintained consistent with the safety analyses. Therefore, this change does not increase the probability or consequences of an accident previously evaluated. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? The proposed change does not require a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change does impose different requirements. However, these changes are consistent with assumptions made in the safety analysis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated. 3. Does this change involve a significant reduction in a margin of safety? The imposition of more restrictive requirements either has no affect on or increases the margin of safety. Each change is providing additional restrictions to enhance plant safety. These changes are consistent with the safety analysis. Therefore, this change does not involve a reduction in a margin of safety.

3.6 CONTAINMENT SYSTEMS

3.6.7 Spray Additive System

LCO 3.6.7 The Spray Additive System shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One Spray Additive System flowpath inoperable.	A.1	Restore Spray Additive System flowpath to OPERABLE status.	72 hours
B. Spray Additive System inoperable for any reason other than Condition A.	B.1	Restore at least one Spray Additive System flowpath to OPERABLE status.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met.	C.1	Be in MODE 3.	6 hours
	<u>AND</u>		
	C.2	Be in MODE 5.	84 hours

B
RAI 3.6.7-6

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.7.1	Verify each spray additive manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days
SR 3.6.7.2	Verify spray additive tank solution volume is ≥ 2675 gal.	184 days
SR 3.6.7.3	Verify spray additive tank NaOH solution concentration is ≥ 30% and ≤ 33% by weight.	184 days
SR 3.6.7.4	Verify each spray additive automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	18 months

B
RAI 3.6.7-6

B 3.6 CONTAINMENT SYSTEMS

B 3.6.7 Spray Additive System

BASES

BACKGROUND

The Spray Additive System is a subsystem of the Containment Spray System that assists in reducing the iodine fission product inventory in the containment atmosphere resulting from a Design Basis Accident (DBA).

Radioiodine in its various forms is the fission product of primary concern in the evaluation of a DBA. It is absorbed by the spray from the containment atmosphere. To enhance the iodine absorption capacity of the spray, the spray solution is adjusted to an alkaline pH that promotes iodine hydrolysis, in which iodine is converted to nonvolatile forms. Because of its stability when exposed to radiation and elevated temperature, sodium hydroxide (NaOH) is the preferred spray additive. The NaOH added to the spray also ensures a pH value of between 8.5 and 9.5 of the solution recirculated from the containment sump. This pH band minimizes the evolution of iodine as well as the occurrence of chloride and caustic stress corrosion on mechanical systems and components. B RAI 3.6.7-6

The Spray Additive System consists of one spray additive tank that is shared by the two trains of spray additive equipment. Each train of equipment provides a flow path from the spray additive tank to a containment spray pump and consists of an eductor for each containment spray pump, valves, instrumentation, and connecting piping. Each eductor draws the NaOH spray solution from the common tank using a portion of the borated water discharged by the containment spray pump as the motive flow. The eductor mixes the NaOH solution and the borated water and discharges the mixture into the spray pump suction line.

The Containment Spray System actuation signal opens the valves from the spray additive tank to the spray train eductors after a 2 minute delay.

The percent solution and volume of solution sprayed into containment ensures a long term containment sump pH of ≥ 7.0 and ≤ 9.0. This ensures the continued iodine retention effectiveness of the sump water during the recirculation phase of spray operation and also minimizes the occurrence of chloride induced stress corrosion cracking of the stainless steel recirculation piping.

BASES

APPLICABLE SAFETY ANALYSES

Following a design basis LOCA, the containment is assumed to leak at its analysis leakage limit (1.0 L_a) for the first 24 hours of the event and 50% of L_a for the remainder of the calculated 30 day dose period. The containment spray system is assumed to remove elemental iodine from the containment atmosphere until a decontamination factor of 200 is achieved. Once removed from the atmosphere, iodine is assumed to stay in solution with the sump recirculation fluids. In order to assure long term iodine retention with no significant re-evolution, an equilibrium sump fluid pH of between 7.0 and 9.0 is desired. B RAI 3.6.7-6

The Spray Additive System satisfies Criterion 3 of the NRC Policy Statement.

LCO

The Spray Additive System is necessary to reduce the release of radioactive material to the environment in the event of a DBA. Sodium hydroxide addition to the containment also ensures a containment sump fluid pH of between approximately 7.0 and 9.0 to assist in minimizing the evolution of iodine from the containment recirculation fluids. This pH band also minimizes the effects of chloride and caustic stress corrosion on containment systems, components, and structures. To be considered OPERABLE, the volume and concentration of the spray additive solution must be sufficient to provide NaOH injection into the containment. In addition, it is essential that valves in the Spray Additive System flow paths are properly positioned and that automatic valves are capable of activating to their correct positions. B RAI 3.6.7-6

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment requiring the operation of the Spray Additive System. The Spray Additive System assists in reducing the iodine fission product inventory prior to release to the environment. B RAI 3.6.7-6

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Thus, the Spray Additive System is not required to be OPERABLE in MODE 5 or 6.

ACTIONS

A.1

With one Spray Additive System flowpath inoperable, the inoperable flowpath must be restored to OPERABLE status within 72 hours. In this condition, the remaining OPERABLE portion of the Spray Additive System is adequate to ensure a containment sump fluid pH between B RAI 3.6.7-6

BASES

ACTIONS (continued)

7.0 and 9.0. The 72 hour Completion Time takes into account the redundant NaOH delivery capability and the low probability of a DBA occurring during this period.

B.1

If the Spray Additive System is inoperable for any reason other than Condition A, at least one flowpath must be restored to OPERABLE status within 1 hour. The Completion Time of 1 hour reflects the loss of the capability to add NaOH to the containment sump during an accident and the importance of restoring the system to an OPERABLE status. B RAI 3.6.7-6

C.1 and C.2

If the Required Action and Completion Time of Condition A or B are not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 84 hours. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE 5 allows 48 hours for restoration of the Spray Additive System in MODE 3 and 36 hours to reach MODE 5. This is reasonable when considering the reduced pressure and temperature conditions in MODE 3 for the release of radioactive material from the Reactor Coolant System.

SURVEILLANCE REQUIREMENTS

SR 3.6.7.1

Verifying the correct alignment of Spray Additive System manual, power operated, and automatic valves in the spray additive flow path provides assurance that the system is able to provide additive to the Containment Spray System in the event of a DBA. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves were verified to be in the correct position prior to locking, sealing, or securing. This SR does not require any testing or valve manipulation. Rather, it involves verification, through a system walkdown, that those valves outside containment and capable of potentially being mispositioned are in the correct position.

SR 3.6.7.2

To provide effective iodine removal, the containment spray must be an alkaline solution. Since the RWST contents are normally acidic, the volume of the spray additive tank must provide a sufficient volume of spray additive to adjust pH for all water injected. This SR is performed

BASES

SURVEILLANCE REQUIREMENTS (continued)

to verify the availability of sufficient NaOH solution in the Spray Additive System. The 184 day Frequency was developed based on the low probability of an undetected change in tank volume occurring during the SR interval (the tank is isolated during normal unit operations). Tank level is also indicated and alarmed in the control room, so that there is high confidence that a substantial change in level would be detected.

SR 3.6.7.3

This SR provides verification of the NaOH concentration in the spray additive tank and is sufficient to ensure that the spray solution being injected into containment is at the correct pH level. The 184 day Frequency is sufficient to ensure that the concentration level of NaOH in the spray additive tank remains within the established limits. This is based on the low likelihood of an uncontrolled change in concentration (the tank is normally isolated) and the probability that any substantial variance in tank volume will be detected.

SR 3.6.7.4

This SR provides verification that each automatic valve in the Spray Additive System flow path actuates to its correct position. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

REFERENCES

1. FSAR, Chapter 14.3.