NMC
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NRC 2001-004

10 CFR 50.90

February 23, 2001

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

Ladies/Gentlemen:

DOCKETS 50-266 AND 50-301
SUPPLEMENT 10 TO APPLICATION FOR AMENDMENT TO
FACILITY OPERATING LICENSE APPENDIX A:
TECHNICAL SPECIFICATIONS IMPROVEMENT PROJECT
RESPONSE TO RAI ON ITS SECTION 3.7
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

On November 15, 1999, Wisconsin Electric Power Company (WE), then 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 November 6, 2000, the NRC issued a Request for Additional Information (RAI) to Nuclear Management Company, LLC (NMC) on ITS section 3.7.

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. D."

A001

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

D

RAI 3.7.4-2

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

We have 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, We conclude 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.

NMC 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 sections 2.0, 3.1, 3.2, 3.5; letter NPL 2000-0260)
- Supplement 3 dated June 19, 2000 (ITS section 3.6; letter NPL 2000-0271)
- Supplement 4 dated July 28, 2000 (ITS section 3.8; letter NPL 2000-0341)
- Supplement 5 dated August 17, 2000 (ITS sections 3.4, 3.9; letter NPL 2000-0371)
- Supplement 6 dated September 14, 2000 (ITS section 5.5; letter NPL 2000-0411)
- Supplement 7 dated October 19, 2000 (ITS sections 3.6, 3.7.4, 3.7.5; letter NPL 2000-0465)
- Supplement 8 dated December 21, 2000 (ITS section 1.0; letter NPL 2000-0549)
- Supplement 9 dated February 6, 2001 (ITS sections 3.3.1 and 5.0; letter NPL 2001-0032)

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 NMC 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,

Mark Reddemann
Site Vice President

Subscribed to and sworn before me
on this 23rd day of February, 2001

Notary Public, State of Wisconsin

My Commission expires on 8/25/2002.

JG/jlk

Attachments
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 3.7
POINT BEACH NUCLEAR PLANT UNITS 1 AND 2

The following information is provided in response to the Nuclear Regulatory Commission (NRC) staff's request for additional information (RAI) dated November 6, 2000.

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

STS (ITS) 3.7.1, Main Steam Safety Valves (MSSVs)

NRC Question 3.7.1-1

3.7.1-1 DOC M1
CTS 15.3.4.A.1
ITS 3.7.1 Applicability

CTS 15.3.4.A.1 states all eight MSSVs are required to be available when the reactor coolant is heated above 350°F and taken critical, except for low power physics testing. The ITS 3.7.1 Applicability is during Modes 1, 2 and 3 without any exception for low power physics testing. DOC M.1 is incomplete because the removal of the exception for low power physics testing is not discussed or explained as a part of this CTS change.

Comment: Revise the submittal with a technical justification for deleting the MSSV Applicability exception for low power physics testing.

Response:

The exception provided in CTS 15.3.4.A.1 for low power physics testing has not been retained in the ITS. The provision to allow low power physics testing with less than 8 operable MSSVs was rarely, if ever, used. Further, the exception provided little benefit, since performing low power physics testing while utilizing the exception would typically require shutting the plant down and placing it on RHR in order to repair/replace any inoperable MSSVs. This change is consistent with the STS and is more restrictive. DOC M.1 has been revised to explain this change.

NRC Question 3.7.1-7

TSTF 235, Revision 1
ITS 3.7.1 Required Action B.1
ITS Table 3.7.1-1
ITS 3.7.1 Bases: Background discussion/LCO discussion
JFDs 5 and 7

ITS deviates from STS 3.7.1, as revised by TSTF-235, Rev. 1, as follows.

(1) Required Action B.1 uses "power" instead of the defined term, "THERMAL POWER."

(2) Table 3.7.1-1 contains a row corresponding to the maximum allowable power when no MSSVs are inoperable.

(3) The Bases Background discussion omits the STS's final sentence regarding staggered MSSV lift setpoints. (JFD 7)

(4) The Bases LCO discussion retains a sentence in the first paragraph that was deleted by TSTF 235, Rev. 1, and omits other clarifications. The third paragraph is not moved to the Bases for SR 3.7.1.1.

The submittal, including JFDs 5 and 7, either does not explain or does not technically justify these deviations.

Comment: Revise the referenced requirements and Bases to conform to the STS and TSTF-235, Rev. 1.

Response:

(1) Required Action B.1 has been revised to reflect THERMAL POWER in lieu of "power," as originally submitted.

(2) Table 3.7.1.1 has been revised to remove the row corresponding to the maximum allowable power when no MSSVs are inoperable, and JFD 2 has been revised accordingly.

(3) The Bases Background has been revised to restore the final sentence regarding staggered MSSV lift setpoints, and JFD 7 has been deleted as a result of this change.

(4) The proposed Bases for ITS 3.7.1 have been revised to conform with TSTF-235, Rev. 1.

<u>STS (ITS) 3.7.2, Main Steam Isolation Valves (MSIVs) and Non-Return Check Valves</u>

<u>NRC Question 3.7.2-2</u>

DOC LB2
CTS 15.4.7.B

CTS 15.4.7.B requires testing the non-return check valves during plant shutdowns for major fuel reloadings. ITS 3.7.2 does not provide a Surveillance Requirement for testing these valves.

(1) JFD LB2 states an SR for non-return check valves would be redundant to testing already required under the current IST Program which occurs instead on a Cold Shutdown Frequency. This implies that the CTS is redundant also. Why is the CTS SR not consistent with the current IST Program? The MSIVs and the non-return check valves are all ASME Class 2 valves with the same CTS test requirement and they operate concurrently to isolate the steam generator. It is inconsistent to require no SR for the non-return check valves when ITS SR 3.7.2.1 is specified for the MSIVs.

Comment: Retain the CTS SR for the non-return check valves with the following suggested wording: "Verify each main steam non-return check valve can close." The Frequency would be the same as for ITS SR 3.7.2.1. This suggestion is similar to Ginna's ITS SR 3.7.2.2 for the non-return check valves.

(2) In accordance with Bases Insert B 3.7.2-6, the Operability of the LCO is based upon the capability of the non-return check valve "to close upon reverse flow." Explain how the unique requirement to verify if the non-return check valve "can close upon reverse flow" is defined for inclusion into the IST and how this is accomplished?

Response:

(1) ITS SR 3.7.2.3 has been added to require periodic verification that the main steam non-return check valve can close, and DOC A.8 and JFD 16 have been added discussing this change. Contrary to DOC LB.1, the main steam non-return check valves are not ASME Class 2 valves. References to these valves as being ASME Class 2 have been corrected in DOC LB.1. Additionally, DOC LB.2 has been deleted, and a discussion related to inclusion of these valves in the Point Beach IST Program has been added to DOC LA.1.

(2) As previously mentioned, periodic verification that the main steam non-return check valve can close has been added as ITS SR 3.7.2.3. The main steam non-return check valves are equipped with a position indication arrow that is attached to the valve's disc shaft. As currently performed under the Point Beach IST Program, the non-return check valve closure verification is performed by confirming that the valve position pointer indicates the valve is shut following closure of the MSIVs.

<u>NRC Question 3.7.2-3</u>

Beyond-Scope Item 67
DOCs L1, M1, M2, M4, and M5
JFDs 1 and 4
CTS 15.3.4.D
ITS 3.7.2 Applicability and Actions A, B, C, and D

This RAI is a placeholder. The technical review branch may offer comments in addition to the following comments. All comments within the scope of this beyond-scope item should be answered jointly.

CTS 15.3.4.D requires any inoperable open main steam stop valve or non-return check valve to be restored to Operable status within 4 hours, otherwise, the reactor must be placed in Hot Shutdown (ITS Mode 3 above 540EF) in the following 6 hours. ITS 3.7.2 Actions permit more than one valve to be open and inoperable for 8 hours in Mode 1 before requiring entry into Mode 2 in 6 hours. While in Modes 2 and 3, the Actions require maintaining closed both of the valves in a flow path with one or both valves inoperable.

(1) CTS Insert 3.7.2-2 for Condition C does not match ITS Insert 3.7.2-2 for Condition C because the <u>OR</u> logical connect statement is missing. Also, Required Action C.3 in the CTS markup does not match the ITS markup.

Comment: Revise the CTS insert or ITS insert as appropriate to correct these errors.

(2) The separate Condition entry note to Condition C should be on a flow-path basis, not a valve basis. This is because the MSIV and the non-return check valves seem to always operate concurrently. The only way to close a non-return check valve is to first close the associated MSIV which stops the flow, and conversely, closing an MSIV also closes the associated non-return check valve.

Comment: Revise the note to read "Separate Condition entry is allowed for each Steam Generator flowpath."

(3) The non-return check valve has nothing to deactivate, so Required Action C.3 is imprecise.

Comment: Revise the language of Required Action C.3 to read "In the affected flow path, verify the MSIV and the non-return check valve are closed and the MSIV is deactivated."

(4) DOC L1 states the time to reach MODE 3 is ultimately increased from 10 to 24 hours. Also, JFD 1 should speak of the 8-hour Completion times as being adopted, not retained.

Comment: Revise the submittal as noted and explain how you arrived at 24 hours.

Response:

(1) CTS Insert 3.7.2-2 for Condition C has been revised to include the missing <u>OR</u> logical connect statement that appears in ITS Insert 3.7.2-2. Also, the CTS markup for Required Action C.3 has been revised to match the ITS markup, subject to the changes made in Item (3) of this RAI.

(2) The Note to ITS 3.7.1, Condition C has been revised to reflect that separate condition entry is allowed on a per steam generator flowpath basis.

(3) Required Action C.3 has been revised to include verification that the MSIV and non-return check valve are closed and the MSIV is deactivated in the affected flowpath, and DOC M.5 has been revised accordingly.

(4) DOC L.1 has been revised to properly reflect that the time allowed to reach MODE 3 is increased from 10 to 28 hours, and the DOC L.1 discussion explaining this calculated result has been expanded. Also, JFD 1 has been revised to refer to the 8-hour Completion times as being adopted.

NRC Question 3.7.2-4

TSTF 289 & STS SR 3.7.2.2 Note
DOC M3 and JFD 7
CTS 15.4.7.A and Table 15.4.1-2, item 13
ITS SR 3.7.2.2

CTS 15.4.7.A requires stroke-testing the MSIVs under low flow conditions and CTS Table 15.4.1-2, item 13 requires testing the MSIV containment isolation trip function at each refueling shutdown. ITS SR 3.7.2.1 and ITS SR 3.7.2.2 retain these CTS requirements and almost conform to the STS as revised by TSTF 289 (approved 7/16/98). However, in TSTF 289, STS SR 3.7.2.2 contains a note which says the surveillance is "Only required to be performed in MODES 1 and 2." JFD 7 does not explain this omission.

Comment: Adopt the SR note (consistent with plant design limitations) with appropriate explanatory language in the Bases (even though the STS fails to include such explanation) and discuss the SR note in DOC M3, or justify the SR note's omission in JFD 7.

Response:

Consistent with TSTF 289, ITS SR 3.7.2.2 has been revised to include a NOTE specifying that the SR is only required to be performed in MODE 1. The MSIVs for Point Beach are check valves and therefore require flow conditions in order to perform valve closure testing. As a result, the provisions of this Note are necessary in order to establish the steam flow conditions needed. A discussion regarding the addition of this Note has also been added to the associated Bases, DOC M.3, and JFD 16

NRC Question 3.7.2-5

DOC LA1
CTS 4.7.A
ITS SR 3.7.2.1

Procedural details contained in the CTS for stroke time testing of MSIVs may well be in plant procedures, but designating the removal of this information from the CTS as an LA-type change is incorrect. The change is actually an L-type change involving the deletion of this information. If you keep the LA designation, then the details must be placed in a licensee-controlled document governed by a regulation such as 10 CFR 50.59, or by a TS. Given the significance of the information, staff recommends placing it in the IST program.

Comment: Revise the submittal to change the designation for this change to an L-type change, or commit to locate the information in a licensee-controlled document governed by regulation or TS (you must state the specific governing requirement).

Response:

DOC LA.1 has been revised to indicate that procedural details contained in the CTS related to stroke timing of the MSIVs have been reflected in the Bases for ITS SR 3.7.2.1, where they will be controlled under the Bases Control Program.

STS (ITS) 3.7.3, Main Feedwater Isolation

NRC Question 3.7.3-2

Beyond-Scope Item 68
DOCs M1, M2, and M3
JFD 1
ITS 3.7.3 LCO, Actions A, B and C, and SRs 3.7.3.1, 3.7.3.2, and 3.7.3.3
CTS Table 15.4.1-1, Functional Unit #17
CTS Table 15.4.1-2, Item 13

This RAI is a placeholder. The technical review branch may offer comments in addition to the following comments. All comments within the scope of this beyond-scope item should be answered jointly.

The CTS requirements for main feedwater isolation have been modified to add new operability and surveillance requirements for the Containment Pressure Condensate Isolation (CPCI) circuit and pumps.

(1) DOC M2 states the justification for presentation of the Required Actions and associated Completion Times are the same as presented in DOC L1 which does not exist or is not provided in this submittal.

Comment: Clarify where the justification may be found.

(2) Condition C may involve more than one inoperable and unisolated MFRV or bypass valve. It may also involve more than one operating pump with an inoperable trip circuit. Thus, Required Action C.1 should use "valves" instead of "valve," and C.2 should use "circuits" instead of "circuit."

(3) It is inferred from the ITS Bases that ITS SR 3.7.3.1 does not include a containment isolation trip function test for valves like the MFRV and associated bypass valves at each refueling shutdown. Explain why this is so given that CTS Table 15.4.1-2, item 13 seems to specify this test.

Response:

(1) DOC M.2 has been revised to remove the reference to DOC L.1, which does not exist and was not used, and to provide additional discussion of the justification for proposed CPCI circuit Required Actions and Completion Times.

(2) References to "valve" and "circuit" in Required Actions C.1 and C.2 have been revised to more properly reflect "valves" and "circuits."

(3) CTS 15.4.1-2, Item 13 provides functional test requirements for valves that have a containment isolation trip feature. As described in FSAR Chapter 5, the MFRV and associated bypass valves are not containment isolation valves, and are not designed to close on a containment isolation signal. The MFRVs and associated bypass valves do, however,

automatically close in response to a steam generator high level, low T_{avg} w/reactor trip, or SI signal. As a result, since the MFRV and associated bypass valves are not containment isolation valves, and do not close on a containment isolation signal, the ITS does not include a containment isolation trip function test requirement for these valves.

STS (ITS) 3.7.4, Atmospheric Dump Valves (ADVs)

NRC Question 3.7.4-1

Beyond-Scope Items 69 and 70
DOCs L2 and M1
DOC LB1
JFDs 3, 6 and 9
CTS Table 4.1-2, Item 28
ITS SR 3.7.4.1 and SR 3.7.4.2

This RAI is a placeholder. The technical review branch may offer comments in addition to the following comments. All comments within the scope of beyond-scope items 69 and 70 should be answered jointly.

(1) CTS Table 15.4.1-2, Item 28 specifies ASME Section XI component test/cycling requirements which appear not to be retained in the ITS or under any TS control. ITS SR 3.7.4.1 and ITS 3.7.4.2 only apply to manual operation of the ADV and ADV block valves.

Comment: (a) Not used; (b) It seems JFD 9 and LB1 conflict with each other regarding ASME Section XI test applicability for the ADV and ADV block valves. Resolve this inconsistency.

(2) As noted in the CTS Bases (bottom of page 15.3.4-2b) and Bases Background discussion Insert B 3.7.4-6, the ADVs must be capable of being locally or remotely opened "within the time required by the applicable FSAR analysis." Additionally, the Bases LCO discussion states a closed block valve does render it or the ADV inoperable if "operator action time to open the valve is supported in the accident analysis."

Comment: Revise the Bases to state explicitly the FSAR time limitation associated with ITS SRs 3.7.4.1 and 3.7.4.2 to verify ADV and ADV block valve operability under remote manual operation.

(3) In an evaluation of the CTS Table 15.4.1-2, Item 28, for atmospheric steam dumps, it is not clear that the quarterly test applies only to the ADVs; it may have also included the ADV block valves. What good is a quarterly test of the ADV remote operation if there is not similar testing for the block valve? Without testing, there may be insufficient assurance that the associated block valve can be opened once it is closed.

Comment: Confirm that the IST program includes a cycle test of the ADV block valves, as well as the ADVs every 92 days.

Response:

(1) As discussed in DOC LB.01, the ADVs are ASME Class II valves, which are required by 10 CFR 50.55a to be tested in accordance with ASME Section XI. However, this testing requirement does not encompass local manual operation. The ADVs are air-operated, fail closed valves, with the capability to be remotely opened and closed. Local manual operation of the ADVs is credited during a Steam Generator Tube Rupture (SGTR) event coincident with a Loss of Offsite Power (LOOP). Proposed SR 3.7.4.1 will require local manual testing of the ADVs, with or without steam flow, at an 18 month frequency.

In June, 1996, a demonstration of the ability to manually operate the ADVs from the local station with steam flow was performed. This one time test, in conjunction with the ASME Section XI operation of the ADVs using the air operator, and proposed SR 3.7.4.1, verifies the capability to manually operate the ADVs locally during a SGTR/LOOP event.

As discussed on JFD 9 and DOC LB.01, the ADV block valves are not power operated. They are manually operated valves, and as such do not fall under ASME Section XI relative to surveillance testing. The ADV block valves are only credited with manual isolation of a failed open ADV, and are not credited for re-establishing ADV flow (i.e., re-opening) during any analyzed event. If it is necessary to close an ADV block valve to isolate a failed open ADV, that ADV flowpath will be considered inoperable. SR 3.7.4.2 which proposes to manually exercise the ADV block valves at an 18 month frequency, with or without steam flow, is sufficient to ensure its capability to isolate a failed open ADV. As a result, no further changes are required.

(2) As discussed in JFD 3 (Rev. C) and JFD 9, no credit is taken for the ability to either remotely or manually open a closed ADV block valve, and an ADV will be considered inoperable when its associated block valve is shut under ITS. The ITS Bases LCO discussion of the effects of ADV block valve closure on ADV operability were previously revised in Supplement 7 to the ITS submittal, dated October 19, 2000 to reflect this consideration.

(3) As discussed in the response to Items (1) and (2) of this RAI, no credit is taken for the ability to remotely operate the ADVs. Consequently, quarterly testing of the ADVs is not required.

<u>NRC Question 3.7.4-2</u>

CTS 3.4.A.5
ITS 3.7.4 Required Action A.1, Note

CTS 3.4.A.5 specifies if either ADV line is inoperable for 24 hours, then the unit is placed in Hot Shutdown in 6 hours and Cold Shutdown in 24 hours. When one required ADV line is inoperable, ITS 3.7.4 Required Action A.1 requires it must be restored Operable in 7 days and an associated note says the requirements of LCO 3.0.4 are not applicable. The addition of the note to Required Action A.1 is not justified by a DOC.

Comment: Provide this missing DOC. (It is recognized that the STS Bases for the note does not justify it either.)

Response:

The CTS markup has been revised to include addition of the Note to ITS Required Action A.1 that exempts the requirements of LCO 3.0.4, and DOC L.03 has been added to describe the change. The Bases Actions discussion of Required Action A.1 has been revised, and JFD 15 added, to provide a discussion of purpose for the Note.

STS (ITS) 3.7.5, Auxiliary Feedwater (AFW) System

NRC Question 3.7.5-1

DOC A5 and JFD 11
CTS 3.4.A.2 and 4
ITS 3.7.5

CTS 3.4.A.2 and 4 provide the Operability requirements for the AFW pumps together with their associated flow paths (which includes piping and valves directly required to function during the accident) and essential instrumentation during two unit and single unit operation. ITS 3.7.5 refers to the AFW pumps, associated flows paths and instrumentation as the AFW "pump systems" to be Operable.

(1) The removal of details of what constitutes an Operable AFW system from CTS 3.4.A.2 and 4 to the Bases is an LA-type less-restrictive change to the CTS.

Comment: Revise the submittal with a suitable LA-type justification for this change. Note that this error in characterization may be typical of similar errors throughout the submittal.

(2) This is a placeholder for beyond-scope item 72, AFW system nomenclature change. The STS uses the word convention of AFW "trains" for this LCO and in most other places throughout the STS. The ITS adopts "pump systems," which is new terminology for Point Beach that uses "trains" (See for example CTS Table 15.4.1-1, Note 23). JFD 11 states JFD 1 discusses the terminology change; however, there is no specific discussion on the terminology change.

Comment: This item is open pending technical branch disposition.

Response:

(1) As initially proposed, removal of details of what constitutes an Operable AFW system from CTS 3.4.A.2 and 4 to the Bases was discussed in DOC A.05. This discussion has been expanded and reflected in newly issued DOC LA.04, which supercedes and replaces DOC A.05.

(2) JFD 1 has been revised to further discuss the plant-specific terminology change to AFW "pump_systems" in lieu of the STS convention of AFW "trains."

NRC Question 3.7.5-4

DOC M2
CTS 3.4.C.2
ITS 3.7.5 Action D

When the AFW System is outside the CTS requirements with two AFW pumps inoperable, CTS 3.0.B requires the unit placed in Hot Shutdown (Mode 3) in 7 hours and in Cold Shutdown (Mode 5) in 37 hours. ITS 3.7.5 Action D specifies the same Conditions but permits the unit to be in Hot Standby (Mode 3) in 6 hours and in Hot Shutdown (Mode 4) in 18 hours.

Comment: The final Mode required by the CTS Actions is Cold Shutdown (Mode 5) versus the final Mode required by the ITS Required Action is Mode 4. The shorter time to reach Mode 4 is of lessor comparative importance, as having to cool the reactor to Mode 5 which is a far greater operational cost penalty and it is well below the Applicability temperature range of the CTS LCO. By adopting the STS, this is a less-restrictive change. Revise the CTS markup and provide a L-type DOC.

Response:

As specified in CTS 15.3.4.A, the AFW System is required to be operable when the reactor coolant is heated above 350 °F and the reactor is critical. The 350 °F operability requirement for reactor coolant temperature effectively bounds the applicability of CTS 15.3.4.A within the CTS definition of Hot Shutdown conditions and above, and the corresponding ITS definition for Hot Standby (MODE 3) and above. As specified in CTS LCO 15.3.0.C if the requirements of an LCO are no longer applicable prior to the expiration of the times delineated in the specification, completion of the required actions is not required. While CTS 3.0.B would require the unit be placed in Hot Shutdown in 7 hours and Cold Shutdown in 37 hours when the AFW System is outside CTS requirements, completion of the required actions of LCO 3.0.B is no longer required once the unit is cooled below 350 °F in Hot Shutdown, and the requirement to enter Cold Shutdown is therefore not actually required to be completed. Consequently, the requirements of CTS 15.3.4.A and ITS 3.7.4, Required Action D are essentially equivalent since both would require that the unit be placed Hot Shutdown with reactor coolant temperature below 350 °F when the AFW System is outside Technical Specification requirements. The proposed change is therefore not necessary and has not been incorporated.

NRC Question 3.7.5-6

DOC LB1 and LA2
CTS 4.8.1.c
ITS 3.7.5 Bases background

CTS 4.8.1.c specifies that the AFW pump discharge valves and the service water supply valves on the suction side will be tested quarterly. ITS 3.7.5 has not retained these explicit requirements.

Comment: Clarify that these testing requirements are covered by an appropriate SR in the ITS and are contained in the PBNP IST program, described in Section 5 of the ITS.

The ITS Bases background discussion describes the air-operated back-pressure control valves. Clarify that these valves are also tested in accordance with the ASME Code Section XI and with the IST Program.

Comment: Is the testing of these valves covered by an appropriate SR in the ITS as performed under the IST Program?

Response:

CTS 15.4.8.1.c states that the AFW pump discharge valves and the service water supply valves on the suction side will be tested quarterly. This requirement applies to the following valves:

- 1/2AF-4006, 1/2P-29 SW Suction
- AF-4009, P-38A SW Suction
- AF-4016, P-38B SW Suction
- AF-4012, P-38A Discharge Pressure Control Valve
- AF-4019, P-38B Discharge Pressure Control Valve
- AF-4020, P-38B Discharge to 2B SG
- AF-4021, P-38B Discharge to 1B SG
- AF-4022, P-38A Discharge to 2A SG
- AF-4023, P-38A Discharge to 1A SG
- 1/2AF-4000, 1/2P-29 Discharge to 1/2B SG
- 1/2AF-4001, 1/2P-29 Discharge to 1/2A SG

These valves are tested quarterly under the provisions of the PBNP IST Program (as described in Appendix O to the PBNP Third Interval Inservice Test Program Background Document Units 1 and 2). Within the scope of this testing, the listed valves are subject to a quarterly full stroke exercise test, quarterly stroke timing test (to the safety-related position), and a biennial position indication test. In addition, valves 1/2AF-4006 receive a periodic full-stroke manual exercise. As discussed in DOC LB.01, relocation of quarterly valve testing requirements for these valves to the PBNP IST program is acceptable given the fact that testing requirements for these valves are established by regulation, and also because any changes the PBNP IST program are subject to review under 10 CFR 50.59. As such, it is neither necessary nor preferred that proposed ITS 3.7.5 provide a specific SR directing quarterly testing of these valves. DOC LB.01 has been revised to indicate relocation of these test requirements to the PBNP IST program and provide additional discussion of the control provisions applied to these testing requirements.

<u>NRC Question 3.7.5-7</u>

DOC LA3
CTS 4.8.2 and CTS Bases

CTS 4.8.2 and CTS Bases state that for AFW "The tests shall be considered satisfactory if control board indication and subsequent visual observation of the equipment demonstrate that all components have operated properly." These requirements are not retained in the ITS.
It is acceptable to move this CTS requirement from the TS if this requirement is located in the Bases or other licensee-controlled document with a TS or regulation-based change control process, such as the Bases Control Program or 10 CFR 50.59.

Comment: Revise DOC LA3 to state the new location and change control process for these procedural criteria, otherwise, justify their deletion with an L-type DOC. Also, revise the CTS markup as appropriate.

Response:

CTS 15.4.8.2 provides criteria for determining if the test requirements of CTS 15.4.8.1 have been performed satisfactorily. These criteria have not been specifically retained in the ITS because the requirements are effectively satisfied by other existing requirements. These other requirements include ITS SRs, and pump and valve testing in accordance with the PBNP IST Program. DOC LA.3 has been modified and reclassified as DOC LB.3, and the affected CTS markup page has been revised.

<u>NRC Question 3.7.5-8</u>

DOC L5 and JFD 19 & 18
CTS 4.8.1.b and Table 4.1-1, Item 20, Note 13
ITS SR 3.7.5.2, ITS SR 3.7.5.4, Notes & SR 3.7.5.5, Frequency Note

CTS 15.4.8.1.b states if the AFW turbine-driven pump "test comes due when not at power operation, the test shall be performed <u>during the subsequent startup within 24 hours of entering power operation</u>." STS SRs have a note which states "Not required to be performed...until 24 hours after ≥ [1000] psig in the steam generator." ITS SRs 3.7.5.2 and 3.7.5.4 have a note which states "Not required to be performed...until 24 hours after Thermal Power reaches ≥ 5% RTP."

This comment is a placeholder for beyond-scope item 73. It remains open pending technical branch disposition. In addition to technical branch comments, respond to the following:

(1) DOC L5 does not contain a technical justification for this CTS change; however, JFD 19 states in the third paragraph that a potential excessive RCS cooldown may result if the pump testing in ITS SR 3.7.5.2 and ITS SR 3.7.5.4 continues too long. Also, the fourth paragraph states that since the ITS SR 3.7.5.5 test is shorter in duration and it can be performed "at a lower power level than proposed." The critical and most direct parameter for this test is the specific steam pressure at which each test must be performed rather than relating this test parameter to an indirect minimum power level. Revise the submittal to state what is the minimum plant specific steam test pressure to be met in these notes. Also, the DOC and JFD do not state that the notes are exceptions to ITS SR 3.0.4 to permit Modes changes to reach these test conditions.

(2) Per the JFD 19 change proposed for the Frequency Note in ITS SR 3.7.5.5, there should be consistency with comment (1) above. This means that the test steam pressure selected should be directly related to a specific Mode 1 or 2.

Response:

(1) As described in Supplement 7 to the ITS submittal, dated October 19, 2000, the note modifying ITS SR 3.7.5.2 was changed to reflect the allowances of the current licensing basis (i.e., "not required to be performed for the turbine driven AFW pump until 24 hours after thermal

power exceeds 2% RTP"). Also, the frequency of ITS SR 3.7.5.4 was changed to reflect the requirements of the CTS (i.e., not required to be performed until 24 hours after greater than or equal to 1000 psig in the steam generator).

(2) As described in Supplement 7 to the ITS submittal, dated October 19, 2000, the note modifying ITS SR 3.7.5.5 was changed to reflect the allowances of the current licensing basis (i.e., required to be performed prior to thermal power exceeding 2% RTP).

<u>NRC Question 3.7.5-9</u>

JFD 14, JFD 16
CTS 4.8
ITS SR 3.7.5.1 and ITS SR 3.7.5.3

The CTS requirements have been modified by adopting the STS in proposed ITS SR 3.7.5.1 which "Verifies each ~~AFW~~ manual, power operated, and automatic valve in each flow path ...that is not locked, sealed, or otherwise secured in position, is in the correct position.

(1) The reasoning in JFD 14 for omitting "AFW" is logical but is not an acceptable solution to the perceived problem. It is appropriate to identify AFW as the system in which the flow path valves are to be checked in this SR.

Comment: Suggest adding "AFW" before the words water and steam, in addition to the omission. The Bases should clearly explain that certain main steam and service water valves are included in the scope of SR 3.7.5.1. Why is a similar omission not proposed for SR 3.7.5.3?

(2) JFD 16 states the "testing of other automatic valves not designated as AFW valves, but required to support AFW systems, are addressed in ITS SR 3.7.5.4."
Comment: Revise the Bases of ITS SR 3.7.5.4 to describe all valves other than AFW system valves that are tested during performance of SR 3.7.5.4. Does this include the back pressure control?

Response:

(1) ITS SR 3.7.5.2, the Associated Bases SR discussion, and JFD 14 have been revised to reflect restoration of the word "AFW" to the SR text and further identify the non-AFW valves that are encompassed within the scope of this SR. Similar changes to ITS SR 3.7.5.3 are not required since the valves that are automatically actuated are designated as Auxiliary Feedwater System valves, with the exception of the Main Steam supply valves to the auxiliary feedwater turbine. These valves are tested under ITS SR 3.7.5.4.

(2) The auxiliary feedwater system back pressure control valves are not automatic valves, and are therefore not considered within the scope of ITS SR 3.7.5.4. The Bases discussion for SR 3.7.5.4 has been revised to add a paragraph that provides clarification of the test requirements for the back pressure control valves, and to identify testing of the auxiliary feedwater pump discharge valves and the main steam supply valves for the auxiliary feedwater turbine driven pump as being within the scope of the SR.

NRC Question 3.7.5-12

DOC M6
CTS 4.8
ITS SR ~~3.7.5.3~~ 3.7.5.2

The CTS requirements have been modified by adopting the STS as proposed in ITS SR ~~3.7.5.3~~ 3.7.5.2 which states that "AFW pump will develop its required head at the flow test point" when tested according to the IST program.

Comment: This CTS change is acceptable; however, DOC M6 contains a justification based upon the contents of DOC A7 that is not provided in the submittal. Revise the DOC M6 or provide DOC A7.

Response:

DOC A.7 was provided in Supplement 7 to the ITS submittal, dated October 19, 2000, in order to provide a discussion of the test frequency requirements for performing auxiliary feedwater pump performance testing under ITS SR 3.7.5.2, as referenced in DOC M.6.

NRC Question 3.7.5-14

CTS 3.4.A and C
ITS 3.7.5 Action D

The CTS requirements have been modified by adopting the STS as proposed in ITS Action D which provides Required Actions for placing the unit(s) in operating conditions outside of the LCO Applicability rather than per the CTS, which places the unit(s) in an orderly shutdown per LCO 3.0.3.

Comment: This is a less-restrictive change as is noted in RAI 3.7.5-4 for DOC M2. There are no specified CTS requirements for a simultaneous shutdown requirement for both units which comes from this new Action D. CTS 3.0.B or ITS LCO 3.0.3 could be applicable. To avoid confusion, it is appropriate to add a note to the column of Required Actions to clarify this potential situation. The Note is "If both units require simultaneous entry into Action D, each unit may be sequentially placed in Mode 3 within [12] hours or less; and entry in Mode 4 depends upon satisfying the Conditions of Action F." The reason for this note is to not prescribe too harsh actions that could jeopardize the timely yet orderly shutdown of both units. The ITS Bases will describe the technical justification for this note and give guidance, for example, that if one unit is already four hours into a Mode 3 shutdown, that the second unit must be shutdown in less than 8 hours [2 hours remaining plus 6 permitted] or in other words 6 hours immediately after placing the first unit in Mode 3. Revise the CTS and ITS markups, DOCs and JFDs as appropriate to add this new Note - or explain why such a note is unnecessary.

Response:

The recommended Note to the Required Actions of ITS 3.7.5, Condition D has been adopted. Accordingly, the affected CTS, STS, and ITS pages have been modified, and the Bases have been changed to provide a technical justification for this change. Also, as a result of the change JFD 21; and DOC L.6, DOC L.7 and the associated NSHCs have been provided.

NRC Question 3.7.5-15

JFD 16
CTS 4.8 Bases

CTS 4.8 Bases at the top of page CTS page 15.4.8-2 states that "the ability to both open and shut the turbine-driven AFW pump motor-operated steam admission valves will be demonstrated since these valves serve as isolation boundaries should a steam generator tube rupture occur." This CTS requirement is not identified in the ITS as being demonstrated.

Comment: JFD 16 states that during performance of ITS SR 3.7.5.4 these valves will be opened to test the automatic start of the pump. There is no location given for testing the automatic closure of these valves with the specified time limit when activated by a containment isolation signal. Provide an explanation of how this Operability requirement for these valves is retained with the ITS.

Response:

The steam admission valves for the turbine driven auxiliary feedwater pumps serve as an isolation boundary in the event of a steam generator tube rupture event. They are not equipped with automatic closure capability, but have the ability for remote manual operation. The AFW steam admission valves are periodically tested under the PBNP IST program. As described in the program, the valves (1/2MS-2019, 1/2MS-2020) are subject to the following test requirements: quarterly check valve test in the open direction, quarterly stroke time in the open direction, quarterly stroke time in the closed direction, and biennial position indication verification. DOC LB.02 has been provided to document the justification for moving CTS 15.4.8 test requirements for the AFW steam admission valves to the PBNP IST Program.

STS (ITS) 3.7.6, Condensate Storage Tank (CST)

NRC Question 3.7.6-1

DOC L1 and JFD 5
CTS 3.4.A.3
ITS 3.7.6 Action A

CTS 3.4.A.3 does not contain Compensatory actions when the condensate storage tank is inoperable. ITS 3.7.6 Action A is proposed; however, it does not follow the guidance of the STS.

Comment: DOC L.1 states that PBNP intends to perform all the requirements of the STS Required Action A.1; however, JFD 5 states these actions are unnecessary to be adopted in the ITS. Adoption of the STS will not result in new plant equipment or require new safety analyses and will not cause undue hardship. Therefore, JFD 5 is not accepted and the 7-day Completion Time is accepted provided the licensee adopts the STS.

Response:

The Condensate Storage Tank volume is provided as a suction source for the following reasons: 1) to provide a source of cooling water during a Station Blackout (SBO) event (i.e., service water system unavailable), 2) to provide a source of clean water in the event of an AFW pump start, and 3) to facilitate AFW pump testing with full flow to the steam generators. Of these purposes, only the SBO is a design basis accident, and none of these intended uses requires that the backup water supply, which is the Service Water System (SWS), be available. The SWS is the safety-related supply for the AFW pumps, and a required support system for AFW pump operability. As a result, any loss of SWS supply capability would also result in appropriate actions under the ITS LCO for the AFW system. The recommended addition of a compensatory action for CST inoperability is therefore not required and has not been adopted.

NRC Question 3.7.6-3

CTS 3.4.A.4
ITS 3.7.6

CTS 3.4.A.4 specifies that the system piping and valves required to function during accident conditions directly associated with the Condensate Storage Tank must be Operable. These Operability requirements appear to be not contained in ITS 3.7.6.

Comment: There is no administrative DOC or "LA" DOC provided to explain which of the CTS 15.3.4.A.4 requirements are applicable to the condensate storage tank? Why are these Operability requirements not identified in the ITS bases discussion of the LCO? Example: The Condensate Storage Tank may not drain properly if the tank vents or piping valves are not Operable. Define the CST Operability requirements and provide the technical justification for this CTS change.

Response:

The Bases Background and LCO discussion for ITS 3.7.6 have been revised and JFD 7 has been added to provide additional information regarding operability requirements for the CSTs. Among these changes is the addition of a clarification to the Bases explaining that the two CSTs are shared by both units and that either one or both of the 45,000 gallon capacity CSTs can be used to provide the required CST volume of 13,000 gallons per unit. Additionally, a statement has been added to the Bases stating that "system piping and valves required to function during accident conditions directly associated with the CST must be operable."

STS (ITS) 3.7.7, Component Cooling Water (CC) System

NRC Question 3.7.7-2

DOC M1, DOC LA1 and JFD 1
CTS 3.3.C.1.c
ITS LCO 3.7.7 and associated Bases

For CC Operability, CTS 3.3.C.1.c includes additional requirements for all valves, interlocks and piping associated with CC pumps and heat exchangers. ITS LCO 3.7.7 defines the CC Operability requirements for only CC pumps, CC heat exchangers, and the nonessential load automatic isolation valves.

This comment is a placeholder for beyond-scope item 74. It remains open pending technical branch disposition. In addition to technical branch comments, respond to the following:

(1) PBNP has chosen not to adopt the STS convention of specified CC trains; however, the ITS does not retain all of the CTS Operability requirements in the LCO statement. The explicit operability requirement for all valves, interlocks and piping associated with the pumps and heat exchangers is omitted from the ITS LCO and moved to the Bases. As long as the inoperability of any component or pipe run in the CC system may be associated with the inoperability of a CC system load, pump, or heat exchanger, the proposed format appears to work. However, the train approach is preferable.

(2) Also, CTS markup insert 3.7.7-1 omits the words "required" and "automatic" in describing the nonessential isolation valves in the LCO statement and associated note. These words are contained in the STS markup and in the proposed ITS LCO.

(3) Describe the arrangement of the automatic nonessential load isolation valves in the Unit 2 CC system and their motive power and electrical power sources.

(4) Clarify in the Bases which heat exchangers the LCO requires to be Operable for both single unit and dual unit operation, and also that a common heat exchanger can be in operation on one unit while serving as the standby in the other unit, as long as there are three operable heat exchanger between the units, and that operation of a common heat exchanger cannot occur on both units simultaneously.

(5) Action C should stipulate that isolation of the "affected" flowpath should require closure of both supply and return valves for complete isolation of the non-seismic piping; or there should be a note requiring isolation on a per valve basis; i.e., separate condition entry.

(6) An inoperable isolation valve represents a flow capacity concern because of the non-seismic piping. Thus it would seem appropriate to specify an action of shorter duration than 72 hours in the event a valve and a pump are concurrently inoperable, say 24 hours.

(7) What happens to each CCW pump in the event of an SI signal but offsite power remains?

Response:

(1) The explicit operability requirement for all valves, interlocks and piping associated with the CC pumps and heat exchangers has been moved to the Bases as documented in DOC LA.01. These components are fundamental to the system design and configuration and are required for the system to fulfill its safety function during accident conditions. The requirement for these components (valves, interlocks and piping) is adequately captured through application of the definition of operability. The requirement of LCO 3.7.7 that, "The CC System shall be OPERABLE", encompasses all CC system valves, interlocks and piping that are required for the system to fulfill its safety function during accident conditions. Additional clarification of this association with a pump or heat exchanger has been added to the Bases section for the LCO and Actions A.1 and B.1. As stated by the reviewer, since the inoperability of any component or pipe run in the CC system may be associated with the inoperability of a CC system load, pump, or heat exchanger, the proposed format is acceptable. Therefore, because of the shared nature of the Point Beach CC system, the train approach has not been adopted.

(2) Initially proposed changes to LCO 3.7.7 related to the CCW non-essential load isolation valves have been deleted, and the associated Action, Surveillance Requirements, and Bases have been revised accordingly. As documented in Safety Evaluation Reports from NRC to NMC dated November 7, December 15, and December 18, 2000, NRC Staff granted approval to remove consideration of the dynamic effects associated with the postulated rupture of the analyzed portions of system piping from the licensing basis of Point Beach. Following receipt of the staff's approval, Point Beach initiated action to classify component cooling water (CCW) as a closed system inside containment. In accordance with the PBNP design basis, the CCW system is capable of performing its specified safety function without reliance on the non-essential load isolation valves. Consequently, the additional changes that had been initially proposed for these valves are no longer necessary.

(3) Initially proposed changes to LCO 3.7.7 related to the CCW non-essential load isolation valves have been deleted, and the associated Action, Surveillance Requirements, and Bases have been revised accordingly. As documented in Safety Evaluation Reports from NRC to NMC dated November 7, December 15, and December 18, 2000, NRC Staff granted approval to remove consideration of the dynamic effects associated with the postulated rupture of the analyzed portions of system piping from the licensing basis of Point Beach. Following receipt of the staff's approval, Point Beach initiated action to classify component cooling water (CCW) as a closed system inside containment. In accordance with the PBNP design basis, the CCW system is capable of performing its specified safety function without reliance on the non-essential load isolation valves. Consequently, the additional changes that had been initially been for these valves are no longer necessary.

(4) The Bases Background has been revised to describe which heat exchangers the LCO requires to be Operable for both single unit and dual unit operation, and also that a common heat exchanger can be in operation on one unit while serving as the standby in the other unit, as long as there are three operable heat exchanger between the units, and that operation of a common heat exchanger cannot occur on both units simultaneously.

(5) and (6) Initially proposed changes to LCO 3.7.7 related to the CCW non-essential load isolation valves have been deleted, and the associated Action, Surveillance Requirements, and Bases have been revised accordingly. As documented in Safety Evaluation Reports from NRC to NMC dated November 7, December 15, and December 18, 2000, NRC Staff granted approval to remove consideration of the dynamic effects associated with the postulated rupture of the analyzed portions of system piping from the licensing basis of Point Beach. Following receipt of the staff's approval, Point Beach initiated action to classify component cooling water (CCW) as a closed system inside containment. In accordance with the PBNP design basis, the CCW system is capable of performing its specified safety function without reliance on the non-essential load isolation valves. Consequently, the additional changes that had been initially been for these valves are no longer necessary.

(7) In the event of an SI signal with no concurrent loss of power to the CC pump supply busses, operation of the CC pumps would remain unchanged. Specifically, the running CC pump would continue to operate, and the standby pump would remain available to operate in the event that CC System pressure dropped below the low pressure pump start setpoint.

NRC Question 3.7.7-5

JFD 1
CTS 3.3.1.c
STS SR 3.7.7.3

CTS 3.3.1.c requires the CC pumps to be Operable and to function during accident conditions such as "loss of power." There is no ITS SR requirement.

Comment: STS SR 3.7.7.3 or the equivalent has not been adopted. There is no SR to verify the restart capability of each operating CC pump immediately upon restoration of AC power. Similarly, there is no SR for the manual start capability of each CC pump that is in standby mode upon restoration of AC power. Modify the ITS to add a new SR 3.7.7.3.

Response:

The STS contains a surveillance requirement to "Verify each CCW pump starts automatically on an actual or simulated actuation signal." The Point Beach CCW pumps have only a single automatic start feature that actuates on low discharge pressure. No credit is assumed for this function in the accident analysis, and it is therefore not required for system operability.

The CCW pump control logic does, however, include safety-related contacts that function to ensure that the pumps will not automatically restart following a loss of power concurrent with a safety injection signal. These contacts are verified during operations refueling tests performed in accordance with the station commitment to Generic Letter (GL) 96-01. Testing of this feature in accordance with this commitment has been performed on a refueling frequency since June 1998 for Unit 1, and February 1999 for Unit 2. Establishment of a Technical Specification Surveillance Requirement is therefore unnecessary.

STS (ITS) 3.7.8, Service Water (SW) System

NRC Question 3.7.8-1

ITS 3.7.8 & Bases

The Bases of ITS 3.7.8 requires certain header and non-essential load isolation valves to be Operable, but never states these valves by number or how many there are. The Bases would be improved by including these design details. Also, LCO 3.7.8 fails to explicitly require the operability of the ring header isolation valves, but it should. For Action F, the Bases should state the allowed configurations to ensure adequate flow to required equipment.

Comment: Revise the LCO and Bases accordingly.

Response:

The service water system header isolation valves and non-essential load isolation valves are identified by their specific component identification number in Section 9.6 of the FSAR. It is therefore not necessary to replicate this information in the ITS Bases, and the recommended changes have not been adopted.

As presented in the CTS and ITS, specific operability requirements and actions are provided for the service water system header isolation valves for the condition where one or more of these valves are closed. However, neither the CTS nor the proposed ITS provide operability requirements or required actions for a header isolation valve that cannot be closed. The reason for this exclusion is explained in the Basis for CTS 15.3.3.D which states that "Piping failures are not considered as the single failure for system functionality during an accident." As a result, the service water system header isolation valve closure function is not required by the current licensing or design basis, and has therefore not been included in the ITS.

ITS 3.7.8 and the associated Bases have been rewritten to reflect significant changes to the proposed requirements for service water system operability. These modifications reflect changes that were approved for Point Beach in license amendments 199 and 204, dated November 17, 2000, and which were received after the Point Beach ITS was submitted. As a result of these changes, under the proposed ITS 3.7.8 operability of the service water system will be broadly referenced to the ability to provide required cooling water flow to required equipment, in lieu of the CTS method which identifies required components and system configurations. The allowed service water system configurations that meet this criteria are defined within the context of the service water system analytical model for Point Beach. As required by a License Condition to the operating licenses for Point Beach Units 1 and 2, the plant must be operated in accordance with the service water system analysis and approved procedures. Given the existence of this license condition, it is neither necessary nor preferable to identify the specific components and configurations that are required for service water system operability, and the suggested changes have not been made.

<u>NRC Question 3.7.8-2</u>

DOC A6, LA1 and JFD 1
CTS 3.3.D.1.a and b
ITS 3.7.8 LCO

CTS 3.3.D.1.a and b states six SW pumps are Operable and all necessary valves, interlocks and piping required during accident conditions is also Operable. STS 3.7.8 requires SW trains to be Operable with details located in the Bases. ITS 3.7.8 requires six SW pumps, the SW ring header, and the automatic non-essential SW load isolation valves.

This comment is a placeholder for beyond-scope items 75 & 76. It remains open pending technical branch disposition. In addition to technical branch comments, respond to the following:

(1) PBNP has chosen to not adopt the STS approach to SW trains being maintained Operable. For ITS LCO 3.7.8 to be acceptable, however, the listing of SW components required Operable must be complete and must include the Operability of the "SW ring header flow path isolation valves." In addition, ITS LCO 3.7.8 differs from the DOC A.6 justification because DOC A.6 does not specify the "SW ring header is Operable" but specifies "one continuous service water loop." These SW ring header flow path isolation valves establish a critical feature of the Operability of the SW ring header when a continuous loop header is not possible. This occurs due to closure of any SW ring header flow path isolation valve. This condition is specified in the third paragraph, third sentence of CTS Bases page 15.3.3-10; yet, this explicit definition of SW ring header operability is not fully discussed in the ITS Bases discussion of the LCO and therefore, it would not be permitted in the ITS under the current ITS proposal. DOC A9 assumes this is permitted as is noted in the third and fourth sentences.

Comment: (a) Item b of the ITS Bases discussion of LCO should be revised to something like: "the SW ring header and SW ring header flow path isolation valves shall be Operable to provide a continuous flow path that is not interrupted. The SW ring header may still be Operable when any SW ring header flow path isolation valves are closed, if the capacity to provide 100 percent redundant flow is maintained to all safety-related loads while the isolation valves are closed in response to isolate any potential loss of cooling flow (break) in the SW ring header loop."
(b) ITS 3.7.8 Actions C and F imply that the ring header is inoperable in the event one or more header isolation valves are closed. Required Action F.1, to ensure capability to supply adequate flow to required equipment, is a remedial action which limits the reduction in system capability to an acceptable level (allowing plant operation to continue for up to the time limit of Action B), but does not restore operability of the ring header. Thus the statement in DOC A6 that "continuous ring header operability is defined as maintaining break isolation capability and the ability to maintain cooling capability to required safety loads" seems incorrect.

(2) DOC LA.1 appears to contradict DOC A.6 in that most details of the Operability of the SW System are contained jointly in the LCO and Bases, rather than totally moved only to the Bases. DOC A.6 and DOC LA.1 should be combined. The DOCs and CTS markups should be revised to correctly identify which DOCs apply to the noted CTS changes.

(3) Paragraph three of Bases page 15.3.3-10 should be included in the ITS Bases discussion of Action C.

Response:

(1) As presented in the CTS and ITS, specific operability requirements and actions are provided for the service water system header isolation valves for the condition where one or more of these valves are closed. However, neither the CTS nor the proposed ITS provide operability requirements or required actions for a header isolation valve that cannot be closed or require the valves to be operable. The reason for this exclusion is explained in the Basis for CTS 15.3.3.D, which states that, "Piping failures are not considered as the single failure for functionality during an accident." As a result, the service water system header isolation valve closure function is not required by the current licensing or design basis, and has therefore not been included in the ITS.

(2) ITS 3.7.8 and the associated Bases have been rewritten to reflect significant changes to CTS requirements for service water system operability that were made under license amendments 199 for unit 1 and 204 for unit 2, dated November 17, 2000. As a result of these changes, the details related to service water system operability have been substantially moved to the Bases.

(3) The description related to service water ring header isolation valves and the potential effects of either single or multiple closed isolation valves is adequately discussed in the proposed ITS Bases discussion for ACTION C. Additionally, as already mentioned in the response to Item (1) of this RAI, , the service water system header isolation valve closure function is not required by the current licensing or design basis, and has therefore not been included in the ITS. Consequently, the proposed changes have not been adopted.

<u>NRC Question 3.7.8-5</u>

JFD 5
CTS 3.3.D
ITS 3.7.8 Action Note

CTS 3.3.D requirements have been modified by ITS 3.7.8 Action Note. JFD 5 proposes to move the two STS Condition A Notes for LCO 3.8.1 and LCO 3.4.6, to be generically applicable to all Actions. This is acceptable if it is modified to read "Enter applicable Conditions and required Action of any applicable LCO for those systems made inoperable by SW System." In addition, the ITS Bases discussion of Action Notes should list all LCOs for systems that may be made inoperable from inadequate SW flow.

Comment: Revise the Actions Note and associated Bases as suggested.

Response:

The ACTIONS NOTE that was initially proposed for ITS 3.7.8 was incorporated into the CTS following transmittal of the Point Beach ITS submittal under license amendments 199 for unit 1 and 204 for unit 2, dated November 17, 2000. As a result of these amendments, the submittal for ITS 3.7.8 have been substantially revised such that no further action is required.

<u>NRC Question 3.7.8-6</u>

DOCs M4 and LA2
CTS 3.3.D.2.c and d
ITS 3.7.8 and Bases

CTS 3.3.D.2.c and d contain specific requirements that are not retained in the proposed ITS 3.7.8 or Bases.

(1) DOC A10 states that the usage of a seismically qualified isolation valve to isolate the affected penetration has been moved to the ITS Bases as is discussed in DOC LA2. However, the submittal does not contain a DOC LA2 for this specification. Also, there are no text additions found in the ITS Bases for Condition H.1 and H.2, as is implied by the DOC A10.

Comment: Provide the missing technical justifications for this CTS change that is identified on the CTS markup page 15.3.3-6.

(2) JFD 2 states that the proposed addition of Action G which retains CTS 3.3.D.2.c and d, is a more-restrictive technical change that is discussed in DOC M4. This appears to be an administrative change; however, the submittal does not contain a DOC M4 for this specification. Comment: Provide the missing technical justifications for this CTS change to further enable an evaluation of this CTS change.

Response:

(1) DOC LA.2 has been provided to document the justification for moving details related to the seismic qualification of the automatic non-essential SW load isolation valves to the Bases, and the Bases discussion for Action D.1 and D.2 has been revised to reflect this information.

(2) JFD 2 has been corrected to properly indicate that disposition of the requirements of CTS 3.3.D.2.c and d change is further discussed in DOC A.10 and DOC A.11, respectively.

<u>NRC Question 3.7.8-7</u>

DOCs A6 and M3
CTS 3.3.D.2.d

CTS 3.3.D.2.d permits the containment fan cooler outlet valves to be open for up to 72 hours provided 5 SW pumps are Operable. The ITS does not contain a Surveillance requirement to verify if the opposite unit's containment accident fan cooler SW isolation valves are closed.

This comment is a placeholder for beyond-scope items 75 and 76. It remains open pending technical branch disposition. In addition to technical branch comments, respond to the following:

(1) Per DOC M3, ITS SRs 3.7.8.1, 2, and 3 are acceptable. DOC A6 states that the submittal contains a proposed ITS SR 3.7.8.2 which requires that the opposite unit's containment accident fan cooler SW isolation valves are verified closed. The CTS had no previous specific SRs, therefore, DOC M.3 justifies the addition of all new SRs; however, the specific ITS SR 3.7.8.2, as noted in DOC A.6, is not provided. This verification is not performed under ITS SR 3.7.8.1 because, as it is written, only the SW flow path to the safety-related load branch is periodically confirmed. Therefore, a new SR similar to ITS SR 3.7.8.1 is appropriate. Provide the missing SR.

(2) The CTS markup is incomplete because CTS Bases page 15.3.3-11 is missing. Revise the submittal to add this page and include both paragraphs into the ITS Bases discussion of Action C and E.

(3) Does operability criterion d in the Bases discussion of ITS LCO 3.7.8 mean that during normal two unit operation all containment cooler outlet automatic isolation valves are required to be shut?

Response:

(1) The containment accident fan coolers are safety-related SW loads. As a result, verification that the opposite unit's containment accident fan cooler SW isolation valves are closed is encompassed within the scope of proposed ITS SR 3.7.8.1. This SR requires periodic verification that "each SW manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position." Additionally, DOC A.6 has been revised to reflect the correct description for the Surveillance Requirement ITS 3.7.8.2, and the Bases description of ITS SR 3.7.8.1 has been revised to more clearly state that the opposite unit's containment accident fan cooler SW isolation valves are included within the SR scope.

(2) CTS Bases page 15.3.3-11 has been added to the submittal for ITS 3.7.8. As with the remainder of the CTS 15.3.3 Bases, and as described in DOC A.4, the CTS Bases have been completely rewritten and replaced by the revised ITS Bases.

(3) As reflected in Condition D of the original submittal, and Condition E of this submittal revision, all containment cooler outlet automatic isolation valves are required to be closed during

normal dual unit operations. This is consistent with the description of operability requirements for the service water system provided in the Bases for CTS 15.3.3.D. As described in the CTS Bases, an open containment cooler outlet automatic isolation valve could result in inadequate service water flow to the opposite unit under accident conditions in the event of an assumed single failure. Hence, it is the opposite unit that is the "affected" unit for the purposes of the LCO in the event of an open containment cooler outlet automatic isolation valve. As a result, during normal dual unit operations the containment cooler outlet automatic isolation valves for both units must be closed due to the application of reciprocal operability requirements.

NRC Question 3.7.8-9

CTS 3.3.D.2.c

New isolation valves have been added to the previous single-isolation-valve nonessential load lines to ensure isolation if either Train A or B power is lost. The nonessential load lines to the Turbine Hall Deck do not close during an accident because they are isolated with only manual valves.

This comment is a placeholder for beyond-scope items 75 & 76. It remains open pending technical branch disposition. In addition to technical branch comments, respond to the following. License Amendment Request #206 is pending which covers the plant equipment changes noted above. LAR-206 will mostly likely be incorporated with issuance of the ITS conversion.

Also, unique plant specific differences for the SW System should be explained in-depth in the ITS Bases.

The licensee should reconfirm that all nonessential loads that are required to be isolated, in fact can now be isolated during loss of power events.

Do the safety analyses assume certain manually isolated nonessential loads are left open during accident conditions and is there extra SW flow capacity allocated? Do any of these features get any ITS surveillance? These features of the SW system have not been identified or discussed in the ITS Bases, so add appropriate discussion.

Response:

The acceptability of the non-essential SW load isolation valve configuration was reviewed and found acceptable by the NRC staff in the Safety Evaluation Report (SER) that was issued with the letter transmitting Point Beach license amendments 199 and 204, dated November 17, 2000. In Section 3.2 of the SER, a then partially implemented plant modification to provide redundant isolation valves that were actuated from independent safety injection trains and powered from separate safeguards divisions was acknowledged. This modification has now been completed for both Unit 1 and Unit 2, such that redundant isolation capability is now provided for non-essential SW loads that are required by the SW analysis to be automatically isolated for accident mitigation.

While the non-essential SW load isolation valves for the turbine deck hall are capable of either local manual closure or remote manual closure from the main control room, they no longer have an automatic closure feature. As a result, automatic isolation of the associated turbine deck hall SW loads is not credited in the accident analysis, and these valves are therefore not included within the scope of ITS LCO 3.7.8. However, the ability to manually isolate the non-essential SW loads associated with the turbine deck hall SW flowpath is credited in the DBA recirculation phase as a long-term action, and is directed by plant procedures. The turbine deck hall service water isolation valves (1/2SW-02880) are periodically tested under the Point Beach IST Program. The scope of this testing includes a full stroke exercise and stroke time to the closed position during Cold Shutdown, and position indication verification every two years.

No specific changes to the ITS 3.7.8 submittal have been made in response to this RAI question, however, the proposed ITS 3.7.8 has been substantially revised following completion of the modification to add redundant automatic non-essential SW load isolation valves and the approval of license amendments 199 and 204.

STS 3.7.9, Ultimate Heat Sink (UHS)

NRC Question 3.7.9-1

JFD 1

The CTS does not include specific requirements for the Ultimate Heat Sink (UHS). STS 3.7.9 LCO is not adopted by the ITS.

Comment: JFD 1 clearly states the safety analysis assumptions include an UHS water level of four feet under the normal lake level and a maximum temperature of 80°F. The purpose of an LCO is to assure the assumptions of the safety analyses are maintained by periodic monitoring of the plant operating conditions. Also, the last sentence of JFD 1 states when the UHS is out of tolerance the Service Water System is declared inoperable which requires both Units (not one unit) to be placed in Mode 5. Therefore, it is consistent with the guidance provided in the STS to have an ITS LCO for the UHS. Revise the submittal to provide the necessary ITS LCO.

Response:

The Ultimate Heat Sink (UHS) for Point Beach is Lake Michigan. As discussed in JFD 1 for STS 3.7.9, Point Beach did not adopt the UHS Limiting Condition for Operation (LCO) provided in the STS because it is not necessary in order to ensure UHS operability. The basis for not having a separate UHS LCO in the ITS is premised on the fact that the requirement to maintain the UHS within the operational limits assumed in the safety analyses is currently satisfied elsewhere. Point Beach has an existing Condition to the operating license for each unit (DPR-24, DPR-27) that requires plant operation within the service water system design analyses. A separate LCO for the UHS is therefore redundant since the two parameters that it would serve to ensure, UHS temperature and level, are already encompassed within these license conditions, and also because parameters associated with the ability of the UHS to satisfy service water system design analyses assumptions are monitored in the main control room. Additionally, the current Technical Specifications do not contain an LCO, Action, or Surveillance Requirement for the UHS.

Based on the support relationship that the UHS has with respect to the Service Water System (SWS), inability of the UHS to satisfy the service water safety analyses will also result in inoperability of the SWS, and appropriate ACTION would be taken under proposed ITS LCO 3.7.8, SW System. Additional text has been provided in the Bases ASA for ITS 3.7.8 describing the relationship between UHS operability and SW system operability for clarification.

STS 3.7.10, Control Room Emergency Filtration System (CREFS) (ITS 3.7.9)

NRC Question 3.7.10-2

Bases for ITS 3.7.9 Applicability

The CTS Applicability has been modified by the Bases for ITS 3.7.9, Applicability.
Comment: The Bases for ITS 3.7.9, Applicability show that JFD 1 justifies a deviation from the STS that is not contained in JFD 1. The deviation states that "This LCO does not apply to irradiated fuel assemblies placed in the Independent Spent Fuel Storage Installation." This exception does not appear to be contained in the CTS; and therefore, this a less-restrictive CTS change.

Comment: Provide the missing DOC and JFD that explain and justify the purpose for this deviation from the STS.

Response:

The Bases Applicability description has been revised to remove the statement regarding storage of irradiated fuel assemblies placed in the Independent Spent Fuel Storage Installation.

NRC Question 3.7.10-3

DOCs A7, L1
CTS 3.12.2.a, b and c,
CTS 4.11.1, and 4.11.4.a, b, c, d and e
ITS SR 3.7.9.2 and SR 3.7.9.6
ITS Section 5.5 DOCs LA6, L1, and L2
ITS Section 5.5 JFDs 2 and 8

CTS 3.12.2.a, b and c, 4.11.1, and 4.11.4.a, b, c, d and e contain specific operability and testing requirements for the HEPA filter and charcoal adsorber banks and fans. ITS SR 3.7.9.2 requires these CTS requirements be verified in accordance with a new Ventilation Filter Test Program (VFTP) specified in ITS 5.5.10. ITS SR 3.7.9.6 specifies fan testing.

(1) There is an inconsistency in the filter test intervals which are stated at six-month intervals in the FSAR 9.8.4, one year in the CTS and apparently 18 months in the new ITS VFTP. Sections 3.7.10 and 5.5.10 of the submittal contain no adequate justification for the Frequency relaxations of these CTS testing requirements.

Comment: Provide additional justification for the Frequency relaxation for each numbered CTS surveillance.

(2) DOC LA6 for ITS Section 5.5, Specification 5.5.10, is meant to justify relaxing the CREFS CTS testing requirements to the test provisions recommended in Regulatory Guide 1.52, Rev. 2, ASTM D3803-1989 and ASME N510-1989, as applicable. However, no specific discussion is given describing the relaxations.

Comment: Describe the relaxations for each test requirement and explain how RG 1.52, Rev. 2, applies to PBNP. This is a beyond-scope issue for SPLB review.

(3) The markup of CTS 4.11.4 in ITS submittal Section 5.5 shows that ASME N510-1989 and ASTM D3803-1989 will be referenced in corresponding requirements in ITS 5.5.10.a, b, c and d. The STS 5.5.11 markup and smooth version of ITS 5.5.10 only reference ANSI N510-1980, except that ITS 5.5.10.c does reference ASTM D3803-1989.
Comment: Correct this inconsistency.

Response:

(1) and (2) Justification for extension of filter test intervals for the Control Room Essential Filtration system is discussed in DOC LA.6 for ITS 5.5.10, "Ventilation Filter Test Program" (VFTP). Under the VFTP, filter testing frequencies will be determined in accordance with the provisions of Regulatory Guide 1.52, Revision 2 and in accordance with ASTM D3803-1989 and the methodology of ANSI-N510-1980. These documents define industry standard testing requirements and are consistent with filter testing requirements specified in the STS. The testing frequency relaxation that results from implementing these standards is therefore acceptable based on the industry experience that was considered during the development of these standards and the fact that CREF filter tests have historically been successful when performed at the currently specified frequency. DOC LA.6 for ITS 5.5.10 has been revised to provide further justification for CREF filter test frequency changes.

FSAR Section 9.8.4 references a six-month CREF filter testing frequency for various filter and ventilation system tests that are based on commitments made with respect to a Technical Specification amendment that addressed post-accident containment cooling capability. This amendment is further discussed in an NRC SER dated July 9, 1997, "Issuance of Amendments Re: Technical Specification Changes for Revised System Requirements to Ensure Post-Accident Containment Cooling Capability." As noted in footnote * on FSAR page 9.8-5, the augmented six-month testing frequency was added as a compensatory measure and was discontinued following issuance of license amendments 174 and 178 on July 9, 1997 as a result of implementing a lower containment leak rate limit. As also stated in footnote *, implementation of the augmented six-month frequency in lieu of the testing frequencies stated in the Technical Specification is not required provided the lower containment leak rate limit is employed. As a result, the CREF testing frequencies listed in FSAR Section 9.8.4 are appropriate as written and no changes are required.

(3) The proposed text for ITS 5.5.10 was revised in Revision B in response to the NRC RAI on ITS Section 5.5, dated August 17, 2000. Revised pages incorporating changes made in response to this RAI were transmitted as Revision B to the Point Beach ITS submittal by letter dated September 14, 2000. In response to NRC RAI Questions 3 and 4, appropriate references to ASTM D3803-1989 were incorporated into STS 5.5.11 markup and smooth version of ITS 5.5.10. As a result, no further changes are required.

NRC Question 3.7.10-4

DOC L5; JFD 4 and JFD 9
CTS 4.11.3
ITS SR 3.7.9.1

CTS 15.4.11.3 requires the CREFS to be operated for 10 hours each month. ITS SR 3.7.9.1 has not retained this same CTS requirement and has reduced CREFS operation to only 15 minutes each month.

Comment: DOC L.5 explains that the basis for the CTS 15.4.11.3 requirements has not been known for over 25 years and this verification has apparently been performed without knowing if it was correctly performed or not. Was the CREFS operated for 10 hours in operational mode 3 or 4? If the PBNP CREFS was not like the more recent standard, perhaps longer system operation was still meant to remove any accumulated moisture from the charcoal banks from humidity in the ambient air regardless of the location of heaters in the CREFS? Also, since there are heaters installed downstream from the recirculation fans, CREFS can be operated in mode 3 and this heated air is directed through the emergency fan filters and adsorber banks. A justification based upon not knowing the reason for a CREFS operation test is an insufficient reason for removing a CTS requirement and an invalid basis for making this less-restrictive CTS change. PBNP should establish a technical basis for the CTS requirement (with or without the help and review of the NRC technical branch) to re-evaluate retention of this CTS requirement.

Response:

DOC L.5 for ITS SR 3.7.9.1 has been revised to provide further justification for adopting the STS requirement to operate the CREF filter unit for at least 15 minutes every month in lieu of the CTS requirement to operate the system for at least 10 hours every month. Under the CTS, the CREF System was operated for ten hours in Mode 4. Consistent with the guidance of ANSI N510-1980, the STS recommends that filter systems with installed heaters be operated for at least 10 continuous hours monthly, and that ventilation filter systems without installed heaters be operated for 15 minutes monthly to demonstrate function of the system. The Point Beach CREF design does not include heaters with filter drying capabilities. As a result, adopting the 15 minute run requirement in lieu of the existing 10 hour run requirement is appropriate since there are neither any unique aspects of the CREF filter design that would preclude its applicability, nor any additional benefits to the longer run time requirement. DOC L.5 has been revised to provide further justification.

NRC Question 3.7.10-5

DOC L1; JFD 7, and JFD 11
CTS 3.12.2.c and 4.11.4.e
ITS SR 3.7.9.6

CTS 3.12.2.c and 4.11.4.e specify that the CREFS emergency fans be tested once per year and the testing be conducted to show operation within 10 percent of the design flow. ITS SR 3.7.9.6 retains this requirement with some modification of the specific methods of conducting this operational test.

(1) The CTS markup differs from the STS markup and smooth version of ITS 3.7.9.

Comment: Correct the CTS markup to match the ITS and the Bases for ITS SR 3.7.9.6 which state that each emergency fan will be tested separately every 18 months.

(2) The ITS markup of the Bases for ITS SR 3.7.9.6 shows JFD 12 as justification for the removal of Staggered Test Basis instead of JFD 11.

Comment: Correct this error.

(3) CTS 4.11.4.e requires testing CREFS to within 10 percent of the system design "makeup" flow; ITS SR 3.7.9.6 requires testing at the makeup flow rate "of 10% of the system design." The CREFS system flow rate is 20,000 cfm.

Comment: Put in the actual plant specific makeup flow rates of 4950 cfm $\pm$ 10 percent.

Response:

(1) The CTS markup has been revised to match the ITS and the Bases for ITS SR 3.7.9.6, which states that each emergency fan will be tested separately every 18 months.

(2) ITS markup of the Bases for ITS SR 3.7.9.6 revised to reflect JFD 11 as justification for the removal of Staggered Test Basis instead of JFD 12.

(3) Proposed ITS SR 3.7.9.6 requirement to test at the makeup flow rate "of 10% of the system design" revised to require plant specific makeup flow rate of 4950 cfm $\pm$ 10 percent. DOC L.1 and JFD 7 also revised accordingly.

NRC Question 3.7.10-6

DOC A8
CTS 4.11.4.e
ITS SR 3.0.2

CTS 4.11.4.e requires performance of fan testing following "maintenance or repair." This CTS requirement is retained as part of the general requirement of ITS 3.0.2. However, the CTS - ITS requirement correspondence given in DOC A8 incorrectly says this explicit post-maintenance test provision is deleted.

Comment: Correct the DOC. Note, the practice of using "deleted" in an A-type DOC to describe a specific requirement which is retained through a general requirement should be carefully handled when preparing the A-tables for the safety evaluation attachment. This comment is likely applicable in many places in the submittal.

Response:

DOC A.8 has been revised to properly reflect the disposition of the CTS 4.11.4e requirement for fan testing requirements following maintenance or repair as being retained within ITS SR 3.0.1 and SR 3.0.2, and state that the change merely involves elimination of a redundant reference to these test requirements.

NRC Question 3.7.10-8

DOC M3 and JFD 6
No CTS Requirements
ITS SR 3.7.9.5

The CTS requirements have been modified by the addition of ITS SR 3.7.9.5 which requires verification of the CREFS manual start capability and alignment. This requirement has been placed here instead of being in located in the instrumentation section like STS 3.3.7.

This comment is a placeholder for beyond-scope item 78. It remains open pending technical branch disposition.

Response:

Proposed ITS SR 3.7.9.5 verifies manual start capability and alignment for CREFS. Neither STS 3.3.7, "CREFS Actuation Instrumentation," nor STS 3.7.10, "Control Room Essential Filtration System (CREFS)," contain a Surveillance Requirement for verification of CREFS manual start capability and alignment. STS 3.7.10 does, however, contain Surveillance Requirement 3.7.10.3, which prescribes performance of an actual or simulated automatic actuation testing for each CREFS train. Point Beach has adopted this STS SR for the CREFS emergency make-up fans as ITS SR 3.7.9.3. Given the similarities in scope and intent between ITS SR 3.7.9.3 and ITS SR 3.7.9.5, the most appropriate location for proposed ITS SR 3.7.9.5, was determined to be ITS 3.7.9, "Control Room Essential Filtration System (CREFS)," and not ITS 3.3.7, "CREFS Actuation Instrumentation." This determination is consistent with the content of the proposed ITS and the presentation and format of the STS. No changes have been made.

NRC Question 3.7.10-9

DOC L4 and JFD 5
CTS 4.11.2
ITS SR 3.7.9.4

CTS 4.11.2 requires CREFS automatic initiation be demonstrated once per year. ITS SR 3.7.9.3 and SR 3.7.9.4 have been added to retain the CTS requirement.

(1) It is acceptable to have the two ITS SRs, provided the CTS equivalence can be established. The "less-restrictive" Frequency of every 18 months is accepted. ITS SR 3.7.9.4 can be accepted if the phrase "...that is not locked, sealed or otherwise secured in position..." is removed from the SR. The JFD 5 justification is not accepted because locking closed various dampers reduces CREFS to a single mode 4 operating system. This would eliminate the smoke clearing function of CREFS. It would also eliminate operation in mode 3 with the heaters operating to remove moisture from the HEPA filters banks of the emergency fans. (See Comment 3.7.10-4.) This SR is performed at refueling intervals (Mode 6) which permit repairs as needed to get the CREFS fully operational. Contrary to JFD 5, all containment isolation valves locked closed during Modes 1, 2, 3 or 4 to permit continued operation must be restored Operable before returning to power. Therefore, the units must not be allowed to return to power when CREFS is inoperable. It appears that in JFD 5 the licensee is actually requesting a new Action which permits continued two unit power operation provided CREFS is operating continuously in the emergency mode of operation (mode 4).

(2) It appears that the HEPA filter located in the CREFS flow path just upstream of the recirculation fans is not tested in accordance with the VFTP requirements. The inoperability of this component which lies directly in the emergency mode single flow path is not explained or justified by a DOC or JFD. Provide additional technical justifications and explanations to respond to these issues.

Response:

(1) Proposed ITS SR 3.7.9.4 has been modified to remove the phrase "that is not locked, sealed, or otherwise secured in position." Additionally, discussions pertaining to components that are locked in the closed position to permit continued operations that are provided in JFD 5 and DOC L.4 have been revised.

(2) The filter (F-43) located in the CREFS flowpath just upstream of the recirculation fans is not a HEPA filter. The filter has no safety-related or emergency function and is not within the scope of the Ventilation Filter Test Program. The Bases Background description of Mode 1 CREFS operation has been revised to correctly reflect the installed plant configuration and design.

STS 3.7.11, Control Room Emergency Air Temperature Control System (CREATCS)

NRC Question 3.7.11-1

JFD 1
No CTS Requirement
No ITS Requirement

The ITS has not adopted STS 3.7.11, Control Room Emergency Air Temperature Control System (CREATCS). JFD 1 states the STS was not adopted because the CTS does not contain any requirement for CREATCS, in spite of, the chillers HX-100 A&B which are located directly in the primary success path of the CREFS system (between the HEPA filter and the recirculation fans) that mitigates a transient or DBA. This chiller is supplied with component cooling water to operate in CREFS mode four (accident mitigation emergency mode) and it is the primary component for controlling the temperature of the control room air besides the computer room supplementary air conditioning units that only operate in mode one. There is little temperature margin because if power is lost, the control room over heats within two hours when it begins to affect the temperature limits of safety-related equipment as required by Regulatory Guide 1.97.

Comment: Revise the submittal to adopt this STS 3.7.11 as appropriate for the PBNP design.

Response:

The Point Beach CTS does not include a requirement for main control room temperature control systems and equipment that is equivalent to STS 3.7.11, Control Room Emergency Air Temperature Control System (CREATCS). While the CREFS system is supported by chillers and cooling coils for main control room temperature control, these components are not provided with safeguards power, and are therefore not assumed to be available following a loss of offsite power until an alternate power source is made available. Calculations substantiate the coping ability of equipment in the main control room to remain operable during the assumed time within which Point Beach has committed to restore power to system cooling components. The Point Beach safety analysis assumes a two-hour loss of ventilation to the control room and computer room. After that, manual actions are credited for restoration of sufficient cooling to maintain safety system operability. Consequently, the Point Beach CREATCS is not part of the primary success path as discussed in 10 CFR 50.36(c)(2) and need not be included in the Technical Specifications. Creation of a new ITS LCO for CREATCS is not supported by the plant licensing and design basis and the proposed change has not been adopted.

STS 3.7.12, Emergency Core Cooling System (ECCS) Pump Room Exhaust Air Cleanup System (PREACS)

Because the operation of the auxiliary building ventilation system is not assumed in the mitigation of any PBNP DBA or transient, it is acceptable to not adopt the requirements of the STS 3.7.12 for this ventilation system. No comments.

STS 3.7.13, Fuel Building Air Cleanup System (FBACS)

Because the operation of the drumming station area ventilation system and the spent fuel pit ventilation system are not assumed in the mitigation of any PBNP DBA or transient, it is acceptable to not adopt the requirements of the STS 3.7.13 for these ventilation systems. No comments.

STS 3.7.14, Penetration Room Exhaust Air Cleanup System (PREACS)

Because the operation of the auxiliary building ventilation system and its associated charcoal filter subsystem are not assumed in the mitigation of any PBNP DBA or transient, it is acceptable to not adopt the requirements of the STS 3.7.14 for these ventilation systems.

STS 3.7.15, Fuel Storage Pool Water Level (ITS 3.7.10)

There are no comments for ITS 3.7.10.

STS 3.7.16, Fuel Storage Pool Boron Concentration (ITS 3.7.11)

NRC Question 3.7.16-1

DOC A4
No Bases for CTS
Bases for ITS 3.7.11

There are no Bases for CTS 15.5.4 which have been replaced entirely by the proposed Bases for ITS 3.7.11.

Comment: It is acceptable to add the proposed Bases for ITS 3.7.11; however, the DOC A.4 justifies this proposal based upon the contents of DOC M.3. DOC M.3 does not exist, so this DOC is incomplete. Revise this DOC or provide the missing technical justification.

Response:

An editorial correction to DOC A.4 has been made to delete the reference to DOC M.3, which was an artifact from the ITS development process and not applicable to the submitted ITS specification. No other changes were necessary.

NRC Question 3.7.16-2

DOC A5 and JFD 2
CTS 5.4.3
ITS 3.7.11 Applicability

CTS 5.4.3 requires a minimum boron concentration limit to be met "whenever there are spent fuel assemblies in the storage pool." ITS 3.7.11 Applicability retains the same requirement.

(1) As stated in DOC A5 and JFD 2, the STS has not been adopted because the proposed ITS Applicability "...encompasses movement of fuel assemblies in the spent fuel storage pool relative to inadvertent placement of a fuel assembly...." This would include the STS Applicability times when a fuel storage pool verification has not been performed since the last fuel movement. Unfortunately, these specific details from the DOC/JFD justifications and these current PBNP interpretations of the CTS Applicability are not included in the proposed Bases Insert 3.7.16-4 for ITS Applicability.

Comment: Revise the Bases to explain the basis and interpretations of the CTS Applicability or alternately adopt the STS.

(2) Per the text in DOC A5 and JFD 2, there appears to be a safety analysis of an inadvertent placement of a fuel assembly during an excessive cooldown event. Does this event result in a minimum temperature limit for the spent fuel pool which should be maintained by an LCO?

Comment: Revise the ITS Bases with an explanation of the basis for this event.

Response:

(1) Bases Insert B 3.7.16-4 has been revised to incorporate specific details that are contained in JFD 2 into the ITS Bases Applicability description. This relocated detail further explains and justifies the existing CTS basis for applicability of requirements related to spent fuel pool boron concentration.

(2) The Point Beach safety analysis includes consideration of inadvertent fuel assembly placement between the spent fuel pool wall and the spent fuel storage racks. The safety analysis also separately considers an excessive cooldown event. These events are further discussed in the NRC SER that was issued for PBNP license amendments 179 and 183. As reflected in this SER and the Bases Applicable Safety Analysis description for ITS 3.7.12, it is not necessary to consider "double contingency," and the simultaneous occurrence of two unlikely, independent events, such as dilution of spent fuel pool boron concentration simultaneous with a misplaced fuel assembly or an excessive cooldown event. Consequently, since simultaneous consideration of the misplaced fuel assembly and excessive cooldown events is not required, there are no analytical limitations on minimum spent fuel pool temperature, and therefore no need for an LCO for minimum spent fuel pool temperature.

NRC Question 3.7.16-4

DOC M1 and JFD 4
CTS 5.4
ITS 3.7.11 Actions

CTS 5.4 does not contain any Required Actions if the fuel storage pool boron concentration limit is not met. ITS 3.7.11 adds new Required Actions if the LCO is not met. In accordance with the STS, ITS 3.7.11 adds Required Actions which is acceptable; however, STS 3.7.16 Required Action A.2.2 must be adopted as modified by NRC approved TSTF-70, Revision 1. JFD 4 is accepted in that PBNP does not have regionalized storage racks and all storage locations have the same storage limits; however, JFD 4 states that STS 3.7.16 Required Action A.1 prevents future "inadvertent placement of a fuel assembly between the storage racks and the fuel pool wall." Unfortunately, it does not remediate past inadvertent placement of fuel assemblies since the last fuel storage verification. This is why STS 3.7.16 Required Action A.2.2 to "initiate action to perform a fuel storage verification" must be retained.

Comment: Adopt STS 3.7.16 Required Action A.2.2 and revise DOC M1 and the Bases for ITS 3.7.11 to discuss all the adopted STS Required Actions.

Response:

As discussed in our response to RAI Item 3.7.16-2, Item (2), the PBNP design basis does not require consideration of the simultaneous failure of two contingencies for unlikely, independent events. As it specifically relates to the issue involved in this RAI, it assumed that there are simultaneous occurrences involving dilution of spent fuel pool boron concentration and the misplacement of a fuel assembly. Given the unlikely and independent nature of these two occurrences, the recommendation contained in the RAI is not considered necessary and has therefore not been incorporated.

STS 3.7.17, Spent Fuel Pool Storage (ITS 3.7.12)

NRC Question 3.7.17-1

DOC A.4 and JFD 2
CTS 15.5.4.2
ITS 3.7.12 LCO and ITS SR 3.7.12.1

CTS 15.5.4.2 specifies the fuel assembly placement requirements for storage in the spent fuel pool. ITS 3.7.12 LCO states the fuel assembly storage limits must be met and ITS SR 3.7.12.1 contains the list of storage requirements.

(1) DOC A.4 is justified as providing changes that are consistent with the format and presentation of the STS; however, this is not the case. The Condition A is "When the LCO is not met" but there is no listing of the criteria to be met contained in the LCO statement or in the Bases for the LCO which defines how the LCO is Operable or is met. Rather than placement in ITS SR 3.7.12.1, the list of requirements that constitute the fuel storage limits which mitigate accident consequences should be in the LCO, and the SR should be changed as follows:

LCO 3.7.12 Each fuel assembly stored in the spent fuel pool shall be within limits when:
1. It is upright and seated properly in the spent fuel storage rack; and
2. It meets one of the following criteria:
   a. The enrichment of the fuel assembly is ≤ 4.6 percent w/o U-235; or
   b. The fuel assembly contains Integral Fuel Burnable Absorber (IFBA) rods in accordance with Figure 3.7.12-1; or
   c. The fuel assembly is in accordance with Specification 4.3.1.1.

SR 3.7.12.1 "Verify by administrative means each fuel assembly meets the fuel storage limits" at a Frequency of "Prior to storing fuel in the spent fuel storage pool."

The complete list of fuel storage requirements consisting of (1) requirements which mitigate accident consequences; (2) requirements which do not mitigate accident consequences; (3) administrative storage requirements; and, (4) requirements that are fulfilled by Specification 4.3.1.1 must be stated in the ITS Bases.

(2) JFD 2 is used to justify the plant specific changes to the ITS Bases; however, three of the deviations from the STS are not justified and appear applicable to PBNP.

(a) The last sentence of the second paragraph of the Bases Background is not adopted which ensures ITS 3.7.11 LCO will be met before fuel is moved.

(b) The third and fourth sentences of the Bases for Applicable Safety Analyses are not adopted, which imply checking the location of each fuel assembly is not important.

(c) The last sentence of the Bases for LCO is not adopted which provides alternate criteria for storage of fuel assemblies which do not fit any of the fuel storage limits.

Provide explicit explanation for these deviations from the STS or adopt the STS text.

(3) The title from CTS Figure 15.5.4-1, "Fuel Assembly IFBA Requirements" must be retained for ITS Figure 3.7.12-1 because this figure only pertains to IFBA requirements and not to all "Fuel Assembly Storage Limits," as implied.

Revise the DOC, CTS markup, JFD, ITS markup and ITS Bases accordingly to respond to the above issues.

Response:

(1) LCO 3.7.12, SR 3.7.12.1, and the associated Bases have been revised to provide operability criteria for fuel assembly storage in the spent fuel storage pool within the LCO statement in lieu of the Surveillance Requirement. This presentation and format is more generally consistent with that of the STS. The revised LCO operability criteria for spent fuel pool storage requires that stored fuel assemblies either meet initial fuel enrichment limits, or comply with requirements for Integral Fuel Burnable Absorber rods. Other requirements related to orientation and seating of fuel assemblies in the spent fuel storage pool and compliance with Specification 4.3.1.1 have not been incorporated. As discussed in DOC LA.3 for ITS 3.7.16, the CTS requirement that fuel assemblies be stored vertically in the Spent Fuel Pool has been relocated to the FSAR. Additionally, the LCO requirement that fuel assemblies be fully seated that was proposed in RAI 3.7.17-1 was not incorporated since neither the STS nor the CTS include this requirement, and

any instance of a stored fuel assembly that was not fully seated would be documented and evaluated under the deficiency program to ensure compliance with design limits.

The requirement that fuel assemblies be in compliance with ITS 4.3.1.1, as proposed in RAI 3.7.17-1, was not incorporated since these requirements were either duplicative of other requirements already stated in the LCO statement, or were not within the intended scope of the specification. ITS 4.3.1.1.a requires that stored fuel assemblies either meet initial fuel enrichment limits, or comply with requirements for Integral Fuel Burnable Absorber rods. These requirements are identical to those in LCO 3.7.12 and need not be repeated within the LCO. ITS 4.3.1.1.b and 4.3.1.1.c, which provide k_{eff} limits for the spent fuel storage pool when flooded with unborated water and center-to-center distance limits for stored fuel assemblies, have also not been incorporated into LCO 3.7.12 since they represent values and parameters that are pertinent to design and analysis of the fuel storage racks, and are not relevant to the storage of individual fuel assemblies provided they are within the limits provided in the LCO.

(2)(a) It is not necessary to verify spent fuel storage pool boron concentration more frequently than the weekly interval required by Surveillance Requirement 3.7.11.1 in order to ensure spent fuel storage pool boron concentration limits are met prior to moving fuel. This conclusion is based on the low probability of occurrence of a spent fuel storage pool boron concentration dilution event and the double contingency principle, which does not require the assumption of multiple unlikely, independent and concurrent events. Additionally, neither the CTS nor the STS include the suggested increased surveillance frequency for verification of boron concentration. Consequently, the proposed changes have not been incorporated.

(2)(b) The third and fourth sentences of the Bases Applicable Safety Analysis for ITS 3.7.12 have not been adopted because they are not applicable to the Point Beach spent fuel storage pool design. These sentences refer to regionalized spent fuel storage pools, while the spent fuel storage pool for Point Beach consists of a single region, and are not related to the analyses performed related to a fuel assembly mispositioning event. As previously discussed, the fuel assembly mispositioning event is analyzed using the double contingency principle, and does not require the assumption of multiple unlikely, independent and concurrent events. As a result, the proposed changes have not been incorporated.

(2)(c) Neither the CTS, nor ITS 4.3.1.1 provide any provisions for storage of fuel assemblies that do not meet the requirements of ITS LCO 3.7.12, as revised by this submittal revision. Consequently, the proposed change is not relevant to Point Beach and has not been incorporated.

(3) The title for ITS Figure 3.7.12-1 has been changed to "Fuel Assembly IFBA Requirements." The revised title better describes the intent and limitations of the table and is consistent with the presentation of this information as it appears in the CTS.

<u>NRC Question 3.7.17-2</u>

DOC LA.1
CTS 15.5.4.4
No ITS 3.7.12 requirement

CTS 15.5.4.4 specifies fuel assembly placement requirements for storage in the spent fuel pool if the fuel assemblies have been critical for less than one year. These requirements are proposed to be moved from ITS 3.7.12 to the PBNP FSAR.

It is appropriate that all criteria applicable to the movement and placement of fuel assemblies (CTS 15.5.4.2, CTS 15.5.4.4, and also see Comment 3.7.17-5) be moved to the Bases of ITS 3.7.12 for the operator or TS Users reference, in addition to being located in the FSAR. Revise the ITS Bases.

Response:

The spent fuel assembly storage requirements of CTS 15.5.4.4 have been relocated to the Technical Requirements Manual and DOC LA.01 has been revised to reflect this change. Placing these requirements in a controlled document that is under 50.59 control provides adequate assurance that control will be maintained and provides assurance that an equivalent level of safety is maintained.

NRC Question 3.7.17-3

DOC M.1 and JFD 2
CTS 15.5.4.2
No ITS 3.7.12 requirement

CTS 15.5.4.2 specifies the fuel assembly placement requirements for storage in the spent fuel pool but there is no Required Action if the fuel assemblies are incorrectly located. ITS 3.7.12 adds new Required Actions.

(1) It is acceptable to add Required Actions based upon the STS; however, DOC M.1 and JFD 2 both contain justifications for changes to the STS which imply that Completion of the ITS Required Action A.1 is not necessary. This conclusion is apparently because the analysis is based upon unborated water in which all accidents are fully mitigated and with borated water controls in place any potentially mislocated fuel assembly accident is kept far above the safety limit. These justifications are not acceptable and the Required Action does not provide explicit action to the Operator for this LCO which controls only the movement and placement of the fuel assemblies. The STS Required Action A.1 should read "Initiate action to move the noncomplying fuel assembly."

(2) The repetitive phrase used in at least four places is that "...under normal conditions there exists...no immediate criticality concerns exits (sic) for the range of fuel concentration...." This is an apparent typo, instead of "exists" that should be corrected when the submittal is revised for Issue #1.

(3) Bases Insert 3.7.17-3 acknowledges that acceptable corrective actions should be the movement of fuel to a new location which appears to be the only Required Action when this LCO is not met. Therefore, this is another reason STS Required Action A.1 should be retained. Also, the DOC should be revised to include this Bases example.

Revise the DOC, CTS markup, JFD, ITS markup and ITS Bases accordingly to respond to the above issues.

Response:

(1) The LCO, Condition, Surveillance Requirement, Bases, and associated DOCs and JFDs for ITS 3.7.12 have been rewritten in response to RAI 3.7.17-1. The revised specification provides

specific criteria based on fuel assembly parameters to evaluate spent fuel storage pool operability. Based on these revisions, there is nothing that should be construed to infer that completion of Required Actions is not required whenever LCO requirements are not met. The discussions provided in DOC M.1 and JFD 2 are simply meant to demonstrate the margin of safety implicit in the spent fuel storage pool design. Given the changes made to the LCO for ITS 3.7.12 it is therefore not necessary to revise Required Action A.1 to ensure appropriate actions are taken, and the proposed revision to this Required Action has not been incorporated.

(2) Typographical errors identified have been revised as proposed.

(3) Bases Insert 3.17-3 provides one example of how ITS 3.7.12 may be restored. However, as discussed in the response to RAI 3.7.17-3, Item 1, and in view of the revisions that have been made to ITS 3.7.12 in response to RAI 3.7.17-1, adoption of the STS Required Action is not necessary to ensure appropriate actions are taken to restore spent fuel storage pool operability. Proposed revisions to Required Action A.1 of ITS 3.7.12 have therefore not been incorporated.

<u>NRC Question 3.7.17-4</u>

DOC M.2
CTS 15.5.4.2
ITS SR 3.7.12.1

The September 4, 1997, version of CTS 15.5.4.2 specifies a fuel assembly meets the requirements for storage in the spent fuel pool if its has a reference infinite multiplication factor, K_4, less than or equal to 1.49364, which includes a 1 percent)K reactivity bias. This CTS requirement is omitted ITS 3.7.12.

(1) DOC M.2 does not discuss how the ITS implementation will treat all the stored fuel assemblies that meet this old CTS requirement, but that will not meet the new ITS requirements of ITS SR 3.7.12.1. Provide a technical discussion on how this issue will be resolved.

(2) The February 8, 2000, version of CTS 15.5.4.2 does not contain this criterion, as indicated by the CTS markup for ITS Section 4.0, Design Features. Resubmit the CTS markup of this page for ITS 3.7.12.

Response:

(1) and (2) Spent fuel assembly storage requirements based on infinite multiplication factor criteria were removed from the current Technical Specifications by license Amendments 194 and 199, dated March 20, 2000. Affected CTS and STS markups and documentation have been revised to reflect this change. As such, the proposed changes are not required and have not been incorporated.

NRC Question 3.7.17-5

DOC 4.0 LA3
CTS 15.5.4.2
No ITS 3.7.12 requirement

CTS 15.5.4.2 specifies "An inspection area shall allow rotation of fuel assemblies for visual inspection but shall not be used for storage." Based upon the contents of Section 3.7 only, it appears that these requirements are proposed to be moved ITS 4.0. DOC LA3 of that section states these words are moved to the FSAR. It is more appropriate that all criteria applicable to the movement and placement of fuel assemblies (see CTS 15.5.4.2, CTS 15.5.4.4, and Comment 3.7.17-2) be moved to the Bases of ITS 3.7.12 for the operator or TS Users reference.

Comment: Revise the ITS 3.7.12 Bases as suggested and provide a new DOC "LA" to justify the movement of this CTS requirement to the ITS 3.7.12 Bases.

Response:

The inspection area that is referred to in the CTS is comprised of a defined area within the spent fuel storage pool where there are no fuel assembly storage rack cells or other fuel assembly storage provisions. Given that this inspection location has no installed capability for storage of fuel assemblies, relocation of the limitation preventing fuel assembly storage that is contained in CTS 15.5.4.2 to the FSAR, where it will be maintained under the of 10CFR50.59, is considered acceptable. The proposed change has therefore not been adopted.

3.7.18, Secondary Specific Activity (ITS 3.7.13)

NRC Question 3.7.18-2

DOC L.3
CTS 15.3.1.D.8 and CTS Table 15.4.1-2, item 8
ITS SR 3.7.13.1

CTS 15.3.1.D.8 requires that the secondary coolant gross radioactivity be monitored continuously by an air ejector gas monitor. Secondary coolant gross radioactivity shall be measured weekly or daily when the air ejector gas monitor is inoperable. ITS 3.7.13 does not retain these CTS requirements for the air ejector gas monitor.

(1) As DOC L.3 is presented, there is no difference between DOC L.2 and DOC L.3. The wording is exactly the same. This is an apparent error, if not, then provide an explanation.

(2) This CTS requirement has apparently been deleted without any DOC technical justification provided to account for what effect this will have upon the safe operation of PBNP. PBNP should retain this CTS requirement in ITS 3.7.12, verify its location elsewhere or justify if it can be retained by its movement outside TS. See comment 3.7.18-3 which assumes there is other ongoing monitoring of secondary coolant radioactivity (such as CTS 15.3.1.D.8), in addition to the specific periodic surveillances required by the ITS. Provide this missing technical justification.

Response:

(1) DOC L.2 has been provided to discuss changes applicable to CTS Table 15.4.1-2, Item 8, whereas DOC L.3 is intended to discusses changes applicable to CTS 15.3.1.D.8. DOC L.3 has been revised to more clearly identify this distinction.

(2) The CTS 15.3.1.D.8 requirement to determine secondary coolant system gross activity every 24 hours when continuous air ejector gas monitoring is unavailable has been relocated to the Technical Requirements Manual. Placing this requirement in a licensee document that is under 50.59 control provides adequate assurance that an equivalent level of safety is maintained. DOC LA.02 has been written to provide documentation for this change.

NRC Question 3.7.18-3

DOC LA.1
CTS Table 15.4.1-2, item 8
ITS SR 3.7.13.1

CTS Table 15.4.1-2, item 8 requires that a secondary coolant system gross activity check is made weekly and an iodine concentration analysis is made weekly when the gross activity is exceeds 1.0 micro-curies per gram. ITS SR 3.7.13.1 does not retain the same Frequency for this verification which is proposed to be 31 days and the surveillance methods are moved to the BASES and to licensee-controlled procedures.

(1) DOC LA.1 does not mention the Frequency of these CTS surveillances which are proposed to be controlled in the licensee procedures. It is expected that these Frequencies will be retained as defined in the CTS. The assumed STS basis for accepting a relaxation of the ITS SR 3.7.13.1 Frequency is that there are non-TS licensee-controlled procedures for operation of continuous monitors and the same frequency of verifications for gross secondary coolant radioactivity in addition to the specific periodic ITS surveillance. (See Comment 3.7.18-2). Provide additional technical explanation or assurance that these requirements are moved to licensee procedures without change. If these CTS requirements are to be changed as proposed, then this DOC must be submitted as an "L"DOC rather than as an "LA" DOC.

(2) The technical justification states that licensee-controlled documents will be subject to controls imposed by plant administrative procedures, but unfortunately does not state assurance that any future change made will be further subject to the regulatory control requirements such as 10 CFR 50.59. Retain these CTS requirements or provide the missing technical justification as identified in the issues noted above.

Response:

(1) and (2) Justification for extending the CTS Table 15.4.1-2, Item 8 frequency from weekly to 31 days for secondary coolant system gross activity checks and iodine concentration analysis when gross activity exceeds limits is provided in DOC L.2. As described in DOC L.2, the acceptability of changing the CTS frequency to match that provided in the STS for these functions is based on the stability of the secondary coolant activity parameter, and the existence of other routinely monitored parameters that would serve as precursors to increased secondary coolant activity (i.e., RCS activity and steam generator tube leakage). These other monitored parameters provide sufficient indication of the need to increase monitoring of secondary coolant

activity such that the proposed periodic frequency of 31 days is sufficient. Consequently, no additional changes have been made.

NRC Question 3.7.18-4

DOC M.1 and JFD 3
Bases for CTS 15.3.4
Bases for ITS 3.7.13, Applicable Safety Analyses

The Bases for CTS 15.3.4 (on page 15.3.4-3) for determination of the maximum allowable coolant activity are based upon the safety evaluation provided with Amendment Nos. 173 and 177, dated July 1, 1997. Bases for ITS 3.7.13, Applicable Safety Analyses contain results using analytical methods and assumptions dated July 1981 that are based upon the SRP 15.1.5.

Comment: DOC M.1 and JFD 3 are confusing because the current licensing basis is proposed to be changed from a methodology granted in a recent TS amendment and superseded by a 19 year old analysis that is apparently more restrictive. If it is more restrictive, then why is the maximum allowable secondary coolant activity limit not reduced? Should the limit have been changed in the recent TS amendment and does this change correct an error? Please provide a further explanation.

Response:

The discussions provided in DOC M.1 and JFD 3 refer to the same analysis and do not reflect a change in the current licensing basis. The analysis dated July 1981 that is referenced in the ITS Bases Applicable Safety Analyses for ITS 3.7.13, and which contains results using analytical methods and assumptions that are based upon the SRP 15.1.5, is the same analysis that was used as the basis for the safety evaluation provided for CTS amendments 173 and 177, dated July 1, 1997, and that is referred to in the Bases for CTS 15.3.4. Consequently, no changes have been made.

NRC Question 3.7.18-5

JFD 3, 4, 5, 6
Bases for CTS
Bases for ITS 3.7.13

The CTS Bases have been totally replaced by the ITS proposed Bases. The following issues are identified which are related to Comment 3.7.18-4.

(1) The first sentence of the third paragraph of the Bases Background is applicable and should be adopted with the RCS limit stated. Insert B 3.7.18-2 states the RCS limit in two locations and the values are different. Correct errors or explain this difference.

(2) JFD 4 does not adopt the fourth paragraph of the Bases Background but there is no equivalent text inserted which replicates the results from either the July 1981 or July 1997 analyses reported in JFD 3. Provide explanations.

(3) The fifth paragraph of the Bases Background is adopted which contradicts the justification provided in JFD 4; otherwise, how is it determined that the 2-hour EAB dose is a small fraction of the 10 CFR 100 limit? Is the "limit" a small fraction of the 10 CFR 100 limit or is it the "limit"

established as the NRC-approved licensing basis? Correct these errors or provide an explanation.

(4) JFD 5 is based upon the assumption that an operator suddenly finds the DOSE EQUIVALENT I-131 limit exceeded which is not realistic given other plant monitoring that is available and must be in place (See Comment Record Items 3.7.18-2 and 3.7.18-3). Regardless, STS 3.0.2 provides permission at any time to resume normal operations if the TS limit is restored during the period allowed for the plant shutdown. Adopt the STS text as is. Alternately, PBNP may obtain from the WOG a generic TSTF which is approved by the NRC for this deviation from the STS.

(5) Bases Insert B 3.7.18-4 states "...if the gross activity exceeds the 1.0 micro curie per gram limit, an isotopic analysis should be performed to determine DOSE EQUIVALENT I-131...." To be consistent with JFD 6, the word "should" must be replaced with "shall" or "are required."

Response:

(1) The STS provides a an RCS specific activity limit of [1.0] μCi/gm for DOSE EQUIVALENT I-131 in LCO 3.4.16, and a secondary specific activity limit of [0.1]] μCi/gm DOSE EQUIVALENT I-131 in LCO 3.7.18. As such, the statement made in the first sentence of the third paragraph of the STS 3.7.18 Bases would be correct given the relative magnitude of these values. The bracketed values for RCS and secondary specific activity provided in the STS have not been used for Point Beach because they are neither consistent with the analytical assumptions used in dose calculations or the design and licensing basis of the plant. For Point Beach, the magnitude of the existing CTS and proposed ITS limit for RCS specific activity relative to the existing and proposed Technical Specification secondary specific activity limit will not substantiate the assertion made in the first sentence of the third paragraph of the STS 3.7.18 Bases with respect to secondary specific activity values that might be expected following a 1 gpm steam generator tube leak. As a result, the proposed change is not appropriate for Point Beach and has not been incorporated.

The discrepancy that appears in Insert B3.7.18-2 with respect to Technical Specification RCS activity level limits has been corrected to show that the 0.8 μCi/gm limit is related to the proposed Technical Specification RCS gross specific activity level limit, and not the proposed limit for DOSE EQUIVALENT I-131, as originally presented.

(2) Consistent with the design and licensing basis for Point Beach, dose calculations have been performed using a bounding case approach that considers the most limiting design basis event and assumptions. As discussed in FSAR 15.3.1.C, these calculations demonstrate that the resulting 2-hour doses at the site boundary will not exceed an appropriately small fraction of the 10CFR100 limit following a steam generator tube rupture event. As a result, unique dose calculations are not required for individual events such as the reactor trip event with main steam safety valves open that is discussed in the fourth paragraph of the STS Bases Background. The proposed change to adopt replacement text for the statements presented in this paragraph is therefore not applicable and has not been incorporated.

(3) The applicable limit in the fifth paragraph of the Bases Background is "a small fraction of the 10 CFR 100 limit," and not, a "limit established as the NRC-approved licensing basis." Changes to the Bases Background paragraph have been made, as appropriate.

(4) The STS text for ACTIONS A.1 and A.2 that was replaced by Insert B 3.7.18-3 using JFD 5 has been restored and the text associated with the Insert and JFD 5 have been deleted.

(5) The discussion provided in Insert B 3.7.18-4 provides a conservative, alternate method of satisfying SR 3.7.13.1 using gross activity measurements in lieu of the less comprehensive DOSE EQUIVALENT I-131 analysis that is specified in the SR. Use of the word "should" in the Bases discussion of this SR provides the desired operational flexibility needed to avoid an unnecessary plant shutdown due to elevated secondary specific activity without providing a mandate to perform a DOSE EQUIVALENT I-131 analysis under circumstances where this information is not required to support a plant shut down determination. Additionally, further justification for not requiring both the gross activity analysis and the DOSE EQUIVALENT I-131 analysis is provided in DOC LA.1. As a result, the proposed change has not been adopted.

RELOCATED LCOs

NRC Question 3.7.R-1

CTS 15.4.12 and CTS 15.4.13
Unknown Location of CTS Relocated Specifications
No "LA" DOCs or "R" DOCs

CTS 15.4.12 and CTS 15.4.13 specify requirements for sealed radioactive sources and snubbers. These requirements are not retained in the ITS.

Comment: The conversion to the ITS presumes the relocation of some CTS requirements outside of the ITS. CTS 15.4.12 and CTS 15.4.13 have generally represented TS requirements normally associated with Plant System requirements. There are no "LA" DOC or "R" DOC technical justifications provided in Section 3.7 to evaluate whether or not these requirements can be relocated. The location to where these CTS requirements are moved is unknown. The change control procedures for the location to which these CTS requirements are moved are not stated. Revise the DOCs, CTS markup, provide JFDs, ITS markups and ITS Bases markups, as necessary to respond to these comments.

Response:

CTS 15.4.13 was deleted by the NRC via Amendments 191/196, dated December 6, 1999. A revised page for CTS 15.4.13 was submitted to update the ITS submittal in Supplement 9.

Relocation of CTS 15.4.12 is justified in Section 12 (page 14 of 17) of Appendix A of Attachment 6, Application of Selection Criteria (Split Report), to the November 15, 1999 Submittal. The requirements of this CTS section will be relocated to the Technical Requirements Manual and maintained under 10CFR50.59.

Additional Changes Required for ITS Section 3.7:

Additional corrections to the conversion package for ITS Section 3.7 have been identified as a result of ITS reviews by plant staff.

Required Action A.1 for ITS 3.7.1, Condition A has been revised to require that THERMAL POWER be reduced to less than or equal to the maximum allowable % RTP specified in ITS

Table 3.7.1-1 for the number of inoperable MSSVs. This Condition previously provided a specific numerical value for the maximum allowable % RTP that was identical to that stated in Table 3.7.1-1. The revised text removes a redundancy in the proposed ITS without altering the technical requirements. Additionally, it is more consistent with the wording provided for Condition B.1 and the presentation in the STS.

Removed the words "or more" from proposed ITS 3.7.1, Condition B. Inoperability of more than two MSSVs on one or more steam generators is addressed in ITS 3.7.1, Condition C.

The discussion of acceptable methods for deactivation of an MSIV that is presented in the ITS 3.7.2 Bases discussion for Actions C.1 and C.2 has been revised. Removing power from the MSIV actuation solenoids does not remove the ability of the MSIVs to be reopened.

The words "in MODE 1" have been added to Condition A of proposed ITS 3.7.2. The Required Actions in applicable conditions other than MODE 1 are fully encompassed under ITS 3.7.2, Condition C. This change is consistent with the provisions of the CTS, the STS, and the proposed ITS Bases. This omission of these words was an oversight and this is considered an editorial correction.

An initially proposed 24-hour Required Action time in ITS 3.7.4, for restoration of one required ADV flowpath when both ADV flowpaths are inoperable, has been reduced to allow only 1 hour. Although the 24-hour provision is consistent with the STS and supported by the Point Beach Probabilistic Risk Assessment model, the 1 hour completion time was adopted as a conservative measure in response to NRC reviewer input. New DOC A.5 has been provided to justify this change. Additionally, the previously proposed 48-hour Required Action time in ITS 3.7.4, for restoration of the required ADV flowpath when one ADV flowpath is inoperable, has been replaced by a proposed 7-day Required Action time. The 7-day Required Action time is consistent with NUREG-1431. DOC L.2 has been revised to justify this change.

The applicability of STS LCO 3.7.5 for the AFW System is MODES 1, 2, 3, and MODE 4 when a steam generator is relied upon for heat removal.

The Note provided for STS SRs 3.7.5.3 and 3.7.5.4 stating that the simulated actuation verification requirements of these SRs are not applicable in MODE 4 when a steam generator is relied upon for heat removal was replaced in approved TSTF 245 by a Note that stating that the AFW System(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. While the STS Note stating that STS SRs 3.7.5.3 and 3.7.5.4 was deleted from the specification by approved TSTF 245, the discussion of the Note was not removed from the Bases. Point Beach has adopted TSTF 245 in proposed ITS 3.7.5. The Bases discussion of the MODE 4 exception for SRs 3.7.5.3 and 3.7.5.4 has been deleted since it is no longer applicable. The affected Bases, CTS markups, DOC M.4, and JFD 17 have been revised accordingly.

The proposed ITS 3.7.7 Bases Background description has been revised to refer to the shared heat exchanger as the standby heat exchanger, and to clarify that the described actions refer to the automatic start inhibit feature for the "standby" CC pump in the event of a loss of offsite power coincident with a safety injection signal.

Initially proposed more-restrictive changes to ITS LCO 3.7.7, discussed in DOC M.1, have been eliminated. The associated Action, Surveillance Requirements, and Bases have been revised accordingly. As documented in Safety Evaluation Reports from NRC to NMC dated November 7, December 15, and December 18, 2000, NRC Staff granted approval to remove consideration of the dynamic effects associated with the postulated rupture of the analyzed portions of system piping from the licensing basis of Point Beach. Following receipt of the staff's approval, Point Beach initiated action to classify component cooling water (CCW) as a closed system inside containment. As a closed system inside containment, CCW is capable of performing its specified safety function without reliance on the non-essential load isolation valves. Consequently, the additional more-restrictive changes that had initially been proposed for these valves are no longer necessary.

Proposed ITS 3.7.8 and the associated Bases have been significantly rewritten to reflect changes to the CTS that were approved under license amendments 199 and 204, dated November 17, 2000. In general, these amendments reduced the number of allowed SW System configurations prescribed in the Technical Specification by adopting a less cumbersome approach that is based on ensuring the continued availability of affected safety functions. Additionally, the amendments recognized the redundancy provided by recently installed automatic isolation valves in the flowpaths supplying non-essential SW loads that require automatic isolation to provide accident mitigation. Changes have also been made to reflect changes to the CTS that were approved under license amendments 195 and 200, dated March 22, 2000. These changes, while not directly applicable to the service water system, appear on pages that are included as CTS markups for ITS 3.7.8.

DOC LA.1 for ITS 3.7.10 has been replaced with DOC L.6 in order to reflect deletion of the requirement for CREFS when unirradiated fuel assemblies are being moved in containment.

The inserted text for SR 3.7.9.1 provided in the CTS markup has been revised to reflect proposed ITS SR 3.7.9.1.

The ITS 3.7.10 Bases discussion of SR 3.7.10.9 has been revised to clarify that the frequency of CREF filter tests will be in accordance with Regulatory Guide 1.52. This clarification is consistent with the Point Beach design basis and the description of filter testing requirements provided in the proposed ITS 5.5.10 discussion of the Ventilation Filter Test Program.

Proposed ITS 3.7.11 and the associated Bases have been revised to reflect changes to the CTS requirements for minimum allowable boron for the spent fuel storage pool that were approved under license amendments 194 and 199, dated March 20, 2000.

Proposed ITS 3.7.12 and the associated Bases have been revised to reflect changes to the CTS that were approved under license amendments 194 and 199, dated March 20, 2000. These amendments added storage requirements for new fuel and updated the storage requirements for spent fuel in the spent fuel storage pool.

In most cases, the Bases for ITS Section 3.7 have been resubmitted in their entirety as a result of a presentational change in font size and type that resulted in considerable repagination. Individual changes to the Bases that are not as a result of this presentational change are annotated in the margins, as appropriate.

Editorial changes such as spelling corrections and page numbering have been incorporated.

Additional Corrections Required for other ITS Sections:

The clean page for ITS 5.6-2 was inadvertently omitted from Supplement 9 to the ITS Submittal. This page is provided herein.

ATTACHMENT 2
DISCARD AND INSERTION INSTRUCTIONS

VOLUME 8	
SECTION 3.7.1	
DISCARD	**INSERT**
DOC pages 1 of 5 through 5 of 5	DOC pages 1 of 4 through 4 of 4
CTS markup pages 6 of 8 and 7 of 8	CTS markup pages 6 of 8 and 7 of 8
JFD pages 2 of 3 and 3 of 3	JFD pages 2 of 3 and 3 of 3
ISTS markup page 3.7-3	ISTS markup page 3.7-3
ISTS Insert (3.7.1-1)	ISTS Insert (3.7.1-1)
ISTS Bases markup pages B 3.7.1-1 through B 3.7.1-3 and B 3.7.1-5	ISTS Bases markup pages B 3.7.1-1 through B 3.7.1-3 and B 3.7.1-5
ITS page 3.7.1-1 and 3.7.1-3	ITS page 3.7.1-1 and 3.7.1-3
ITS Bases pages B 3.7.1-1 through B 3.7.1-7	ITS Bases pages B 3.7.1-1 through B 3.7.1-6
SECTION 3.7.2	
DISCARD	**INSERT**
DOC pages 1 of 6 through 6 of 6	DOC pages 1 of 7 through 7 of 7
CTS markup pages 4 of 8, 7 of 8, and 8 of 8	CTS markup pages 4 of 8, 7 of 8, and 8 of 8
JFD pages 1 of 6 through 6 of 6	JFD pages 1 of 5 through 5 of 5
ISTS markup page 3.7-6	ISTS markup page 3.7-6
ISTS Insert (3.7.1-1 and 3.7.1-2) (sic)	ISTS Insert (3.7.2-1 and 3.7.2-2)
ISTS Bases markup pages B 3.7.2-4 through B 3.7.2-6	ISTS Bases markup pages B 3.7.2-4 through B 3.7.2-6
ISTS Bases Insert (B 3.7.2-7 through B 3.2.7-10)	ISTS Bases Insert (B 3.7.2-7 through B 3.2.7-11)
ITS pages 3.7.2-1 and 3.7.2-2	ITS pages 3.7.2-1 and 3.7.2-2
ITS Bases pages B 3.7.2-1 through B 3.7.2-7	ITS Bases pages B 3.7.2-1 through B 3.7.2-6
SECTION 3.7.3	
DISCARD	**INSERT**
DOC pages 1 of 4 through 4 of 4	DOC pages 1 of 3 through 3 of 3

ATTACHMENT 2
DISCARD AND INSERTION INSTRUCTIONS

SECTION 3.7.3 (continued)	
CTS markup pages 1 of 4, and 3 of 4	CTS markup pages 1 of 4, and 3 of 4
ISTS Insert (second page of Insert 3.7.3-1: page marked as 3.7-9)	ISTS Insert (second page of Insert 3.7.3-1: page marked as 3.7-9)
ITS page 3.7.3-2	ITS page 3.7.3-2
SECTION 3.7.4	
DISCARD	**INSERT**
DOC pages 2 of 5 through 5 of 5	DOC pages 2 of 5 through 5 of 5
CTS markup pages 2 of 5 through 5 of 5	CTS markup pages 2 of 5 through 4 of 5
CTS Insert (3.7.4-1, no page number)	CTS markup page 5 of 5
JFD pages 1 of 4 through 4 of 4	JFD pages 1 of 5 through 5 of 5
ISTS markup page 3.7-9	ISTS markup page 3.7-9
ISTS Bases markup page B 3.7.4-3	ISTS Bases markup page B 3.7.4-3
NSHC pages 1 of 5 through 5 of 5	NSHC pages 1 of 6 through 6 of 6
ITS page 3.7.4-1	ITS page 3.7.4-1
ITS Bases pages B 3.7.4-2 and B 3.7.4-3	ITS Bases pages B 3.7.4-2 and B 3.7.4-3
SECTION 3.7.5	
DISCARD	**INSERT**
DOC pages 1 of 10 through 10 of 10	DOC pages 1 of 12 through 12 of 12
CTS markup pages 1 of 12 through 12 of 12	CTS markup pages 1 of 13 through 13 of 13
JFD pages 1 of 7 through 7 of 7	JFD pages 1 of 9 through 9 of 9
ISTS markup pages 3.7-12 and 3.7-13	ISTS markup pages 3.7-12 and 3.7-13
ISTS Insert (3.7.5-1)	ISTS Inserts (3.7.5-1, 3.7.5-2, 3.7.5-3)
ISTS Bases markup pages B 3.7.5-6, B 3.7.5-7, B 3.7.5-8	ISTS Bases markup pages B 3.7.5-6, B 3.7.5-7, B 3.7.5-8
ISTS Bases Inserts (B 3.7.5-7 through B 3.7.5-11)	ISTS Bases Inserts (B 3.7.5-7 through B 3.7.5-12)
N/A	ISTS Bases Inserts (B 3.7.5-13)
NSHC pages 1 of 8 through 8 of 8	NSHC pages 1 of 9 through 9 of 9

ATTACHMENT 2
DISCARD AND INSERTION INSTRUCTIONS

SECTION 3.7.5 (continued)	
ITS page 3.7.5-2 through 3.7.5-4	ITS page 3.7.5-2 through 3.7.5-5
ITS Bases pages B 3.7.5-1 through B 3.7.5-9	ITS Bases pages B 3.7.5-1 through B 3.7.5-10
SECTION 3.7.6	
DISCARD	**INSERT**
JFD pages 1 of 2 and 2 of 2	JFD pages 1 of 3 through 3 of 3
ISTS Bases markup pages B 3.7.6-1 through B 3.7.6-3	ISTS Bases markup pages B 3.7.6-1 through B 3.7.6-3
ISTS Bases Inserts (B 3.7.6-1, B 3.7.6-2 and B 3.7.6-3)	ISTS Bases Inserts (B 3.7.6-1, B 3.7.6-2 and B 3.7.6-3)
ITS Bases pages B 3.7.6-1 through B 3.7.6-4	ITS Bases pages B 3.7.6-1 through B 3.7.6-3
SECTION 3.7.7	
DISCARD	**INSERT**
DOC pages 1 of 6 through 6 of 6	DOC pages 1 of 5 through 5 of 5
CTS markup pages 2 of 6, 5 of 6, and 6 of 6	CTS markup pages 2 of 6, 5 of 6, and 6 of 6
JFD pages 1 of 5 through 5 of 5	JFD pages 1 of 4 through 4 of 4
ISTS markup pages 3.7-17 and 3.7-18	ISTS markup pages 3.7-17 and 3.7-18
ISTS Insert (3.7.7-1)	ISTS Insert (3.7.7-1)
ISTS Bases markup pages B 3.7.7-3 through B 3.7.6-5	ISTS Bases markup pages B 3.7.7-3 through B 3.7.6-5
ISTS Bases Inserts (B 3.7.7-1 through B 3.7.7-7)	ISTS Bases Inserts (B 3.7.7-1 through B 3.7.7-8)
ITS Pages 3.7.7-1 and 3.7.7-2	ITS Pages 3.7.7-1 and 3.7.7-2
ITS Bases Pages B 3.7.7-1 through B 3.7.7-7	ITS Bases Pages B 3.7.7-1 through B 3.7.7-6
SECTION 3.7.8	
DISCARD	**INSERT**
DOC pages 2 of 9 through 8 of 9	DOC pages 2 of 9 through 8 of 9
CTS markup pages 1 of 11 through 11 of 11	CTS markup pages 1 of 12 through 12 of 12
JFD pages 1 of 5 through 5 of 5	JFD pages 1 of 6 through 6 of 6
ISTS markup pages 3.7-19 and 3.7-20	ISTS markup pages 3.7-19 and 3.7-20

ATTACHMENT 2
DISCARD AND INSERTION INSTRUCTIONS

SECTION 3.7.8 (continued)	
ISTS Insert (Insert 3.7.8-1: 3 pages)	ISTS Insert (Insert 3.7.8-1: 2 pages)
ISTS Bases markup page B 3.7.8-4	ISTS Bases markup page B 3.7.8-4
ISTS Bases Inserts (B 3.7.8-1 through B 3.7.8-3)	ISTS Bases Inserts (B 3.7.8-1 through B 3.7.8-4)
ITS Pages 3.7.8-1 through 3.7.8-4	ITS Pages 3.7.8-1 through 3.7.8-4
ITS Bases Pages B 3.7.8-1 through B 3.7.8-10	ITS Bases Pages B 3.7.8-1 through B 3.7.8-9
SECTION 3.7.9	
DISCARD	**INSERT**
JFD page 1 of 1	JFD page 1 of 1
SECTION 3.7.10	
DISCARD	**INSERT**
DOC pages 1 of 9 through 9 of 9	DOC pages 1 of 8 through 8 of 8
CTS markup pages 1 of 5, 4 of 5, and 5 of 5	CTS markup pages 1 of 5, 4 of 5, and 5 of 5
JFD pages 3 of 6 and 4 of 6	JFD pages 3 of 6 and 4 of 6
ISTS markup page 3.7-25	ISTS markup page 3.7-25
ISTS Bases markup pages B 3.7.10-4 and B 3.7.10-6	ISTS Bases markup pages B 3.7.10-4 and B 3.7.10-6
ISTS Bases Insert (B 3.7.10-01, first page only)	ISTS Bases Insert (B 3.7.10-01, first page only)
ISTS Bases Insert (B 3.7.10-05 and B 3.7.10-06)	ISTS Bases Insert (B 3.7.10-05 and B 3.7.10-06)
ITS Page 3.7.9-2	ITS Page 3.7.9-2
ITS Bases Pages B 3.7.9-1 through B 3.7.9-8	ITS Bases Pages B 3.7.9-1 through B 3.7.9-6
SECTION 3.7.16	
DISCARD	**INSERT**
DOC pages 1 of 3 through 3 of 3	DOC pages 1 of 3 through 3 of 3
CTS markup pages 2of 2	CTS markup pages 2of 2
JFD page 1 of 2	JFD page 1 of 2

ATTACHMENT 2
DISCARD AND INSERTION INSTRUCTIONS

SECTION 3.7.16 (continued)	
ISTS markup page 3.7-36	ISTS markup page 3.7-36
ISTS Bases markup page B 3.7.16-2	ISTS Bases markup page B 3.7.16-2
ISTS Bases Insert (B 3.7.16-2 through B 3.7.16-5)	ISTS Bases Insert (B 3.7.16-2 through B 3.7.16-5)
ITS page 3.7.11-1	ITS page 3.7.11-1
ITS Bases Pages B 3.7.11-1 through B 3.7.11-4	ITS Bases Pages B 3.7.11-1 through B 3.7.11-3
SECTION 3.7.17	
DISCARD	**INSERT**
DOC pages 1 of 4 through 4 of 4	DOC pages 1 of 4 through 4 of 4
CTS markup pages 1 of 2 and 2of 2	CTS markup pages 1 of 4 through 4of 4
JFD pages 2 of 3 and 3 of 3	JFD pages 2 of 3 and 3 of 3
ISTS Inserts (3.7.17-1 through 3.7.17-4)	ISTS Inserts (3.7.17-1 through 3.7.17-4)
ISTS Bases markup page B 3.7.17-2	ISTS Bases markup page B 3.7.17-2
ISTS Bases Inserts (B 3.7.17-2 through B 3.7.17-4)	ISTS Bases Inserts (B 3.7.17-2 through B 3.7.17-4)
ITS pages 3.7.12-1 and 3.7.12-2	ITS pages 3.7.12-1 and 3.7.12-2
ITS Bases pages B 3.7.12-1 through B 3.7.12-3	ITS Bases pages B 3.7.12-1 through B 3.7.12-3
SECTION 3.7.18	
DISCARD	**INSERT**
DOC pages 1 of 5 through 5 of 5	DOC pages 1 of 6 through 6 of 6
CTS markup pages 1 of 5	CTS markup pages 1 of 5
JFD pages 2 of 3 and 3 of 3	JFD pages 2 of 3 and 3 of 3
ISTS Bases markup page B 3.7.18-1 and B 3.7.18-3	ISTS Bases markup page B 3.7.18-1 and B 3.7.18-3
ISTS Bases Inserts (B 3.7.18-1 through B 3.7.18-4)	ISTS Bases Inserts (B 3.7.18-1 through B 3.7.18-4)
ITS Bases pages B 3.7.13-1 through B 3.7.13-5	ITS Bases pages B 3.7.13-1 through B 3.7.13-4

ATTACHMENT 2
DISCARD AND INSERTION INSTRUCTIONS

VOLUME 11	
SECTION 5.5	
DISCARD	**INSERT**
DOC pages 1 of 18 through 18 of 18	DOC pages 1 of 20 through 20 of 20
ITS page 5.6-2	ITS page 5.6-2

ENCLOSURE

Description of Changes - NUREG-1431 Section 3.07.01

21-Feb-01

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:** 15.03.04 **ITS:** LCO 3.07.01
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:** 15.03.04 APPL **ITS:** LCO 3.07.01
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:** 15.03.04 OBJ **ITS:** B 3.07.01
A.04 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:** BASES **ITS:** B 3.07.01

Description of Changes - NUREG-1431 Section 3.07.01

21-Feb-01

DOC Number	DOC Text	
A.05 Rev. A	The CTS specifies that the minimum steam relieving capability of eight main steam safety valves shall be available. The ITS states that the MSSVs shall be operable as specified in Tables 3.7.1-1 and 3.7.1-2. ITS Table 3.7.1-1 specifies the maximum power level at which the unit can be operated based on the number of operable MSSVs, while Table 3.7.1-2 specifies the MSSV valve numbers and their associated lift settings. In specifying that the MSSVs must be operable and referring to these Tables, all eight MSSVs are required to be operable to fulfill the LCO. As such, this change is administrative.	
	CTS:	**ITS:**
	15.03.04.A.01	LCO 3.07.01
		LCO 3.07.01 T 3.07.01-01
		LCO 3.07.01 T 3.07.01-02
A.06 Rev. A	The ITS contains a Note associated with SR 3.7.1.1 (MSSV setpoint verification), which allows MSSV setpoint testing to be performed after entry into Mode 3, but prior to entry into Mode 1 or 2. The CTS Mode of Applicability for the MSSVs is whenever the reactor coolant temperature is above 350 degrees with the reactor critical, which is equivalent to ITS Modes 1 and 2. CTS 15.4.0.1 states that surveillance requirements shall be met when the system or component is required to be operable. By applying Specification 15.4.0.1, the CTS required mode of performance for this surveillance has been determined to be equivalent to ITS Modes 1 and 2 making the ITS Note allowing entry into Mode 3 administrative.	
	CTS:	**ITS:**
	15.03.04.A	SR 3.07.01.01 NOTE

DOC Number	DOC Text
L.01 Rev. A	The CTS does not provide any specific Actions which address the inoperability of the MSSVs, which result in entry into CTS 15.3.0.b whenever an MSSV is determined to be inoperable. Entry into CTS 15.3.0.b requires the unit to be placed into Hot Shutdown (ITS Mode 3) within 7 hours at which time the CTS Applicability is exited and no further Technical Specification Actions are required. The ITS provide specific Conditions and Required Actions to address the inoperablity of MSSVs based on the number of inoperable valves and whether or not the Moderator Temperature Coefficient is positive, negative, or zero. If there are inoperable MSSV(s), it is necessary to limit the primary system power during steady state operation to a value that does not result in exceeding the combined steam flow capacity of the remaining OPERABLE MSSVs. This reduction is necessary to prevent primary and secondary system overpressurization and has been calculated in accordance with the conservative heat balance calculations provided in NRC Information Notice 94-60 which references Westinghouse NSAL 94-001. If the Moderator Temperature Coefficient is zero or negative, a power reduction alone is sufficient for a single inoperable MSSV on one or both Steam Generators. If the Moderator Temperature Coefficient is positive or if two or more MSSVs are inoperable on any Steam Generator, the power reduction must be accompanied by a similar reduction in the Power Range Neutron Flux-High setpoint. Reducing the Power Range Neutron Flux-High setpoint provides assurance that the reactor power will remain within the flow capacity of the remaining operable MSSVs in the event of a power increase or overshoot. If the reactor is not operating in excess of 5% power, the reduction in the Power Range Neutron Flux-High setpoint is not necessary as power increases and overshoots will not be significant enough to exceed the combined steam flow capacity of the remaining operable MSSVs.

CTS:	ITS:
NEW	LCO 3.07.01 COND NOTE
	LCO 3.07.01 COND A
	LCO 3.07.01 COND A RA A.1
	LCO 3.07.01 COND B
	LCO 3.07.01 COND B RA B.1
	LCO 3.07.01 COND B RA B.2
	LCO 3.07.01 COND B RA B.2 NOTE
	LCO 3.07.01 T 3.07.01-01

DOC Number	DOC Text
LB.01 Rev. A	The CTS specifies that an approximately equal number of MSSVs are to be tested for lift setpoint each refueling outage such that all valves are tested within a five year period. In addition, the CTS requires additional MSSVs to be tested based on setpoint testing failures. The sample selection size and increased sample population specified in the CTS are duplicative of the requirements specified by ASME Section XI and ASME/ANSI OM-1, 1981, 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. This change is administrative.

CTS:	ITS:
15.04.01 T 15.04.01-02 12 (11)	SR 3.07.01.01

Description of Changes - NUREG-1431 Section 3.07.01

21-Feb-01

DOC Number	DOC Text
M.01 Rev. D	The CTS Mode of Applicability for the MSSVs is whenever reactor coolant temperature is heated above 350 degrees with the reactor critical, except during low power physics testing. The CTS does not provide any specific Actions which address the inoperability of the MSSVs, which result in entry into CTS 15.3.0.b whenever an MSSV is determined to be inoperable. Entry into CTS 15.3.0.b requires the unit to be placed into Hot Shutdown (ITS Mode 3) within 7 hours at which time the CTS Applicability is exited and no further Technical Specification Actions are required. The ITS establishes a Mode of Applicability for the MSSVs of Mode 1, 2, and 3 (RCS temperature of greater than or equal to 350 degrees). Similarly, the ITS contains a Condition and Required Action to Place the Unit in Mode 4 whenever the LCO's Required Actions and Associated Completion Times are not met, or one or more Steam Generators has three or more inoperable MSSVs. The revised Mode of Applicability and associated Actions provide assurance that the MSSV will be required to be operable whenever potential exist for a main steam system or RCS overpressurization as a result of a load rejection event. This change is an added restriction placed on plant operations. The exception provided in CTS 15.3.4.A.1 for low power physics testing has not been retained in the ITS. The provision to allow low power physics testing with less than 8 operable MSSVs was rarely, if ever, used. Further, the exception provided little benefit, since performing low power physics testing while utilizing the exception would typically require shutting the plant down and placing it on RHR in order to repair/replace any inoperable MSSVs. This change is consistent with the STS and is more restrictive.

CTS:	ITS:
15.03.04.A	LCO 3.07.01
15.03.04.A.01	LCO 3.07.01
NEW	LCO 3.07.01 COND C LCO 3.07.01 COND C RA C.1 LCO 3.07.01 COND C RA C.2

DOC Number	DOC Text
M.02 Rev. A	The CTS requires periodic verification of MSSV setpoint in accordance with CTS Table 15.4.1-2, but does not list the valve numbers, nor their associated setpoints and tolerances. The proposed ITS adds a Table (3.7.1-2), which contains the MSSV number and associated setpoint. This Table also establishes an operability limit of plus or minus 3% of the MSSVs' lift setting between setpoint verifications. Following lift setpoint testing, SR 3.7.1.1 will require the MSSV to be left within 1% of their required lift setting. This change will allow the MSSVs to be considered operable with a deviation of up to 3%, relative to reporting requirements and increased sample population, but will require the valves to be left within 1% to account for setpoint drift between surveillance tests. The 3% operability limit is supported by Point Beach's accident analyses. As found MSSV setpoints have typically been approximately 1.6%. As such, the 1% as left value is an achievable/repeatable acceptance limit and is considered to be a conservative limit based on the accident analysis assumptions and MSSV setpoint drift observed to date.

CTS:	ITS:
15.04.01 T 15.04.01-02 12	SR 3.07.01.01
NEW	LCO 3.07.01 T 3.07.01-02

L.1

INSERT 3.7.1-1:

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Steam Generators with one MSSV inoperable and Moderator Temperature Coefficient (MTC) zero or negative at all power levels.	A.1 Reduce THERMAL POWER to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs.	4 hours
B. One or more Steam Generators with two MSSVs inoperable. <u>OR</u> One or more Steam Generators with one MSSV inoperable and Moderator Temperature Coefficient (MTC) positive at any power level.	B.1 Reduce THERMAL POWER to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs. <u>AND</u> --------NOTE--------- Only required in MODE 1. --------------------- B.2 Reduce the Power Range Neutron Flux - High reactor trip setpoint to less than the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs.	4 hours 36 hours
C. Required Action and associated Completion Time not met. <u>OR</u> One or more steam generators with three or more MSSVs inoperable.	C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 4.	6 hours 12 hours

M.1

D Additional change

D RAI 3.7.1-7

INSERT 3.7.1-2:

L.1

Table 3.7.1-1 (page 1 of 1)
OPERABLE Main Steam Safety Valves versus
Maximum Allowable Power

NUMBER OF OPERABLE MSSVs PER STEAM GENERATOR REQUIRED OPERABLE	MAXIMUM ALLOWABLE POWER (% RTP)
3	≤ 49
2	≤ 29

D
RAI 3.7.1-7

INSERT 3.7.1-3:

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	----------------NOTE---------------- Only required to be performed in MODES 1 and 2. -------------------------------------- Verify each required MSSV lift setpoint per Table 3.7.1-2 in accordance with the Inservice Testing Program. Following testing, lift setting shall be within ±1%.	In accordance with the Inservice Testing Program

A.6

M.2

LB.1

Justification For Deviations - NUREG-1431 Section 3.07.01

21-Feb-01

JFD Number	JFD Text
02 Rev. D	The number of MSSVs listed in Table 1 has been reduced as Point Beach has only four safety valves per steam generator. Additionally, the NUREG table entry listing the maximum allowable power (% RTP) when no MSSVs are inoperable has not been retained in the ITS. This is consistent with the changes described in TSTF-235, Rev. 1. Similarly, the number of S/Gs contained in Table 2 has been reduced to two as Point Beach has only two steam generators and the designations have been changed from 1 and 2 to A and B to conform with plant-specific identification of equipment. Site specific steam generator safety valve setpoints have also been added.

ITS:	NUREG:
B 3.07.01	B 3.07.01
LCO 3.07.01 T 3.07.01-01	LCO 3.07.01 T 3.07.01-01
LCO 3.07.01 T 3.07.01-02	LCO 3.07.01 T 3.07.01-02

JFD Number	JFD Text
03 Rev. A	NUREG Table 3.7.1-1 is used in conjunction with the Required Actions of LCO 3.7.1 to establish the maximum allowable power level and reactor trip setpoint reductions which may be required when one or more MSSVs are determined to be inoperable. These values are site specific and have been calculated in accordance with a conservative heat balance algorithm contained in NRC Information Notice 94-60.

ITS:	NUREG:
B 3.07.01	B 3.07.01
LCO 3.07.01 T 3.07.01-01	LCO 3.07.01 T 3.07.01-01

JFD Number	JFD Text
04 Rev. A	Brackets have been removed and the appropriate plant specific information has been inserted.

ITS:	NUREG:
B 3.07.01	B 3.07.01

JFD Number	JFD Text
05 Rev. D	Not used.

ITS:	NUREG:
N/A	N/A

JFD Number	JFD Text
06 Rev. A	Reference has been changed from the 1987 version of ASME/ANSI OM-1 to the 1981 version to reflect the version of the code in affect for the third inspection interval at Point Beach. In accordance with this version of the code, periodic safety valve testing consists of setpoint verifications, with the additional testing listed in the Bases only required after refurbishment of the MSSVs. Accordingly, the Bases have been modified to reflect ASME/ANSI OM-1, 1981.

ITS:	NUREG:
B 3.07.01	B 3.07.01

Justification For Deviations - NUREG-1431 Section 3.07.01

21-Feb-01

JFD Number	JFD Text	
07 Rev. D	Not used.	
	ITS:	**NUREG:**
	N/A	N/A

Table 3.7.1-1 (page 1 of 1)
OPERABLE Main Steam Safety Valves versus
~~Applicable Power in Percent of RATED THERMAL POWER~~ Maximum Allowable Power

1

~~MINIMUM NUMBER OF MSSVs PER STEAM GENERATOR REQUIRED OPERABLE~~ NUMBER OF OPERABLE MSSVs PER STEAM GENERATOR	~~APPLICABLE POWER (% RTP)~~ MAXIMUM ALLOWABLE POWER (%RTP)
~~5~~	~~≤ 100~~
~~4~~	~~≤ 80~~ 2
3	≤ ~~60~~ 49 3
2	≤ ~~40~~ 29 3

D
RAI 3.7.1-7

INSERT 3.7.1-1:

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Steam Generators with one MSSV inoperable and Moderator Temperature Coefficient (MTC) zero or negative at all power levels.	A.1 Reduce THERMAL POWER to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs.	4 hours
B. One or more Steam Generators with two MSSVs inoperable OR One or more Steam Generators with one MSSV inoperable and Moderator Temperature Coefficient (MTC) positive at any power level.	B.1 Reduce THERMAL POWER to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs. AND --------NOTE--------- Only required in MODE 1. --------------------- B.2 Reduce the Power Range Neutron Flux - High reactor trip setpoint to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs.	4 hours 36 hours
C. Required Action and associated Completion Time not met. OR One or more steam generators with three or more MSSVs inoperable.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	6 hours 12 hours

D Additional change

D RAI 3.7.1-7 Errata 119

B 3.7 PLANT SYSTEMS

B 3.7.1 Main Steam Safety Valves (MSSVs)

BASES

BACKGROUND

The primary purpose of the MSSVs is to provide overpressure protection for the secondary system. The MSSVs also provide protection against overpressurizing the reactor coolant pressure boundary (RCPB) by providing a heat sink for the removal of energy from the Reactor Coolant System (RCS) if the preferred heat sink, provided by the Condenser and Circulating Water System, is not available.

2 4 1

Four ~~Five~~ MSSVs are located on each main steam header, outside containment, upstream of the main steam isolation valves, as described in the FSAR, Section 10.1 ~~[10.3.1]~~ (Ref. 1). The MSSVs must have sufficient capacity to limit the secondary system pressure to ≤ ~~capacity criteria is 110% of rated steam flow at~~ 110% of the steam generator design pressure in order to meet ~~This meets~~ the requirements of the ASME Code, Section III (Ref. 2). The MSSV design includes staggered setpoints, according to Table 3.7.1-2 in the accompanying LCO, so that only the needed valves will actuate. Staggered setpoints reduce the potential for valve chattering that is due to steam pressure insufficient to fully open all valves following a turbine reactor trip.

1 D RAI 3.7.1-7

APPLICABLE SAFETY ANALYSES

The design basis for the MSSVs comes from Reference 2 and its purpose is to limit the secondary system pressure to ≤ 110% of design pressure for ~~when passing 100% of design steam flow. This design basis~~ is sufficient to cope with any anticipated operational occurrence (AOO) or accident considered in the Design Basis Accident (DBA) and transient analysis.

4

The events that challenge the relieving capacity of the MSSVs, and thus RCS pressure, are those characterized as decreased heat removal events, which are presented in the FSAR, Section 14.1.9 ~~[15.2]~~ (Ref. 3). Of these, the full power turbine trip without steam dump is the limiting AOO. This event also terminates normal feedwater flow to the steam generators.

D RAI 3.7.1-7

1 safety analysis demonstrates that the

occurring from full power 1

BASES

APPLICABLE SAFETY ANALYSES (continued)

The transient response for turbine trip without a direct reactor trip presents no hazard to the integrity of the RCS or the Main Steam System. ~~If a minimum reactivity feedback is assumed, the reactor is tripped on high pressurizer pressure. In this case, the pressurizer safety valves open, and RCS pressure remains below 110% of the design value. The MSSVs also open to limit the secondary steam pressure.~~

~~If maximum reactivity feedback is assumed, the reactor is tripped on overtemperature ΔT. The departure from nucleate boiling ratio increases throughout the transient, and never drops below its initial value. Pressurizer relief valves and MSSVs are activated and prevent overpressurization in the primary and secondary systems.~~ The MSSVs are assumed to have two active and one passive failure modes. The active failure modes are spurious opening, and failure to reclose once opened. The passive failure mode is failure to open upon demand.

1 Replace with Insert B 3.7.1-1

D TSTF 235, Rev 1 RAI 3.7.1-7

The MSSVs satisfy Criterion 3 of the NRC Policy Statement.

D RAI 3.7.1-7 TSTF 235, Rev 1

1 be OPERABLE that

LCO

The accident analysis requires four MSSVs per steam generator to provide overpressure protection for design basis transients occurring at 102% RTP. ~~An MSSV will be considered inoperable if it fails to open on demand.~~ The LCO requires that ~~five~~ MSSVs be OPERABLE in compliance with Reference 2, ~~even though this is not a requirement of the DBA analysis.~~ ~~This is because operation with less than the full number of MSSVs requires limitations on allowable THERMAL POWER (to meet ASME Code requirements). These limitations are according to Table 3.7.1-1 in the accompanying LCO, and Required Action A.2.~~

2 four

1 and

1 required

The OPERABILITY of the MSSVs is defined as the ability to open within the ~~setpoint~~ tolerances, relieve steam generator overpressure, and reseat when pressure has been reduced. The OPERABILITY of the MSSVs is determined by periodic surveillance testing in accordance with the Inservice Testing Program.

upside demand 1 to

D RAI 3.7.1-7 TSTF 235, Rev 1

BASES

1 In MODES 1, 2, and 3, four MSSVs per steam generator are required to be OPERABLE to prevent Main Steam System overpressurization.

LCO (continued)

~~The lift settings, according to Table 3.7.1-2 in the accompanying LCO, correspond to ambient conditions of the valve at nominal operating temperature and pressure.~~

D
RAI 3.7.1-7
TSTF 235, Rev 1

This LCO provides assurance that the MSSVs will perform their designed safety functions to mitigate the consequences of accidents that could result in a challenge to the RCPB.

1 or Main Steam System integrity

APPLICABILITY

~~In MODE 1 above 40% RTP, the number of MSSVs per steam generator required to be OPERABLE must be according to Table 3.7.1-1 in the accompanying LCO. Below 40% RTP in MODES 1, 2, and 3, only two MSSVs per steam generator are required to be OPERABLE.~~

In MODES 4 and 5, there are no credible transients requiring the MSSVs. The steam generators are not normally used for heat removal in MODES 5 and 6, and thus cannot be overpressurized; there is no requirement for the MSSVs to be OPERABLE in these

ACTIONS

The ACTIONS table is modified by a Note indicating that separate Condition entry is allowed for each MSSV.

A.1

1 action must be taken

2

With one or more MSSVs inoperable, ~~reduce power~~ so that the available MSSV relieving capacity meets Reference 2 requirements for the applicable THERMAL POWER.

four

Operation with less than all ~~five~~ MSSVs OPERABLE for each steam generator is permissible, if THERMAL POWER is

1 ~~proportionally~~ limited to the relief capacity of the remaining MSSVs. This is accomplished by restricting THERMAL POWER so that the energy transfer to the most limiting steam generator is not greater than the available relief capacity in that steam generator. ~~For example, if one MSSV is inoperable in one steam generator, the relief capacity of that steam generator is reduced by approximately 20%. To offset this reduction in relief capacity, energy transfer to that steam generator must be similarly reduced~~

1

Replace with Insert B 3.7.1-2

BASES

ACTIONS (continued)

1

C

~~B~~.1 and ~~B~~.2

required actions are not completed

D

RAI 3.7.1-7 TSTF 235, Rev 1

1

three or more inoperable MSSVs

If the ~~MSSVs cannot be restored to OPERABLE status~~ within the associated Completion Time, or if one or more steam generators have ~~less than two MSSVs OPERABLE~~, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.1.1

This SR verifies the OPERABILITY of the MSSVs by the verification of each MSSV lift setpoint in accordance with the Inservice Testing Program. The ASME Code, Section XI (Ref. 4), requires that safety and relief valve tests be performed in accordance with ANSI/ASME OM-1-1~~987~~ (Ref. 5). According to Reference 5, the following tests are required:

1981

6

in addition to routine lift setpoint verifications,

6

following equipment refurbishment

a. Visual examination;

b. Seat tightness determination;

c. Setpoint pressure determination (lift setting);

d. Compliance with owner's seat tightness criteria; and

e. Verification of the balancing device integrity on balanced valves.

The ANSI/ASME Standard requires that all valves be tested every 5 years, and a minimum of 20% of the valves be tested every 24 months. The ASME Code specifies the activities and frequencies necessary to satisfy the requirements. Table 3.7.1-2 allows a ± [3]% setpoint tolerance for OPERABILITY; however, the valves are reset to ± 1% during the Surveillance to allow for drift.

4

1

The lift settings, according to Table 3.7.1-2 in the accompanying LCO, correspond to ambient conditions of the valve at nominal operating temperature and pressure.

D

RAI 3.7.1-7 TSTF 235, Rev 1

3.7 PLANT SYSTEMS

3.7.1 Main Steam Safety Valves (MSSVs)

LCO 3.7.1 The MSSVs shall be OPERABLE as specified in Table 3.7.1-1 and Table 3.7.1-2.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each MSSV.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Steam Generators with one MSSV inoperable and Moderator Temperature Coefficient (MTC) zero or negative at all power levels.	A.1 Reduce THERMAL POWER to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs.	4 hours
B. One or more Steam Generators with two MSSVs inoperable. <u>OR</u> One or more Steam Generators with one MSSV inoperable and Moderator Temperature Coefficient (MTC) positive at any power level.	B.1 Reduce THERMAL POWER to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs. <u>AND</u>	4 hours (continued)

D Additional change

D RAI 3.7.1-7 Errata 119

Table 3.7.1-1 (page 1 of 1)
OPERABLE Main Steam Safety Valves versus
Maximum Allowable Power

NUMBER OF OPERABLE MSSVs PER STEAM GENERATOR	MAXIMUM ALLOWABLE POWER (% RTP)
3	≤ 49
2	≤ 29

D
RAI 3.7.1-7

B 3.7 PLANT SYSTEMS

B 3.7.1 Main Steam Safety Valves (MSSVs)

BASES

BACKGROUND

The primary purpose of the MSSVs is to provide overpressure protection for the secondary system. The MSSVs also provide protection against overpressurizing the reactor coolant pressure boundary (RCPB) by providing a heat sink for the removal of energy from the Reactor Coolant System (RCS) if the preferred heat sink, provided by the Condenser and Circulating Water System, is not available.

Four MSSVs are located on each main steam header, outside containment, upstream of the main steam isolation valves, as described in the FSAR, Section 10.1 (Ref. 1). The MSSVs must have sufficient capacity to limit the secondary system pressure to ≤ 110% of the steam generator design pressure in order to meet the requirements of the ASME Code, Section III (Ref. 2). The MSSV design includes staggered setpoints, according to Table 3.7.1-2 in the accompanying LCO, so that only the needed valves will actuate. Staggered setpoints reduce the potential for valve chattering that is due to steam pressure insufficient to fully open all valves following a turbine reactor trip.

D RAI 3.7.1-7 TSTF 235, Rev. 1

D RAI 3.7.1-7

APPLICABLE SAFETY ANALYSES

The design basis for the MSSVs comes from Reference 2 and its purpose is to limit the secondary system pressure to ≤ 110% of design pressure for any anticipated operational occurrence (AOO) or accident considered in the Design Basis Accident (DBA) and transient analysis.

The events that challenge the relieving capacity of the MSSVs, and thus RCS pressure, are those characterized as decreased heat removal events, which are presented in the FSAR, Section 14.1.9 (Ref. 3). Of these, the full power turbine trip without steam dump is the limiting AOO. This event also terminates normal feedwater flow to the steam generators.

D RAI 3.7.1-7

The safety analysis demonstrates that the transient response for turbine trip occurring from full power without a direct reactor trip presents no hazard to the integrity of the RCS or the Main Steam System. In Chapter 14 of the FSAR, one case of loss of electrical load analysis is performed assuming primary system pressure control via operation of the pressurizer power-operated relief valves and spray. This case demonstrates that the DNB Design Basis is met. Another analysis is performed assuming no primary system pressure control, reactor trip on high pressurizer pressure and operation of the pressurizer safety

D Additional change

BASES

APPLICABLE SAFETY ANALYSES (continued)

valves. This analysis demonstrates that RCS integrity is maintained by showing that the maximum RCS pressure does not exceed 110% of the design pressure. All cases analyzed demonstrate that the MSSVs maintain Main Steam System integrity by limiting the maximum steam pressure to less than 110% of the steam generator design pressure.

In addition to the decreased heat removal events, reactivity insertion events may also challenge the relieving capacity of the MSSVs. The uncontrolled rod cluster control assembly (RCCA) bank withdrawal at power event is characterized by an increase in core power and steam generation rate until reactor trip occurs when either the Overtemperature ΔT or Power Range Neutron Flux-High setpoint is reached. Steam flow to the turbine will not increase from its initial value for this event. The increased heat transfer to the secondary side causes an increase in steam pressure and may result in opening of the MSSVs prior to reactor trip, assuming no credit for operation of the atmospheric or condenser steam dump valves. The FSAR Section 14.1.2 safety analysis of the RCCA bank withdrawal at power event for a range of initial core power levels demonstrates that the MSSVs are capable of preventing secondary side overpressurization for this AOO.

The FSAR safety analyses discussed above assume that all of the MSSVs for each steam generator are OPERABLE. If there are inoperable MSSV(s), it is necessary to limit the primary system power during steady-state operation and AOOs to a value that does not result in exceeding the combined steam flow capacity of the remaining OPERABLE MSSVs. The required limitation on primary system power necessary to prevent secondary system overpressurization have been determined by conservative heat balance calculations. In some circumstances it is necessary to limit the primary side heat generation that can be achieved during an AOO by reducing the setpoint of the Power Range Neutron Flux-High reactor trip function. For example, if more than one MSSV on a single steam generator is inoperable, an uncontrolled RCCA bank withdrawal at power event occurring from a partial power level may result in an increase in reactor power that exceeds the combined steam flow capacity of the remaining OPERABLE MSSVs. Thus, for multiple inoperable MSSVs on the same steam generator it is necessary to prevent this power increase by lowering the Power Range Neutron Flux-High setpoint to an appropriate value. When the Moderator Temperature Coefficient (MTC) is positive, the reactor power may increase above the initial value during an RCS heatup event (e.g., turbine trip). Thus, for any number of inoperable MSSVs it is necessary to reduce the trip setpoint if a positive MTC may exist at partial power conditions.

BASES

APPLICABLE SAFETY ANALYSES (continued)

The MSSVs are assumed to have two active and one passive failure modes. The active failure modes are spurious opening, and failure to re-close once opened. The passive failure mode is failure to open upon demand.

The MSSVs satisfy Criterion 3 of the NRC Policy Statement.

LCO

The accident analysis requires that four MSSVs per steam generator be operable to provide overpressure protection for design basis transients occurring at 102% RTP. The LCO requires that four MSSVs be OPERABLE in compliance with Reference 2 and the DBA analysis. D RAI 3.7.1-7 TSTF 235, Rev. 1

The OPERABILITY of the MSSVs is defined as the ability to open upon demand within the required tolerances, to relieve steam generator overpressure, and reseat when pressure has been reduced. The OPERABILITY of the MSSVs is determined by periodic surveillance testing in accordance with the Inservice Testing Program. D RAI 3.7.1-7 TSTF 235, Rev. 1

This LCO provides assurance that the MSSVs will perform their designed safety functions to mitigate the consequences of accidents that could result in a challenge to the RCPB or Main Steam System integrity.

APPLICABILITY

In MODES 1, 2, and 3, four MSSVs per steam generator are required to be OPERABLE to prevent Main Steam System overpressurization.

In MODES 4 and 5, there are no credible transients requiring the MSSVs. The steam generators are not normally used for heat removal in MODES 5 and 6, and thus cannot be overpressurized; there is no requirement for the MSSVs to be OPERABLE in these MODES.

ACTIONS

The ACTIONS table is modified by a Note indicating that separate Condition entry is allowed for each MSSV.

A.1

With one or more MSSVs inoperable, action must be taken so that the available MSSV relieving capacity meets Reference 2 requirements for the applicable THERMAL POWER.

BASES

ACTIONS (continued)

Operation with less than all four MSSVs OPERABLE for each steam generator is permissible, if THERMAL POWER is limited to the relief capacity of the remaining MSSVs. This is accomplished by restricting THERMAL POWER so that the energy transfer to the most limiting steam generator is not greater than the available relief capacity in that steam generator.

In the case of a single inoperable MSSV on one or more steam generators when the Moderator Temperature Coefficient is not positive, a reactor power reduction alone is sufficient to limit primary side heat generation to preclude overpressurization of the secondary side during any RCS heatup event. There is sufficient total steam flow capacity provided by the remaining OPERABLE MSSVs to preclude overpressurization in the event of an increase in reactor power due to reactivity insertion, such as in the event of an uncontrolled RCCA bank withdrawal at power. Therefore, Required Action A.1 requires an appropriate reduction in reactor power within 4 hours.

The maximum THERMAL POWER corresponding to the heat removal capacity of the remaining OPERABLE MSSVs is determined via a conservative heat balance calculation as described in Attachment 1 to Reference 6, with an appropriate allowance for instrument and channel uncertainties.

<u>B.1 and B.2</u>

In the case of multiple inoperable MSSVs on one or more steam generators, a reactor power reduction alone may be insufficient to limit steam production to within the total steam flow capacity provided by the remaining OPERABLE MSSVs. In the case of a single inoperable MSSV on one or more steam generators when the Moderator Temperature Coefficient is positive, the reactor power may increase as a result of an RCS heatup event such that flow capacity of the remaining OPERABLE MSSVs is insufficient.

The 4 hour Completion Time for Required Action B.1 is consistent with A.1. An additional 32 hours is allowed in Required Action B.2 to reduce the setpoints. The completion Time of 36 hours is based on a reasonable time to correct the MSSV inoperability, the time required to perform the power reduction, operating experience in resetting all channels of a protective function, and on the low probability of the occurrence of a transient that could result in steam generator overpressure during this period.

BASES

ACTIONS (continued)

The maximum THERMAL POWER corresponding to the heat removal capacity of the remaining OPERABLE MSSVs is determined via a conservative heat balance calculation as described in the Attachment to Reference 6, with an appropriate allowance for Nuclear Instrumentation System trip channel uncertainties.

Required Action B.2 is modified by a Note, indicating that the Power Range Neutron Flux-High reactor trip setpoint reduction is only required in MODE 1. In MODES 2 and 3 the reactor protection system trips specified in LCO 3.3.1, "Reactor Trip System Instrumentation" provide sufficient protection.

The allowed Completion Times are reasonable based on operating experience to accomplish the Required Actions in an orderly manner without challenging unit systems.

C.1 and C.2

If the required actions are not completed within the associated Completion Time, or if one or more steam generators have three or more inoperable MSSVs, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

D
RAI 3.7.1-7
TSTF 235, Rev 1

SURVEILLANCE REQUIREMENTS

SR 3.7.1.1

This SR verifies the OPERABILITY of the MSSVs by the verification of each MSSV lift setpoint in accordance with the Inservice Testing Program. The ASME Code, Section XI (Ref. 4), requires that safety and relief valve tests be performed in accordance with ANSI/ASME OM-1-1981 (Ref. 5). According to Reference 5, in addition to routine lift setpoint verifications, the following tests are required following equipment refurbishment:

a. Visual examination;

b. Seat tightness determination;

c. Setpoint pressure determination (lift setting);

d. Compliance with owner's seat tightness criteria; and

BASES

SURVEILLANCE REQUIREMENTS (continued)

e. Verification of the balancing device integrity on balanced valves.

The ANSI/ASME Standard requires that all valves be tested every 5 years, and a minimum of 20% of the valves be tested every 24 months. The ASME Code specifies the activities and frequencies necessary to satisfy the requirements. Table 3.7.1-2 allows a ±3% setpoint tolerance for OPERABILITY; however, the valves are reset to ±1% during the Surveillance to allow for drift. The lift settings, according to Table 3.7.1-2 in the accompanying LCO, correspond to ambient conditions of the valve at nominal operating temperature and pressure.

D
RAI 3.7.1-7
TSTF 235,
Rev 1

This SR is modified by a Note that allows entry into and operation in MODE 3 prior to performing the SR. The MSSVs may be either bench tested or tested in situ at hot conditions using an assist device to simulate lift pressure. If the MSSVs are not tested at hot conditions, the lift setting pressure shall be corrected to ambient conditions of the valve at operating temperature and pressure.

REFERENCES

1. FSAR, Section 10.1.
2. ASME, Boiler and Pressure Vessel Code, Section III, Article NC-7000, Class 2 Components.
3. FSAR, Section 14.1.9.
4. ASME, Boiler and Pressure Vessel Code, Section XI.
5. ANSI/ASME OM-1-1981.
6. NRC Information Notice 94-60, “Potential Overpressurization of the Main Steam System,” August 22, 1994.

Description of Changes - NUREG-1431 Section 3.07.02

21-Feb-01

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:**
	15.03.04.D	LCO 3.07.02 LCO 3.07.02 COND B LCO 3.07.02 COND C LCO 3.07.02 COND C NOTE
	15.04.07	LCO 3.07.02
	15.04.07.A	SR 3.07.02.01
A.02 Rev. A	The CTS provides an introductory statement (Applicability) that 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:**
	15.03.04 APPL	LCO 3.07.02
	15.04.07 APPL	LCO 3.07.02
A.03 Rev. A	The CTS provides an introductory statement (Objective) at the beginning of this Section of the Technical Specifications which provides 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:**
	15.03.04 OBJ	B 3.07.02
	15.04.07 OBJ	LCO 3.07.02
A.04 Rev. A	The CTS states that the main steam stop and check valves (MS 2017, 2018, 2017A and 2018A) are required to be operable. This requirement is equivalent to ITS LCO 3.7.2, which requires two MSIVs and two non-return check valves to be operable. Specifying the noun name for these valves is sufficient to establish the regulatory requirement for maintaining these valves operable when required. There are no other valves contained within the main steam system which may be used to perform the required safety functions. This change is administrative.	
	CTS:	**ITS:**
	15.03.04.D	LCO 3.07.02

Description of Changes - NUREG-1431 Section 3.07.02

21-Feb-01

DOC Number	DOC Text	
A.05 Rev. A	The CTS allows the main steam stop and non-return check valves to be opened in the hot shutdown condition to perform testing to confirm operability of these valves if the valves were previously closed in accordance with the CTS Actions. This allowance is duplicative of ITS LCO 3.0.5 which allows equipment removed from service or declared inoperable to be returned to service to perform testing required to demonstrate its operability. Based on ITS LCO 3.0.5 providing this allowance generically, removal of this component specific statement is administrative.	
	CTS:	**ITS:**
	15.03.04.D	DELETED
A.06 Rev. A	CTS specifies that closure timing of the MSIVs is to be performed under low flow conditions of 5% steam flow or less. The conditions under which this test is to be performed are discussed in description of change LA.1 of this section. However, the CTS requirement to perform this test prior to exceeding 5% steam flow is equivalent to the Note contained in ITS SR 3.7.2.1 requiring MSIV stroke timing to be completed prior to entering ITS Mode 1 (greater than 5% power). The CTS closure time limit of five seconds has been incorporated into SR 3.7.2.1. As such, this change is administrative.	
	CTS:	**ITS:**
	15.04.07.A	SR 3.07.02.01 NOTE
A.07 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 3.07.02
A.08 Rev. D	CTS 15.4.7.B requires that the main steam non-return check valves be tested for operability during shutdown for major fuel reloadings. Proposed ITS SR 3.7.2.3 specifically requires that these valves can close. The conditions under which the test is to be performed are discussed in DOC LA.1 of this section. This change is considered administrative, since it continues to verify availability of the required safety function for these valves.	
	CTS:	**ITS:**
	15.04.07.B	SR 3.07.02.03

DOC Number	DOC Text
L.01 Rev. D	CTS allows four hours to restore one inoperable MSIV or non-return check valve to operable status during power operation (ITS Modes 1 and 2). If the inoperable valve is not restored to operable status with this four hour period, the CTS requires the unit to be placed into hot shutdown (ITS Mode 3) within the following 6 hours. The ITS will allow an MSIV and non-return check valve to be inoperable simultaneously on the same steam generator for up to eight hours before requiring the unit to be placed into Mode 2 within an additional 6 hours. After entry into Mode 2, an additional eight hours is allowed to close and deactivate the MSIV and close the non-return check valve in the affected flowpath. If the valve is closed, indefinite operation in Mode 2 (less than 5% power) is allowed; however, if the valve cannot be closed, the unit is to be placed into Mode 3 within six hours and Mode 4 within 12 hours. As such, the ITS will allow multiple valves to be inoperable, continued operation below 5% power with isolated inoperable valves, and will ultimately extend the time allowed to reach Mode 3 from ten to twenty-eight hours. Allowing multiple valves to be inoperable simultaneously on the same steam generator is considered acceptable, as this condition does not result in an unanalyzed situation, but rather the inability to sustain a single failure of the other steam generator's MSIV and non-return check valve. The condition of multiple valves inoperable in the same flowpath is equivalent to a single MSIV inoperable as described in NUREG 1431. Continued operation in Mode 2 with the affected flowpath isolated is acceptable, as the valves are required to be placed in the accident position, thereby fulfilling their required safety function. Extending the time limit allowed to reach Mode 3 is considered acceptable based on the redundant capability of the unaffected steam generator's MSIV to prevent blowdown of the its respective steam generator, the passive nature of the steam generator as a boundary, and the low probability of an accident occurring during this time period that would require a closure of the MSIVs or non-return check valves.

CTS:	ITS:
15.03.04.D	LCO 3.07.02 COND A
	LCO 3.07.02 COND A RA A.1
	LCO 3.07.02 COND B RA B.1
	LCO 3.07.02 COND D
	LCO 3.07.02 COND D RA D.1

DOC Number	DOC Text	
LA.01 Rev. D	CTS requires the main steam stop valves to be tested under low flow conditions, with steam flow not to exceed five percent, in addition to specifying the method for timing valve stroke. These items are details which are not necessary to describe the actual regulatory requirement (performance of valve stroke timing). This information has been moved to the ITS Bases. This information provides details of processes which are not directly pertinent to the actual requirement, but rather describe an acceptable method of compliance. These details are not necessary to provide adequate protection of the public health and safety since the ITS still retains the requirement to perform the test. Changes to the testing conditions and methods will be controlled in accordance with the proposed Bases Control Program described in Chapter 5 of the ITS. Therefore, the level of safety is unaffected by the change.	
	CTS:	**ITS:**
	15.04.07.A	B 3.07.02
LB.01 Rev. D	The CTS requires the main steam stop valves to be tested following plant shutdowns for major fuel reloadings. The main steam stop valves are ASME Class 2 valves and as such are required to be tested on a frequency consistent with ASME Section XI, ASME/ANSI OM-1, 1981, as endorsed and required under 10 CFR 50.55a. Testing requirements for the main steam non-return check valves are currently contained in the PBNP IST Program, and any changes to this program are controlled under 10 CFR 50.59. Accordingly, testing frequency for these valves is either established and required by regulation or controlled under regulation, without the need to duplicate these requirements in the Technical Specifications. Additionally, under the current PBNP IST Program, the main steam stop and non-return check valves are required to be tested on a cold shutdown frequency, which is more restrictive than the CTS.	
	CTS:	**ITS:**
	15.04.07.A	SR 3.07.02.01
LB.02 Rev. D	Not used.	
	CTS:	**ITS:**
	N/A	N/A

Description of Changes - NUREG-1431 Section 3.07.02

21-Feb-01

DOC Number	DOC Text
M.01 Rev. A	The CTS requires the MSIVs and non-return check valves to be operable, but does not provide an explicit Mode of Applicability. If the MSIVs or non-return check valves are inoperable, the CTS will allow continued operation in hot shutdown providing that the valves are maintained closed. The CTS definition of Hot Shut Down requires the reactor to be greater than or equal to 540 degrees. Based on a Technical Specification structure which exits the Mode of Applicability for LCO non-compliance, the CTS applicability would be anytime the reactor coolant temperature is greater than or equal to 540 degrees. The ITS Mode of Applicability for this LCO has been proposed to be Mode 1, 2, and 3. Default Conditions and Required Actions have also been added to require the unit to be placed into Mode 3 within 6 hours and Mode 4 within 12 hours if the MSIVs or non-return check valves are not isolated in accordance with the proposed Actions. The MSIVs and non-return check valves must be operable in Modes 1, 2, and 3 as these are the Modes in which operation of these valves is necessary in the mitigation of DBAs. In Mode 4, steam generator energy is low and isolation is not necessary for DBA mitigation. In Modes 5 and 6, the MSIVs and non-return check valves are not required for isolation of secondary system pipe breaks, or mitigation of RCS cooldown events.

CTS:	ITS:
15.03.04.D	LCO 3.07.02
NEW	LCO 3.07.02 COND D RA D.2

DOC Number	DOC Text
M.02 Rev. A	The CTS allows an inoperable MSIV or non-return check valve to be opened in the hot shutdown condition to allow cooldown of the affected unit. This allowance is necessary to allow steam to be vented to the condenser from both steam generators, promoting uniform and simultaneous cooldown of both steam generators. The proposed ITS retains this allowance, while establishing a requirement to have administrative controls for closure of the valve(s). The addition of administrative controls is a more restrictive requirement than the CTS which will provide assurance that the valve(s) can be closed if necessary.

CTS:	ITS:
15.03.04.D	LCO 3.07.02 COND C RA C NOTE

DOC Number	DOC Text	
M.03 Rev. D	CTS requires containment isolation valves (inclusive of the MSIVs) to be functionally tested each refueling shutdown, which the CTS defines as a shutdown to move fuel to and from the reactor core. The ITS SR 3.7.2.2 will require each MSIV to be actuated to its isolation position on an actual or simulated action signal once every 18 months. These tests are intended to ensure that MSIVs actuate to their required position upon receipt of an isolation signal. Accordingly, the CTS and the ITS require the same testing; however, the CTS does not define a specific frequency of performance for this surveillance. 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. As such, the adoption of a bounding frequency (18 months) is a more restrictive change. Additionally, a note has been added to ITS SR 3.7.2.2 stating that testing is only required to be performed in MODE 1. This note allows entry into and operation in MODES 2 and 3 prior to performing the SR in order to establish conditions consistent with those under which the acceptance criteria was generated. This is more restrictive than the existing requirement that allowed testing to be delayed until steam flow was as much as 5%.	
	CTS:	**ITS:**
	15.04.01 T 15.04.01-02 13	SR 3.07.02.02
M.04 Rev. A	The CTS allows operation to continue in hot shutdown with an inoperable MSIV or non-return check valve provided that the inoperable valve is closed. The proposed ITS will allow continued operation with an inoperable MSIV or non-return check valve as well, as outlined in Description of Change L.1, and M.2 of this LCO; however, the ITS will also require the MSIV in the affected flowpath to be closed and de-activated and the non-return check valve in the affected flowpath to be in the closed position. The MSIVs at Point Beach are check valves which close to inhibit forward flow. Forward flow through the MSIV is allowed by the check valve disk being held out of the flow steam by an air operator, which fails safe upon receipt of an actuation signal allowing the valve to close. Reverse flow to the Steam Generators from the Main Steam Lines (MSL) is prevented by the non-return check valves which are simple check valves. Accordingly, the MSL isolation function is accomplished through the use of two valves. Requiring the MSIV to be closed and deactivated in addition to closing the non-return check valve is intended to prevent either valve from being inadvertently opened due to changes in steam header or steam generator pressure. The proposed eight hour Completion Time for valve closure and deactivation is reasonable, considering the time required to isolate the flowpath and de-activate the MSIV.	
	CTS:	**ITS:**
	15.03.04.D	LCO 3.07.02 COND C RA C.2
	NEW	LCO 3.07.02 COND C RA C.1

Description of Changes - NUREG-1431 Section 3.07.02

21-Feb-01

DOC Number	DOC Text
M.05 Rev. D	The CTS allows continued operation in hot shutdown (ITS Mode 3) with an inoperable MSIV or non-return check valve providing the valve is closed, but the CTS does not specify a completion time for closure of the inoperable valve. The ITS will require that the inoperable valve be isolated within eight hours, in addition to establishing a requirement to verify that the MSIV and non-return check valve are closed, and the MSIV deactivated, once every seven days. The eight hour Completion Times for valve closure is reasonable, considering the time required to isolate the penetration. The 7 day Completion Time is reasonable, based on engineering judgment, in view of MSIV status indications available in the control room, and administrative controls to ensure that these valves are maintained in the closed position.

CTS:	ITS:
NEW	LCO 3.07.02 COND C RA C.3

15.4.7 MAIN STEAM SYSTEM VALVES

A.2

Applicability

Applies to periodic testing and surveillance of the main steam stop valves (MS-2017 and MS-2018 and the non-return check valves (MS-2017A and MS-2018A).

A.3

~~Objective~~

~~To verify the ability of the main steam stop valves to close upon signal and to verify that the non-return check valves are operable.~~

SR 3.7.2.1 and Note
See Insert 3.7.2-4

A.6

LA.1

Specification

A. Main Steam Stop Valves

The main steam stop valves ~~shall be tested under low flow conditions~~ of 5% steam flow or less following plant shutdowns for major fuel reloading. ~~The test shall be performed during the plant startup prior to admitting steam to the turbine.~~ Closure time of five seconds or less shall be verified. ~~The five seconds shall be measured from the time of signal initiation until the valve indicates closed.~~

LB.1

LA.1

In accordance with the Inservice Testing Program

B. Non-Return Check Valves

~~The~~ non-return check valves ~~shall be tested for operability~~ ~~during shutdown for major fuel reloadings.~~

D

RAI 3.7.2-2

Verify the

LB.1

A.8

can close

~~Basis~~

~~The main steam stop valves serve to limit an excessive reactor coolant system cooldown rate and resultant reactivity insertion following a main steam break incident. Their ability to close upon signal should be verified at each scheduled refueling shutdown. A closure time of five seconds was selected as being consistent with the expected response time for instrumentation as detailed in the steam line break incident analysis. The test procedure need not require steam to be flowing in the pipe. The purpose of the non-return check valves is to prevent the blowdown of both steam generators in the event of a main steam line piping break upstream of the main steam stop valves. The non-return check valves are swinging disc check valves which are opened by normal steam flow.~~

A.7

LCO 3.7.2 Inserts

Insert 3.7.2-2:

A. One Steam Generator flowpath with one or more inoperable valves in MODE 1.	A.1 Restore valve to OPERABLE status.	8 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 2.	6 hours
C. ---------NOTE--------- Separate Condition entry is allowed for each steam generator flowpath. --------------------- One or both MSIVs inoperable in MODE 2 or 3. <u>OR</u> One or both non-return check valves inoperable in MODES 2 or 3.	-------------NOTE-------------- An inoperable flowpath may be opened under administrative controls to allow cool down of the affected unit. ------------------------------- C.1 Close and de-activate the MSIV in the affected flowpath. <u>AND</u> C.2 Close non-return check valve in the affected flowpath. <u>AND</u> C.3 Verify MSIV and non-return check valve in the affected flowpath are closed and the MSIV is deactivated.	8 hours 8 hours Once per 7 days
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3. <u>AND</u> D.2 Be in MODE 4.	6 hours 12 hours

L.1

D Additional change

M.2

M.4

D RAI 3.7.2-3

M.5

D RAI 3.7.2-3

L.1

M.1

LCO 3.7.2 Inserts

D
RAI 3.7.2-4
TSTF 289

Insert 3.7.2-3:

------------------NOTE------------------
Only required to be performed in MODE 1.

SURVEILLANCE		FREQUENCY
SR 3.7.2.2	Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.	18 months

M.3

Insert 3.7.2-4:

SR 3.7.2.1	------------------NOTE------------------ Only required to be performed in MODE 1. -- Verify closure time of each MSIV is ≤ 5.0 seconds.	In accordance with the Inservice Testing Program

A.6

Justification For Deviations - NUREG-1431 Section 3.07.02

21-Feb-01

JFD Number	JFD Text
01 Rev. D	NUREG 1431 LCO 3.7.2 has been modified to reflect Point Beach's design. The MSIV LCO was written to address an MSIV which inhibits both forward and reverse flow. The MSIVs at Point Beach are check valves which close to inhibit forward flow. Forward flow through the MSIV is allowed by the check valve disk being held out of the flow steam by an air operator which fails safe upon receipt of an actuation signal allowing the valve to close. Reverse flow to the Steam Generators from the Main Steam Lines (MSLs) is prevented through the use of a simple check valve referred to as the MSL "non-return check valves". Accordingly, the MSL isolation function is accomplished through two valves, requiring modification of the LCO, Required Actions, Bases, and Surveillance Requirements to reflect the Point Beach Design Basis. The LCO Title has been modified to reflect both the MSIV and the non-return check valves. Condition A of NUREG 1431 LCO 3.7.2 has been modified to reflect the Point Beach equivalent to having an MSIV inoperable. This equivalent condition would be the inoperability of one or more valves (MSIV and non-return check valve) in the same SG flowpath. Eight hours has been adopted as the restoration time for this Condition consistent with NUREG 1431. Condition C has been modified to address the Required Actions for inoperable MSIVs and non-return check valves in Modes 2 or 3. These Conditions are equivalent to Condition C of NUREG 1431 (inoperable MSIV in Mode 2 and 3); however, based on Point Beach's design, it is necessary to close both the MSIV and the non-return check valve in the affected flow path in order to provide isolation. Closure of both valves is necessary to prevent inadvertent opening of the inoperable valve due to differential pressure gradients that may develop due to heatups, cooldowns, or changes in steam demand. Eight hours has been retained for flowpath isolation and seven days for routine verification of isolation consistent with NUREG 1431. The Bases have been revised to reflect Point Beach's design and revised Conditions and Required Actions as discussed above.

ITS:	NUREG:
B 3.07.02	B 3.07.02 B 3.07.02
LCO 3.07.02	LCO 3.07.02 LCO 3.07.02
LCO 3.07.02 COND A	LCO 3.07.02 COND A
LCO 3.07.02 COND A RA A.1	LCO 3.07.02 COND A RA A.1
LCO 3.07.02 COND C	LCO 3.07.02 COND C
LCO 3.07.02 COND C NOTE	LCO 3.07.02 COND C NOTE
LCO 3.07.02 COND C RA C.1	LCO 3.07.02 COND C RA C.1
LCO 3.07.02 COND C RA C.2	N/A
LCO 3.07.02 COND C RA C.3	LCO 3.07.02 COND C RA C.2

Justification For Deviations - NUREG-1431 Section 3.07.02

21-Feb-01

JFD Number	JFD Text	
02 Rev. A	The brackets have been removed and the proper plant specific information has been provided.	
	ITS:	**NUREG:**
	B 3.07.02	B 3.07.02
	LCO 3.07.02	LCO 3.07.02
	SR 3.07.02.01	SR 3.07.02.01
03 Rev. A	The CTS allows an inoperable MSIV or non-return check valve to be opened in the hot shutdown condition to allow cooldown of the affected unit. This CTS allowance has been retained as a Note associated with the Required Actions for these valves. This allowance is necessary to allow steam to be vented to the condenser from both steam generators, promoting uniform and simultaneous cooldown of both steam generators. The proposed ITS retains this allowance, while establishing a requirement to have administrative controls over these valves if opened.	
	ITS:	**NUREG:**
	B 3.07.02	B 3.07.02
	LCO 3.07.02 COND C RA C NOTE	N/A
04 Rev. A	The Applicability of NUREG 1431 LCO 3.7.2 has been modified based on Point Beach's MSIV and non-return check valve design. Deenergization of the MSIV will not isolate the MSIV flowpaths based on the MSIV and non-return check valve design as described in the Justification for Deviation 1 of this Section. The Applicability has been changed to establish entry into this LCO whenever sufficient energy is contained within the Steam Generators to require MSIV and non-return check valve isolation capability in the event of a Main Steam Line Break. This Applicability is consistent with the accident analysis assumptions for Point Beach.	
	ITS:	**NUREG:**
	B 3.07.02	B 3.07.02
	LCO 3.07.02	LCO 3.07.02
05 Rev. A	The Applicability section of the Bases has been reworded consistent with Point Beach having only two Steam Generators.	
	ITS:	**NUREG:**
	B 3.07.02	B 3.07.02

Justification For Deviations - NUREG-1431 Section 3.07.02

21-Feb-01

JFD Number	JFD Text
06 Rev. A	The Bases for Condition B contains a discussion related to closing the MSIV. Closure of the MSIV is performed in Condition C and is discussed within the Bases for the Required Actions associated with that Condition. Accordingly, the discussion contained in the Bases for Condition B has been deleted. **ITS:** B 3.07.02 — **NUREG:** B 3.07.02
07 Rev. A	NUREG SR 3.7.2.1 has been divided into two separate Surveillance Requirements. ITS SR 3.7.2.1 verifies the MSIV closure time while proposed ITS SR 3.7.2.2 verifies that the MSIVs will actuate on a simulated or actual actuation signal. This presentation is necessary to promote consistent application of the testing requirements in addition to deferring performance of MSIV stroke timing until prior to entry into Mode 1 as allowed by the CTS and discussed below. Proposed ITS SR 3.7.2.1 and SR 3.7.2.2 are equivalent to CTS Surveillance Requirement 15.4.7.A, which requires the MSIVs to be stroke tested under low flow conditions (less than or equal to 5%) and CTS line item 13 of Table 15.4.1-2, which requires containment isolation valves (MSIVs) to be functionally tested. The CTS Applicability for containment isolation valves has been determined to be equivalent to ITS Modes 1 through 4 as discussed in LCO 3.6.3 of this conversion package. As such, functional testing of the MSIVs isolation capability is required prior to entry into Mode 4 under ITS LCO 3.6.3 (containment isolation) and prior to entry into ITS Modes 2 and 3 (ITS SR 3.7.2.2) under this LCO; however, stroke timing of the MSIVs (ITS SR 3.7.2.1) is not required until prior to exceeding 5% power. Deferred performance of the MSIV stroke timing is necessary to establish appropriate and representative testing conditions for the MSIVs, as discussed in Justification for Deviation 9 of this Section. Additionally, the 18 month actuation test (SR 3.7.2.2) is intended to provide a continuation between the actuation logic testing contained in Section 3.3 of the ITS and the actuated components (MSIVs). NUREG 1431 requires Actuation Logic and Master and Slave Relay tests to be performed with the unit on line (bi-monthly and quarterly). These tests, when combined with the 18 month equipment actuation tests, prove equipment actuation capability from the channel output to the actuated equipment. Point Beach has not adopted the Surveillance Requirements for Master and Slave Relay testing based on design and licensing basis. Point Beach is not designed to allow on line testing without introducing unwarranted transients or intrusive testing techniques. Accordingly, Master and Slave testing has not been adopted as part of the conversion to the ITS. The 18 month actuation test encompasses Master and Slave Relay testing. This change is consistent with proposed generic change TSTF 289. **ITS:** B 3.07.02 — **NUREG:** B 3.07.02 **ITS:** SR 3.07.02.01 — **NUREG:** SR 3.07.02.01 **ITS:** SR 3.07.02.02 — **NUREG:** N/A

21-Feb-01

JFD Number	JFD Text	
08 Rev. A	A discussion has been added to the Actions section, which addresses the MSIVs as being containment isolation valves. This discussion has been added to reinforce that the applicable Conditions and Required Actions of LCO 3.6.3 should also be entered if the MSIV is inoperable in such a fashion that its containment isolation capability is also impaired.	
	ITS:	**NUREG:**
	B 3.07.02	B 3.07.02
09 Rev. A	CTS 15.4.7.a requires the MSIVs to be stroke time tested under low flow conditions not to exceed 5% of steam flow, which has been determined to be equivalent to a required mode of performance for this surveillance of prior to entry into ITS Mode 1. The MSIVs at Point Beach are check valves which close to inhibit forward flow. Forward flow through the MSIV is allowed by the check valve disk being held out of the flow steam by an air operator which fails safe upon receipt of an actuation signal allowing the valve to close. As such, steam flow assists in closing the valve within its required Stoke time, requiring deferment in performance of this SR to establish conditions which are representative of the conditions under which the acceptance criteria was developed. This deviation from the NUREG is consistent with the CTS for Point Beach.	
	ITS:	**NUREG:**
	B 3.07.02	B 3.07.02
	SR 3.07.02.01 NOTE	SR 3.07.02.01 NOTE
10 Rev. A	NUREG 1431 provides an option of testing the MSIV per the Inservice Testing Program (IST) or once per 18 months. The option of testing these valves in accordance with the IST has been chosen. The MSIVs are Class 2 valves and are contained within the IST. Selection of this option is further discussed in Description of Change LB.1 of this LCO.	
	ITS:	**NUREG:**
	B 3.07.02	B 3.07.02
	SR 3.07.02.01	SR 3.07.02.01
11 Rev. A	The current licensing basis for Point Beach does not include feedwater line break scenarios. Accordingly, reference to Feedwater line break events in the Bases of the proposed ITS have been deleted	
	ITS:	**NUREG:**
	B 3.07.02	B 3.07.02

Justification For Deviations - NUREG-1431 Section 3.07.02

21-Feb-01

JFD Number	JFD Text	
12 Rev. A	The Bases have been revised to list the MSIV isolation signals for Point Beach. This change is necessary to reflect Point Beach's design and licensing basis.	
	ITS:	**NUREG:**
	B 3.07.02	B 3.07.02
13 Rev. A	The NUREG Bases provide a description of automatic power operated MSIV bypass valves. Point Beach's MSIV bypass valves are manual valves. Accordingly, the Bases have been modified to reflect Point Beach's design.	
	ITS:	**NUREG:**
	B 3.07.02	B 3.07.02
14 Rev. A	The NUREG Bases have been modified to reflect the containment pressure and off site dose analyses reflective of Point Beach's current licensing basis.	
	ITS:	**NUREG:**
	B 3.07.02	B 3.07.02
15 Rev. A	The Containment pressure analysis and radiological consequences for Steam Line Break event are both contained in the same section of Point Beach's FSAR. Accordingly, reference to separate sections of the FSAR are not necessary, reference numbers have been revised to reflect the appropriate FSAR Section and reference.	
	ITS:	**NUREG:**
	B 3.07.02	B 3.07.02
16 Rev. D	CTS 15.4.7.B requires that the non-return check valves be tested for operability during shutdown for major fuel reloadings. This requirement has been reflected in the ITS as SR 3.7.2.3, which requires that the ability of each main steam non-return check valve to close be verified at the frequency specified in the Inservice Testing Program. This SR is not described in the STS and is consistent with a similar requirement submitted for Ginna ITS.	
	ITS:	**NUREG:**
	B 3.07.02	N/A
	SR 3.07.02.03	N/A

1 and Non-Return Check Valves

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.2.1 -------------------NOTE-------------------- Only required to be performed in MODES 1 ~~and 2~~ -- Verify closure time of each MSIV is ≤ [4.6] 5.0 seconds ~~on an actual or simulated actuation signal~~.	In accordance with the Inservice Testing Program ~~or [18] months]~~

9 2 7 10

D RAI 3.7.2-4

---------------NOTE-------------------
Only required to be performed in MODE 1.

SURVEILLANCE	FREQUENCY
SR 3.7.2.2 Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.	18 months

SURVEILLANCE	FREQUENCY
SR 3.7.2.3 Verify each Main Steam non-return check valve can close.	In accordance with the Inservice Testing Program

D RAI 3.7.2-2

16

LCO 3.7.2 Inserts

INSERT 3.7.2-1:

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Steam Generator flowpath with one or more inoperable valves in MODE 1.	A.1 Restore valve to OPERABLE status.	8 hours

D Additional change

INSERT 3.7.2-2:

C. ---------NOTE--------- Separate Condition entry is allowed for each steam generator flowpath ---------------------	-------------NOTE-------------- An inoperable flowpath may be opened under administrative controls to allow cool down of the affected unit. ------------------------------	3
One or both MSIVs inoperable in MODE 2 or 3.	C.1 Close and de-activate the MSIV in the affected flowpath.	8 hours
OR	AND	
One or both non-return check valves inoperable in MODE 2 or 3.	C.2 Close non-return check valve in the affected flowpath.	8 hours
	AND	
	C.3 Verify MSIV and non-return check valve in the affected flowpath are closed and the MSIV is de-activated.	Once per 7 days

D RAI 3.7.2-3

D RAI 3.7.2-3

BASES

APPLICABILITY (continued)

1

4 ~~When the MSIVs are closed, they are already performing the safety function.~~

5

In MODE 4, normally ~~most of~~ the MSIVs and non-return check valves are closed, and the steam generator energy is low.

In MODE 5 or 6, the steam generators do not contain much energy because their temperature is below the boiling point of water; therefore, the MSIVs or non-return check valves are not required for isolation of potential high energy secondary system pipe breaks in these MODES.

ACTIONS

1 2

A.1

With one or more valves in a SG flowpath ~~one MSIV~~ inoperable in MODE 1, action must be taken to restore the flowpath to OPERABLE status within [8] hours. Some repairs to the MSIV can be made with the unit hot. The [8] hour Completion Time is reasonable, considering the low probability of an accident occurring during this time period that would require a closure of the MSIVs or non-return check valves.

Insert B 3.7.2-7

8

The [8] hour Completion Time is greater than that normally allowed for containment isolation valves because the MSIVs are valves that isolate a closed system penetrating containment. These valves differ from other containment isolation valves in that the closed system provides an additional means for containment isolation.

B.1

D
RAI 3.7.2-3

2

If the MSIV or Non-Return Check Valve cannot be restored to OPERABLE status within [8] hours, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in MODE 2 within 6 hours and Condition C would be entered. The Completion Times are reasonable, based on operating experience, to reach MODE 2 ~~and to close the MSIVs in an orderly manner~~ and without challenging unit systems.

6

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

1

Condition C is modified by a Note indicating that separate Condition entry is allowed for each ~~MSIV~~ Steam Generator flowpath.

BASES

ACTIONS (continued)

Insert B 3.7.2-8

and Non-Return Check Valves

1

3

Since the MSIVs are required to be OPERABLE in MODES 2 and 3, the inoperable MSIVs may either be restored to OPERABLE status or closed. When closed the MSIVs are already in the position required by the assumptions in the safety analysis.

1 and de-activated

1 Insert B 3.7.2-9

2

The [8] hour Completion Time is consistent with that allowed in Condition A.

1 or non-return check valves

For inoperable MSIVs that cannot be restored to OPERABLE status within the specified Completion Time, but are ~~closed~~, the ~~inoperable MSIVs~~ must be verified on a periodic basis to be closed. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of ~~MSIV status~~ indications available in the control room, ~~and other administrative controls~~, to ensure that these valves are in the closed position.

flowpath

and the MSIV deactivated

1

(MSIV position)

isolated

D RAI 3.7.2-3

D.1 and D.2

1 or non-return check valves

If the MSIVs cannot be restored to OPERABLE status or are not closed within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed at least in MODE 3 within 6 hours, and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from MODE 2 conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.2.1

2 5.0

This SR verifies that MSIV closure time is ≤ [4.6] seconds ~~on an actual or simulated actuation signal. The MSIV closure time is assumed in the accident and containment analyses~~. This Surveillance is normally performed upon returning the unit to operation following a refueling outage. The MSIVs should not be tested at power, since even a part stroke exercise increases the risk of a valve closure

6 , as measured from the time of signal initiation until the valves indicate closed

D RAI 3.7.2-5

and Non-Return Check Valves

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

when the unit is generating power. As the MSIVs are not tested at power, they are exempt from the ASME Code, Section XI (Ref. ~~5~~), requirements during operation in MODE 1 ~~or 2~~.

9

4

15

10

The Frequency is in accordance with the ~~[~~Inservice Testing Program ~~or [18] months]~~ ~~The [18] month Frequency for valve closure time is based on the refueling cycle.~~ Operating experience has shown that these components usually pass the Surveillance when performed at the ~~[18] month~~ Frequency. Therefore, the Frequency is acceptable from a reliability standpoint.

required by the Inservice Testing Program

2 under low steam flow conditions (≤ 5% steam flow)

This test is conducted in MODE ~~3 with the unit~~ at operating temperature and pressure, ~~as discussed in Reference 5 exercising requirements.~~ This SR is modified by a Note that allows entry into and operation in MODE ~~3~~ prior to performing the SR. This allows a delay of testing ~~until MODE 3,~~ to establish conditions consistent with those under which the acceptance criterion was generated.

s 2 and

D RAI 3.7.2-5

7

Insert B 3.7.2-10

D RAI 3.7.2-4

REFERENCES

1. FSAR, Section ~~[10.3]~~ 10.1

2

2. FSAR, Section ~~[6.2]~~ 14.2.5

2

Insert B 3.7.2-11

3. ~~FSAR, Section [15.1.5].~~

16

15

4. 10 CFR 100.11.

5. ASME, Boiler and Pressure Vessel Code, Section XI.

NUREG-0800, Standard Review Plan 15.1.5, Appendix A, "Radiological Consequence of Main Steam Line Failures Outside of a PWR", Rev. 2, July 1981.

D RAI 3.7.2-2

14

LCO 3.7.2 BASES INSERTS

Insert B 3.7.2-7:

The MSIVs are containment isolation valves, and as such the applicable Conditions and Required Actions of LCO 3.6.3 must be entered if containment isolation capability is lost. The 8 hour Completion Time associated with this LCO for an MSIV is greater than that normally allowed for containment isolation valves because the MSIVs are valves that isolate a closed system penetrating containment.

Insert B 3.7.2-8:

In addition, the Required Actions are modified by a note which allows the MSIVs and non-return check valves to be opened under administrative controls for the plant cooldowns. These administrative controls consist of establishing a dedicated operator, who is in communication with the control room. In this way, the penetration can be rapidly isolated if necessary. This allowance is necessary to prevent significant differential temperature and pressures from developing between the SGs when cooling the plant down using the condenser steam dumps.

Insert B 3.7.2-9:

Similarly, since the non-return check valves are required to be OPERABLE in MODES 2 and 3, the inoperable non-return check valve may either be restored to OPERABLE status or closed. When closed, the non-return check valves is also in its required position. In order to prevent inadvertent opening of the MSIV or non-return check valves, due to differential pressure changes between the SG and the steam lines, the Required Actions requires that both the MSIV and non-return check valve in the affected flowpath be closed and the MSIV de-activated whenever either valve is inoperable. Deactivation of the MSIV may be accomplished by isolation and venting of the air operator.

D

Errata 99

LCO 3.7.2 BASES INSERTS

Insert B 3.7.2-10:

SR 3.7.2.2

This SR verifies that each MSIV will actuate to its isolation position on a actuation isolation signal. The 18 month Frequency is based on a refueling cycle interval and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components normally pass this Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR is modified by a Note that allows entry into and operation in MODES 2 and 3 prior to performing the SR. This allows delaying testing until conditions where the testing can be performed are established.

D RAI 3.7.2-4

Insert B 3.7.2-11

SR 3.7.2.3

This SR verifies that each main steam non-return check valve can close. As the non-return check valves are not tested at power, they are exempt from the ASME Code, Section XI (Ref. 4), requirements during operation in MODE 1, 2, or 3. The frequency is in accordance with the Inservice Testing Program. Operating experience has shown that these components usually pass the Surveillance when performed at the Frequency required by the Inservice Testing Program. Therefore, the Frequency is acceptable from a reliability standpoint.

D RAI 3.7.2-2

3.7 PLANT SYSTEMS

3.7.2 Main Steam Isolation Valves (MSIVs) and Non-Return Check Valves

LCO 3.7.2 Two MSIVs and two non-return check valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One Steam Generator flowpath with one or more inoperable valves in MODE 1.	A.1	Restore valve to OPERABLE status.	8 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1	Be in MODE 2.	6 hours
C. -----------NOTE----------- Separate Condition entry is allowed for each Steam Generator flowpath. ------------------------------	-------------------NOTE------------------- An inoperable flowpath may be opened under administrative controls to allow cool down of the affected unit. --		
One or both MSIVs inoperable in MODE 2 or 3.	C.1	Close and de-activate the MSIV in the affected flowpath.	8 hours
<u>OR</u>	<u>AND</u>		
One or both non-return check valves inoperable in MODE 2 or 3.	C.2	Close non-return check valve in the affected flowpath.	8 hours
	<u>AND</u>		
			(continued)

D Additional change

D RAI 3.7.2-3

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. (continued)	C.3	Verify MSIV and non-return check valve in the affected flowpath are closed and the MSIV is de-activated.	Once per 7 days
D. Required Action and associated Completion Time of Condition C not met.	D.1	Be in MODE 3.	6 hours
	<u>AND</u>		
	D.2	Be in MODE 4.	12 hours

D RAI 3.7.2-3

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.2.1	-------------------------NOTE------------------------ Only required to be performed in MODE 1. -- Verify closure time of each MSIV is ≤ 5.0 seconds.	In accordance with the Inservice Testing Program
SR 3.7.2.2	-------------------------NOTE------------------------ Only required to be performed in MODE 1. -- Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.	18 months
SR 3.7.2.3	Verify each main steam non-return check valve can close.	In accordance with the Inservice Testing Program

D RAI 3.7.2-4 TSTF 289

D RAI 3.7.2-2

B 3.7 PLANT SYSTEMS

B 3.7.2 Main Steam Isolation Valves (MSIVs) and Non-Return Check Valves

BASES

BACKGROUND

The MSIVs and non-return check valves isolate steam flow from the secondary side of the steam generators following a steam line break. In addition, the MSIVs are used to isolate the affected steam generator in the event of a steam generator tube rupture.

One MSIV is located in each main steam line outside, but close to containment. The MSIVs are downstream from the main steam safety valves (MSSVs) and auxiliary feedwater (AFW) pump turbine steam supply, to prevent MSSV and AFW isolation from the steam generators by MSIV closure. The MSIVs isolate the turbine, Condenser Steam Dump System, and other auxiliary steam supplies (with the exception of the turbine driven auxiliary feedwater pump) from the steam generators. The MSIVs in conjunction with the non-return check valves, isolate the steam generators from each other.

The MSIVs close on a main steam isolation signal generated by Containment Pressure High-High, Steam Flow High-High coincident with a Safety Injection, or Steam Flow High coincident with Low T_{avg} and a Safety Injection. The MSIVs may also be manually actuated.

Each MSIV has a normally closed bypass valve.

A description of the MSIVs is found in the FSAR, Section 10.1 (Ref. 1).

APPLICABLE SAFETY ANALYSES

The design basis of the MSIVs and non-return check valves is established by the analysis for the steam line break (SLB), discussed in the FSAR, Section 14.2.5 (Ref. 2). The design precludes the blowdown of more than one steam generator, assuming a single active component failure (e.g., the failure of one MSIV or non-return check valves to close on demand).

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 effects of the non-conservative parameters are quantified using a conservative heat balance to determine how much they increase peak containment pressure. Non-conservative parameters quantified in the calculation include additional FW and AFW, higher initial containment pressure, longer fan cooler delay time and lower fan cooler heat removal rates. The effect of one conservative parameter, containment heat sink

BASES

APPLICABLE SAFETY ANALYSES (continued)

surface area, is also quantified to determine how much it decreases peak containment pressure. Quantified increases and decreases are added to and subtracted from the most limiting result from the reference 2-loop plant analysis. Another conservative parameter is the trip reactivity worth for PBNP. The excess trip reactivity worth is used to show that there is no return to criticality during a steam line break. Avoiding a return to criticality can significantly reduce the mass and energy release rate to containment. The calculation uses the fact that there is no return to criticality to eliminate the need to evaluate many parameters that affect reactivity and the amount of energy created by a return to criticality. By comparing and quantifying the effects of the conservative and non-conservative parameters, it is shown that the peak containment pressure is 51.3 psig. This peak pressure is less than the containment design pressure of 60 psig.

The analysis of the Main Steam Line Break (MSLB) offsite radiological consequences uses the analytical methods and assumptions outlined in the Standard Review Plan (Reference 5). For the pre-accident iodine spike, it is assumed that a reactor transient has occurred prior to the MSLB and has raised the RCS iodine concentration to the allowed Technical Specification value of 50 μCi/gm of dose equivalent (DE) I-131 at 100% power. For the accident-initiated iodine spike, the reactor trip associated with the MSLB creates an iodine spike in the RCS which increases the iodine release rate from the fuel to the RCS to a value of 500 times greater than the release rate corresponding to the maximum equilibrium RCS Technical Specification concentration of 0.8 μCi/gm of DE I-131. The affected SG will rapidly depressurize and release to the outside atmosphere the radioiodines initially contained in the secondary coolant and the radioiodines which are transferred from the primary coolant through SG tube leakage. A portion of the iodine activity initially contained in the intact SGs and noble gas activity due to tube leakage is released to atmosphere as well. The amount of primary to secondary SG tube leakage in each of the two SGs is assumed to be equal to the Technical Specification limit for a single SG of 0.35 gpm. No credit for iodine removal is taken for any steam released to the condenser prior to reactor trip and concurrent loss of offsite power. The SG connected to the ruptured main stream line is assumed to boil dry. The entire liquid inventory of this SG is assumed to be steamed off and all of the iodine initially in this SG is released to the environment. Also, iodine carried over to the faulted SG by SG tube leaks is assumed to be released directly to the environment with no credit taken for iodine retention in the SG.

Following a steam generator tube rupture, closure of the MSIVs isolates the ruptured steam generator from the intact steam generator to minimize radiological releases.

In addition to providing SG isolation during a SLB or SGTR, the MSIVs are also containment isolation valves. The containment isolation function of these valves is addressed under LCO 3.6.3.

The MSIVs satisfy Criterion 3 of the NRC Policy Statement.

BASES

LCO

This LCO requires that two MSIVs and two non-return check valves in the steam lines are to be OPERABLE. The MSIVs are considered OPERABLE when the isolation times are within limits, and they close on an isolation actuation signal. The steam line non-return check valves are considered to be operable when they are capable of closing in response to reverse flow.

This LCO provides assurance that the MSIVs and non-return check valves will perform their design safety function to mitigate the consequences of accidents that could result in offsite exposures comparable to the 10 CFR 100 (Ref. 3) limits.

APPLICABILITY

The MSIVs and non-return check valves must be OPERABLE in MODES 1, 2, and 3, when there is significant mass and energy in the RCS and steam generators.

In MODE 4, normally the MSIVs and non-return check valves are closed, and the steam generator energy is low.

In MODE 5 or 6, the steam generators do not contain much energy because their temperature is below the boiling point of water; therefore, the MSIVs and non-return check valves are not required for isolation of potential high energy secondary system pipe breaks in these MODES .

ACTIONS

A.1

With one or more valves in a SG flowpath inoperable in MODE 1, action must be taken to restore the flowpath to OPERABLE status within 8 hours. Some repairs to the MSIV can be made with the unit hot. The 8 hour Completion Time is reasonable, considering the low probability of an accident occurring during this time period that would require a closure of the MSIVs or non-return check valves.

The MSIVs are containment isolation valves, and as such the applicable Conditions and Required Actions of LCO 3.6.3 must be entered if containment isolation capability is lost. The 8 hour Completion Time associated with this LCO for an MSIV is greater than that normally allowed for containment isolation valves because the MSIVs are valves that isolate a closed system penetrating containment.

B.1

If the MSIV or non-return check valve cannot be restored to OPERABLE status within 8 hours, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must

BASES

ACTIONS (continued)

be placed in MODE 2 within 6 hours and Condition C would be entered. The Completion Times are reasonable, based on operating experience, to reach MODE 2.

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

D RAI 3.7.2-3

Condition C is modified by a Note indicating that separate Condition entry is allowed for each Steam Generator flowpath.

In addition, the Required Actions are modified by a note which allows the MSIVs and non-return check valves to be opened under administrative controls for the plant cooldowns. These administrative controls consist of establishing a dedicated operator, who is in communication with the control room. In this way, the penetration can be rapidly isolated if necessary. This allowance is necessary to prevent significant differential temperature and pressures from developing between the SGs when cooling the plant down using the condenser steam dumps.

Since the MSIVs and non-return check valves are required to be OPERABLE in MODES 2 and 3, the inoperable MSIVs may either be restored to OPERABLE status or closed and de-activated. When closed and de-activated, the MSIVs are already in the position required by the assumptions in the safety analysis.

Similarly, since the non-return check valves are required to be OPERABLE in MODES 2 and 3, the inoperable non-return check valve may either be restored to OPERABLE status or closed. When closed, the non-return check valves is also in its required position. In order to prevent inadvertent opening of the MSIV or non-return check valves, due to differential pressure changes between the SG and the steam lines, the Required Actions requires that the both the MSIV and non-return check valve in the affected flowpath be closed and the MSIV de-activated whenever either valve is inoperable. Deactivation of the MSIV may be accomplished by isolation and venting of the air operator.

D Errata 99

The 8 hour Completion Time is consistent with that allowed in Condition A.

For inoperable MSIVs or non-return check valves that cannot be restored to OPERABLE status within the specified Completion Time, but are isolated, the flowpath must be verified on a periodic basis to be closed and the MSIV de-activated. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of flowpath indications (MSIV position) available in the control room, and other administrative controls, to ensure that these valves are in the closed position.

D RAI 3.7.2-3

BASES

ACTIONS (continued)

D.1 and D.2

If the MSIVs or non-return check valves cannot be restored to OPERABLE status or are not closed within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed at least in MODE 3 within 6 hours, and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from MODE 2 conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.2.1

This SR verifies that MSIV closure time is ≤ 5.0 seconds, as measured from the time of signal initiation until the valves indicate closed. This Surveillance is normally performed upon returning the unit to operation following a refueling outage. The MSIVs should not be tested at power, since even a part stroke exercise increases the risk of a valve closure when the unit is generating power. As the MSIVs are not tested at power, they are exempt from the ASME Code, Section XI (Ref. 4), requirements during operation in MODE 1. D RAI 3.7.2-5

The Frequency is in accordance with the Inservice Testing Program. Operating experience has shown that these components usually pass the Surveillance when performed at the Frequency required by the Inservice Testing Program. Therefore, the Frequency is acceptable from a reliability standpoint.

This test is conducted in MODE 2 under low steam flow conditions (≤ 5% steam flow) at operating temperature and pressure. This SR is modified by a Note that allows entry into and operation in MODES 2 and 3 prior to performing the SR. This allows a delay of testing to establish conditions consistent with those under which the acceptance criterion was generated. D RAI 3.7.2-5

SR 3.7.2.2

This SR verifies that each MSIV will actuate to its isolation position on a actuation isolation signal. The 18 month Frequency is based on a refueling cycle interval and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components normally pass this Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

BASES

SURVEILLANCE REQUIREMENTS (continued)

This SR is modified by a Note that allows entry into and operation in MODES 2 and 3 prior to performing the SR. This allows delaying testing until conditions where the testing can be performed are established. D RAI 3.7.2-4

SR 3.7.2.3

D RAI 3.7.2-2

This SR verifies that each main steam non-return check valve can close. As the non-return check valves are not tested at power, they are exempt from the ASME Code, Section XI (Ref. 4), requirements during operation in MODE 1, 2, or 3. The Frequency is in accordance with the Inservice Testing Program. Operating experience has shown that these components usually pass the Surveillance when performed at the Frequency required by the Inservice Testing Program. Therefore, the Frequency is acceptable from a reliability standpoint.

REFERENCES

1. FSAR, Section 10.1.
2. FSAR, Section 14.2.5.
3. 10 CFR 100.11.
4. ASME, Boiler and Pressure Vessel Code, Section XI.
5. NUREG-0800, Standard Review Plan 15.1.5, Appendix A, "Radiological Consequence of Main Steam Line Failures Outside of a PWR", Rev. 2, July 1981.

Description of Changes - NUREG-1431 Section 3.07.03

21-Feb-01

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:
15.04.01 T 15.04.01-01 17.A	SR 3.07.03.02
15.04.01 T 15.04.01-01 17.B	SR 3.07.03.01

DOC Number	DOC Text
A.02 Rev. A	A Bases Section has been added which reflects the design and current licensing basis for the main feedwater isolation provisions. The format and content of the proposed Bases are consistent with NUREG 1431. The revised Bases are as shown in the PBNP ITS Bases.

CTS:	ITS:
NEW	B 3.07.03

Description of Changes - NUREG-1431 Section 3.07.03

21-Feb-01

DOC Number	DOC Text
M.01 Rev. A	The CTS does not contain an LCO or Required Actions which address main feedwater isolation. The CTS only contains a refueling interval surveillance test which verifies main feedwater pump trip and feedwater regulation valve auto closure. The CTS plant condition for when this test is required is stated as being "ALL". Table 15.4.1-1 defines "ALL" plant conditions through reference to Specification 15.1.g, h, and m, which are; 1] Shutdown (Hot, Cold, Refueling, and Shutdown Margin), 2] Power Operations (greater than 2% power), and 3] Low Power Operation (less than or equal to 2% power). As such, defining the applicability of these surveillances in the terms specified in Specification 15.1.g, h, and m are vague and non prescriptive. Specification 15.4.0.1 states that surveillance requirements shall be met during all times that the system or component is required to be operable; however, there are no LCO requirements which define an applicability. Main feedwater isolation should be required to be operable to limit the amount of fluid added to containment in the event of a main steam line break inside containment. Therefore, main feedwater isolation should be operable whenever there is significant mass and energy in the steam generators. Modes 1, 2, and 3 address plant conditions under which the steam generators contain sufficient mass and energy to necessitate the operability of the main feedwater isolation systems. This applicability is consistent with that specified for the MSIVs and non-return check valves which also function to mitigate the affects of Main Steam Line breaks. With defining Modes 1, 2, and 3 as the Modes of Applicability, Condition D has been added as a default Condition, directing that the ITS Mode of Applicability be exited if the MFW isolation provisions are not restored to operable status or placed into their required condition. The time frames chosen are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

CTS:	ITS:
15.04.01 T 15.04.01-01 17.A	SR 3.07.03.02
15.04.01 T 15.04.01-01 17.B	SR 3.07.03.01
NEW	LCO 3.07.03 LCO 3.07.03 COND A LCO 3.07.03 COND A NOTE LCO 3.07.03 COND A RA A.1 LCO 3.07.03 COND B LCO 3.07.03 COND B NOTE LCO 3.07.03 COND B RA B.1 LCO 3.07.03 COND C LCO 3.07.03 COND C RA C.1 LCO 3.07.03 COND C RA C.2 LCO 3.07.03 COND D LCO 3.07.03 COND D RA D.1 LCO 3.07.03 COND D RA D.2

Description of Changes - NUREG-1431 Section 3.07.03

21-Feb-01

DOC Number	DOC Text
M.02 Rev. D	The Containment Pressure Condensate Isolation (CPCI) circuit has been added to the ITS as proposed SR 3.7.3.3 which establishes a requirement to perform an 18 month test of the CPCI circuit, which trips the condensate and heater drain pumps on a containment high pressure signal. The purpose of this circuit is to trip the condensate and heater drain pumps to prevent continued main feedwater addition to a steam generator with a faulted steam line in the event that a main feedwater regulation or regulation bypass valve fails to close. The CPCI circuit is not contained in the CTS, but is necessary to ensure main feedwater termination at reduced SG pressures. The 18 month surveillance frequency is based on the need to perform this testing during periods when the main feedwater system is not required to maintain steam generator level. This interval is also consistent with the proposed frequency for testing of the main feedwater regulation and bypass valves and main feedwater pump trips in proposed SR 3.7.3.1 and SR 3.7.3.2. In adding this test as a Surveillance Requirement to ITS LCO 3.7.3, the inoperability of this circuit results in entry into proposed Conditions B and C which allow a limited period of operation to restore the required trip circuit or to secure the affected pumps. The Required Actions and their associated Completion Times for an inoperable CPCI circuit is consistent with the Required Actions and Completion Times for an inoperable MFW regulating valve or bypass valve trip circuit or MFW pump trip circuit, and is therefore considered acceptable since all three functions are required to maintain MFW isolation capability. If these Actions are not accomplished, the unit must be placed into Mode 4 consistent with the Mode of Applicability for this LCO as discussed in Description of Change M.1 of this LCO. **CTS:** NEW **ITS:** SR 3.07.03.03
M.03 Rev. A	An LCO has been added to address Main Feedwater (MFW) isolation. MFW isolation is provided by several diverse means; auto isolation of the MFW regulation and regulation bypass valves, tripping of the MFW pumps, and tripping of the condensate and heater drain pumps by the containment pressure condensate isolation circuit. The CTS only addresses the MFW pump trip and MFW regulation and regulation bypass valve closure capabilities. By stating that MFW isolation is required to be operable, with SR 3.7.3.1 through SR 3.7.3.3 defining all three diverse means (i.e. MFW pump trip, CPCI, and MFW regulation and bypass valve closure), the LCO will encompass all three means where the CTS only addresses two. **CTS:** NEW **ITS:** LCO 3.07.03
M.04 Rev. A	The ITS allows continued operation after the affected component is placed into its required position and adds a requirement to periodically verify that the affected component (pump, or regulating valve) remains in its required position. The proposed seven day verification is considered reasonable based on engineering judgment in view of other status indications available in the control room (e.g. pump run lights, valve position indicators, etc.), and other administrative controls to ensure that the components remain in their required positions. **CTS:** NEW **ITS:** LCO 3.07.03 COND A RA A.2 LCO 3.07.03 COND B RA B.2

A.1

TABLE 15.4.1-1 (continued)

NO.	CHANNEL DESCRIPTION	CHECK	CALIBRATE	TEST	PLANT CONDITIONS WHEN REQUIRED
9.	Steam Generator Flow Mismatch	S(22)	R	Q(1)	ALL
10.	Steam Generator Pressure	S(16)	R	Q(1)	ALL
11.	4KV Bus Undervoltage (A01 & A02)				
	-AFW pump actuation	-	R	M(1)	ALL
	-Reactor Protection actuation	-	R	M(1,2)	ALL
12.	4KV Bus Underfrequency (A01 & A02)				
	-to Reactor Coolant Pump trip	-	R	-	ALL
13.	Safeguards Bus Voltage				
	-Loss of 4KV	S	R	M	ALL
	-Degraded 4KV	S	R	M	ALL
	-Loss of 480V	S	R	M	ALL
14.	120 Vac Instrument Buses	W(6)	-	-	ALL
15.	Reactor Trip Signal From Turbine				
	-Turbine Autostop	-	-	M (1)	ALL
	-Turbine Stop Valve	-	-	M (1)	ALL
16.	Reactor Trip Signal From SI	-	-	M(1)	ALL
17.	Feedwater Isolation on SI				
	-MFP Trip on Safety Injection	-	-	R	ALL
	-MFRV Shutting on Safety Injection	-	-	R	ALL
18.	Accumulator Level and Pressure	S	R	-	ALL
19.	Analog Rod Position	S(8,22)	R	-	ALL
	-with step counters	S(22)	-	-	ALL
	-Monitoring by On-Line Computer	(18)	-	-	PWR, HOT S/D

A.2

Bases added

M.1/
M.3

D
RAI 3.7.3-2

Add LCO and Actions See Insert 3.7.3-1

< See Section 3.3 >

< See Section 3.8 >

< See Section 3.3 >

M.1

MODES 1, 2, and 3.

M.2

18 months

SR 3.7.3.2

SR 3.7.3.1

SR 3.7.3.3 See Insert 3.7.3-2

18 months

< See Section 3.5 >

< See Section 3.1 >

Insert 3.7.3-1:

3.7 PLANT SYSTEMS

3.7.3 Main Feedwater Isolation

LCO 3.7.3 Main Feedwater Isolation shall be OPERABLE.

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

M.3

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ---------NOTE--------- Separate Condition entry is allowed for each valve. ---------------------- One or more Main Feedwater Regulating Valves (MFRVs) or MFRV bypass valves inoperable.	A.1 Close or isolate valve. AND A.2 Verify valve is closed or isolated.	72 hours (M.1) Once per 7 days (M.4)
B. ---------NOTE--------- Separate Condition entry is allowed for each pump trip circuit. ---------------------- One or more Main Feed Water, Heater Drain Tank, or Condensate pump trip circuits inoperable.	B.1 Secure pump from operation. AND B.2 Verify pump is not operating.	72 hours (M.1) Once per 7 days (M.4)
C. One or more unisolated Main Feedwater Regulating Valves (MFRVs) or unisolated bypass valves inoperable. AND One or more operating pumps with inoperable trip circuits.	C.1 Restore MFRV or bypass valves to OPERABLE status OR C.2 Restore pump trip circuits to OPERABLE status	8 hours 8 hours

D RAI 3.7.3-2

M.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. One or more unisolated Main Feedwater Regulating Valves (MFRVs) or unisolated bypass valves inoperable. AND One or more operating pumps with inoperable trip circuits.	C.1	Restore MFRV or bypass valves to OPERABLE status	8 hours
	OR		
	C.2	Restore pump trip circuits to OPERABLE status	8 hours
D. Required Action and associated Completion Time not met.	D.1	Be in MODE 3.	6 hours
	AND		
	D.2	Be in MODE 4.	12 hours

D
RAI 3.7.3-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Verify each MFRV and associated bypass valve, actuate to the isolation position on an actual or simulated actuation signal.	18 months
SR 3.7.3.2	Verify each Main Feedwater pump automatically trips on an actual or simulated actuation signal.	18 months
SR 3.7.3.3	Verify each Condensate and Heater Drain pump automatically trips on an actual or simulated actuation signal.	18 months

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. One or more unisolated Main Feedwater Regulating Valves (MFRVs) or unisolated bypass valves inoperable. AND One or more operating pumps with inoperable trip circuits.	C.1 OR C.2	Restore MFRV or bypass valves to OPERABLE status Restore pump trip circuits to OPERABLE status	8 hours 8 hours
D. Required Action and associated Completion Time not met.	D.1 AND D.2	Be in MODE 3. Be in MODE 4.	6 hours 12 hours

D
RAI 3.7.3-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Verify each MFRV and associated bypass valve, actuate to the isolation position on an actual or simulated actuation signal.	18 months
SR 3.7.3.2	Verify each Main Feedwater pump automatically trips on an actual or simulated actuation signal.	18 months
SR 3.7.3.3	Verify each Condensate and Heater Drain pump automatically trips on an actual or simulated actuation signal.	18 months

Description of Changes - NUREG-1431 Section 3.07.04

21-Feb-01

DOC Number	DOC Text
A.05 Rev. D	CTS 15.3.4.A.5 does not provide specific direction in the event that the ADVs associated with both steam generator flowpaths are simultaneously inoperable, thus requiring entry into CTS 15.3.0.B. Under CTS 15.3.0.B, actions must be initiated within 1 hour to place the affected unit in a condition where the ADV LCO does not apply. This requirement to initiate action within 1 hour has been reflected in the ITS as a Required Action to restore an operable ADV flowpath within the 1 hour Completion Time of Condition B. As such, the 1 hour Completion Time of ITS 3.7.4, Condition B, does not represent a technical change (either actual or interpretational) and is provided for consistency with the presentation and format of the Standard Technical Specifications, Westinghouse Plants, NUREG-1431, Revision 1.

CTS:	ITS:
15.03.04.A.05	LCO 3.07.04 COND B LCO 3.07.04 COND B RA B.1

Description of Changes - NUREG-1431 Section 3.07.04

21-Feb-01

DOC Number	DOC Text
L.01 Rev. A	CTS 15.3.4.A requires the Steam Generator Atmospheric Dump Valves (ADVs) to be operable prior to the reactor being made critical. CTS requirement 15.3.4.A.5 requires the unit to be placed into Hot shutdown within 6 hours and Cold Shutdown within 36 hours if an inoperable ADV is not restored to operable status within the time allotted in the Technical Specifications, implying a Mode of Applicability of ITS Modes 1, 2, 3, and 4.

The proposed ITS establishes a Mode of Applicability for the ADVs and their associated block valve of Mode 1, 2, 3, and Mode 4 when the Steam Generators are relied upon for heat removal. In Modes 1, 2, and 3, and Mode 4 when the Steam Generators are relied upon for heat removal, the ADVs are required to be operable to provide the capability to cool the unit down to RHR entry conditions whenever the condenser steam dump valves are not available. In addition, in Modes 1, 2, and 3, the ADVs are utilized to cool the unit down to maintain RCS subcooling in response to a Steam Generator Tube Rupture coincident with a loss of offsite power.

In MODE 4 when the steam generators are not relied upon for heat removal, the residual heat removal system is operable and in operation providing decay heat removal. In addition, the RCS and steam generator temperatures have been reduced to a temperature sufficiently below the saturation pressure corresponding to the steam generator safety valves lift setpoints, precluding radiological releases to the environs as a result of a SGTR.

In MODE 5 or 6, an SGTR is not a credible event.

Based on a Mode of Applicability of 1, 2, 3, and Mode 4 when the Steam Generators are relied upon for heat removal, the default Actions for LCO non-compliance have been revised to require the unit to be placed into Mode 3 within 6 hours and Mode 4 without reliance upon the steam generators for heat removal within 18 hours. These time frames are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

These proposed changes clarify an ambiguous LCO, and Required Action, however this change constitutes a relaxation in the current Mode of Applicability. The proposed Mode of Applicability and Required Actions are consistent with analysis assumptions for Point Beach.

CTS:	ITS:
15.03.04.A	LCO 3.07.04
15.03.04.A.05	LCO 3.07.04 COND C RA C.2

Description of Changes - NUREG-1431 Section 3.07.04

21-Feb-01

DOC Number	DOC Text
L.02 Rev. D	CTS 15.3.4.A.5 allows 24 hours to restore one inoperable ADV. The proposed change would allow 7 days to restore a single inoperable ADV, and is consistent with the Required Action and Completion Time for an inoperable ADV described in the STS. While the NUREG-1431 requirements for ADVs are based on a 4-loop RCS, and the Point Beach design incorporates a 2-loop design, adoption of the STS completion time for a single inoperable ADV is considered acceptable since the block valve can be manually closed to isolate an ADV, thus enabling some repairs to be made at power, and the continued availability of the remaining OPERABLE ADV, nonsafety grade backup by the steam dump system, and the MSSVs.
	CTS: 15.03.04.A.05
	ITS: LCO 3.07.04 COND A LCO 3.07.04 COND A RA A.1
L.03 Rev. D	An LCO exception is added to CTS LCO 15.3.4.A.5. CTS LCO 15.3.4.A.5 provides operability requirements for the atmospheric steam dump valves (ADVs). CTS LCO 15.3.4.A.5 currently prevents taking the reactor critical with the reactor coolant heated above 350 degrees F when an ADV flowpath is inoperable. As proposed under ITS, the LCO 3.0.4 exception would allow entry into MODES 1, 2 and 3, and MODE 4 when the steam generators are relied upon for heat removal, with a single ADV flowpath inoperable for up to 7 days. The wording of this proposed change is consistent with that of NUREG 1431. This change is acceptable given the continued availability of the remaining operable ADV flowpath and the low probability of subsequent failure for the second ADV flowpath, as described in DOC L.2. Additionally, the ADV steam dump function is normally in service during lower modes of operation and can provide an acceptable heat removal alternative to an inoperable ADV flowpath.
	CTS: 15.03.04.A.05
	ITS: LCO 3.07.04 COND A RA A.1 NOTE
LB.01 Rev. A	CTS 15.4.1, Table 15.4.1-2, Item 28 requires a complete cycle of the Steam Generator Atmospheric Dump Valves (ADVs) once per quarter. The ADVs at Point Beach are Class II components, and as such are required to be tested per ASME Section XI in accordance with 10 CFR 50.55a. Since this testing is duplicative of the ASME required tests, it can be removed from the Technical Specifications while remaining to be applicable to Point Beach. As such, this test is not required to be in the ITS to provide adequate protection of public health and safety.
	CTS: 15.04.01 T 15.04.01-02 28
	ITS: IST

Description of Changes - NUREG-1431 Section 3.07.04

21-Feb-01

DOC Number	DOC Text
M.01 Rev. A	The CTS does not contain any testing requirements which verify that the ADVs and their associated block valves are capable of being locally operated. Local operation of these valves should be verified on a periodic basis, as local operation is the assumed mode of operation relative to a Steam Generator Tube Rupture with a loss of offsite power. The proposed ITS will require local operation of the ADVs and their associate block valves to be verified on an 18 month frequency. This frequency is acceptable based on engineering judgment and the inherent reliability of manual actuators.

CTS:	ITS:
NEW	SR 3.07.04.01
	SR 3.07.04.02

< See LCOs 3.7.5/3.7.6 >

3. A minimum of 13,000 gallons of water per operating unit in the condensate storage tanks and an unlimited water supply from the lake via either leg of the plant Service Water System.

4. System piping and valves required to function during accident conditions directly associated with the above components operable.

A.05

Cond B/
RA B.1

A.05

both

LCO 3.7.4

1 hour

5. Both atmospheric steam dump lines shall be operable. If ~~either~~ of the atmospheric steam dump lines is determined to be inoperable, restore the inoperable line to an operable status within ~~24 hours~~. If operability cannot be restored, be in hot shutdown within six hours and cold shutdown within 24 hours.

Additional change

Cond C/
RA C.1/
RA C.2

B. The dose equivalent iodine-131 activity on the secondary side of the steam generator shall not exceed 1.0 μCi/g.

< See LCO 3.7.18 >

L.1

Be in Mode 4 without reliance upon the Steam Generators for heat removal - 18 hours

C. During power operation the requirements of 15.3.4.A.2.a and b may be modified to allow the following components to be inoperable for a specified time. If the system is not restored to meet the requirements of 15.3.4.A.2.a and b within the time period specified, the specified action must be taken. If the requirements of 15.3.4.A.2.a and b are not satisfied within an additional 48 hours, the appropriate reactor(s) shall be cooled down to less than 350°F.

1. Two Unit Operation - One of the four operable auxiliary feedwater pumps may be out-of-service for the below specified times. A turbine driven auxiliary feedwater pump may be out of service for up to 72 hours. If the turbine driven auxiliary feedwater pump cannot be restored to service within the 72 hour time period the associated reactor shall be in hot shutdown within the next 12 hours. A motor driven auxiliary feedwater pump may be out of service for up to 7 days. If the inoperable motor driven auxiliary feedwater pump cannot be restored to service within the 7 day time period both of the reactors shall be in hot shutdown within the next 12 hours.

< See LCO 3.7.5 >

L.2

ADD CONDITION A: If one ADV flowpath is inoperable, restore the inoperable flowpath to operable status within 7 days.

Additional change

ADD CONDITION A: LCO 3.0.4 is not applicable to REQUIRED ACTION A.1.

L.3

RAI 3.7.4-1

< See LCO 3.7.1 >

The eight main steam safety valves have a total combined rated capability of 6,664,000 lbs/hr. The total full power steam flow is 6,620,000 lbs/hr, therefore eight (8) main steam safety valves will be able to relieve the total full-power steam flow if necessary.

A.4

In the unlikely event of complete loss of electrical power to the station, decay heat removal would continue to be assured for each unit by the availability of either the steam-driven auxiliary feedwater pump or one of the two motor-driven auxiliary steam generator feedwater pumps, and steam discharge to the atmosphere via the main steam safety valves or atmospheric relief valves. One motor-driven auxiliary feedwater pump can supply sufficient feedwater for removal of decay heat from a unit. The minimum amount of water in the condensate storage tanks ensures the ability to maintain each unit in a hot shutdown condition for at least one hour concurrent with a loss of all AC power.

An unlimited supply is available from the lake via either leg of the plant service water system for an indefinite time period.

Each of the AFW pumps possesses a low suction pressure trip that will protect it should a loss of feedwater occur. Additionally , should a steam generator tube rupture occur, the motor-operated steam admission valves for the turbine-driven AFW pumps serve as isolation boundaries for the affected steam generator.

< See LCO 3.7.5 and 3.7.6 >

The atmospheric steam dump lines are required to be operable because they are relied upon, following a steam generator tube rupture coincident with a loss of A.C. power, to cool down the Reactor Coolant System to RHR entry conditions. An atmospheric steam dump line is considered operable if it is capable of providing the controlled relief of main steam flow necessary to perform the RCS cooldown. Isolating an atmospheric steam dump line does not render it inoperable if the line can be unisolated and the RCS can still be cooled down to RHR entry conditions, through local or remote operation, within the time period required by the applicable FSAR accident analyses.

A.4

A.1

D
Additional change

Spec 3.7.4
Page 4 of 5

< See Section 3.6 >

< See Section 5.0 >

TABLE 15.4.1-2 (Continued)

< See Section 3.4 >

		Test	Frequency
21.	PORV Block Valves	a. Complete Valve Cycle b. Open position check	Quarterly (13) Every 72 hours (14)
22.	Integrity of Post Accident Recovery Systems Outside Containment	Evaluate	Each refueling cycle
23.	Containment Purge Supply and Exhaust Isolation Valves	Verify valves are locked closed	Monthly (9)
24.	Reactor Trip Breakers	a. Verify independent operability of automatic shunt and undervoltage trip functions.	Monthly (9)
	< See Section 3.3 >	b. Verify independent operability of man-ual trip to shunt and undervoltage trip functions.	Each refueling shutdown
25.	Reactor Trip Bypass Breakers	a. Verify operability of the undervoltage trip function.	Prior to breaker use
		b. Verify operability of the shunt trip functions.	Each refueling shutdown
		c. Verify operability of the manual trip to undervoltage trip functions.	Each refueling shutdown < See Section 3.8 >
26.	120 VAC Vital Instr. Bus Power	Verify Energized(12)	Shiftly
27.	Power Operated Relief Valves (PORVs), PORV Solenoid Air Control Valves, and Air System Check	Operate(16) < See Section 3.4 >	Each shutdown(15)
~~28.~~	~~Atmospheric Steam Dumps~~	~~Complete valve cycle~~	~~Quarterly~~
29.	Deleted		

LB.1

Insert 3.7.4-1

M.1

LCO 3.7.4 Inserts

Insert 3.7.4-1:

SR 3.7.4.1	Verify one complete manual cycle of each ADV.	18 months
SR 3.7.4.2	Verify one complete manual cycle of each ADV block valve.	18 months

M.1

Justification For Deviations - NUREG-1431 Section 3.07.04

21-Feb-01

JFD Number	JFD Text	
01 Rev. A	Brackets have been removed and the appropriate plant specific information has be input.	
	ITS:	**NUREG:**
	B 3.07.04	B 3.07.04
	LCO 3.07.04	LCO 3.07.04
	LCO 3.07.04 COND C RA C.2	LCO 3.07.04 COND C RA C.2
02 Rev. A	Point Beach has two ADV Lines, one per steam generator, therefore, NUREG 1431 section 3.7.4 has been modified accordingly.	
	ITS:	**NUREG:**
	B 3.07.04	B 3.07.04
	LCO 3.07.04 COND B	LCO 3.07.04 COND B
	LCO 3.07.04 COND B RA B.1	LCO 3.07.04 COND B RA B.1

Justification For Deviations - NUREG-1431 Section 3.07.04

21-Feb-01

JFD Number	JFD Text	
03 Rev. C	The ADVs are air operated fail closed valves, with the capability to be remotely opened and closed. Local manual operation of the ADVs is credited during a Steam Generator Tube Rupture (SGTR) event coincident with a Loss of Offsite Power (LOOP). The ADVs are ASME Class II valves, which are required by 10 CFR 50.55a to be tested in accordance with ASME Section XI. However, this testing does not encompass local manual operation. Proposed SR 3.7.4.1 will require local manual testing of the ADVs, with or without steam flow, at an 18 month frequency. In June, 1996, a satisfactory demonstration of the ability to manually operate the ADVs from the local station with steam flow was performed. This one time test, in conjunction with the ASME Section XI operation of the ADVs using the air operator and proposed SR 3.7.4.1, will verify the capability to manually operate the ADVs locally during a SGTR/LOOP event. The 18 month testing frequency proposed for ADV local manual operation is adequate based on the engineering judgement that the failure of the ability to manually operate these valves is highly improbable. The ADV block valves are only credited with isolation of a failed open ADV. The ADV block valves are not credited for re-establishing ADV flow for the mitigation of a SGTR/LOOP event. If it is necessary to close an ADV block valve to isolate a failed open ADV, that ADV flowpath will be considered inoperable. SR 3.7.4.2 which proposes to manually exercise the ADV block valves at an 18 month frequency, with or without steam flow, is sufficient to ensure its capability to isolate a failed open ADV.	
	ITS:	**NUREG:**
	B 3.07.04	B 3.07.04
	SR 3.07.04.01	SR 3.07.04.01
	SR 3.07.04.02	SR 3.07.04.02
04 Rev. A	The normal source of water for the Auxiliary Feedwater System (AFW) is the condensate storage tank; however, the safety related water supply is from the service water system. The Bases have been rewritten to address this as Point Beach's design basis.	
	ITS:	**NUREG:**
	B 3.07.04	B 3.07.04

Justification For Deviations - NUREG-1431 Section 3.07.04

21-Feb-01

JFD Number	JFD Text	
05 Rev. A	Point Beach's ADVs are air operated fail closed valves, with the capability to be remotely opened and closed. Motive air to the ADV is from the non-safety related instrument air system, with no backup nitrogen or accumulators. The Bases has therefore omitted all discussion related to backup nitrogen and air accumulators. The ADVs are considered operable when they are capable of being locally stroked. Failure of the instrument air system is accounted for via local manual operation.	
	ITS:	**NUREG:**
	B 3.07.04	B 3.07.04
06 Rev. A	Point Beach's ADVs are considered operable when they are capable of local manual operation. The Bases have been modified to reflect this as Point Beach's design basis.	
	ITS:	**NUREG:**
	B 3.07.04	B 3.07.04
07 Rev. A	As discussed in Justification For Deviation 2 of this LCO, Point Beach has one ADV per steam generator, rendering the plant incapable of sustaining a single failure of an ADV in the unaffected steam generator during a steam generator tube rupture coincident with a loss of condenser steam dump capabilities. Bases statement relating to single failure criteria has therefore been omitted.	
	ITS:	**NUREG:**
	B 3.07.04	B 3.07.04
08 Rev. A	The Bases for the Applicability associated with LCO 3.7.4 (the ADVs), does not provide any discussion of why the ADVs are not required to be operable when the steam generators are not relied upon for heat removal. This discussion has been added for completeness.	
	ITS:	**NUREG:**
	B 3.07.04	B 3.07.04
09 Rev. A	Point Beach's ADV block valves are not power operated valves. These valve are manually operated, and as such do not fall under ASME Section XI relative to surveillance testing. Accordingly, reference to ASME testing in the Bases of SR 3.7.4.2 has been changed to reflect Point Beach's design.	
	ITS:	**NUREG:**
	B 3.07.04	B 3.07.04
10 Rev. A	Automatic actuation of the ADVs is not relied upon for the mitigation of any analyzed events for Point Beach. Therefore reference to automatic operation of the ADVs has been deleted.	
	ITS:	**NUREG:**
	B 3.07.04	B 3.07.04

Justification For Deviations - NUREG-1431 Section 3.07.04

21-Feb-01

JFD Number	JFD Text
11 Rev. A	FSAR Chapter 14 has been added as reference 2 for the bases of section 3.7.4. FSAR Chapter 14 is the appropriate Point Beach accident analysis reference.

ITS:	NUREG:
B 3.07.04	B 3.07.04

12 Rev. A	"Atmospheric Dump Valves (ADV) Lines" has been changed to "Atmospheric Dump Valve (ADV) Flowpaths", to reflect the nomenclature currently used at Point Beach.

ITS:	NUREG:
B 3.07.04	B 3.07.04
LCO 3.07.04	LCO 3.07.04
LCO 3.07.04 COND A	LCO 3.07.04 COND A
LCO 3.07.04 COND A RA A.1	LCO 3.07.04 COND A RA A.1
LCO 3.07.04 COND B	LCO 3.07.04 COND B

13 Rev. A	An ADV block valve can be used to mitigate a failed open ADV. The ADV block valves are not used to mitigate a failed closed ADV. Accordingly, the LCO 3.7.4 Bases discussion of the ADV block valves has been modified to reflect this distinction.

ITS:	NUREG:
B 3.07.04	B 3.07.04

14 Rev. D	Not used.

ITS:	NUREG:
B 3.07.04	B 3.07.04
LCO 3.07.04 COND A RA A.1	LCO 3.07.04 COND A RA A.1

15 Rev. D	NUREG 1431 includes a note to Required Action A.1 for LCO 3.7.4. However, the purpose for this note is not explained in the associated Bases. The Bases have been modified to reflect the purpose of the Note as part of the Action A.1 Bases description.

ITS:	NUREG:
B 3.07.04	B 3.07.04
LCO 3.07.04 COND A RA A.1 NOTE	LCO 3.07.04 COND A RA A.1 NOTE

Justification For Deviations - NUREG-1431 Section 3.07.04

21-Feb-01

JFD Number	JFD Text
16 Rev. D	NUREG-1431, Required Action B.1 and the associated Bases have been modified to allow 1 hour for restoration of an inoperable ADV flowpath when both ADV flowpaths are inoperable. The STS allows 24 hours to restore one ADV line to operable status under similar conditions. While adoption of the 24 hour completion time is supported by the Point Beach Risk Assessment (PRA) model, the 1 hour restoration time has been adopted consistent with the CTS.

ITS:	**NUREG:**
B 3.07.04	B 3.07.04
LCO 3.07.04 COND B RA B.1	LCO 3.07.04 COND B RA B.1

ADVs Lines
3.7.4

12 → ADV Flowpaths

12 → Flowpaths

3.7 PLANT SYSTEMS

3.7.4 Atmospheric Dump Valve~~s~~ (ADV) Lines

1 → Two

LCO 3.7.4 [Three] ADV lines shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required ADV line inoperable. 12 → flowpath	A.1 --------NOTE--------- LCO 3.0.4 is not applicable. --------------------- Restore required ADV line to OPERABLE status. flowpath ← 12	7 days
2 → B. Two ~~or more~~ required ADV lines inoperable. flowpaths ← 12	B.1 Restore one ADV line to OPERABLE status.	~~24 hours~~ 1 hour ← 16
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 4 without reliance upon steam generator for heat removal.	6 hours 18 ← 1 [18] hours

D RAI 3.7.4-3

D Additional Change

LCO (continued)

Failure to meet the LCO can result in the inability to cool the unit to RHR entry conditions following an event in which the condenser is unavailable for use with the Steam Bypass System.

An ADV is considered OPERABLE when it is capable of providing controlled relief of the main steam flow and capable of fully opening and closing on demand.

APPLICABILITY

In MODES 1, 2, and 3, and in MODE 4, when a steam generator is being relied upon for heat removal, the ADVs are required to be OPERABLE.

8 Insert 3.7.4-3

In MODE 5 or 6, an SGTR is not a credible event.

ACTIONS

A.1

12 flowpath

With one required ADV line inoperable, action must be taken to restore OPERABLE status within 7 days. The 7 day Completion Time allows for the redundant capability afforded by the remaining OPERABLE ADV lines, a nonsafety grade backup in the Steam Bypass System, and MSSVs. Required Action A.1 is modified by a Note indicating that LCO 3.0.4 does not apply.

14 is reasonable to repair an inoperable ADV flowpath, based on the availablility of the remaining OPERABLE ADV,

and the low probability of an event occurring during this period that would require the ADV flowpath.

D Additional change

C RAI 3.7.4-1 RAI 3.7.4-2 RAI 3.7.4-3

B.1

2

12 flowpaths flowpath

With two ~~or more~~ ADV lines inoperable, action must be taken to restore ~~all but~~ one ADV line to OPERABLE status. Since the block valve can be closed to isolate an ADV, some repairs may be possible with the unit at power. The 24 hour Completion Time is reasonable to repair inoperable ADV lines, based on the availability of the Steam Bypass System and MSSVs, and the low probability of an event occurring during this period that would require the ADV lines.

2 an

12 flowpath

1

16

D RAI 3.7.4-2 Additional change

15 since the steam dump function is normally in service during lower MODES of operation and can provide an acceptable alternative to an inoperable ADV flowpath

C.1 and C.2

12 flowpaths flowpath

If the ADV lines cannot be restored to OPERABLE status within the associated Completion Time, the unit must be

(continued)

No Significant Hazards Considerations - NUREG-1431 Section 3.07.04

21-Feb-01

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. Mode of Applicability for the ADVs has been changed to be consistent with the accident analysis assumptions. The ADVs are required to be operable to provide the capability to cool the unit down to RHR entry conditions whenever the condenser steam dump valves are not available. In addition, in Modes 1, 2, and 3, the ADVs are utilized to cool the unit down to maintain RCS subcooling in response to a Steam Generator Tube Rupture coincident with a loss of condenser steam dumps. Based on revising the Mode of Applicability to ITS Modes 1, 2, 3, and Mode 4 when the Steam Generators are relied upon for heat removal, the default Actions for LCO non-compliance have been revised to ultimately require the unit to be placed into Mode 4 without reliance upon the steam generators for heat removal. 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 Atmospheric Dump Valves (ADVs) are used to cool the unit down to Residual Heat Removal (RHR) entry condition during routine shutdowns and for recovery from Steam Generator Tube Rupture (SGTR), when the main condenser is not available. The probability for analyzed event (SGTR) and unit cooldowns are independent of the required mode of applicability for the ADVs. The proposed Mode of Applicability will provide assurance that the ADVs are operable when the ADVs are required to function in support of unit cooldown operations. The proposed Conditions and Required Actions will similarly, require the unit to be placed into a condition where the ADVs are not required to function in support of unit cooldowns. As such, the probability and consequences of previously analyzed event are 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 ADVs consistent with the current accident analyses assumptions. 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 ADVs is consistent with the assumptions made in the various Point Beach accident analyses. The ADVs will be maintained operable in accordance with the proposed ITS in the operational Modes and Conditions for which ADVs are required to function. In this fashion the margin of safety is not significantly changed.

NSHC Number	NSHC Text
L.02 Rev. D	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 Atmospheric Dump Valves (ADVs) are used to cool the unit down to Residual Heat Removal (RHR) entry condition during routine shutdowns and for recovery from Steam Generator Tube Rupture (SGTR) and Main Steam Line Break events, when the main condenser is not available. The probability for analyzed event (SGTR and MSLB) and unit cooldowns are independent of the number of operable ADVs. Therefore, the probability and consequences of previously analyzed events are not increased significantly. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? New or different kinds of accidents can only be created by new or different accident initiators or sequences. 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 does not create any new or different accident initiators or sequences because this change to the LCO conditions, action statements and allowable outage times for the ADVs does not create any different accident initiators or sequences. The PBNP emergency operating procedures contain guidance for mitigation of a SGTR and a MSLB for situations where the ADVs are not available. Therefore, this proposed Technical Specifications change does not create the possibility of an accident of a different type than any previously evaluated in the Point Beach FSAR. 3. Does this change involve a significant reduction in a margin of safety? The margins of safety for Point Beach are based on the design and operation of the reactor and containment and the safety systems that provide their protection. This change does not affect the design and operation of the reactor and containment. This change proposes to increase the allowed outage time for one ADV from 24 hours to 7 days. This proposed change does not significantly reduce any margin of safety, because other non-safety related equipment, such as the condenser steam dump, can be used to mitigate SGTR and MSLB accidents if the ADVs are not able to be operated. Therefore, this proposed Technical Specifications change does not involve a significant reduction in a margin of safety because accident mitigation is still able to be achieved.

NSHC Number	NSHC Text
L.03 Rev. D	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 Atmospheric Dump Valves (ADVs) are used to cool the unit down to Residual Heat Removal (RHR) entry condition during routine shutdowns and for recovery from Steam Generator Tube Rupture (SGTR) and Main Steam Line Break events, when the main condenser is not available. The probability for analyzed event (SGTR and MSLB) and unit cooldowns are independent of the number of operable ADVs. Therefore, the probability and consequences of previously analyzed events are not increased significantly. 2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated? New or different kinds of accidents can only be created by new or different accident initiators or sequences. 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 does not create any new or different accident initiators or sequences because this change to the LCO conditions, action statements and allowable outage times for the ADVs does not create any different accident initiators or sequences. The PBNP emergency operating procedures contain guidance for mitigation of a SGTR and a MSLB for situations where the ADVs are not available. Therefore, this proposed Technical Specifications change does not create the possibility of an accident of a different type than any previously evaluated in the Point Beach FSAR. 3. Does this change involve a significant reduction in a margin of safety? The margins of safety for Point Beach are based on the design and operation of the reactor and containment and the safety systems that provide their protection. This change does not affect the design and operation of the reactor and containment. This change proposes an exception to the requirements of LCO 3.0.4 when one ADV flowpath is inoperable. This proposed change does not significantly reduce any margin of safety, because other non-safety related equipment, such as the condenser steam dump, can be used to mitigate SGTR and MSLB accidents if the ADVs are not able to be operated. Therefore, this proposed Technical Specifications change does not involve a significant reduction in a margin of safety because accident mitigation is still able to be achieved.

NSHC Number	NSHC Text
LB 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 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.

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.

3.7 PLANT SYSTEMS

3.7.4 Atmospheric Dump Valve (ADV) Flowpaths

LCO 3.7.4 Two ADV flowpaths shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One required ADV flowpath inoperable.	A.1	------------NOTE----------- LCO 3.0.4 is not applicable. ------------------------------- Restore required ADV flowpath to OPERABLE status.	7 days
B. Two required ADV flowpaths inoperable.	B.1	Restore one ADV flowpath to OPERABLE status.	1 hour
C. Required Action and associated Completion Time not met.	C.1	Be in MODE 3.	6 hours
	AND		
	C.2	Be in MODE 4 without reliance upon steam generator for heat removal.	18 hours

D
Additional change

BASES

APPLICABLE SAFETY ANALYSES (continued)	The ADVs are equipped with block valves in the event an ADV spuriously fails to close during use. The ADVs satisfy Criterion 3 of the NRC Policy Statement.
LCO	Two ADV flowpaths are required to be OPERABLE. One ADV flowpath is required from each of two steam generators to ensure that at least one ADV flowpath is available to conduct a unit cooldown following an SGTR, in which one steam generator becomes unavailable. The block valves must be OPERABLE to isolate a failed open ADV flowpath. A closed block valve renders its ADV flowpath inoperable. C RAI 3.7.4-1 RAI 3.7.4-2 Failure to meet the LCO can result in the inability to cool the unit to RHR entry conditions following an event in which the condenser is unavailable for use with the Steam Bypass System. An ADV is considered OPERABLE when it is capable of providing controlled relief of the main steam flow and capable of fully opening and closing on demand.
APPLICABILITY	In MODES 1, 2, and 3, and in MODE 4, when a steam generator is being relied upon for heat removal, the ADVs are required to be OPERABLE. In MODE 4 when the steam generators are not relied upon for heat removal (residual heat removal system in operation), the RCS and steam generator temperatures have been reduced to a temperature sufficiently below the saturation pressure which corresponds to the steam generator safety valves lift setpoints to preclude radiological releases to the environs as a result of a SGTR. In MODE 5 or 6, an SGTR is not a credible event.
ACTIONS	D Additional change <u>A.1</u> With one required ADV flowpath inoperable, action must be taken to restore OPERABLE status within 7 days. The 7 day Completion Time Completion Time is reasonable to repair an inoperable ADV flowpath, based on the availability of the remaining OPERABLE ADV, the nonsafety grade backup in the Steam Bypass System, and MSSVs, and the low probability of an event occurring during this period that would require the ADV flowpath. Required Action A.1 is modified by a Note indicating that LCO 3.0.4 does not apply, since the steam dump C RAI 3.7.4-1 RAI 3.7.4-2 RAI 3.7.4-3

BASES

ACTIONS (continued)

function is normally in service during lower MODES of operation and can provide an alternative to an inoperable ADV flowpath.

D RAI 3.7.4-2

B.1

With two ADV flowpaths inoperable, action must be taken to restore one ADV flowpath to OPERABLE status. Since the block valve can be closed to isolate an ADV, some repairs may be possible with the unit at power. The 1 hour Completion Time is reasonable to repair an inoperable ADV flowpath, based on the availability of the Steam Bypass System and MSSVs, and the low probability of an event occurring during this period that would require the ADV flowpath.

D RAI 3.7.4-2 Additional change

C.1 and C.2

If the ADV flowpaths cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4, without reliance upon steam generator for heat removal, within 18 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.4.1

To perform a controlled cooldown of the RCS, the ADVs must be able to be opened locally and throttled through their full range. This SR ensures that the ADVs are capable of being locally operated by cycling the valve, with or without steam flow, at least once per fuel cycle. This test is in addition to the ASME quarterly inservice test required by 10 CFR 50.55a. The Frequency is considered acceptable based on engineering judgement and reliability.

C RAI 3.7.4-1

SR 3.7.4.2

The function of the block valve is to isolate a failed open ADV. Cycling the block valve both closed and open, with or without steam flow, demonstrates its capability to perform this function. The Frequency is considered acceptable based on engineering judgement and reliability.

REFERENCES

1. FSAR. Section 10.1.

2. FSAR. Chapter 14.

Description of Changes - NUREG-1431 Section 3.07.05

21-Feb-01

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:
15.03.04	LCO 3.07.05
15.03.04.C	LCO 3.07.05 COND D
15.04.01 T 15.04.01-01 20 (13)	SR 3.07.05.05
15.04.08	LCO 3.07.05

DOC Number	DOC Text
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:
15.03.04 APPL	LCO 3.07.05
15.04.08 APPL	LCO 3.07.05

DOC Number	DOC Text
A.03 Rev. A	The CTS provides an introductory statement (Objective) at the beginning of this Section of the Technical Specifications which provides 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:
15.03.04 OBJ	B 3.07.05
15.04.08 OBJ	B 3.07.05

DOC Number	DOC Text
A.04 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 3.07.05

DOC Number	DOC Text	
A.05 Rev. D	Not used.	
	CTS:	**ITS:**
	N/A	N/A
A.06 Rev. A	The CTS states that during power operation, the requirements of Specifications 15.3.4.A.2.a and b (i.e. pumps, piping, and essential instrumentation for single and two unit operation) may be modified to allow the auxiliary feedwater pumps to be inoperable for a limited period of time before requiring a unit shutdown. This Specification establishes the structure for the remedial actions in the CTS. The ITS contains specific usage rules for consistent application of the Conditions and Required Actions associated with varying system inoperabilities consistent with the format and presentation of NUREG 1431. Accordingly, deletion of a specific Specification directing usage of Actions is unnecessary, as it duplicates the ITS usage rules. This change is administrative.	
	CTS:	**ITS:**
	15.03.04.C	DELETED
A.07 Rev. C	CTS 15.4.8.1 requires each AFW pump to be started quarterly, however, if the test comes due for the turbine driven pump when the unit is not at power, the test is required to be performed within 24 hours of entering power operation. CTS 15.1.h defines "power operation" as the condition when the reactor is critical and the average neutron flux of the power range instrumentation indicates greater than 2 percent of rated power. Proposed SR 3.7.5.2 is modified by a note which states that performance of the pump test is not required for the turbine driven AFW pump until 24 hours after THERMAL POWER is greater than 2% RTP. Table 15.4.1-1, Note 13 requires completion of flow path verification prior to entering power operation (greater than 2% power) whenever the unit has been in cold shutdown for greater than 30 days. Proposed ITS SR 3.7.5.5 states that the required AFW flowpaths are to be verified prior to THERMAL POWER exceeding 2% RTP, whenever the unit has been in MODE 5, MODE 6, or defueled for a cumulative period of > 30 days. Therefore, changing the above frequencies from "within 24 hours of entering power operation" and "prior to entering power operation" to "24 hours after THERMAL POWER exceeds 2% RTP" and "prior to THERMAL POWER exceeding 2% RTP" is an administrative change.	
	CTS:	**ITS:**
	15.04.01 T 15.04.01-01 20 (13)	SR 3.07.05.05
	15.04.08.01.A	SR 3.07.05.02
	15.04.08.01.B	SR 3.07.05.02 NOTE

DOC Number	DOC Text
L.01 Rev. A	CTS 15.3.4.C only provides actions that address the inoperability of the auxiliary feedwater (AFW) pumps. As such, piping, valve, and instrumentation inoperabilities which render a pump inoperable could be interpreted as requiring entry into CTS 15.3.0.B (similar to ITS LCO 3.0.3). The ITS addresses inoperability of the AFW pump systems (turbine and motor driven), thereby encompassing any component within a given pump system which could render a pump (pump system) incapable of performing its intended function. This change is acceptable because any component which renders a pump system inoperable is equivalent to the inoperability of the pump itself.

CTS:	ITS:
15.03.04.C.02	LCO 3.07.05 COND B
	LCO 3.07.05 COND B RA B.1
	LCO 3.07.05 COND C
	LCO 3.07.05 COND C RA C.1

DOC Number	DOC Text
L.02 Rev. A	CTS 15.3.4.C.1 only provides Actions for a single inoperable auxiliary feedwater (AFW) pump during two unit operation. This Description of Change addresses the proposed ITS Action, which will allow an inoperable turbine driven AFW pump on each unit simultaneously during two unit operation. The inoperability of two or more AFW pump systems on the same unit is addressed by Description of Change M.2 of this Section. Each turbine driven AFW pump is dedicated to a unit and is capable of supplying 200% of the design AFW flow to both steam generators on its respective unit. Based on the turbine driven auxiliary feedwater pump being dedicated to a specific unit, an inoperability on one unit should impact that unit alone; however, the CTS only provides Actions for a single inoperable AFW pump during two unit operation, thereby requiring each unit to initiate the Actions of CTS 15.3.0.B. CTS 15.3.0.B requires both units to be placed into hot shutdown (equivalent to ITS Mode 3) within 7 hours, ultimately requiring at least one unit to be then cooled down to less than 350 degrees F before the Actions for a single unit operating can then be applied. Application of the single unit operating LCO then allows the operating unit to continue to operate for up to 72 hours from the time the AFW pump became inoperable prior to requiring the unit to be placed into hot shutdown (ITS Mode 3) in 12 hours and less than 350 degrees (ITS Mode 4) within 60 hours. The proposed ITS will allow a turbine driven AFW pump on each unit to be inoperable for up to 72 hours before requiring the affected units to be placed into Mode 3 within 6 hours and Mode 4 within 18 hours. Operation with a turbine driven AFW pump inoperable on each unit for up to 72 hours is reasonable to restore the pump to operable status before requiring a unit shutdown based on redundant capabilities afforded by the motor driven pump systems, a reasonable time to effect repairs, the low probability of a DBA occurring during this time period and the fact that the turbine driven pumps are dedicated to their respective unit, thereby, only affecting the unit that the pump system supplies. Requiring a unit to be shutdown based on the inoperability of opposite unit equipment is an unnecessary action. The opposite unit's turbine driven AFW pump is not credited to operate nor does it affect the risk or consequences to its complementary unit. Based on the availability of the motor driven AFW pumps, the accident analysis remains bounded for both units during the proposed Completion Time.

CTS:	ITS:
15.03.04.C.01	DELETED

Description of Changes - NUREG-1431 Section 3.07.05

21-Feb-01

DOC Number	DOC Text
L.03 Rev. A	Both turbine driven AFW pump steam supply lines are required to be operable to consider the turbine driven AFW pump system to be operable. Therefore, the inoperability of a steam supply line results in entry into the Actions for an inoperability of a turbine driven AFW pump, which allows up to 72 hours to restore the pump to operable status before requiring a unit shutdown. The proposed ITS will allow a single steam supply to be inoperable for up to 7 days before requiring the unit to be placed into Mode 3 within 6 hours and Mode 4 within 18 hours. The proposed Condition and Required Action represents a 96 hour extension of the allowable outage time for an inoperable turbine driven AFW pump steam supply. This extension is bounded by the current accident analysis and is acceptable based on the redundant capabilities provided by the remaining operable motor driven pump systems, and the low probability of an accident occurring during this time period which would affect the availability of the remaining steam supply. The Completion Time for this Action is limited to 7 days from entry into the Condition or 10 days from failure to meet the LCO, whichever is more restrictive. The proposed 10 day completion time limits the maximum time the LCO may be not met as a result of multiple overlapping Conditions. **CTS:** NEW **ITS:** LCO 3.07.05 COND A LCO 3.07.05 COND A LCO 3.07.05 COND A RA A.1
L.04 Rev. A	The current Technical Specifications require entry into LCO general requirement 15.3.0.B if the entire AFW system is inoperable. This is inappropriate because the actions for 15.3.0.B require that the affected unit be placed in hot shutdown within 7 hours. AFW is needed for decay heat removal when the unit is in hot shutdown. If the entire AFW system is inoperable the appropriate action would be to initiate action to restore AFW immediately. If this situation were to occur and the current Technical Specifications were applied, it is highly likely that Notice of Enforcement Discretion would be requested to avoid placing the plant in a condition in which AFW is needed for decay heat removal. Therefore, the proposed Technical Specification requirements for three AFW pump systems inoperable provides the appropriate required action for this condition and the proposed requirements are considered a substantial improvement over the current Technical Specifications requirements. The proposed condition and required action provide adequate protection of the public health and safety because the appropriate action has been established for the condition of inoperability of all three AFW pump systems. **CTS:** NEW **ITS:** LCO 3.07.05 COND E LCO 3.07.05 COND E RA E.1 LCO 3.07.05 COND E RA E.1 NOTE
L.05 Rev. C	Not used. **CTS:** N/A **ITS:** N/A

DOC Number	DOC Text
L.06 Rev. D	Under CTS 15.3.4.C.1, should multiple AFW pumps be concurrently out of service on both units during dual unit operations, or a Completion Time of CTS 15.3.4.C.1 not be met, simultaneous shutdown of both operating units could be required under LCO 3.0.B since neither of these situations is explicitly discussed in CTS 15.3.4.C.1. The requirement to initiate a simultaneous shutdown of both units under these circumstances is somewhat unique to Point Beach as a result of the unique design of the AFW System, which does not utilize a train approach and shares the motor driven AFW pumps between units. A Note has been added to Required Action D.1 of proposed ITS 3.7.5 in order to facilitate an orderly and staggered shutdown of the units in the event of multiple out of service AFW pumps on both units, or a failure to meet a Completion Time of CTS 15.3.4.C.1. The Note allows an extension of up to 5 hours (7 hours to 12 hours) from the Completion Time specified in CTS 3.0.B to enter MODE 3 when two AFW pumps are out of service or a Completion Time is not met. An unconditional requirement for simultaneous unit shutdown in the event of multiple AFW pumps being out of service is not appropriate. The Completion Time extension proposed in the Note to Required Action D.1 is reasonable based on Industry operating experience related to the time needed for dual operating units to reach MODE 3 in an orderly manner and without challenging plant systems. This change, while less restrictive, provides adequate protection of the public health and safety.

CTS:	ITS:
15.03.04.C.01	LCO 3.07.05 COND D
	LCO 3.07.05 COND D
	LCO 3.07.05 COND D RA D.1
	LCO 3.07.05 COND D RA D.1 NOTE
	LCO 3.07.05 COND D RA D.2
	LCO 3.07.05 COND D RA D.2 NOTE

DOC Number	DOC Text
LA.01 Rev. A	The CTS contains separate Specifications and Required Actions for single and two unit operation. This structure clarifies the shared interrelationship of the motor driven AFW pumps, requiring both motor driven AFW pump systems to be operable whenever either unit is above 350 degrees F. When a motor driven AFW pump is inoperable, the CTS requires both units to be placed on a restoration time clock.

The auxiliary feedwater (AFW) system consists of a total of four pumps; two motor driven auxiliary feedwater pump systems which are shared by both units, and one dedicated turbine driven pump per unit. Both motor driven AFW pumps are required to be operable to support one or two unit operation, while the turbine driven pumps are only required to support operation of their respective unit.

The proposed ITS will require the turbine driven and two motor driven pump systems to be operable to support a unit in Modes 1, 2, 3, in addition to the motor driven pump systems supplying any steam generators relied upon for heat removal in Mode 4.

The ITS is written to be applied on a unit specific basis. The LCO requirements are to be applied to each unit independently. Conditions and Required Actions are applicable to each affected unit as well.

Based on application of the LCO to each unit independently, the number of pump systems required to be operable will remain the same, with the sharing of the motor driven pump systems addressed in the Bases. The number of shared components is a detail which is not necessary in the Technical Specification itself, as each unit is required to met its minimum operability requirement independent of the other. The shared interrelationship of the motor driven pump systems is a detail associated with system design and configuration, which are adequately addressed in the Bases and through the 10 CFR 50.59 process. These details are not required to be in the ITS to provide adequate protection of public health and safety. Changes to these details will be controlled in accordance with the provisions of the Bases Control Program described in Chapter 5 of the Technical Specifications and the 10 CFR 50.59 process as applicable.
Similarly, the Actions for inoperable AFW pumps are applicable to each affected unit, with the restoration time for a single inoperable motor or turbine driven AFW pump remaining the same.

The Actions for multiple inoperable pumps are addressed in Description of Change L.2 (multiple inoperable turbine driven pumps on opposite units) and Description of Change M.2 (multiple inoperable pumps affecting the same unit).

CTS:	ITS:
15.03.04.A.02.A	DELETED
15.03.04.A.02.B	DELETED
15.03.04.C.01	LCO 3.07.05
15.03.04.C.02	DELETED

Description of Changes - NUREG-1431 Section 3.07.05

21-Feb-01

DOC Number	DOC Text
LA.02 Rev. A	The CTS states that the auxiliary feedwater system is required to have an unlimited water supply from the lake via either leg of the plant service water system, and that the piping and valves which are necessary for the auxiliary feedwater system to function during accident conditions are required. The ability to supply service water to the auxiliary feedwater pumps is verified via testing of the service water supply valves. The service water supply valves are ASME Class 3 components which are required to be tested in accordance with ASME Section XI by 10 CFR 50.55a. As such, while not specifically stated, service water suction supply valve testing will continue to be required in accordance with this regulatory requirement. The piping required to function during accident conditions is an attribute of system design and configuration, which is adequately captured through application of the definition of operability. As such, these details are not required to be in the ITS to provide adequate protection of public health and safety. These attributes are discussed within the Bases for the proposed Point Beach ITS, changes to these details will be controlled in accordance with the provisions of the Bases Control Program described in Chapter 5 of the Improved Technical Specifications and the 50.59 process as applicable.

CTS:	ITS:
15.03.04.A.03	B 3.07.05
15.03.04.A.04	B 3.07.05

DOC Number	DOC Text
LA.03 Rev. D	Not used.

CTS:	ITS:
N/A	N/A

DOC Number	DOC Text
LA.04 Rev. D	CTS states that both motor driven auxiliary feedwater pumps, the turbine driven auxiliary feedwater pump, the flow paths, and essential instrumentation associated with these pumps are required to be operable. The ITS states that one turbine driven and two motor driven auxiliary feedwater pump systems are required to be operable. Specific details contained in the CTS regarding components (e.g., instrumentation and flowpaths) that are requirements to support auxiliary feedwater system operability have been reflected in the ITS Bases. Additionally, the proposed ITS Surveillance Requirements contained in LCO 3.7.5 require periodic verification of the auxiliary feedwater pumps, flowpaths, and automatic start and alignment capabilities, while proposed LCO 3.3.2 addresses the required ESF instrumentation and actuation logic. Further, through application of the ITS definition of Operability, the pump system and all of its associated support equipment must be capable of performing their specified safety functions. As such, these details are not requirements to be in the ITS to provide adequate protection of public health and safety. These attributes are discussed within the Bases for the proposed Point Beach ITS, and any changes to these details will be controlled in accordance with the provisions of the Bases Control Program described in Chapter 5 of the ITS and the 10 CFR 50.59 process, as applicable.

CTS:	ITS:
15.03.04.A.02.B	LCO 3.07.05

DOC Number	DOC Text
LB.01 Rev. D	The CTS requires the auxiliary feedwater pump discharge valves and service water suction supply valves to be tested by operator action on a quarterly basis. These valves as well as the discharge pressure control valves, are ASME Class 3 valves and as such are required to be tested in accordance with ASME Section XI as required by 10 CFR 50.55a. The CTS frequency for valve testing (quarterly) is consistent with the ASME required frequency (once every 92 days). Accordingly, the testing of these valves is established and required by regulation in the IST program without the need to duplicate these requirements in the Technical Specifications. Changes to the IST program and its associated procedures will be controlled in accordance with the 50.59 process. **CTS:** 15.04.08.01.C **ITS:** DELETED
LB.02 Rev. D	The Bases for CTS 15.4.8 state that "the ability to both open and shut the turbine driven AFW pump motor-operated steam admission valves will be demonstrated." These valves are ASME Class 3, and as such are required to be tested in accordance with ASME Section XI, as required by 10 CFR 50.55.a. Accordingly, the testing of these valves, which includes testing in the open and closed directions, is established by regulation in the IST program without the need to duplicate these requirements in the Technical Specifications. Changes to the IST program and its associated procedures will be controlled in accordance with the 50.59 process. **CTS:** BASES **ITS:** N/A
LB.03 Rev. D	The CTS provides acceptance criteria for AFW pump and valve operability tests, which simply requires satisfactory control board indication changes and visual observation of equipment to verify that it has operated satisfactorily. These acceptance limits are vague and non-prescriptive. In contrast, the ITS SRs typically identify the requirement to be satisfied on a specific basis (e.g., develop proper head at the test flow point). ASME Section XI testing of AFW pumps and valves is required in accordance with 10 CFR 50.55a and as specified in Section 5.0 of the ITS. Additionally, the PBNP IST Program contains component performance parameters for pump and valve testing such as vibration and stroke times that likewise provide a level of assurance that equipment is capable of performing as required. As such, the CTS details (observation of control board indication and visual observation of equipment) are not required in the ITS to provide adequate protection of public health and safety. The details and methods used to obtain equipment performance information is adequately controlled in Station procedures with the Technical Specifications and Regulations simply establishing a requirement to perform the testing. Changes to IST program and its associated procedures will be controlled in accordance with the 50.59 process. **CTS:** 15.04.08.02 **ITS:** DELETED

Description of Changes - NUREG-1431 Section 3.07.05

21-Feb-01

DOC Number	DOC Text
M.01 Rev. A	CTS 15.3.4.C.2 requires the unit to be placed into hot shutdown (equivalent to ITS Mode 3) within 12 hours if a motor driven or turbine driven auxiliary feedwater (AFW) pump exceeds the allowable outage time (7 days and 72 hours respectively). Once the unit is placed into hot shutdown, the CTS allows an additional 48 hours before the unit must be cooled down to less than 350 degrees (equivalent to ITS Mode 4). As such, once the allowable outage time for an inoperable pump system has expired, the CTS will require the unit to be placed in ITS Mode 3 within 12 hours and ITS Mode 4 within 60 hours. For this same set of conditions, the ITS will require the unit to be placed into Mode 3 within 6 hours and Mode 4 within 18 hours. The proposed reduction in time frames allowed to reach Mode 3 and Mode 4 are more restrictive than the CTS, and are being made for consistency with NUREG 1431.

CTS:	ITS:
15.03.04.C	LCO 3.07.05 COND D RA D.2
15.03.04.C.02	LCO 3.07.05 COND D RA D.1

DOC Number	DOC Text
M.02 Rev. A	The CTS only provides Actions for a single inoperable auxiliary feedwater (AFW) pump during single and two unit operation. This Description of Change addresses the proposed ITS Action for simultaneous inoperability of two or more AFW pump systems. The simultaneous inoperability of both turbine driven AFW pumps during two unit operation is addressed by Description of Change L.2 of this LCO. Based on the CTS only containing Actions for a single inoperable AFW pump, the CTS would require entry into LCO 15.3.0.B if two motor driven AFW pump systems or a turbine and a motor driven pump system were inoperable simultaneously. CTS 15.3.0.B requires the unit to be placed into hot shutdown (equivalent to ITS Mode 3) within seven hours and cold shutdown (equivalent to ITS Mode 5) within 37 hours, but does not contain a time limit for achieving less than or equal to 350 degrees (ITS Mode 4). Accordingly, the CTS does not specify a time limit for when the reactor must be cooled to less than or equal to 350 degrees. The proposed ITS will require the unit to be placed into Mode 3 within 6 hours and Mode 4 within 18 hours when two AFW pump systems are inoperable simultaneously. The reduced time frame to achieve Mode 3 (7 hours to 6 hours) and the specific time frame to reach Mode 4 (18 hours) are more restrictive requirements. These time frames are consistent with the time frames specified in NUREG 1431.

CTS:	ITS:
15.03.04.C.02	DELETED
NEW	LCO 3.07.05 COND D LCO 3.07.05 COND D RA D.1 LCO 3.07.05 COND D RA D.2

Description of Changes - NUREG-1431 Section 3.07.05

21-Feb-01

DOC Number	DOC Text	
M.03 Rev. A	The CTS does not contain a specific Condition to address multiple inoperable auxiliary feedwater (AFW) pumps. If multiple overlapping inoperability were to occur (e.g. alternating between an inoperable turbine driven and motor driven AFW pump), the CTS does not establish any limitation requiring LCO compliance to be re-established. The proposed ITS contains a Completion Time limit which requires restoration of LCO compliance within 10 days of first component becoming inoperable. The limit of 10 days is the summation of the longest and shortest Completion Times within this LCO and is consistent with NUREG 1431. The addition of this Completion time is an additional restriction not contained in the CTS.	
	CTS:	**ITS:**
	15.03.04.C.02	LCO 3.07.05 COND B RA B.1 LCO 3.07.05 COND C RA C.1
M.04 Rev. D	The proposed ITS has added three new surveillances to verify alignment, automatic pump start, and automatic valve realignment capabilities in support of system operability. The addition of these tests will provide added assurance of AFW system operability, by testing assumed functions. Proposed SR 3.7.5.1 requires performance of a 31 day surveillance to verify valves that are not locked sealed or otherwise secured in position are in their required positions. Proposed SR 3.7.5.3 and SR 3.7.5.4 verify AFW pump automatic start and automatic valve realignment capabilities. These SRs are modified by a note that allows the AFW pump systems to be considered operable during alignment and operation for steam generator level control if the system is capable of being manually realigned. Additionally, SR 3.7.5.4 is modified by a Note that allows test completion to be deferred until required test conditions can be met..	
	CTS:	**ITS:**
	NEW	SR 3.07.05.01 SR 3.07.05.03 SR 3.07.05.03 NOTE SR 3.07.05.04 SR 3.07.05.04 NOTE 1 SR 3.07.05.04 NOTE 2

Description of Changes - NUREG-1431 Section 3.07.05

21-Feb-01

DOC Number	DOC Text
M.05 Rev. A	The CTS requires the auxiliary feedwater (AFW) system to be operable whenever reactor coolant temperature is greater than 350 degrees (equivalent to ITS Modes 1, 2, and 3). The proposed ITS will continue to require the AFW system to be operable in Modes 1, 2, and 3, while adding a requirement to maintain the motor driven AFW pumps associated with steam generators required for decay heat removal in accordance with proposed ITS LCO 3.4.6. Inclusion of this Applicability, ensures the capability to provide make up water to steam generator(s) relied upon for decay heat removal. In keeping with the proposed Applicability, the ITS also contain a Required Action to address the loss of one or both motor driven AFW pumps systems in Mode 4. The Action proposed is consistent with those required in proposed ITS LCO 3.4.6 for loss of the steam generators as a heat sink, requiring initiation of action to restore the AFW pump system to operable status.

CTS:	ITS:
15.03.04.A	LCO 3.07.05
NEW	LCO 3.07.05 NOTE LCO 3.07.05 COND F LCO 3.07.05 COND F RA F.1

DOC Number	DOC Text
M.06 Rev. A	CTS 15.4.8.1 requires the motor and turbine driven auxiliary feedwater (AFW) pumps to be tested periodically, only requiring that the pumps be started and verified to be running satisfactorily. The AFW pumps are ASME Class 3 components which are required to be tested per 10 CFR 50.55a in accordance with the ASME Section XI testing program (the Inservice Testing Program). The ITS requires verification that the AFW pumps will develop their required head at the flow test point when tested at a frequency in accordance with the Inservice Testing Program. As such, the ITS frequency of testing will continue to be the same as stated in Description of Change A.7 of this Section. Inclusion of a requirement to verify that the developed pump head is above the required pump head is a new Technical Specifications acceptance criteria, not contained in the CTS. As such, verification of this limit is an additional restriction placed on pump testing in accordance with NUREG 1431. This change is more restrictive.

CTS:	ITS:
15.04.08.01.A	SR 3.07.05.02

A.1

15.3.4 STEAM AND POWER CONVERSION SYSTEM

Applicability

A.2

Applies to the operating status of steam and power conversion system.

Objective

A.3

~~To define conditions of the steam and power conversion system steam-relieving capacity. Auxiliary Feedwater System and Service Water System operation is necessary to ensure the capability to remove decay heat from the core.~~

M.5

Specification

See Inserts 3.7.5-5 and 3.7.5-6

A. ~~When the reactor coolant is heated above 350°F the reactor shall not be taken critical unless the following conditions are met:~~

1. A minimum steam-relieving capability of eight (8) main steam safety valves available, except for low power physics testing. < See LCO 3.7.1 >

LA.1 2. Auxiliary Feedwater System

a. ~~Two Unit Operation - All four auxiliary feedwater pumps together with their associated flow paths and essential instrumentation shall be operable.~~

LA.04

LCO 3.7.5 Insert 3.7.5-4

b. ~~Single Unit Operation -~~ Both motor driven auxiliary feedwater pumps and the turbine driven auxiliary feedwater pump associated with that unit together with their associated flow paths and essential instrumentation shall be operable.

D RAI 3.7.5-1

L.3

A. One steam supply to turbine driven AFW pump system inoperable.	A.1 Restore steam supply to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO

< See LCO 3.7.6 >

3. A minimum of 13,000 gallons of water per operating unit in the condensate storage tanks and an unlimited water supply from the lake via either leg of the plant Service Water System.

LA.2

4. System piping and valves required to function during accident conditions directly associated with the above components operable.

5. Both atmospheric steam dump lines shall be operable. If either of the atmospheric steam dump lines is determined to be inoperable, restore the inoperable line to an operable status within 24 hours. If operability cannot be restored, be in hot shutdown within six hours and cold shutdown within 24 hours. < See LCO 3.7.4 >

B. The dose equivalent iodine-131 activity on the secondary side of the steam generator shall not exceed 1.0 μCi/g. < See LCO 3.7.18 >

A.6

C. During power operation the requirements of 15.3.4.A.2.a and b may be ~~modified to~~ allow the following components to be inoperable for a specified ~~time~~. If the system is not restored to meet the requirements of 15.3.4.A.2.a and b within the time period specified, the specified action ~~must be~~ taken. If the requirements of 15.3.4.A.2.a and b are not satisfied within an additional 48 hours, the appropriate reactor(s) shall be cooled down to less than 350°F.

M.1

1. Two Unit Operation - ~~One of the four operable auxiliary feedwater pumps may be out-of-service for the below specified times.~~ A turbine driven auxiliary feedwater pump may be out of service for up to 72 hours. If the turbine driven auxiliary feedwater pump cannot be restored to service within the 72 hour time period the associated reactor shall be in hot shutdown within the next 12 hours. A motor driven auxiliary feedwater pump may be out of service for up to 7 days. If the inoperable motor driven auxiliary feedwater pump cannot be restored to service within the 7 day time period both of the reactors shall be in hot shutdown within the next 12 hours.

L.2

LA.1

M.1/2

L.6

See Insert 3.7.5-9
Cond D

D

RAI 3.7.5-14

LA.1

M.2

M.3

~~2. Single Unit Operation~~ - One of the three operable auxiliary ~~feedwater~~ pumps associated with a unit may be ~~out-of-service~~ for the below specified times. The turbine driven auxiliary feedwater pump may be out-of-service for up to 72 hours. ~~If the turbine driven auxiliary feedwater pump cannot be restored to service within that 72 hour time period, the reactor shall be in hot shutdown within the next 12 hours.~~ Either one of the two motor driven auxiliary feedwater pumps may be out-of-service for up to 7 days. ~~If the motor driven auxiliary feedwater pump cannot be restored to service within that 7 day period the operating unit shall be in hot shutdown within the next 12 hours.~~

See Insert 3.7.5-3:

- 10 day Completion Time
- Cond B and RA B.1
- Cond C and RA C.1

L.1

M.1

Cond D and RA D.1 -
Place the unit into Mode 3 within 6 hours
(See insert Cond D Previous Page)

D. The main steam stop valves (MS-2017 and MS-2018) and the non-return check valves (MS-2017A and MS-2018A) shall be operable. If one main steam stop valve or non-return check valve is inoperable but open, power operation may continue provided the inoperable valve is restored to operable status within 4 hours, otherwise the reactor shall be placed in a hot shutdown condition within the following 6 hours. With one or more main steam stop valves or non-return check valves inoperable, subsequent operation in the hot shutdown condition may proceed provided the inoperable valve or valves are maintained closed. An inoperable main steam stop valve or non-return check valve may however, be opened in the hot shutdown condition to cool down the affected unit and to perform testing to confirm operability.

< See LCO 3.7.2 >

Basis

A reactor shutdown from power requires removal of core decay heat. Immediate decay heat removal requirements are normally satisfied by the steam bypass to the condenser. Therefore, core decay heat can be continuously dissipated via the steam bypass to the condenser as feedwater in the steam generator is converted to steam by heat absorption. Normally, the capability to return feedwater flow to the steam generators is provided by operation of the turbine cycle feedwater system.

Cond E and RA E.1 -
Initiate action to restore on AFW pump system, immediately (See insert 3.7.5-8)

L.4

A.4

The eight main steam safety valves have a total combined rated capability of 6,664,000 lbs/hr. The total full power steam flow is 6,620,000 lbs/hr, therefore eight (8) main steam safety valves will be able to relieve the total full-power steam flow if necessary. < See LCO 3.7.1 >

A.4

In the unlikely event of complete loss of electrical power to the station, decay heat removal would continue to be assured for each unit by the availability of either the steam-driven auxiliary feedwater pump or one of the two motor-driven auxiliary steam generator feedwater pumps, and steam discharge to the atmosphere via the main steam safety valves or atmospheric relief valves. One motor-driven auxiliary feedwater pump can supply sufficient feedwater for removal of decay heat from a unit. The minimum amount of water in the condensate storage tanks ensures the ability to maintain each unit in a hot shutdown condition for at least one hour concurrent with a loss of all AC power.

An unlimited supply is available from the lake via either leg of the plant service water system for an indefinite time period.

Each of the AFW pumps possesses a low suction pressure trip that will protect it should a loss of feedwater occur. Additionally, should a steam generator tube rupture occur, the motor-operated steam admission valves for the turbine-driven AFW pumps serve as isolation boundaries for the affected steam generator.

The atmospheric steam dump lines are required to be operable because they are relied upon, following a steam generator tube rupture coincident with a loss of A.C. power, to cool down the Reactor Coolant System to RHR entry conditions. An atmospheric steam dump line is considered operable if it is capable of providing the controlled relief of main steam flow necessary to perform the RCS cooldown. Isolating an atmospheric steam dump line does not render it inoperable if the line can be unisolated and the RCS can still be cooled down to RHR entry conditions, through local or remote operation, within the time period required by the applicable FSAR accident analyses.

< See LCO 3.7.4 >

15.4.8 AUXILIARY FEEDWATER SYSTEM

A.2

Applicability

Applies to periodic testing requirements of the turbine-driven and motor-driven auxiliary feedwater pumps.

A.3

Objective

~~To verify the operability of the Auxiliary Feedwater System and its ability to respond properly when required.~~

Specification

1. a. Each motor driven auxiliary feedwater pump will be started quarterly.

   b. Each steam turbine driven auxiliary feedwater pump will be started quarterly provided steam is available. If the test comes due when not at power operation, the test shall be performed during the subsequent startup within 24 hours of entering power operation.

Replace - See Insert 3.7.5-1

LB.1

   c. ~~The auxiliary feedwater pumps discharge valves and the service water supply valves on the suction side will be tested by operator action quarterly.~~

LB.3

D Additional change

2. ~~These tests shall be considered satisfactory if control board indication and subsequent visual observation of the equipment demonstrate that all components have operated properly.~~

A.4

Basis

~~The quarterly testing of the auxiliary feedwater pumps will verify their operability. The quarterly test of the steam driven pumps will be a fast start test with no prior warmup. Proper functioning of the steam turbine admission valves and the start of the feedwater pumps will demonstrate the integrity of the steam driven pumps.~~

M.4

Add new surveillances; SR 3.7.5.1, SR 3.7.5.3, and SR 3.7.5.4 - See Insert 3.7.5-2

D Additional change

LB.02

The ability to both open and shut the turbine-driven AFW pump motor-operated steam admission valves will be demonstrated since these valves serve as isolation boundaries should a steam generator tube rupture occur. Verification of correct operation will be made both from instrumentation within the main control room and direct visual observation of the pumps.

D Additional change

Reference

FSAR - Sections 10.4 FSAR - Section 14.1.7 FSAR - Section 14.2.5

A.4

CTS INSERTS

Insert 3.7.5-1:

SURVEILLANCE		FREQUENCY
SR 3.7.5.2	----------------NOTE---------------- Not required to be performed for the turbine driven AFW pump until 24 hours after THERMAL POWER reaches > 2% RTP. --------------------------------------	
	Verify the developed head of each required AFW pump at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program

A.7

C
RAI 3.7.5-1

M.6

Insert 3.7.5-2:

M.4

SURVEILLANCE		FREQUENCY
SR 3.7.5.1	Verify each manual, power operated, and automatic valve in each required water and steam flowpath, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.5.3	-----------------NOTE------------------ AFW pump system(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. --------------------------------------- Verify each AFW automatic valve 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 3.7.5.4	-----------------NOTES----------------- 1. Not required to be performed for the turbine driven AFW pump until 24 hours after ≥ 1000 psig in the steam generator. 2. AFW pump system(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. --------------------------------------- Verify each AFW pump starts automatically on an actual or simulated actuation signal.	18 months

D
Additional change

C
RAI 3.7.5-1

D
Additional change

CTS INSERTS

Insert 3 .7.5-3:

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One turbine driven AFW pump system inoperable in MODE 1, 2 or 3 for reasons other than Condition A.	B.1 Restore turbine driven AFW pump system to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the LCO
C. One motor driven AFW pump system inoperable in MODE 1, 2 or 3.	C.1 Restore motor driven AFW pump system to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO

L.1

M.3

M.3

CTS INSERTS

Insert 3.7.5-4: LA.04

D
RAI 3.7.5-1

LCO 3.7.5	The AFW System shall be OPERABLE with; one turbine driven AFW pump system and two motor driven AFW pump systems.

M.5

Insert 3.7.5-5:

--------------------------NOTE--------------------------
Only the motor driven AFW pump systems associated with steam generators relied upon for heat removal are required to be OPERABLE in MODE 4.

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

Insert 3.7.5-6

M.5

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. One or more required AFW pump systems inoperable in MODE 4.	F.1 Initiate action to restore AFW train to OPERABLE status.	Immediately

CTS INSERTS

Insert 3.7.5-7:

A.1

SURVEILLANCE		FREQUENCY
SR 3.7.5.5	Verify proper alignment of the required AFW flow paths by verifying flow from the condensate storage tank to each steam generator supplied by the respective A FW pump system.	Prior to exceeding 2% RTP whenever unit has been in MODE 5, MODE 6, or defueled for a cummulative period of > 30 days

A.7

C RAI 3.7.5-2

C RAI 3.7.5-2

Insert 3.7.5-8:

L.4

E. Three AFW pump systems inoperable in MODE 1, 2, or 3.	E.1	---------NOTE-------- LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW pump system is restored to OPERABLE status. --------------------- Initiate action to restore one AFW pump system to OPERABLE status.	Immediately

CTS INSERTS

Insert 3.7.5-9:

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. Required Action and associated Completion Time for Condition A, B, or C not met. OR Two AFW pump systems inoperable in MODE 1, 2, or 3.	D.1	-------NOTE--------- Each unit may be sequentially placed in MODE 3 within 12 hours when both units are in Condition D concurrently. ------------------- Be in MODE 3.	6 hours
	AND		
	D.2	--------NOTE-------- Entry into MODE 4 is not required unless one motor driven AFW pump system is OPERABLE. ------------------- Be in MODE 4.	18 hours

A.1

SR 3.7.5.5
See Insert 3.7.5-7

TABLE 15.4.1-1 (continued)

NO.	CHANNEL DESCRIPTION	CHECK	CALIBRATE	TEST	PLANT CONDITIONS WHEN REQUIRED
20.	Auxiliary Feedwater Flowrate	(13)	R	-	ALL
21.	Boric Acid Control System	-	R	-	ALL
22.	Boric Acid Tank Level	D	R	-	ALL
23.	Charging Flow	-	R	-	ALL
24.	Condensate Storage Tank Level	S(1)	R	-	ALL
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
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
33.	PORV Block Valve Position Indicator	Q	R	-	ALL
34.	PORV Operability	-	R	Q(11)	ALL
35.	PORV Position Indicator	S(21)	R	R	ALL

< See Section 3.3 >

< See Section 3.5 >

< See LCO 3.7.6 >

< See Section 3.3 >

< See Section 3.4 >

< See LCO 3.4.12 >

NOTES USED IN TABLE 15.4.1-1 (continued)

(10) When used for the Low Temperature Overpressure System, each PORV shall be demonstrated operable by:
a. Performance of a channel functional test on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required operable and at least once per 31 days thereafter when the PORV is required operable.

(11) Performance of a channel functional test is required, excluding valve operation. < See LCO 3.4.11 >

< See LCO 3.4.12 >

(12) Shiftly check is required when the reactor coolant system is not open to the atmosphere and the reactor coolant system temperature is less than the minimum temperature for the in-service pressure test as specified in TS Figure 15.3.1-1.

(13) An AFW flow path to each steam generator shall be demonstrated operable, following each cold shutdown of greater than 30 days, prior to entering power operation by verifying AFW flow to each steam generator.

SR 3.7.5.5
See Insert 3.7.5-7

A.7

C
RAI 3.7.5-2

(14) Calibration is to be a verification of response to a source. < See LCO 3.3.3 >

(15) Sample gas for calibration at 2% and 6%.

< See LCO 3.4.3 >

< See LCOs 3.3.1 and 3.3.2>

(16) A check of one pressure channel per steam generator is required whenever the steam generator could be pressurized.

(17) Includes test of logic for reactor trip on low-low level, automatic actuation logic for auxiliary feedwater pumps, and test of logic for feedwater isolation on high steam generator level.

(18) Rod positions must be logged at least once per hour, after a load change >10% or after >30 inches of control rod motion if the on-line computer is inoperable. < See LCO 3.1.5 >

(19) The daily heat balance is a gain adjustment performed to match Nuclear Instrumentation System indicated power level with reactor thermal output.

(20) To confirm that hot channel factor limits are being satisfied, the requirements of TS 15.3.10.B must be met.

< See LCO 3.3.1 >

(21) Check required only when the low temperature overpressure protection system is in operation. < See LCO 3.4.11 >

(22) Not required during period of cold and refueling shutdowns, but must be performed prior to reactor criticality if it has not been performed during the previous surveillance period.

(23) Each train tested at least every 62 days on a staggered basis. < See LCOs 3.3.1 and 3.3.2 >

< See LCO 3.1.5, 3.1.6, 3.1.7 and 3.3.1 >

(24) Neutron detectors excluded from calibration. < See LCO 3.3.1 >

Justification For Deviations - NUREG-1431 Section 3.07.05

21-Feb-01

JFD Number	JFD Text
01 Rev. D	The LCO, Surveillances, Required Actions, and associated Bases has been modified to reflect the Point Beach Auxiliary Feedwater (AFW) system design. The AFW system is divided into three redundant and diverse pump systems per unit. The AFW system consists of a total of four pumps; two motor driven auxiliary feedwater pump systems which are shared by both units, and one dedicated turbine driven pump per unit. Both motor driven AFW pump systems are required to be operable to support one or two unit operation, while the turbine driven pump systems are only credited in the safety analysis to support operation of their respective unit. Each of the two shared motor driven AFW pumps are capable of supplying 100% of the AFW systems design flow rate. AFW pump "P-38A" supplies the "A" steam generator in both units while AFW pump "P-38B" supplies the "B" steam generators. Each AFW pump discharges through an air operated back-pressure control valve and normally closed automatic discharge isolation valves. The air operated back-pressure control valve functions to prevent the motor driven AFW pump from tripping on high current at low steam generator pressures. The back-pressure control valves are provided with a backup nitrogen supply to provide pneumatic pressure in the event of a loss of instrument air. The normally closed discharge motor operated valves automatically reposition to provide 100% of the respective AFW pumps flow to the affected unit. This is accomplished by providing an open signal to the affected units discharge isolation valves, and a close signal to the unaffected units discharge isolation valves whenever the system receives an automatic start signal. Each turbine driven AFW pump is dedicated to its respective unit and is capable of supplying 200% of the design AFW flow rate. The turbine driven AFW pump system supplies both steam generators of its respective unit. The turbine is started by opening at least one of the two DC motor operated steam supply valves. Steam to the turbine can be supplied from each steam generator, via connections to the main steam lines upstream of the main steam isolation valves. The turbine bearing oil is normally cooled by service water with an alternate source of cooling water from the firewater system. The AFW pumps are fed from a common suction header from the condensate storage tanks. The service water system provides the back up safety related source of water for the AFW system via manually operated motor operated valves to each AFW pump suction. Each pump has a recirculation line back to the condensate storage tanks to ensure minimum flow to dissipate pump heat. Each steam generator has a single AFW supply line which is common to the turbine and respective motor driven AFW pumps which supply the steam generator. PBNP has adopted the terminology "pump systems" in lieu of the STS terminology "trains." The terminology "pump systems" is a more accurate description of the PBNP AFW system since the flowpaths associated with the AFW pumps are not associated with a specific ESF safety train. "Pump systems" and "trains" both represent the valves and piping which support the ability of an AFW pump to provide the required accident analysis flow rates.

ITS:	NUREG:
B 3.07.05	B 3.07.05
	N/A

Justification For Deviations - NUREG-1431 Section 3.07.05

21-Feb-01

JFD Number	JFD Text	
	B 3.07.05	N/A
	LCO 3.07.05	LCO 3.07.05
	LCO 3.07.05 COND A	LCO 3.07.05 COND A
	LCO 3.07.05 COND F	LCO 3.07.05 COND E
	LCO 3.07.05 COND F RA F.1	LCO 3.07.05 COND E RA E.1
	SR 3.07.05.05	SR 3.07.05.05

02
Rev. A

Brackets have been removed and site specific information provided.

ITS:	NUREG:
B 3.07.05	B 3.07.05
LCO 3.07.05 COND A	LCO 3.07.05 COND A
LCO 3.07.05 COND B	LCO 3.07.05 COND B
LCO 3.07.05 COND D	LCO 3.07.05 COND C LCO 3.07.05 COND C
SR 3.07.05.02 NOTE	SR 3.07.05.02 NOTE
SR 3.07.05.03	SR 3.07.05.03
SR 3.07.05.04 NOTE 1	SR 3.07.05.04 NOTE 1
SR 3.07.05.05	SR 3.07.05.05

03
Rev. A

The Bases has been modified to reflect Point Beach's AFW System design. The ITS states that the AFW System is designed to supply water to the steam generator by delivering at least the minimum required flow rate at pressures corresponding to the lowest steam generator safety valve set pressure plus 3%. The Point Beach AFW pumps are sized to provide the design AFW flow rate with Steam Generator pressure at 1192 psig (approximately 7% over the highest Steam Generator Safety Valve setpoint and 9% over the lowest).

ITS:	NUREG:
B 3.07.05	B 3.07.05

Justification For Deviations - NUREG-1431 Section 3.07.05

21-Feb-01

JFD Number	JFD Text
04 Rev. A	The Bases for NUREG 1431 lists a number of Design Basis Accidents and transient which are generically considered to be the most limiting. This statement has been modified to reflect the most limiting event for Point Beach. Main Feedwater Line Break inside the containment is not within Point Beach's Licensing Basis, while a break outside containment is not a limiting event relative to AFW capacity. The limiting event for Point Beach is a loss of normal feedwater, which has been retained in the Bases. The appropriate FSAR reference for the loss of normal feedwater has been provided and subsequent references have been renumbered as necessary to reflect this change. Reference has been provided to the appropriate FSAR Section which contains the design basis. Subsequent reference number has been changed to reflect the addition of this reference. **ITS:** B 3.07.05 **NUREG:** B 3.07.05
05 Rev. A	The Bases have been modified to reflect the accident analysis assumptions for Point Beach. The AFW system is assumed to function in the mitigation of; steam generator tube rupture, main steam line break, loss of normal feedwater, and loss of all AC power to the station auxiliaries. The AFW system must also be capable of isolating AFW to a ruptured steam generator in addition to isolating the steam supply to the turbine driven AFW pump associated with the ruptured steam generator following a SGTR. The Point Beach AFW System will be initiated during a LOCA; however, the AFW system is not assumed in the mitigation of primary side Loss of Coolant Accidents (LOCA). Point Beach has analyzed LOCA events assuming no credit for the AFW system. The large break LOCA analysis does not assume secondary heat removal and the small break LOCA was analyzed without AFW to be conservative and to limit the modeling required to address all possible combinations and time delays for various AFW system configurations. **ITS:** B 3.07.05 **NUREG:** B 3.07.05
06 Rev. A	The automatic start signals for the turbine and motor driven AFW pump systems are not identical, and have therefore been moved in the Bases to earlier discussions specific to the motor and turbine driven pump systems for clarity. **ITS:** B 3.07.05 **NUREG:** B 3.07.05

Justification For Deviations - NUREG-1431 Section 3.07.05

21-Feb-01

JFD Number	JFD Text	
07 Rev. A	The Bases for NUREG 1431 states that sufficient AFW flow must be available to account for losses such as pump recirculation flow and line breaks. There are no calculations which establish a leak limit while demonstrating excess pumping capacity to compensate for system leakage. Additionally, at Point Beach, the pump recirculation line is isolated during the event. The AFW system is designed to account for the ability to withstand a single failure. Sufficiency of AFW flow capacity resulting from leakage is accounted for via single failure which renders an entire pump system unavailable. Point Beach design bases provide for the closure of the pump recirculation line and the current licensing basis for Point Beach does not include feedwater line break scenarios. As such, reference to flow losses due to line breaks and pump recirculation have been deleted from the Bases of the ITS.	
	ITS:	**NUREG:**
	B 3.07.05	B 3.07.05
08 Rev. A	The Bases for Required Action A.1 contains an incomplete sentence. The NUREG Bases states "If one of the two steam supplies to the turbine driven AFW train is inoperable, action must be taken to restore OPERABLE status within 7 days". The proposed ITS has been changed to complete the sentence, stating that the "inoperable steam supply" must be restored to OPERABLE status.	
	ITS:	**NUREG:**
	B 3.07.05	B 3.07.05
09 Rev. A	The LCO Bases implies that the AFW system is only required to mitigate the consequences of events which challenge the RCS pressure boundary, while the AFW system is actually assumed to function for several other events to include Steam Generator Tube Rupture, and Main Steam Line Break which do not directly challenge the RCS pressure boundary. As such, the Bases has been changed to state that the AFW system will perform its design safety function, to mitigate the consequences of design basis accidents and transients.	
	ITS:	**NUREG:**
	B 3.07.05	B 3.07.05

JFD Number	JFD Text
10 Rev. A	NUREG 1431 LCO 3.7.5 Condition B addresses the inoperability of an AFW train. Condition B has been rewritten to address the inoperability of a turbine driven AFW pump system, with new Condition C added to address the inoperability of a motor driven pump system. These changes are necessary to reflect the Point Beach AFW system design and retain the current licensing basis allowable outage times for the motor driven and turbine driven AFW pumps. As described in Justification for Deviation 1 of this Section, the Point Beach AFW system consists of three pump systems. The CTS allows 72 hours to restore a turbine driven pump to operable status and 7 days to restore a motor driven pump before requiring a unit shutdown. The ITS Completion Time limit of 10 days contained in Condition B has been retained and applied both Conditions to limit LCO non-compliance consistent with NUREG 1431.

ITS:	NUREG:
B 3.07.05	B 3.07.05
LCO 3.07.05 COND B	LCO 3.07.05 COND B
LCO 3.07.05 COND B RA B.1	LCO 3.07.05 COND B RA B.1
LCO 3.07.05 COND C	LCO 3.07.05 COND B
LCO 3.07.05 COND C RA C.1	LCO 3.07.05 COND B RA B.1
LCO 3.07.05 COND D	LCO 3.07.05 COND C
LCO 3.07.05 COND D RA D.1	LCO 3.07.05 COND C RA C.1 LCO 3.07.05 COND C RA C.1
LCO 3.07.05 COND D RA D.2	LCO 3.07.05 COND C RA C.2 LCO 3.07.05 COND C RA C.2
LCO 3.07.05 COND E	LCO 3.07.05 COND D
LCO 3.07.05 COND E RA E.1	LCO 3.07.05 COND D RA D.1
LCO 3.07.05 COND E RA E.1 NOTE	LCO 3.07.05 COND D RA D.1 NOTE
LCO 3.07.05 COND F	LCO 3.07.05 COND E
LCO 3.07.05 COND F RA F.1	LCO 3.07.05 COND E RA E.1

JFD Number	JFD Text
11 Rev. A	The terminology used in NUREG 1431 LCO 3.7.5 Condition C has been changed to reflect the Point Beach design. As discussed in Justification for Deviation 1 of this Section, the Point Beach AFW design consists of three pump systems instead of three trains of AFW as addressed in the NUREG.

ITS:	NUREG:
B 3.07.05	B 3.07.05
LCO 3.07.05 COND D	LCO 3.07.05 COND C

JFD Number	JFD Text
12 Rev. A	Condition C of NUREG 1431 LCO 3.7.5 (proposed Condition D)addresses the inoperability of two AFW trains in Mode 1, 2, and 3. The acceptability of a single motor driven AFW train in Mode 4 has been previously addressed in the LCO Section of the Bases. Therefore, this Bases information is being deleted. **ITS:** B 3.07.05; SR 3.07.05.04; SR 3.07.05.05 **NUREG:** B 3.07.05; SR 3.07.05.04; SR 3.07.05.05
13 Rev. A	The Default Condition (Condition C) for LCO 3.7.5 has been modified to reflect the addition of new Conditions C. Condition C has been added to address Point Beach specific features and licensing basis as described in Justification for Deviation 10 of this Section. New Condition C is applicable in Modes 1, 2, and 3. As such, if the Required Actions are not completed within their specified Completion Times, the unit must be placed in a MODE in which the LCO does not apply. **ITS:** B 3.07.05; LCO 3.07.05 COND D **NUREG:** B 3.07.05; LCO 3.07.05 COND C
14 Rev. D	The steam supply valves to the turbine driven AFW pump and the AFW pump back up suction supply valves from the service water system are not designated as AFW system valves at Point Beach. NUREG 1431 SR 3.7.5.1 requires verification that all AFW manual, power operated, and automatic valves that are not locked, sealed, or otherwise secured in position are in their required positions. This SR is intended to address all valve within the system flow path, inclusive of the turbine driven steam supplies and service water suction lines. As such, the Bases discussion of this surveillance has been modified, to provide clarification of the affected valves, eliminating any potential misapplication of the SR. **ITS:** SR 3.07.05.01 **NUREG:** SR 3.07.05.01
15 Rev. A	The Bases for NUREG 1431 LCO 3.7.5 Required Action A.1 discusses application of a modified Completion Time ("10 days from discovery of failure to met the LCO") which limits the maximum time allowed for LCO non-compliance. NUREG 1431 contained two conditions which could result in indefinite non-compliance with LCO 3.7.5, which therefore required this modified Completion Time, however, the proposed ITS has added a Condition, resulting in the need to modify the Bases associated with Required Action A.1. The proposed change merely recognizes the existence of multiple conditions that could lead to indefinite non-compliance. **ITS:** B 3.07.05 **NUREG:** B 3.07.05

Justification For Deviations - NUREG-1431 Section 3.07.05

21-Feb-01

JFD Number	JFD Text
16 Rev. A	The proposed changes to the Bases clarify the scope of testing for proposed SR 3.7.5.3. As addressed in Justification for Deviation 14 of this Section, the AFW system interfaces with other systems containing manual and automatic valves (i.e. service water and main steam) which are not designated as AFW system valves. SR 3.7.5.3 requires testing of all automatic AFW valves, which would consist of the motor driven AFW pump discharge motor operated valves (i.e. AF-4020, 4021, 4022, and 4023). Testing of other automatic valves not designated as AFW valves, but required to support the AFW pump systems, are addressed in SR 3.7.5.4. SR 3.7.5.4 verifies that the main steam supply valves to the turbine driven AFW pump will automatically open by testing the pump automatic start capability. **ITS:** B 3.07.05 — **NUREG:** B 3.07.05
17 Rev. D	The applicability of STS LCO 3.7.5 for the AFW System is MODES 1, 2, 3, and MODE 4 when a steam generator is relied upon for heat removal. A Note is provided in the STS for SRs 3.7.5.3 and 3.7.5.4 stating that the simulated actuation verification requirements of these SRs is not applicable in MODE 4 when a steam generator is relied upon for heat removal. This SR Note was replaced in approved TSTF 245 by a Note that stated that the AFW System(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. While the Note to STS SRs 3.7.5.3 and 3.7.5.4 was deleted from the specification in TSTF 245, the TSTF did not remove the discussion of the Note from the Bases. Point Beach has adopted TSTF 245 in proposed ITS 3.7.5. The Bases discussion of the MODE 4 exception for SRs 3.7.5.3 and 3.7.5.4 has been deleted since it is no longer applicable. **ITS:** B 3.07.05 — **NUREG:** B 3.07.05
18 Rev. C	Not used. **ITS:** N/A — **NUREG:** N/A

JFD Number	JFD Text
19 Rev. C	NUREG 1431 requires the performance of AFW pump testing in accordance with the frequency specified in the Inservice Testing Program (SR 3.7.5.2), AFW pump automatic start testing (SR 3.7.5.4), and verification of proper AFW valve alignment by verifying flow to each steam generator (SR 3.7.5.5). SR 3.7.5.2 and SR 3.7.5.4 are modified by Notes which allow performance of the SRs to be delayed for the turbine driven AFW pump until suitable test conditions are established, and the frequency associated with SR 3.7.5.5 does not require SR 3.7.5.5 to be completed until conditions are appropriate for performing the test. Similar to NUREG 1431, CTS 15.4.8.1.b establishes a bounding limit for completion of turbine driven AFW pump testing, and Note 13 of Table 15.4.1-1 establishes the bounding limit for completion of AFW flow path verification. CTS 15.4.8.1.b requires completion of turbine driven pump testing within 24 hours of entering power operation, and Note 13 of Table 15.4.1-1 requires completion of flow path verification prior to entering power operation whenever the unit has been in cold shutdown for greater than 30 days. Furthermore, CTS 15.1.h defines "power operation" as a condition when the reactor is critical and the average neutron flux of the power range instrumentation indicates greater than 2 percent of rated power. Proposed ITS SR 3.7.5.2 (AFW pump testing) is modified by a Note which allows performance of the test to be deferred for the turbine driven AFW pump until within 24 hours of after exceeding 2% RTP. This exception is consistent with the current licensing basis and prevents excessive RCS cooldowns as a result of steam drawn from the steam generators during pump testing. This Note allows suitable test conditions to be established while allowing a reasonable time period to complete the SR. Proposed ITS SR 3.7.5.5 (AFW flow path verification) is not required to be completed until prior to exceeding 2% power whenever the unit has been in Mode 5, MODE 6, or defueled for a cumulative period of > 30 days. This exception is consistent with the current licensing basis and prevents excessive RCS cooldowns during testing of the turbine driven AFW pump as a result of steam drawn from the steam generators during pump testing. Testing can be accomplished at lower power levels than proposed in SR 3.7.5.2 as the duration of the test proposed in ITS SR 3.7.5.5 is shorter. This frequency allows suitable test conditions to be established while still specifying an acceptable limit for completion of the SR.

ITS:	NUREG:
B 3.07.05	B 3.07.05
SR 3.07.05.02	SR 3.07.05.02
SR 3.07.05.05	SR 3.07.05.05

JFD Number	JFD Text
20 Rev. A	Reviewer note for AFW flow path testing has been deleted. AFW flow path testing has been retained for all AFW flowpaths. Each flowpath is independent.

ITS:	NUREG:
B 3.07.05	B 3.07.05

JFD Number	JFD Text
21 Rev. D	NUREG 1431 LCO 3.7.5 Condition C (proposed Condition D) addresses both the failure to meet the Required Actions and Completion Times for a single inoperable AFW train, and inoperability of two AFW trains in MODES 1, 2, and 3. Proposed Condition D requires that the unit be placed in MODE 3 in 6 hours, and MODE 4 in 18 hours. The Completion Times of STS 3.7.5 Condition C have been retained in ITS 3.7.5, with the following exceptions. Condition D has been revised to provide separate Notes that modify the application of Required Actions D.1 and D.2. The Note to Required Action D.1 increases the 6 hour Completion Time for entry into MODE 3 by an additional 6 hours under specific conditions, and states that each unit may be sequentially placed in MODE 3 within 12 hours when both units are in Condition D concurrently. This change is necessary due to the unique design of the Point Beach AFW System, which shares AFW pumps between units. As a result of this shared pump design, inoperability of multiple AFW pumps can result in a situation requiring the simultaneous shutdown of both operating units. The Note to Required Action D.1 is necessary to facilitate an orderly and staggered shutdown of the units in the event that the two motor driven AFW pumps are concurrently out of service on each unit, or a failure to meet a Completion Time of ITS 3.7.5, Conditions A, B, or C. The Completion Time extension proposed in the Note to Required Action D.1 is reasonable based on Industry operating experience related to the time needed for dual operating units to reach MODE 3 in an orderly manner and without challenging plant systems. This change, while less restrictive, provides adequate protection of the public health and safety. The Note that has been added to ITS Required Action D.2 allows an extension to the requirement for entry into MODE 4 until the requisite number of AFW pumps can be restored, and states that entry into MODE 4 is not required unless one motor driven AFW pump system is OPERABLE. This change recognizes the need to assure AFW capability prior to entering into an operational condition where it could be required to operate, and is similar in intent to the Note provided for STS Required Action D.1.

ITS:	NUREG:
B 3.07.05	B 3.07.05
LCO 3.07.05 COND D	LCO 3.07.05 COND C LCO 3.07.05 COND C
LCO 3.07.05 COND D RA D.1	LCO 3.07.05 COND C RA C.1
LCO 3.07.05 COND D RA D.1 NOTE	N/A
LCO 3.07.05 COND D RA D.2	LCO 3.07.05 COND C RA C.1
LCO 3.07.05 COND D RA D.2 NOTE	N/A

D
RAI 3.7.5-14

21

Insert 3.7.5-2
RA D.1 Note

Insert 3.7.5-3
RA D.2 Note

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
~~C~~ D. Required Action and associated Completion Time for Condition A ~~[or B]~~ , B or C not met. OR Two AFW ~~trains~~ pump systems inoperable in MODE 1, 2, or 3.	~~C~~ D.1 Be in MODE 3. AND ~~C~~ D.2 Be in MODE 4.	6 hours [18] hours
~~D~~ E. [Three] AFW ~~trains~~ pump systems inoperable in MODE 1, 2, or 3.	~~D~~ E.1 ---------NOTE-------- LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW ~~train~~ pump system is restored to OPERABLE status. --------------------- Initiate action to restore one AFW ~~train~~ pump system to OPERABLE status.	Immediately
~~E~~ F. ~~Required AFW train~~ One or more required pump systems inoperable in MODE 4.	~~E~~ F.1 Initiate action to restore AFW ~~train~~ pump system(s) to OPERABLE status.	Immediately

10 10 11 13 1 1 2

Above Brackets Removed

Approved TSTF 245

Insert 3.7.5-1.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.5.1	Verify each AFW manual, power operated, and automatic valve in each water flow path, [and in both steam supply flow paths to the steam turbine driven pump,] that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.5.2	------------------NOTE------------------ Not required to be performed for the turbine driven AFW pump until [24 hours] after ~~≥ [1000] psig in the steam generator~~ THERMAL POWER exceeds 2% RTP. ------------------------------------ Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program ~~[31] days on a STAGGERED TEST BASIS~~
SR 3.7.5.3	------------------NOTE------------------ Not applicable in MODE 4 when steam generator is relied upon for heat removal. ------------------------------------ Verify each AFW automatic valve 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

19

Approved TSTF 101

D RAI 3.7.5-9

C RAI 3.7.5-1

Replace with Insert 3.7.5-1.

Approved TSTF 245

(continued)

Insert 3.7.5-1:

-----------------------------NOTE-----------------------------
AFW ~~train(s)~~ may be considered OPERABLE during alignment and operation for steam generator level control, if it is possible of being manually realigned to the AFW mode of operation.
----

pump system(s) 1

Insert 3.7.5-2:

-----------------------------NOTE-----------------------------
Each unit may be sequentially placed in MODE 3 within 12 hours when both units are in Condition D concurrently.

D RAI 3.7.5-14

21

Insert 3.7.5-3:

-----------------------------NOTE-----------------------------
Entry into MODE 4 is not required unless one motor driven AFW pump system is OPERABLE.

D RAI 3.7.5-14

BASES

ACTIONS (continued) 10

and 10 days dictates that both Completion ~~Times apply simultaneously, and the more~~ restrictive must be met.

10 D ~~C~~.1 and ~~C~~.2

, B.1, or C.1 13

11 pump systems

When Required Action A.1 ~~[or B.1]~~ cannot be completed within the required Completion Time, or if two AFW ~~trains~~ are ~~inoperable in MODE 1, 2, or 3, the unit must~~ be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4 within [18] hours. 2

21 Insert B 3.7.5-13

~~The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.~~

D RAI 3.7.5-14

12

~~In MODE 4 with two AFW trains inoperable, operation is allowed to continue because only one motor driven pump AFW train is required in accordance with the Note that modifies the LCO. Although not required, the unit may continue to cool down and initiate RHR.~~

10 E ~~D~~.1

If all [three] AFW ~~trains~~ are inoperable in MODE 1, 2, or 3, the unit is in a seriously degraded condition with no safety related means for conducting a cooldown, and only limited means for conducting a cooldown with non-safety related equipment. In such a condition, the unit should not be perturbed by any action, including a power change, that might result in a trip. The seriousness of this condition requires that action be started immediately to restore one AFW train to OPERABLE status.

pump system 11

Required Action ~~D~~.1 is modified by a Note indicating that all required MODE changes or power reductions are suspended until one AFW ~~train~~ is restored to OPERABLE status. In this case, LCO 3.0.3 is not applicable because it could force the unit into a less safe condition.

10 F ~~E~~.1

In MODE 4, either the reactor coolant pumps or the RHR loops

(continued)

BASES

ACTIONS (continued)

1 pump system(s)

or more required motor driven pump systems

1

can be used to provide forced circulation. This is addressed in LCO 3.4.6, "RCS Loops – MODE 4." With one ~~required AFW train~~ inoperable, action must be taken to immediately restore the inoperable ~~train~~ to OPERABLE status. The immediate Completion Time is consistent with LCO 3.4.6.

SURVEILLANCE REQUIREMENTS

This SR therefore also applies to Main Steam and Service Water valves located in these flowpaths.

14

Insert B 3.7.5-10

Approved TSTF 245

SR 3.7.5.1

Verifying the correct alignment for manual, power operated, and automatic valves in the AFW System water and steam supply flow paths provides assurance that the proper flow paths will exist for AFW operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they are verified to be in the correct position prior to locking, sealing, or securing. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This Surveillance does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position.

D
RAI 3.7.5-9

The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve positions.

SR 3.7.5.2

Verifying that each AFW pump's developed head at the flow test point is greater than or equal to the required developed head ensures that AFW pump performance has not degraded during the cycle. Flow and differential head are normal tests of centrifugal pump performance required by Section XI of the ASME Code (Ref ~~2~~). Because it is undesirable to introduce cold AFW into the steam generators while they are operating, this testing is performed 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 indicating abnormal performance. Performance of inservice testing discussed in the ASME Code, Section XI (Ref. ~~2~~) (only required at 3 month intervals) satisfies this requirement.

4
3

4
3

(continued)

BASES

Approved TSTF 101

SURVEILLANCE REQUIREMENTS (continued)

~~The [31] day Frequency on a STAGGERED TEST BASIS results in testing each pump once every 3 months, as required by Reference 2.~~

19

Insert B 3.7.5-7

~~[This SR is modified by a Note indicating that the SR should be deferred until suitable test conditions are established. This deferral is required because there is insufficient steam pressure to perform the test.]~~

SR 3.7.5.3

16

motor driven AFW pump discharge motor operated valve (AF-4020, 4021, 4022, and 4023) actuate to their correct positions

This SR verifies that AFW can be delivered to the appropriate steam generator in the event of any accident or transient that generates an ESFAS, by demonstrating that each ~~automatic valve in the flow path actuates to its correct position~~ on an actual or simulated actuation 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 unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The [18] month Frequency is acceptable based on operating experience and the design reliability of the equipment.

2

Approved TSTF 245

Insert B 3.7.5-10

17

~~This SR is modified by a Note that states the SR is not required in MODE 4. In MODE 4, the required AFW train is already aligned and operating.~~

SR 3.7.5.4

D Additional change

This SR verifies that the AFW pumps will start in the event of any accident or transient that generates an ESFAS by demonstrating that each AFW pump starts automatically on an actual or simulated actuation signal ~~in MODES 1, 2, and 3~~. ~~In MODE 4, the required pump is already operating and the autostart function is not required.~~ The [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power.

17

2

Insert B 3.7.5-12

This SR is modified by [a] [two] Note[s]. [Note 1 indicates

C RAI 3.7.5-1

(continued)

two Notes

2

LCO 3.7.5 BASES INSERTS

Insert B 3.7.5-7:

This SR is modified by a Note indicating that performance of this SR for the turbine driven AFW pump is required to be completed within 24 hours after the unit exceeds 2% of RTP. This exception is required to prevent excessive RCS cooldowns as a result of steam drawn from the steam generators and the cooling effect of AFW water pumped into the steam generators during pump testing. This Note allows suitable test conditions to be established while allowing a reasonable time period to complete the SR during unit startups and low power operation.

C
RAI 3.7.5-1

Insert B 3.7.5-8:

Not used.

D
Additional change

Insert B 3.7.5-9:

Not used.

C
RAI 3.7.5-1

Insert B 3.7.5-10:

The SR is modified by a Note that states one or more AFW pump systems may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually (i.e., remotely or locally, as appropriate) realigned to the AFW mode of operation, provided it is not otherwise inoperable. This exception allows the system to be out of its normal standby alignment and temporarily incapable of automatic initiation without declaring the pump system(s) inoperable. Since AFW may be used during startup, shutdown, hot standby operations, and hot shutdown operations for steam generator level control, and these manual operations are an accepted function of the AFW system, OPERABILITY (i.e., the intended safety function) continues to be maintained.

D Additional change

D Additional change

Insert B 3.7.5-11:

one or more AFW pump systems may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually (i.e., remotely or locally, as appropriate) realigned to the AFW mode of operation, provided it is not otherwise inoperable. This exception allows the system to be out of its normal standby alignment and temporarily incapable of automatic initiation without declaring the pump system(s) inoperable. Since AFW may be used during startup, shutdown, hot standby operations, and hot shutdown operations for steam generator level control, and these manual operations are an accepted function of the AFW system, OPERABILITY (i.e., the intended safety function) continues to be maintained.

D Additional change

D Additional change

Insert B 3.7.5-12:

The ability of the Main Steam supply valves for the turbine driven pump to actuate to the correct position on an actual or simulated actuation signal is verified by this SR. The ability of the motor driven AFW pump discharge valves to actuate to the correct position on an actual or simulated actuation signal is also tested by this SR. The AFW discharge pressure control valves do not receive an automatic actuation signal and are not included within this SR.

D RAI 3.7.5-19

LCO 3.7.5 BASES INSERTS

Insert B 3.7.5-13:

Required Action D.1 is modified by a Note indicating that each unit may be sequentially placed in MODE 3 within 12 hours when both units are in Condition D concurrently. Proper application of this Note requires that no more than 12 hours elapse between the time Condition D.1 is entered for the first unit and entry into MODE 3 for both units. This Completion Time extension is reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. D RAI 3.7.5-14

Required Action D.2 is modified by a Note indicating that entry into MODE 4 is not required unless one motor driven AFW pump system is OPERABLE. This Completion Time extension precludes entry into an operational condition where a motor driven AFW pump system may be needed when no motor driven AFW pump systems are available.

The allowed Completion Times, as modified by the Notes, are reasonable based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

No Significant Hazards Considerations - NUREG-1431 Section 3.07.05

21-Feb-01

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 clarifies application of the Required Actions for an inoperable AFW pump to the entire AFW pump system. 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 does not result in a significant change in the probability of previously evaluated accidents. The consequences of previously evaluated accidents will remain the same because the loss of any pump system component (e.g. piping, valves, or actuation capability) is bounded and at worst, equivalent to the inoperability of the AFW pump itself. 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 limited operation in a condition which is bounded by the exiting condition for an inoperable pump. 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? Expansion of the scope for which the Required Actions can be applied will continue to be enveloped by the loss of the pump itself. Application of the proposed Required Actions will continue to be limited to a single pump system, therefore the redundant pump systems will continue to be required operable. Based on the availability of redundant pump systems, in combination with the low probability of an event occurring in combination with the failure of a remaining operable pump systems, the margin of safety is not impacted.

NSHC Number	NSHC Text
L.02 Rev. A	The CTS only provides Actions for a single inoperable AFW pump during two unit operation, thereby requiring each unit to be placed into hot shutdown (equivalent to ITS Mode 3) within 7 hours, ultimately requiring at least one unit to be then cooled down to less than 350 before the Actions for a single unit operating can then be applied. The proposed ITS will allow the Actions for an inoperable turbine driven AFW pump to be applied to the affected unit alone, with no interdependence established on opposite unit equipment that cannot be shared. 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 changes do not result in any hardware changes, nor does the change significantly increase the probability of any analyzed events since the function of the equipment has remained unchanged. The turbine driven AFW pump systems are not shared between the two units. These pump systems are dedicated to their respective unit. As such, the availability of the opposite units turbine driven AFW pump system has no affect on the probability or consequences of previously evaluated 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. 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 allow application of the Technical Specification Required Actions for an inoperable turbine driven AFW pump system to the affected unit only. The turbine driven AFW pump systems are not shared systems, therefore no dependency is established in any accident analysis on the opposite unit's turbine driven AFW pump system. Accordingly, this change do not represent a significant reduction in a margin of safety.

NSHC Number	NSHC Text
L.03 Rev. A	Both turbine driven AFW pump steam supply lines are required to be operable to consider the turbine driven AFW pump system to be operable. Therefore, the inoperability of a steam supply line results in entry into the Actions for an inoperability of a turbine driven AFW pump, which allows up to 72 hours to restore the pump to operable status. The proposed ITS will allow 7 days to restore a single inoperable steam supply line to operable status, thus extending the allowable outage time by 96 hours. 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 hardware changes. The AFW system is assumed to function in the mitigation of various design basis events, but is not assumed to be an initiator of any analyzed event. The change will not allow continuous operation such that a single failure will preclude the turbine driven AFW pump system from fulfilling its safety function. This change allows unit operation for an additional 96 hours with one of the two steam supplies to the turbine driven pump inoperable. The consequences of an event occurring during the additional 96 hours are the same as those currently allowed for 72 hours (inoperable turbine driven pump system). 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 does not allow continuous unit operation with a steam supply line to the turbine driven AFW pump inoperable. 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 small probability of an event during this time frame which would affect the availability of the remaining steam supply while requiring the turbine driven AFW pump system for mitigation of the event. The requested Completion Time will provide a reasonable time to restore an inoperable steam supply to operable status. The condition of a turbine driven AFW pump system being inoperable due to the unavailability of a steam supply line is bounded by the Point Beach single failure evaluation. As such, this change does not significantly reduce the margin of safety.

NSHC Number	NSHC Text
L.04 Rev. A	The CTS only provides Actions for a single inoperable AFW pump, thereby requiring each unit to be placed into hot shutdown (equivalent to ITS Mode 3) within 7 hours in accordance with CTS 15.3.0.B, if more than one AFW pump system is inoperable. The proposed ITS Action for all three AFW pump systems inoperable suspends the requirements of LCO 3.0.3 and requires immediate initiation of action to restore one AFW pump system to operable status. 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 changes do not result in any hardware changes, nor does the change significantly increase the probability of any analyzed events since the function of the equipment has remained unchanged. The CTS requirement to place the unit(s) in a condition that requires AFW when no AFW is available is not appropriate and is being corrected by the proposed change. As such, the proposed change has no affect on the probability or consequences of previously evaluated 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. 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 allow application of the Technical Specification Required Actions for the condition of all AFW pumping systems inoperable. This proposed change corrects an inconsistency within the CTS. Accordingly, this change does not represent a significant reduction in a margin of safety.
L.05 Rev. C	Not used.

NSHC Number	NSHC Text
L.06 Rev. D	The CTS does not provide specific Actions for multiple inoperable AFW pumps during dual unit operations, or for failure to meet the Completion Times of CTS 15.3.4.C.1 for a single out of service AFW pump. This could result in a situation where both units would be required to be simultaneously placed into hot shutdown (equivalent to ITS Mode 3) within 7 hours, and cold shutdown (equivalent to ITS MODE 4) within 37 hours in accordance with CTS 15.3.0.B. A Note has been added to ITS Required Action D.1 extending the Completion Time for reaching MODE 3 under these circumstances in order to facilitate an orderly and staggered shutdown of the units. 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 result in any hardware changes, nor does the change significantly increase the probability of any analyzed events since the function of the equipment has remained unchanged. The CTS requirement to conduct a simultaneous dual unit shutdown is not appropriate and is being corrected by the proposed change. As such, the proposed change has no affect on the probability or consequences of previously evaluated 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. 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 allow an extension to the Hot Shutdown Completion Time of LCO 3.0.B in the event of multiple AFW pumps out of service, or failure to meet a stated Completion Time of CTS 15.3.4.C.1. This proposed change corrects an inconsistency within the CTS, and is reasonable based on Industry operating experience related to the time needed to shutdown dual operating units in an orderly manner without challenging plant systems. Accordingly, this change does not represent a significant reduction in a 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
LB 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 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.

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. One motor driven AFW pump system inoperable in MODE 1, 2 or 3.	C.1	Restore motor driven AFW pump system to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO
D. Required Action and associated Completion Time for Condition A, B, or C not met. OR Two AFW pump systems inoperable in MODE 1, 2, or 3.	D.1	-----------NOTE------------ Each unit may be sequentially placed in MODE 3 within 12 hours when both units are in Condition D concurrently. ------------------------------- Be in MODE 3.	6 hours
	AND		
	D.2	-----------NOTE------------ Entry into MODE 4 is not required unless one motor driven AFW pump system is OPERABLE. ------------------------------- Be in MODE 4.	18 hours

D RAI 3.7.5-14

D RAI 3.7.5-14

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
E. Three AFW pump systems inoperable in MODE 1, 2, or 3.	E.1	-----------NOTE------------ LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW pump system is restored to OPERABLE status. ------------------------------ Initiate action to restore one AFW pump system to OPERABLE status.	Immediately
F. One or more required AFW pump systems inoperable in MODE 4.	F.1	Initiate action to restore AFW pump system(s) to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.5.1	---------------------------NOTE--------------------------- AFW pump system(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. -- Verify each AFW manual, power operated, and automatic valve in each water flow path, and in both steam supply flow paths to the steam turbine driven pump, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days

D
RAI 3.7.5-9

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.5.2	-----NOTE----- Not required to be performed for the turbine driven AFW pump until 24 hours after THERMAL POWER exceeds 2% RTP. ----- Verify the developed head of each required AFW pump at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.7.5.3	-----NOTE----- AFW pump system(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. ----- Verify each AFW automatic valve 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 3.7.5.4	-----NOTES----- 1. Not required to be performed for the turbine driven AFW pump until 24 hours after $\geq$ 1000 psig in the steam generator. 2. AFW pump system(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. ----- Verify each AFW pump starts automatically on an actual or simulated actuation signal.	18 months

C RAI 3.7.5-1

C RAI 3.7.5-1

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.5.5	Verify proper alignment of the required AFW flow paths by verifying flow from the condensate storage tank to each steam generator supplied by the respective AFW pump system.	Prior to THERMAL POWER exceeding 2% RTP whenever unit has been in MODE 5, MODE 6, or defueled for a cumulative period of > 30 days

C
RAI 3.7.5-2

B 3.7 PLANT SYSTEMS

B 3.7.5 Auxiliary Feedwater (AFW) System

BASES

BACKGROUND

The AFW System automatically supplies feedwater to the steam generators to remove decay heat from the Reactor Coolant System upon the loss of normal feedwater supply. The AFW pumps provide cooling water to the steam generator secondary side via connections to the main feedwater (MFW) piping inside containment. The steam generators function as a heat sink for core decay heat. The heat load is dissipated by releasing steam to the atmosphere from the steam generators via the main steam safety valves (MSSVs) (LCO 3.7.1) or atmospheric dump valves (LCO 3.7.4). If the main condenser is available, steam may be released via the steam bypass valves and recirculated to the CST.

The AFW System consists of three independent pump systems; two motor driven AFW pumps which are shared between the two units, and one dedicated steam turbine driven pump per unit. Each motor driven pump is capable of providing 100% of the design AFW flow rate, while the turbine driven pump is capable of providing 200% of the design flowrate. Each pump is provided with a recirculation line to maintain pump discharge flow above the minimum required flow rate for pump cooling. Each AFW pump system can be manually aligned to take suction from the service water system. The normal source of water for the AFW pumps is the Condensate Storage Tank (CST) and the safety related supply is the Service Water (SW) System. Motor operated valves are provided to allow the suction supply for the AFW pumps to be manually transferred to the SW system. For an AFW pump system to be considered OPERABLE, its associated service water suction supply valve must be operable. CST low level alarms and AFW pump low suction pressure alarms and trips are provided to alert personnel that the AFW pump suction supply must be manually swapped.

Each motor driven AFW pump is powered from an independent safeguards power supply and feeds one steam generator in each unit. AFW pump P-38A supplies AFW flow to the Unit 1 and Unit 2 A steam generators, while AFW pump P-38B supplies the Unit 1 and Unit 2 B steam generators. Each motor driven AFW pump's discharge header contains two normally closed automatic motor operated valves. Upon receipt of an AFW actuation signal, the discharge valve associated with the affected unit receives an automatic open signal and the discharge valve associated with the unaffected unit receives an automatic close signal. This feature will ensure that 100% of the motor driven AFW pump flow will be delivered to the affected unit, thereby, assuring that

BASES

BACKGROUND (continued)

the accident analysis flowrates are met. Each motor driven AFW pump is also equipped with a backpressure control valve, which is designed to preclude the motor driven AFW pump from tripping on an overcurrent condition at low steam generator pressures.

The motor driven AFW pump systems actuate automatically on steam generator water level (low-low) and upon receipt of an safety injection (SI) signal. If offsite power is available, the motor driven AFW pump systems actuate immediately. If offsite power is not available, the safeguards buses shed their normal operating loads and are connected to the emergency diesel generators (EDGs). The motor driven AFW pump systems are then actuated per their programmed time sequence. While not credited in any DBA analysis, the motor driven AFW pump systems also actuate on; a trip of all MFW pumps, and by the Anticipated Transient Without Scram Mitigating System Actuation Circuit.

Each unit's turbine driven AFW pump receives steam from both steam generator main steam lines upstream of the main steam isolation valves. Each of the two steam feed lines can supply 100% of the required steam flow to the turbine driven AFW pump. Both steam supply lines must be OPERABLE to consider the turbine driven AFW pump OPERABLE. All power-operated valves associated with the turbine driven AFW pump system are DC-powered, with the exception of the service water suction supply valve (Unit 1 and Unit 2 AF-4006) which is powered from a 480 Volt AC safeguards bus.

The turbine driven AFW pump system actuates automatically on a steam generator water level - low-low in both steam generators. While not credited in any DBA analysis, the turbine driven AFW pump system also actuates on; a trip of all MFW pumps, undervoltage on both main feedwater pump buses, and by the Anticipated Transient Without Scram Mitigating System Actuation Circuit.

The AFW System is capable of supplying feedwater to the steam generators during normal unit startup, shutdown, and hot standby conditions.

One pump at full flow is sufficient to remove decay heat and cool the unit to residual heat removal (RHR) entry conditions. Thus, the requirement for diversity in motive power sources for the AFW System is met.

The AFW System is designed to supply sufficient water to the steam generator(s) to remove decay heat with steam generator pressure at the setpoint of the MSSVs. Subsequently, the AFW System supplies sufficient water to cool the unit to RHR entry conditions, with steam released through the ADVs.

BASES

BACKGROUND (continued)	The AFW System is discussed in the FSAR, Section 10.2 (Ref. 1).

APPLICABLE SAFETY ANALYSES

The AFW System mitigates the consequences of any event with loss of normal feedwater.

The design basis of the AFW System is to supply water to the steam generator to remove decay heat and other residual heat by delivering at least the minimum required flow rate to the steam generators at pressures in excess of the steam generator safety valve set pressure.

In addition, the AFW System must supply enough makeup water to replace steam generator secondary inventory lost as the unit cools to MODE 4 conditions.

The AFW system is assumed to function in the mitigation of Design Basis Accidents (DBAs) and transients to include; Steam Generator Tube Rupture (SGTR), main steam line break, loss of normal feedwater, and loss of all AC power to the station auxiliaries. The AFW system must be capable of isolating AFW to the ruptured steam generator following a SGTR in addition to isolating the steam supply to turbine driven AFW pump associated with the ruptured steam generator. Although the AFW System will be initiated during the Small Break LOCA, the event has been analyzed with no credit for AFW. The Small Break LOCA was analyzed without AFW to be conservative and to limit the modeling required to address all possible combinations and time delays for various AFW system configurations.

The limiting Design Basis Accident (DBA) for the AFW System is the loss of normal feedwater event (Ref. 2).

The ESFAS automatically actuates the AFW turbine driven pump and associated power operated valves and controls when required to ensure an adequate feedwater supply to the steam generators during loss of power. DC power operated valves are provided for each AFW line to control the AFW flow to each steam generator.

The AFW System satisfies the requirements of Criterion 3 of the NRC Policy Statement.

BASES

LCO

This LCO provides assurance that the AFW System will perform its design safety function to mitigate the consequences of Design Basis Accidents and transients. Three AFW pump systems, consisting of two shared motor driven pump systems and one dedicated turbine driven pump system are required to be OPERABLE to ensure the availability of RHR capability for all events accompanied by a loss of offsite power and a single failure. This is accomplished by powering two of the pumps from independent emergency buses. The third AFW pump is powered by a different means, a steam driven turbine supplied with steam from a source that is not isolated by closure of the MSIVs.

The AFW System is configured into three pump systems. The AFW System is considered OPERABLE when the components and flow paths required to provide redundant AFW flow to the steam generators are OPERABLE, and the components required to manually transfer AFW pump suction supply to the service water system are OPERABLE. This requires that the two motor driven AFW pumps be OPERABLE, each capable of supplying AFW to a separate steam generator. The turbine driven AFW pump is required to be OPERABLE with redundant steam supplies from each main steam line upstream of the MSIVs, and shall be capable of supplying AFW to both of the steam generators. The piping, valves, instrumentation, and controls in the required flow paths also are required to be OPERABLE.

The LCO is modified by a Note indicating that only the motor driven AFW pumps which are associated with steam generators required to be operable for heat removal (per LCO 3.4.6) are required to be OPERABLE in MODE 4. This is because of the reduced heat removal requirements and short period of time in MODE 4 during which the AFW is required and the insufficient steam available in MODE 4 to power the turbine driven AFW pump.

APPLICABILITY

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

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

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

BASES

ACTIONS

A.1

If one of the two steam supplies to the turbine driven AFW pump system is inoperable, action must be taken to restore the inoperable steam supply to OPERABLE status within 7 days. The 7 day Completion Time is reasonable, based on the following reasons:

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

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

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

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

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

B.1

With the turbine driven AFW pump system (e.g., pump, flow path, or turbine) inoperable in MODE 1, 2, or 3, action must be taken to restore the pump system to OPERABLE status within 72 hours. The 72 hour Completion Time is reasonable, based on redundant capabilities afforded by the remaining OPERABLE motor driven AFW pump systems, time needed for repairs, and the low probability of a DBA occurring during this time period.

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

BASES

ACTIONS (continued)

The 10 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered simultaneously. The AND connector between the 72 hour and 10 day Completion Times dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

C.1

With one of the motor driven AFW pump systems (e.g., pump or flow path) inoperable in MODE 1, 2, or 3, action must be taken to restore the pump system to OPERABLE status within 7 day. The 7 day Completion Time is reasonable, based on redundant capabilities afforded by the remaining OPERABLE motor driven and turbine driven AFW pump systems, time needed for repairs, and the low probability of a DBA occurring during this time period.

The second Completion Time for Required Action C.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered simultaneously. The AND connector between the 7 day and 10 day Completion Times dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

D.1 and D.2

When Required Action A.1 , B.1, or C.1 cannot be completed within the required Completion Time, or if two AFW pump systems are inoperable in MODE 1, 2, or 3, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4 within 18 hours.

Required Action D.1 is modified by a Note indicating that each unit may be sequentially placed in MODE 3 within 12 hours when both units are in Condition D concurrently. Proper application of this Note requires that no more than 12 hours elapse between the time Condition D.1 is entered for the first unit and entry into MODE 3 for both units. This Completion Time extension is reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. D RAI 3.7.5-14

BASES

ACTIONS (continued)

Required Action D.2 is modified by a Note indicating that entry into MODE 4 is not required unless one motor driven AFW pump system is OPERABLE. This Completion Time extension precludes entry into an operational condition where a motor driven AFW pump system may be needed when no motor driven AFW pump systems are available.

RAI 3.7.5-14

The allowed Completion Times, as modified by the Notes, are reasonable based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

E.1

If all three AFW pump systems are inoperable in MODE 1, 2, or 3, the unit is in a seriously degraded condition with no safety related means for conducting a cooldown, and only limited means for conducting a cooldown with non-safety related equipment. In such a condition, the unit should not be perturbed by any action, including a power change, that might result in a trip. The seriousness of this condition requires that action be started immediately to restore one AFW train to OPERABLE status.

Required Action E.1 is modified by a Note indicating that all required MODE changes or power reductions are suspended until one AFW pump system is restored to OPERABLE status. In this case, LCO 3.0.3 is not applicable because it could force the unit into a less safe condition.

F.1

In MODE 4, either the reactor coolant pumps or the RHR loops can be used to provide forced circulation. This is addressed in LCO 3.4.6, "RCS Loops-MODE 4." With one or more required motor driven pump systems inoperable, action must be taken to immediately restore the inoperable pump system(s) to OPERABLE status. The immediate Completion Time is consistent with LCO 3.4.6.

SURVEILLANCE REQUIREMENTS

SR 3.7.5.1

Verifying the correct alignment for manual, power operated, and automatic valves in the AFW System water and steam supply flow paths provides assurance that the proper flow paths will exist for AFW operation. This SR therefore also applies to Main Steam and Service Water valves located in these flowpaths. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they are verified to be in the correct position prior to locking, sealing, or

RAI 3.7.5-9

BASES

SURVEILLANCE REQUIREMENTS (continued)

securing. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This Surveillance does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position.

The SR is modified by a Note that states one or more AFW trains may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually (i.e., remotely or locally, as appropriate) realigned to the AFW mode of operation, provided it is not otherwise inoperable. This exception allows the system to be out of its normal standby alignment and temporarily incapable of automatic initiation without declaring the train(s) inoperable. Since AFW may be used during startup, shutdown, hot standby operations, and hot shutdown operations for steam generator level control, and these manual operations are an accepted function of the AFW system, OPERABILITY (i.e., the intended safety function) continues to be maintained.

The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve positions.

SR 3.7.5.2

Verifying that each AFW pump's developed head at the flow test point is greater than or equal to the required developed head ensures that AFW pump performance has not degraded during the cycle. Flow and differential head are normal tests of centrifugal pump performance required by Section XI of the ASME Code (Ref 3). 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 indicating abnormal performance. Performance of inservice testing discussed in the ASME Code, Section XI (Ref. 3) (only required at 3 month intervals) satisfies this requirement.

This SR is modified by a Note indicating that performance of this SR for the turbine driven AFW pump is required to be completed within 24 hours after the unit exceeds 2% of RTP. This exception is required to prevent excessive RCS cooldowns as a result of steam draw from the steam generators during pump testing. This Note allows suitable test conditions to be established while allowing a reasonable time period to complete the SR during unit startups and low power operation. C RAI 3.7.5-1

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.5.3

This SR verifies that AFW can be delivered to the appropriate steam generator in the event of any accident or transient that generates an ESFAS, by demonstrating that each motor driven AFW pump discharge motor operated valve (AF-4020, 4021, 4022, and 4023) actuate to their correct positions on an actual or simulated actuation 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 unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 18 month Frequency is acceptable based on operating experience and the design reliability of the equipment.

The SR is modified by a Note that states one or more AFW trains may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually (i.e., remotely or locally, as appropriate) realigned to the AFW mode of operation, provided it is not otherwise inoperable. This exception allows the system to be out of its normal standby alignment and temporarily incapable of automatic initiation without declaring the train(s) inoperable. Since AFW may be used during startup, shutdown, hot standby operations, and hot shutdown operations for steam generator level control, and these manual operations are an accepted function of the AFW system, OPERABILITY (i.e., the intended safety function) continues to be maintained. D Additional change

SR 3.7.5.4

This SR verifies that the AFW pumps will start in the event of any accident or transient that generates an ESFAS by demonstrating that each AFW pump starts automatically on an actual or simulated actuation signal. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. D Additional change

The ability of the Main Steam supply valves for the turbine driven pump to actuate to the correct position on an actual or simulated actuation signal is verified by this SR. The ability of the motor driven AFW pump discharge valves to actuate to the correct position on an actual or simulated actuation signal is also tested by this SR. The AFW discharge pressure control valves do not receive an automatic actuation signal and are not included within this SR. D RAI 3.75-9

BASES

SURVEILLANCE REQUIREMENTS (continued)

This SR is modified by two Notes. Note 1 indicates that the SR may be deferred until suitable test conditions are established. This deferral is required because there is insufficient steam pressure to perform the test. Note 2 states one or more AFW trains may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually (i.e., remotely or locally, as appropriate) realigned to the AFW mode of operation, provided it is not otherwise inoperable. This exception allows the system to be out of its normal standby alignment and temporarily incapable of automatic initiation without declaring the train(s) inoperable. Since AFW may be used during startup, shutdown, hot standby operations, and hot shutdown operations for steam generator level control, and these manual operations are an accepted function of the AFW system, OPERABILITY (i.e., the intended safety function) continues to be maintained.

D RAI 3.75-9

C RAI 3.7.5-1

SR 3.7.5.5

C RAI 3.7.5-1

This SR verifies that the AFW is properly aligned by verifying the flow paths from the CST to each steam generator supplied by the respective AFW pump system prior to exceeding 2% of RTP after more than 30 days in any combination of MODE 5 or 6 or defueled. OPERABILITY of AFW flow paths must be verified before sufficient core heat is generated that would require the operation of the AFW System during a subsequent shutdown. The Frequency is reasonable, based on engineering judgement and other administrative controls that ensure that flow paths remain OPERABLE. To further ensure AFW System alignment, flow path OPERABILITY is verified following extended outages to determine no misalignment of valves has occurred. This SR ensures that the flow path from the CST to the steam generators is properly aligned.

REFERENCES

1. FSAR, Section 10.2.
2. FSAR, Section 14.1.10.
3. ASME, Boiler and Pressure Vessel Code, Section XI.

Justification For Deviations - NUREG-1431 Section 3.07.06

21-Feb-01

JFD Number	JFD Text	
01 Rev. A	The proposed Bases has been modified to reflect the Point Beach design and licensing basis. The Point Beach CSTs are non-safety related, because the tanks are not located in a safety related seismic category I structure. The CSTs are the preferred source of water for the auxiliary feedwater (AFW) system because the CSTs are highly reliable structures and contain high quality water make up water. The safety related source of water to the AFW system is the service water system. The service water system provides a virtually unlimited supply of make up water from the lake Michigan via either leg of the service water supply header, but is a low quality source. The AFW pump systems are considered operable based on the operability of their associated service water suction supply. CST low level alarms and AFW pump low suction pressure alarms and trips are provided to prevent pump damage and to alert personnel if the AFW pump suction supply must be manually swapped. The limiting event for CST volume is the total loss of AC (Station Blackout) event. The minimum amount of water in the CST assures the capability to maintain the unit in Mode 3 for at least one hour concurrent with a loss of all AC power, while then allowing sufficient operator action time to transfer AFW suction to the service water system. The minimum CST level is consistent with NRC recommendations made in the Station Blackout Safety Evaluation dated October 3, 1990, which was calculated in accordance with the recommendations contained in NUMARC 87-00, Section 7.2.	
	ITS:	**NUREG:**
	B 3.07.06	B 3.07.06
02 Rev. A	The brackets have been removed and the proper plant specific information has been provided.	
	ITS:	**NUREG:**
	B 3.07.06	B 3.07.06
	LCO 3.07.06 COND B RA B.2	LCO 3.07.06 COND B RA B.2
	SR 3.07.06.01	SR 3.07.06.01 SR 3.07.06.01
03 Rev. A	Main feedwater and AFW line breaks are not events within the Point Beach Licensing Basis used to derive required CST volume. The service water system is the safety related water supply to the AFW pump systems. The service water system provides a virtually unlimited supply of water to the AFW pumps systems from Lake Michigan. As such, the statement regarding AFW and main feedwater line breaks relative to CST volume have been omitted.	
	ITS:	**NUREG:**
	B 3.07.06	B 3.07.06

Justification For Deviations - NUREG-1431 Section 3.07.06

21-Feb-01

JFD Number	JFD Text
04 Rev. A	The Bases state that the required CST volume may be a single value or a function of RCS conditions. This is reviewer/developer information which is not relevant to the Point Beach ITS. This information has been omitted. **ITS:** B 3.07.06 — **NUREG:** B 3.07.06
05 Rev. A	NUREG 1431 contains a Required Action which will allow a unit to continue to operate for up to seven days with an inoperable CST. This Action requires verification by administrative means, that the AFW back up water supply is operable once within 4 hours and every 12 hours thereafter. This is an unnecessary Action, which has not been adopted. Additionally, changes to the Bases discussion related to Required Action A.2 have not been incorporated. The Point Beach CSTs are non-safety related. The safety related source of water to the AFW pump systems is the service water system. AFW system operability requires the operability of the associated pump systems safety related water source. Verification of back up flowpaths operability (the service water system) using administrative measures (e.g. verification of surveillance records, absence of tag outs, etc;) is an unnecessary action, as the service water system is the required safety related supply, and its operability is an attribute of AFW pump system operability. Therefore, if the service water supply was inoperable, the AFW pump systems themselves would have already been declared inoperable, fulfilling the intent of an administrative check. **ITS:** B 3.07.06 — **NUREG:** B 3.07.06 **ITS:** LCO 3.07.06 COND A RA A.1 — **NUREG:** LCO 3.07.06 COND A RA A.2 **ITS:** N/A — **NUREG:** LCO 3.07.06 COND A RA A.1
06 Rev. D	The Bases of NUREG 1431 LCO 3.7.6 provides a background discussion regarding condensate inventory conservation and return to the condensate storage tanks (CST) which is unrelated to the LCO and is inappropriate to the design and operation of the Point Beach CST and condensate system. As such, this discussion has been omitted from the proposed ITS. Additionally, text has been added to the Bases Background to discuss Operation of the AFW pumps with continuous recirculation at low flows. **ITS:** B 3.07.06 — **NUREG:** B 3.07.06

JFD Number	JFD Text	
07 Rev. D	The proposed LCO and Bases have been modified to reflect the Point Beach design and licensing basis. The STS LCO and Bases for condensate storage tanks (CSTs) describes a design configuration where each unit has one dedicated CST. However, the CSTs at Point Beach are common to both units, such that one CST can provide the required minimum inventory for both units simultaneously. Applicable portions of the LCO and Bases have been modified to reflect this difference.	
	ITS:	**NUREG:**
	B 3.07.06	B 3.07.06

B 3.7 PLANT SYSTEMS

B 3.7.6 Condensate Storage Tank (CST)

1

BASES

is the preferred

BACKGROUND

The CST ~~provides a safety grade~~ source of water to the steam generators for removing decay and sensible heat from the Reactor Coolant System (RCS). The CST provides a passive flow of water, by gravity, to the Auxiliary Feedwater (AFW) System (LCO 3.7.5). The steam produced is released to the atmosphere by the main steam safety valves or the atmospheric dump valves. The AFW pumps operate with a continuous recirculation to the CST at low flows.

6

D
RAI 3.7.6-3

~~When the main steam isolation valves are open, the preferred means of heat removal is to discharge steam to the condenser by the non-safety grade path of the steam bypass valves. The condensed steam is returned to the CST by the condensate transfer pump. This has the advantage of conserving condensate while minimizing releases to the environment.~~

7

Replace with Insert B 3.7.6-1

~~Because the CST is a principal component in removing residual heat from the RCS, it is designed to withstand earthquakes and other natural phenomena, including missiles that might be generated by natural phenomena. The CST is designed to Seismic Category I to ensure availability of the feedwater supply. Feedwater is also available from alternate sources.~~

D
RAI 3.7.6-3

A description of the CST is found in the FSAR, Section ~~[9.2.6]~~ 10.2 (Ref. 1).

2

APPLICABLE SAFETY ANALYSES

1

Replace with Insert B 3.7.6-2

~~The CST provides cooling water to remove decay heat and to cool down the unit following all events in the accident analysis as discussed in the FSAR, Chapters [6] and [15] (Refs. 2 and 3, respectively). For anticipated operational occurrences and accidents that do not affect the OPERABILITY of the steam generators, the analysis assumption is generally 30 minutes at MODE 3, steaming through the MSSVs, followed by a cooldown to residual heat removal (RHR) entry conditions at the design cooldown rate.~~

BASES

APPLICABLE SAFETY ANALYSES (continued)

1

Replace with Insert B 3.7.6-2

The limiting event for the condensate volume is the large feedwater line break coincident with a loss of offsite power. Single failures that also affect this event include the following:

a. Failure of the diesel generator powering the mot or driven AFW pump to the unaffected steam generator (requiring additional steam to drive the remaining AFW pump turbine); and

b. Failure of the steam driven AFW pump (requiring a longer time for cooldown using only one motor driven AFW pump).

These are not usually the limiting failures in terms of consequences for these events.

3

A nonlimiting event considered in CST inventory determinations is a break in either the main feedwater or AFW line near where the two join. This break has the potential for dumping condensate until terminated by operator action, since the Emergency Feedwater Actuation System would not detect a difference in pressure between the steam generators for this break location. This loss of condensate inventory is partially compensated for by the retention of steam generator inventory.

Approved TSTF-140

Criteria 2 and 3

The CST satisfies Criterion 3 of the NRC Policy Statement.

LCO

7

Replace with Insert B 3.7.6-3

To satisfy accident analysis assumptions, the CST must contain sufficient cooling water to remove decay heat for [30 minutes] following a reactor trip from 102% RTP, and then to cool down the RCS to RHR entry conditions, assuming a coincident loss of offsite power and the most adverse single failure. In doing this, it must retain sufficient water to ensure adequate net positive suction head for the AFW pumps during cooldown, as well as account for any losses from the steam driven AFW pump turbine, or before isolating AFW to a broken line.

The CST level required is equivalent to a usable volume of ≥ [110,000 gallons], which is based on holding the unit in

D

RAI 3.7.6-3

7 In addition, system piping and valves required to function during accident conditions that are directly associated with the CST must be OPERABLE.

BASES

LCO (continued)

1 Replace with Insert B 3.7.6-3

~~MODE 3 for [2] hours, followed by a cooldown to RHR entry conditions at [75]°F/hour. This basis is established in Reference 4 and exceeds the volume required by the accident analysis.~~

The OPERABILITY of the CST is determined by maintaining the tank level at or above the minimum required level.

D RAI 3.7.6-3

APPLICABILITY

In MODES 1, 2, and 3, and in MODE 4, when steam generator is being relied upon for heat removal, the CST is required to be OPERABLE.

In MODE 5 or 6, the CST is not required because the AFW System is not required.

ACTIONS

5 Approved TSTF-140 OPERABLE

A.1 ~~and A.2~~

Replace with Insert B 3.7.6-4

~~If the CST level is not within limits the OPERABILITY of the backup supply should be verified by administrative means within 4 hours and once every 12 hours thereafter. OPERABILITY of the backup feedwater supply must include verification that the flow paths from the backup water supply to the AFW pumps are OPERABLE, and that the backup supply has the required volume of water available. The CST must be restored to OPERABLE status within 7 days, because the backup supply may be performing this function in addition to its normal functions. The 4 hour Completion Time is reasonable, based on operating experience, to verify the OPERABILITY of the backup water supply. The 7 day Completion Time is reasonable, based on an OPERABLE backup water supply being available, and the low probability of an event occurring during this time period requiring the CST.~~

B.1 and B.2

If the CST cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4, without reliance on the steam

BASES INSERTS

Insert B 3.7.6-1:

The CST is non-safety related, because the tanks are not located in a Safety Related Seismic Category I structure. Each of the two CSTs has a capacity of 45,000 gallons and is shared by both units. As such, a single CST has sufficient capacity to supply the required 13,000 gallon per unit volume. The safety related source of water to the AFW System is the Service Water System (LCO 3.7.8). An AFW pump system can be considered OPERABLE with an inoperable CST based on the OPERABILITY of its associated service water suction supply valve with service water available from either leg of the plant service water system. CST low level alarms and AFW pump low suction pressure alarms and trips are provided to prevent pump damage and to alert personnel that the AFW pump suction supply must be manually swapped. D RAI 3.7.6-3

The Applicable Safety Analyses section of Bases 3.7.5 also applies to this Bases section.

Insert B 3.7.6-2:

The CST provides the preferred source of water to the AFW pump systems to remove decay heat and to cool down a unit following various accidents as discussed in the FSAR, Chapter 14 (Ref. 2). The safety related source of water to the AFW pump systems is the Service Water System. Motor operated valves are provided to allow the suction supply for the AFW pumps to be manually transferred to the SW system. The Applicable Safety Analyses section of Bases 3.7.5 also applies to this Bases section.

The limiting event for CST volume is the Station Blackout event (Ref. 3). The minimum amount of water in the CST assures the capability to maintain a unit in MODE 3 for at least one hour concurrent with a loss of all AC power, while then allowing sufficient operator action time to transfer AFW suction to the service water system. The minimum CST level is consistent with NRC recommendations made in the Station Blackout Safety Evaluation (Ref. 4), which was calculated in accordance with the recommendations contained in NUMARC 87-00, Section 7.2 (Ref. 5). Once the suction source is transferred to the service water system, an unlimited supply of water is available from the lake via either leg of the plant service water system. D RAI 3.7.6-3

Insert 3.7.6-3:

The CST level requirement is for a usable volume of ≥ 13,000 gallons, which assures the capability to maintain the unit in MODE 3 for at least one hour concurrent with a loss of all AC power, while then allowing sufficient operator action time to transfer AFW suction to the service water system. The basis for this limit is established in Reference 4. Since the CSTs are common to both units, this LCO may be satisfied by a single or multiple CST(s) containing the required combined volume. The safety related source of water to the AFW system is the service water system. D RAI 3.7.6-3

B 3.7 PLANT SYSTEMS

B 3.7.6 Condensate Storage Tank (CST)

BASES

BACKGROUND

The CST is the preferred source of water to the steam generators for removing decay and sensible heat from the Reactor Coolant System (RCS). The CST provides a passive flow of water, by gravity, to the Auxiliary Feedwater (AFW) System (LCO 3.7.5). The steam produced is released to the atmosphere by the main steam safety valves or the atmospheric dump valves. The AFW pumps operate with a continuous recirculation to the CST at low flows. D RAI 3.7.6-3

The CST is non-safety related, because the tanks are not located in a Safety Related Seismic Category I structure. Each of the two CSTs has a capacity of 45,000 gallons, and is shared by both units. As such, a single CST has sufficient capacity to supply the required 13,000 gallon per unit volume. The safety related source of water to the AFW System is the Service Water System (LCO 3.7.8). An AFW pump system can be considered OPERABLE with an inoperable CST based on the OPERABILITY of its associated service water suction supply valve with service water available from either leg of the plant service water system. CST low level alarms and AFW pump low suction pressure alarms and trips are provided to prevent pump damage and to alert personnel that the AFW pump suction supply must be manually swapped. D RAI 3.7.6-3

The Applicable Safety Analyses section of Bases 3.7.5 also applies to this Bases section.

A description of the CST is found in the FSAR, Section 10.2 (Ref. 1).

APPLICABLE SAFETY ANALYSES

The CST provides the preferred source of water to the AFW pump systems to remove decay heat and to cool down a unit following various accidents as discussed in the FSAR, Chapter 14 (Ref. 2). The safety related source of water to the AFW pump systems is the Service Water System. Motor operated valves are provided to allow the suction supply for the AFW pumps to be manually transferred to the SW system. The Applicable Safety Analyses section of Bases 3.7.5 also applies to this Bases section.

The limiting event for CST volume is the Station Blackout event (Ref. 3). The minimum amount of water in the CST assures the capability to maintain the unit in MODE 3 for at least one hour concurrent with a loss of all AC power, while then allowing sufficient operator action time to transfer AFW suction to the service water D RAI 3.7.6-3

BASES

APPLICABLE SAFETY ANALYSES (continued)	system. The minimum CST level is consistent with NRC recommendations made in the Station Blackout Safety Evaluation (Ref. 4), which was calculated in accordance with the recommendations contained in NUMARC 87-00, Section 7.2 (Ref. 5). Once the suction source is transferred to the service water system, an unlimited supply of water is available from the lake via either leg of the plant service water system. The CST satisfies Criteria 2 and 3 of the NRC Policy Statement.
LCO	The CST level requirement is for a usable volume of ≥ 13,000 gallons, which assures the capability to maintain the unit in MODE 3 for at least one hour concurrent with a loss of all AC power, while then allowing sufficient operator action time to transfer AFW suction to the service water system. The basis for this limit is established in Reference 4. Since the CSTs are common to both units, this LCO may be satisfied by a single, or multiple, CST(s) containing the required combined volume. The safety related source of water to the AFW system is the service water system. D RAI 3.7.6-3 The OPERABILITY of the CST is determined by maintaining the tank level at or above the minimum required level. In addition, system piping and valves required to function during accident conditions that are directly associated with the CST must be OPERABLE. D RAI 3.7.6-3
APPLICABILITY	In MODES 1, 2, and 3, and in MODE 4, when steam generator is being relied upon for heat removal, the CST is required to be OPERABLE. In MODE 5 or 6, the CST is not required because the AFW System is not required.
ACTIONS	<u>A.1</u> If the CST is not OPERABLE, the CST must be restored to OPERABLE status within 7 days, to re-establish the preferred source of water to the AFW pump systems. The 7 day Completion Time is reasonable, based on the OPERABILITY of the service water system as a readily available safety related source of water to the AFW pump systems, and the low probability of an event occurring during this time period. <u>B.1 and B.2</u> If the CST cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in

BASES

ACTIONS (continued)

which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4, without reliance on the steam generator for heat removal, within 18 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.6.1

This SR verifies that the CST contains the required volume of cooling water. The 12 hour Frequency is based on operating experience and the need for operator awareness of unit evolutions that may affect the CST inventory between checks. Also, the 12 hour Frequency is considered adequate in view of other indications in the control room, including alarms, to alert the operator to abnormal deviations in the CST level.

REFERENCES

1. FSAR. Section 10.2.
2. FSAR. Chapter 14.
3. 10 CFR 50.63.
4. NRC Safety Evaluation of the Point Beach response to the Station Blackout Rule, dated October 3, 1990.
5. Guidelines and Technical Bases for NUMARC Incentives Addressing Station Blackout at Light Water Reactors, Section 7.2, dated November, 1987.

Description of Changes - NUREG-1431 Section 3.07.07

21-Feb-01

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 3.07.07
	15.03.03.C.02	LCO 3.07.07 COND C
	15.03.03.C.02.A	LCO 3.07.07 COND A
	15.03.03.C.02.B	LCO 3.07.07 COND B
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 3.07.07
A.03 Rev. A	The CTS provides an introductory statement (Objective) at the beginning of this Section of the Technical Specifications which provides 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	B 3.07.07
A.04 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 3.07.07
		B 3.07.07

Description of Changes - NUREG-1431 Section 3.07.07

21-Feb-01

DOC Number	DOC Text
A.05 Rev. A	The CTS states that during power operation the requirements of Specifications 15.3.3.C.1 (i.e. CC pumps, heat exchangers, valves, interlocks and piping) may be modified to allow a CC pump and heat exchanger to be inoperable for a limited period of time before requiring a unit shutdown. This Specification establishes the structure for the remedial actions in the CTS. The ITS contains specific usage rules for consistent application of the Conditions and Required Actions associated with varying system inoperabilities consistent with the format and presentation of NUREG 1431. Accordingly, deletion of a specific Specification directing usage of Actions is unnecessary, as it duplicates the ITS usage rules. This change is administrative. **CTS:** 15.03.03.C.02 **ITS:** DELETED
A.06 Rev. A	The CTS 15.3.3.C.1 requires the Component Cooling Water System to be operable prior to the reactor being made critical. However, CTS 15.3.3.C.2 requires the unit to be placed into Hot Shutdown (ITS Mode 3) and ultimately Cold Shutdown (ITS Mode 5), if the Component Cooling Water System is inoperable in excess of the allowable outage time, implying an Applicability of Modes 1, 2, 3, and 4 (ITS Modes). Proposed LCO 3.7.7 will require the Component Cooling Water 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:** 15.03.03.C.01 **ITS:** LCO 3.07.07

DOC Number	DOC Text
LA.01 Rev. A	CTS 15.3.3.C.1 specifies the minimum required Component Cooling Water (CC) components necessary to consider a CC System operable in addition to clarifying sharing of the CC heat exchangers between the units. An operable CC System consists of the two CC pumps assigned to the respective unit, two CC heat exchangers (the unit specific and a common or two common heat exchangers), and the valves interlocks and piping associated with these components. The proposed ITS will continue to require two CC pumps, and two CC heat exchangers to be operable, but has moved the prescriptive details regarding which pumps and heat exchangers to licensee control. Similarly, the detailing of support (piping, valves, and interlocks) and shared (heat exchangers) components has also been moved to licensee control. Assignment and sharing of components, in addition to the valves, interlocks, and piping associated with the CC System required for the system to fulfill its safety function during accident conditions are attributes associated with system design and configuration, which are adequately captured through application of the definition of operability. Therefore, these details are still encompassed within the LCO through application of the definition of operability. These attributes are discussed and clarified within the Bases for the proposed Point Beach ITS, and the FSAR. Changes to these details will be controlled in accordance with the provisions of the Bases Control Program described in Chapter 5 of the Technical Specifications and 10 CFR 50.59 as applicable. As such, these details are not required to be in the ITS to provide adequate protection of public health and safety.

CTS:	ITS:
15.03.03.C.01.A	FSAR LCO 3.07.07
15.03.03.C.01.B	FSAR LCO 3.07.07
15.03.03.C.01.C	FSAR

DOC Number	DOC Text
M.01 Rev. D	Not used.

CTS:	ITS:
N/A	N/A

DOC Number	DOC Text
M.02 Rev. A	CTS 15.3.3.C.2 requires the unit to be placed into hot shutdown (equivalent to ITS Mode 3), if the CC system (pump or heat exchanger inoperability) is not restored to operable status within 72 hours, however the CTS does not specify any time limit for obtaining hot shutdown. The CTS then allows the unit to remain in Hot Shutdown for an additional 48 hours before requiring the unit to be placed into Cold Shutdown (equivalent to ITS Mode 5), but no specific time limit is specified for obtaining cold shutdown. Upon expiration of the ITS Completion Times for inoperable CC equipment, the proposed ITS will require the unit to be placed into Mode 3 within 6 hours and Mode 5 within 36 hours, establishing a specific time limit for achieving Mode 3 and Mode 5, while deleting the provision which allows the unit to remain in hot shutdown for 48 hours.

CTS:	ITS:
15.03.03.C.02	LCO 3.07.07 COND C RA C.1 LCO 3.07.07 COND C RA C.2

DOC Number	DOC Text
M.03 Rev. A	The CTS does not contain any CC system tests (with the exception of ASME Section XI testing), because the CC system is a normally operated system, which is therefore monitored for satisfactory performance on an ongoing basis. The proposed ITS will add a periodic surveillance (once every 31 days) to verify that all CC manual, power operated, and automatic valves servicing safety related equipment, which are not locked or otherwise secured in their required position are in their proper positions. This Surveillance will provide assurance that the required safety related flow paths are capable of providing cooling water flow if necessary.

CTS:	ITS:
NEW	SR 3.07.07.01 SR 3.07.07.01 NOTE

DOC Number	DOC Text
M.04 Rev. A	The CTS does not contain a specific condition or limitation to address multiple sequential inoperabilties of a CC System. If sequential overlapping inoperability were to occur (e.g. alternating between an inoperable CC pump and heat exchanger), the CTS does not establish any limitation requiring LCO compliance to be re-established. The proposed ITS contains a Completion Time limit which requires restoration of LCO compliance within 144 hours of first component becoming inoperable. The limit of 144 hours is the summation of the pump and heat exchanger Completion Times allowing the full Completion time for each Condition (pump or heat exchanger) only once, when multiple Condition entry occurs. The addition of this Completion time is an additional restriction not contained in the existing Technical Specifications consistent with other LCOs in NUREG 1431 that present the potential for multiple sequential inoperabilities within the same LCO.

CTS:	ITS:
15.03.03.C.02.A	LCO 3.07.07 COND A RA A.1
15.03.03.C.02.B	LCO 3.07.07 COND B RA B.1

Description of Changes - NUREG-1431 Section 3.07.07

21-Feb-01

DOC Number	DOC Text
M.05 Rev. A	If both CC pumps and both CC heat exchangers in the CC System were to become inoperable the CTS would require entry into LCO 15.3.0.B, which is equivalent to ITS LCO 3.0.3 as discussed in Description of Change M.1 of Section 3.0. The proposed ITS will similarly result in entry into LCO 3.0.3, in addition to LCO 3.7.7 containing a Note which requires entry into the applicable Conditions and Required Actions of LCO 3.4.6 "RCS Loops Mode-4". This Note could, based on plant conditions, require additional Actions to be taken. These additional Actions could include the suspension of all operations involving a reduction of RCS boron concentration, and initiation of actions to restore one loop to operable status and operation. As such, the addition of this note imposes additional compensatory Actions not required by the CTS, making this change more restrictive.

CTS:	**ITS:**
NEW	LCO 3.07.07 COND NOTE

A.1

A.6 → Mode 1, 2, 3, and 4

C. Component Cooling System

1. A reactor shall not be made critical unless the following conditions are met:

See Insert 3.7.7-1 →

a. ~~The two component cooling pumps assigned to that unit are operable.~~

b. Either the component cooling heat exchanger associated with the unit together with one of the shared spare heat exchangers are operable or the two shared spare heat exchangers are operable for single unit operation.

LA.1 → ~~Three component cooling heat exchangers are operable for two unit operation.~~

LA.1 → c. ~~All valves, interlocks and piping associated with the above components, and required for the functioning of the system during accident condition, are operable.~~

2. A.5 → ~~During power operation, the requirements of 15.3.3.C-1 may be modified to allow one of each of the following conditions at any one time.~~

See Insert 3.7.7-2 → ~~If the system is not restored to meet the conditions of 15.3.3.C-1 within the time period specified, the reactor shall be placed in the hot shutdown condition. If the requirements of 15.3.3.C-1 are not satisfied within an additional 48 hours, the reactor shall be placed in the cold shutdown condition.~~

Cond A and RA A.1 → a. ~~One of the assigned component cooling pumps may be out of service provided a pump is restored to operable status within 72 hours.~~

Cond B and RA B.1 → b. ~~One of the required heat exchangers may be may be out of service provided repairs can be completed within 72 hours.~~

M.4 → AND

144 hours from discovery of failure to meet the LCO

M.3 → Add new Surveillance Requirements
See Insert 3.7.7-3

D Additional change

Spec 3.7.7 Inserts

Insert 3.7.7-1:

3.7.7 Component Cooling Water (CC) System

LA.1

LCO 3.7.7 The CC System shall be OPERABLE with: two CC pumps, and two required CC heat exchangers.

D

Additional change

Insert 3.7.7-2:

D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3. <u>AND</u> D.2 Be in MODE 5.	6 hours 36 hours

M.2

Spec 3.7.7 Inserts

Insert 3.7.7-3:

M.3

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.7.1	-------------------NOTE------------------- Isolation of CC flow to individual components does not render the CC System inoperable. -- Verify each CC manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days

D
Additional change

Insert 3.7.7-4:

M.5

ACTIONS
-----------------------------------NOTE-----------------------------------
Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops – MODE 4," for residual heat removal loops made inoperable by CC.

Justification For Deviations - NUREG-1431 Section 3.07.07

21-Feb-01

JFD Number	JFD Text
01 Rev. D	Each Unit's CC System consists of two pumps (P-11A&B), one heat exchanger (HX-12A for Unit 1 and HX-12D for Unit 2), one surge tank and the piping instrumentation and controls necessary to provide equipment heat removal. Two common CC heat exchangers may be used by one or both units. During normal and accident conditions, one component cooling pump and one component cooling heat exchanger can accommodate 100% of the heat removal loads. To support operation in Modes 1, 2, 3, and 4, each Unit must have two pumps and two heat exchangers to provide redundancy. However, with both Units in Modes 1, 2, 3, and 4, one of the common heat exchanger may be shared by both units, allowing a total of three heat exchangers in meeting the minimum LCO requirements. Three heat exchangers will provide sufficient heat removal and flowpath capability to support a design basis accident in one unit and simultaneous shutdown and cooldown operation of the opposite unit. The sharing of a single common standby heat exchanger is allowed by and addressed in Specification 15.3.3.C of the current Technical Specifications. This capability has been moved to licensee control as addressed in Description of Change LA.01 of this LCO. The CC pumps receive a low discharge pressure automatic start signal which is enabled only when no safety injection signals are present. No credit is assumed for the CC pump low discharge pressure automatic start; therefore, this feature is not required for system operability. In the event of a loss of off-site power coincident with a safety injection signal, automatic start of the CC pumps is inhibited on the unit with the safety injection signal. During the recirculation phase following a loss-of-coolant accident, CC System alignment and operation is accomplished by operator action prior to realigning the RHR pump suction to the containment sump. Based on the above site specific design considerations, NUREG 1431 LCO 3.7.7 and its associated Bases have been modified. The changes necessary are described below: Terminology use in the Technical Specifications and associated Bases have been changed from CCW to CC to reflect plant nomenclature used. The LCO has been altered to reflect the CC System on a per unit basis with redundant pumps and heat exchangers. Condition A has been divided into two Conditions, one to address CC pump inoperability, and one for heat exchanger inoperability. This change was necessary to address the Point Beach CC System design, while maintaining the current licensing basis restoration times for these components. The Point Beach ITS also contains a Completion Time limit for these Conditions which requires restoration of LCO compliance within 144 hours of the first component becoming inoperable. The limit of 144 hours is the summation of the pump and heat exchanger Completion Times allowing the full Completion time for each Condition (pump or heat exchanger) only once, when multiple Condition entry occurs. The addition of this Completion time is consistent with other LCO Actions contained in NUREG 1431 that present the potential for multiple sequential inoperabilities which could present the potential for indefinite LCO non-compliance. SR 3.7.7.2 has been deleted since there are no CC automatic isolation valves required for system operability.

JFD Number	JFD Text
	NUREG 1431 SR 3.7.7.3 has been omitted from the Point Beach ITS as there are no safety related CC automatic start signals as previously discussed. The bases of 3.7.7 have also been modified appropriately to reflect the Point Beach CC system attributes discussed above.

ITS:	NUREG:
B 3.07.07	B 3.07.07
LCO 3.07.07	LCO 3.07.07
LCO 3.07.07 COND A	LCO 3.07.07 COND A
LCO 3.07.07 COND A RA A.1	LCO 3.07.07 COND A RA A.1
LCO 3.07.07 COND B	LCO 3.07.07 COND A
LCO 3.07.07 COND B RA B.1	LCO 3.07.07 COND A RA A.1
LCO 3.07.07 COND C	LCO 3.07.07 COND B
LCO 3.07.07 COND C RA C.1	LCO 3.07.07 COND B RA B.1
LCO 3.07.07 COND C RA C.2	LCO 3.07.07 COND B RA B.2
N/A	SR 3.07.07.03

JFD Number	JFD Text
02 Rev. A	The Point Beach CC System does not provide cooling water to the spent fuel pool heat exchangers. Accordingly, reference to the spent fuel pool heat exchangers as a CC System load has been omitted.

ITS:	NUREG:
B 3.07.07	B 3.07.07

JFD Number	JFD Text
03 Rev. A	Brackets have been removed and the appropriate plant specific information has be input.

ITS:	NUREG:
B 3.07.07	B 3.07.07

Justification For Deviations - NUREG-1431 Section 3.07.07

21-Feb-01

JFD Number	JFD Text
04 Rev. A	The 3.7.7 bases discussion of the applicable safety analyses has been modified appropriately to reflect the Point Beach CC System attributes discussed in JFD 1 of this section and as discussed below. Bases for LCO 3.7.7 states that the design basis for the CC System is the capability to remove post LOCA heat loads from the containment sump during the recirculation phase with a maximum CC temperature of 120 degrees. The Point Beach design basis similarly includes the capability to remove post LOCA heat loads from the containment sump; however, the FSAR does not include a discussion or calculation to specify an absolute maximum CC temperature. Maximum heat removal capabilities are not modeled for the CC System in the ECCS and containment integrity analyses in the Point Beach FSAR. The CC System does not contribute to short term containment cooling; however, the CC System provides cooling water to the RHR heat exchangers and Engineered Safeguards pump seal coolers in support of long term containment cooling. Minimum heat removal capabilities are modeled for this containment integrity analyses in the Point Beach FSAR. The Bases discussion states that one CC train is sufficient to remove decay heat during subsequent operations with Tcold < 200°F assuming the application of maximum service water and heat loads. The Point Beach design basis includes this capability which has been previously discussed in the Bases Background Section discussion of LCO 3.7.7. Based on the above, the applicable inappropriate discussions in the safety analyses section of the 3.7.7 bases have been deleted and replaced with an appropriate discussion of the Point Beach specific CC system design bases attributes.

ITS:	**NUREG:**
B 3.07.07	B 3.07.07

Justification For Deviations - NUREG-1431 Section 3.07.07

21-Feb-01

JFD Number	JFD Text
05 Rev. A	Condition A of NUREG 1431 LCO 3.7.7 contains a Note requiring the applicable Conditions and Required Actions of LCO 3.4.6 "RCS Loops Mode-4" to be entered whenever a required residual heat removal loop was made inoperable by CC. As discussed in Justification For Deviation 1 of this LCO, both CC pumps and heat exchangers in the CC System would have to be inoperable for the CC System to render any residual heat removal loop inoperable. In addition, based on the Point Beach CC System design, Condition A of LCO 3.7.7 has been subdivided into two Conditions, one to address an inoperable pump and the other addressing an inoperable heat exchanger. Based on system design and the multiple Condition structure, the note directing entry into LCO 3.4.6 has been moved to precede the Actions Table. This change will result in entry into the applicable Conditions of LCO 3.4.6 from any combination of Conditions which renders the residual heat removal system inoperable as a result of the CC System becoming inoperable. NUREG 1431 Condition B has been changed to Condition D, and the associated Bases modified based on the multiple Condition structure proposed to address the Point Beach Design.

ITS:	NUREG:
B 3.07.07	B 3.07.07
LCO 3.07.07 COND NOTE	LCO 3.07.07 COND A RA A.1 NOTE

D

RAI 3.7.7-2

The CC System shall be OPERABLE with; two CC pumps, and two required CC heat exchangers.

1

3.7 PLANT SYSTEMS

3.7.7 Component Cooling Water (CC~~W~~) System

1

LCO 3.7.7 ~~Two CCW trains shall be OPERABLE.~~

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

5

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One ~~CCW train~~ CC pump inoperable.	A.1	--------NOTE--------- Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops – MODE 4," for residual heat removal loops made inoperable by CC. ---------------------	1
		Restore CC~~W train~~ pump to OPERABLE status.	72 hours AND 144 hours from discovery of failure to meet the LCO
~~B~~ C. Required Action and associated Completion Time ~~of Condition A~~ not met.	~~B~~ C.1	Be in MODE 3.	6 hours
	AND		
	~~B~~ C.2	Be in MODE 5.	36 hours

1 1 1 1 1

Add new Condition B
See Insert 3.7.7-1

D Additional change

D Additional change

1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.7.1	-------------------NOTE-------------------- Isolation of CCW flow to individual components does not render the CCW System inoperable. -- Verify each CCW manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.7.2	Verify each CCW 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 1
SR 3.7.7.3	Verify each CCW pump starts ~~automatically~~ on an ~~actual or~~ simulated actuation signal.	[18] months

D Additional change

LCO 3.7.7 INSERTS

Insert 3.7.7-1:

B. One required CC heat exchanger inoperable.	B.1	Restore required CC heat exchanger to OPERABLE status.	72 hours <u>AND</u> 144 hours from discovery of failure to meet the LCO

D

Additional change

Note - numerous CCW to CC changes on page

1

BASES

LCO (continued)

The isolation of CC~~W~~ from other components or systems not required for safety may render those components or systems inoperable but does not affect the OPERABILITY of the CC~~W~~ System.

APPLICABILITY

In MODES 1, 2, 3, and 4, the CC~~W~~ System is a normally operating system, which must be prepared to perform its post accident safety functions, primarily RCS heat removal, which is achieved by cooling the RHR heat exchanger.

In MODE 5 or 6, the OPERABILITY requirements of the CC~~W~~ System are determined by the systems it supports.

ACTIONS

Insert B 3.7.7-4

5

A.1

~~Required Action A.1 is modified by a Note indicating that the applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops - MODE 4," be entered if an inoperable CCW train results in an inoperable RHR loop. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components.~~

Insert B 3.7.7-8

1

1

required CC pump

the pump to

pump

If one ~~CCW train~~ is inoperable, action must be taken to restore OPERABLE status within 72 hours. In this Condition, the remaining OPERABLE CC~~W~~ ~~train~~ is adequate to perform the heat removal function. The 72 hour Completion Time is reasonable, based on the redundant capabilities afforded by the OPERABLE ~~train~~, and the low probability of a DBA occurring during this period.

D
RAI 3.7.7-2

1

Add Condition A Completion Time discussion
and Condition B Bases discussion
See Insert B 3.7.7-5

1

1

C

~~B~~.1 and ~~B~~.2

Insert B 3.7.7-7

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

D
Additional change
RAI 3.7.7-2

Note - numerous CCW to CC changes on page

1

ACTIONS (continued)

challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.7.1

This SR is modified by a Note indicating that the isolation of the CC~~W~~ flow to individual components may render those components inoperable but does not affect the OPERABILITY of the CC~~W~~ System.

Verifying the correct alignment for manual, power operated, and automatic valves in the CC~~W~~ flow path provides assurance that the proper flow paths exist for CC~~W~~ operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves are verified to be in the correct position prior to locking, sealing, or securing. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This Surveillance does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position.

The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve positions.

1

~~SR 3.7.7.2~~

~~This SR verifies proper automatic operation of the CCW valves on an actual or simulated actuation signal. The CCW System is a normally operating system that cannot be fully actuated as part of routine testing during normal operation. 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 unit 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 is acceptable from a reliability~~

D

Additional change

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~standpoint.~~

1

D Additional change

~~SR 3.7.7.3~~

~~This SR verifies proper automatic ope ration of the CCW pumps on an actual or simulated actuation signal. The CCW System is a normally operating system that cannot be fully actuated as part of routine testing during normal operation. The [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit 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 is acceptable from a reliability standpoint.~~

3

REFERENCES 1. FSAR, Section [9.2.2] 9.1

1/4

~~2. FSAR, Section [6.2].~~

LCO 3.7.7 Bases Inserts

Insert B 3.7.7-1:

The Unit 1 and Unit 2 CC systems consist of four pumps, four heat exchangers, two surge tanks and the piping, valves, and controls necessary to provide for both normal and accident heat removal. Each CC system consists of; two pumps (P-11A&B), two heat exchangers (HX-12A/B in Unit 1 and HX-12C/D in Unit 2), a surge tank (T-12), a supply header, and a return header. Heat exchangers HX-12B&C normally serve as shared standby units and may be used in either unit's CC system as conditions require. The same heat exchanger may act as the standby for both units, however, it shall not be in use concurrently between units.

D

RAI 3.7.7-2

During normal and accident conditions, one component cooling pump and one component cooling heat exchanger accommodate the heat removal loads with the standby pump and a standby heat exchanger providing redundant backup. Two pumps and two heat exchangers can be used to remove the residual and sensible heat during plant shutdowns. If one of the pumps or heat exchangers are not operable, shutdown of the plant is not affected; however, the time for cooldown may be extended.

During the recirculation phase following a loss-of-coolant accident, CC system alignment and operation is accomplished by operator action prior to realigning the RHR pump suction to the containment sump.

The component cooling surge tank accommodates expansion, contraction, make up and in leakage. System overpressure protection is provided by a relief valve and negative pressure protection is provided by a vacuum breaker. Surge tank pressure changes during system operation are controlled manually.

D

Additional change

The unit 2 CC system provides cooling water flow to various non-essential loads (e.g. blowdown evaporator, letdown gas stripper condensers, etc;) via piping which is not seismic Class I piping. Automatic isolation valves are provided which automatically close on a unit 2 containment isolation signal. This automatic isolation capability is not credited for accident mitigation and is not required for system operability

D

Additional change

The normal power supplies for the component cooling water pumps P-11A and P-11B are safety-related 480 volt buses B-03 and B-04 respectively. The CC pumps receive a low discharge pressure automatic start signal, however no credit is assumed for the CC pump low discharge pressure automatic start, therefore this feature is not required for loop OPERABILITY.

Insert B 3.7.7-1 (continued):

In the event of a loss of AC power to bus B-03 or B-04, the CC pump breaker associated with any operating CC pump will not load shed and the pump will restart immediately upon restoration of AC power. The breaker associated with any CC pump which was not in operation may close if discharge pressure drops to below the automatic start setpoint, similarly allowing the pump to restart immediately upon restoration of AC power.

In the event of a loss of off-site power coincident with a safety injection signal, any operating CC pump will be load shed and automatic start of the standby pump is inhibited on the unit with the safety injection signal. Alignment and operation of the CC loop required for recirculation phase is accomplished by operator action.

D

Additional change

Insert B 3.7.7-2:

The CC System transfers heat from the residual heat removal (RHR) heat exchangers to the Service Water System (SW) during the containment sump recirculation phase in support of the assumptions in the FSAR Chapter 14 containment integrity analysis. During the recirculation phase following a loss-of-coolant accident, one CC pump and one CC heat exchanger (HX) can accommodate the heat removal loads. If either a CC pump or a CC HX fails, the standby pump and one of two standby heat exchangers provide 100% backup. Each of the component cooling inlet lines to the RHR HXs has a normally closed remotely operated valve. If one of the valves fails to open at initiation of long-term recirculation, the other valve supplies a heat exchanger with sufficient cooling capacity to remove the heat load.

LCO 3.7.7 Bases Inserts

Insert B 3.7.7-3:

Each CC pump is independent of the other to the degree that each has separate controls and power supplies and the operation of one does not depend on the other. Similarly, each CC heat exchanger is independent of the other to the degree that the operation of one does not depend on the other.

The CC System is considered OPERABLE when:

D
RAI 3.7.7-2

a. Both pumps and two required heat exchangers are OPERABLE;

b. the associated surge tank is OPERABLE; and

c. the associated piping, valves, and controls required to perform the safety related function are OPERABLE.

D
Additional change

In the event of a DBA, one CC pump and heat exchanger are required to provide the minimum heat removal capability assumed in the safety analysis for the systems to which it supplies cooling water. To ensure this requirement is met assuming the worst case single active failure occurs coincident with a loss of offsite power, two CC pumps, and two CC heat exchangers must be OPERABLE. With both units in MODES 1, 2, 3, and 4, one of the common heat exchangers (HX-12 B or C) may be shared between the two units. Sharing of a common heat exchanger establishes the number of required heat exchangers for two unit operation at three. This will provide assurance that at least one CC pump and heat exchanger will be available for post accident operation in the unit undergoing an accident, while also providing assurance that at least one CC pump and heat exchanger will be available for shutdown capability of the non-accident unit.

D
Additional change

Insert B 3.7.7-4:

The Required Actions are modified by a Note indicating that the applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops—MODE 4," are required to be entered if inoperable CC loop components result in the inoperability of an RHR loop. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components.

LCO 3.7.7 Bases Inserts

Insert B 3.7.7-5:

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 144 hour Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hour and 144 hour dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

B.1

If one required CC heat exchanger is inoperable (including inoperability of any associated piping, valves, and controls required to perform the safety related function that renders the heat exchanger inoperable), action must be taken to restore the inoperable heat exchanger to OPERABLE status within 72 hours. In this Condition, the remaining OPERABLE CC heat exchanger is adequate to perform the heat removal function. The 72 hour Completion Time is reasonable, based on the redundant capabilities afforded by the OPERABLE heat exchanger, and the low probability of a DBA occurring during this period. D RAI 3.7.7-2

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 144 hour Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hour and 144 hour dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

D Additional change

Insert B 3.7.7-6:

NOT USED.

LCO 3.7.7 Bases Inserts

Insert B 3.7.7-7:

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.

Insert B 3.7.7-8:

(including inoperability of any associated piping, valves, and controls required to perform the safety related function that renders the pump inoperable)

D RAI 3.7.7-2

3.7 PLANT SYSTEMS

3.7.7 Component Cooling Water (CC) System

LCO 3.7.7 The CC System shall be OPERABLE with; two CC pumps, and two required CC heat exchangers.

D Additional change

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

ACTIONS

-----------------------------------NOTE-----------------------------------
Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops—MODE 4," for residual heat removal loops made inoperable by CC.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CC pump inoperable.	A.1 Restore CC pump to OPERABLE status.	72 hours AND 144 hours from discovery of failure to meet the LCO
B. One required CC heat exchanger inoperable.	B.1 Restore required CC heat exchanger to OPERABLE status.	72 hours AND 144 hours from discovery of failure to meet the LCO
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours

D Errata 2

D Errata 2

D Additional change

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.7.1	-------------------------NOTE------------------------ Isolation of CC flow to individual components does not render the CC System inoperable. --- Verify each CC manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days

D
Additional change

B 3.7 PLANT SYSTEMS

B 3.7.7 Component Cooling Water (CC) System

BASES

BACKGROUND

The CC System provides a heat sink for the removal of process and operating heat from safety related components during a Design Basis Accident (DBA) or transient. During normal operation, the CC System also provides this function for various nonessential components. The CC System serves as a barrier to the release of radioactive byproducts between potentially radioactive systems and the Service Water System, and thus to the environment.

The Unit 1 and Unit 2 CC systems consist of four pumps, four heat exchangers, two surge tanks and the piping, valves, and controls necessary to provide for both normal and accident heat removal. Each CC system consists of; two pumps (P-11A&B), two heat exchangers (HX-12A/B in Unit 1 and HX-12C/D in Unit 2), a surge tank (T-12), a supply header, and a return header. Heat exchangers HX-12B&C normally serve as shared standby units and may be used in either unit's CC system as conditions require. Each unit requires an operating and a standby heat exchanger. The same heat exchanger may act as the standby for both units, however, they shall not be in use concurrently between units. D RAI 3.7.7-2

During normal and accident conditions, one component cooling pump and one component cooling heat exchanger accommodate the heat removal loads with the standby pump and a standby heat exchanger providing redundant backup. Two pumps and two heat exchangers can be used to remove the residual and sensible heat during plant shutdowns. If one of the pumps or heat exchangers are not operable, shutdown of the plant is not affected; however, the time for cooldown may be extended. D errata

During the recirculation phase following a loss-of-coolant accident, CC system alignment and operation is accomplished by operator action prior to realigning the RHR pump suction to the containment sump.

The component cooling surge tank accommodates expansion, contraction, make up and in leakage. System overpressure protection is provided by a relief valve and negative pressure protection is provided by a vacuum breaker. Surge tank pressure changes during system operation are controlled manually. D Additional change

The Unit 2 CC system provides cooling water flow to various non-essential loads (e.g., blowdown evaporator, letdown gas stripper condensers, etc.) via piping which is not seismic Class I piping.

BASES

BACKGROUND (continued)

Automatic isolation valves are provided which automatically close on a Unit 2 containment isolation signal. This automatic isolation capability is not credited for accident mitigation and is not required for system operability

D Additional change

The normal power supplies for the component cooling water pumps P-11A and P-11B are safety-related 480 volt buses B-03 and B-04 respectively. The CC pumps receive a low discharge pressure automatic start signal, however no credit is assumed for the CC pump low discharge pressure automatic start, therefore this feature is not required for loop OPERABILITY.

In the event of a loss of AC power to bus B-03 or B-04, the CC pump breaker associated with any operating CC pump will not load shed and the pump will restart immediately upon restoration of AC power. The breaker associated with any CC pump which was not in operation may close if discharge pressure drops to below the automatic start setpoint, similarly allowing the pump to restart immediately upon restoration of AC power.

D Additional change

In the event of a loss of off-site power coincident with a safety injection signal, any operating CC pump will be load shed and automatic start of the standby pump is inhibited on the unit with the safety injection signal. Alignment and operation of the CC loop required for recirculation phase is accomplished by operator action.

Additional information on the design and operation of the system, along with a list of the components served, is presented in the FSAR, Section 9.1 (Ref. 1). The principal function of the CC System is the removal of decay heat from the reactor via the Residual Heat Removal (RHR) System. This may be during a normal or post accident cooldown and shutdown.

APPLICABLE SAFETY ANALYSES

The CC System transfer heat from the residual heat removal (RHR) heat exchangers to the Service Water System (SW) during the containment sump recirculation phase in support of the assumptions in the FSAR Chapter 14 containment integrity analysis. During the recirculation phase following a loss-of-coolant accident, one CC pump and one CC heat exchanger (HX) can accommodate the heat removal loads. If either a CC pump or a CC HX fails, the standby pump and one of two standby heat exchangers provide 100% backup. Each of the component cooling inlet lines to the RHR HXs has a normally closed remotely operated valve. If one of the valves fails to open at initiation of long-term recirculation, the other valve supplies a heat exchanger with sufficient cooling capacity to remove the heat load.

BASES

APPLICABLE SAFETY ANALYSES (continued)

The CC System is designed to perform its function with a single failure of any active component, assuming a loss of offsite power.

The CC System also functions to cool the unit from RHR entry conditions (T_{cold} < 350°F), to MODE 5 (T_{cold} < 200°F), during normal and post accident operations. The time required to cool from 350°F to 200°F is a function of the number of CC and RHR loops operating.

The CC System satisfies Criterion 3 of the NRC Policy Statement.

LCO

Each CC pump is independent of the other to the degree that each has separate controls and power supplies and the operation of one does not depend on the other. Similarly, each CC heat exchanger is independent of the other to the degree that the operation of one does not depend on the other.

The CC System is considered OPERABLE when:

D
RAI 3.7.7-2

a. Both pumps and two required heat exchangers are OPERABLE;

b. the associated surge tank is OPERABLE; and

c. the associated piping, valves, and controls required to perform the safety related function are OPERABLE.

D
Additional change

In the event of a DBA, one CC pump and heat exchanger are required to provide the minimum heat removal capability assumed in the safety analysis for the systems to which it supplies cooling water. To ensure this requirement is met assuming the worst case single active failure occurs coincident with a loss of offsite power, two CC pumps, and two CC heat exchangers must be OPERABLE. With both units in MODES 1, 2, 3, and 4, one of the common heat exchangers (HX-12 B or C) may be shared between the two units. Sharing of a common heat exchanger establishes the number of required heat exchangers for two unit operation at three. This will provide assurance that at least one CC pump and heat exchanger will be available for post accident operation in the unit undergoing an accident, while also providing assurance that at least one CC pump and heat exchanger will be available for shutdown capability of the non-accident unit.

D
Additional change

The isolation of CC from other components or systems not required for safety may render those components or systems inoperable but does not affect the OPERABILITY of the CC System.

A.1

15.3.3 EMERGENCY CORE COOLING SYSTEM, AUXILIARY COOLING SYSTEMS, AIR RECIRCULATION FAN COOLERS, AND CONTAINMENT SPRAY

A.2

Applicablity:

Applies to the operating status of the Emergency Core Cooling System, Auxiliary Cooling Systems, Air Recirculation Fan Coolers, and Containment Spray.

A.3

Objective:

To define those limiting conditions ~~for operation~~ that are necessary: (1) to remove ~~decay heat from the core in emergency or normal shutdown situations, (2) to remove heat from containment in normal operating and emergency situations,~~ and (3) to remove airborne iodine from the containment atmosphere following a postulated Design Basis Accident. < See Section 3.6 >

Specification:

A. Safety Injection and Residual Heat Removal Systems < See Section 3.5 >

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

   a. The refueling water tank contains not less than 275,000 gal. of water with a boron concentration of at least 2700 ppm.*

   b. Each accumulator is pressurized to at least 700 psig and contains at least 1100 ft^3 but no more than 1136 ft^3 of water with a boron concentration of at least 2600 ppm.** Neither accumulator may be isolated.

   c. Two safety injection pumps are operable.

   d. Two residual heat removal pumps are operable.

   e. Two residual heat exchangers are operable.

*This value is in effect following U1R25 for Unit 1 and U2R23 for Unit 2; and takes effect prior to leaving the cold shutdown condition of those outages. Prior to U1R25, the Unit 1 minimum RWST boron concentration is 2000 ppm. Prior to U2R23, the Unit 2 minimum RWST boron concentration is 2000 ppm.

**This value is in effect following U1R25 for Unit 1 and U2R23 for Unit 2; and takes effect prior to leaving the cold shutdown condition of those outages. Prior to U1R25, the Unit 1 minimum SI accumulator boron concentration is 2000 ppm. Prior to U2R23, the Unit 2 minimum SI accumulator boron concentration is 2000 ppm

A.6 → LCO 3.7.8 The SW System shall be OPERABLE with; six SW pumps, the SW ring header, and the required automatic non-essential-SW-load isolation valves.

D errata 104

D Additional Change

D. Service Water System — MODES 1, 2, 3, and 4 ← A.5

1. A reactor shall not be made critical unless the following conditions are met:

a. Six service water pumps are operable. — LA.1

b. All necessary valves, interlocks ~~and piping~~ required for the functioning of the Service Water System during accident conditions for the unit which is to be made critical are also operable.

SR 3.07.08.01
SR 3.07.08.02
SR 3.07.08.03
See Insert 3.7.8-7

A.6

2. ~~During power operation, the requirements of 15.3.3.D-1 may be modified to allow the following conditions.~~ If the system is not restored to meet the conditions of 15.3.3.D-1 within the time period specified, the affected reactor(s) will be placed in the hot shutdown condition within six hours and in cold shutdown within 36 hours. ← A.7

Condition G; See Insert 3.7.8-6

A.1 — ACTIONS NOTE

Note: If any equipment supported by service water will not receive sufficient flow, the applicable LCOs for the affected equipment shall be entered.

D Amend 199/204

A.13 → Separate Condition entry is allowed for each inoperable SW component.

Condition A/B
See Insert 3.7.8-1

Condition F
See Insert 3.7.8-5

a. One of the six required service water pumps may be out of service provided a pump is restored to operable status within 7 days. A second service water pump may be out of service provided a pump is restored to operable status within 72 hours. A third service water pump may be out of service provided two pumps are restored to operable status within 72 hours.

D Additional Change

b. The service water ring header continuous flowpath may be out of service for up to 7 days, subject to the limitations of 15.3.3.D-2.a, provided that:

i. At least five service water pumps are operable and aligned to all required portions of the service water header

Or

Condition C
See Insert 3.7.8-2

ii. Four service water pumps are operable and the flowpath is interrupted only between the service water pump bays or at one or more of the west header isolation valve locations.

Or

iii. Service water pump and continuous flowpath alignment may be different from that defined in b.i or b.ii above, provided an evaluation is performed demonstrating required systems are operable prior to establishing the configuration.

D Amend 199/204 & Additional Change

Condition C
See Insert 3.7.8-2

If the alignment is different from that specified above and no evaluation has been completed, then the conditions of Section 15.3.0 apply.

Conditions D and E.
See Insert 3.7.8-3

c. One or more required automatic non-essential load isolation valves may be inoperable for up to 72 hours. If an affected line has a required redundant automatic isolation valve, then the redundant valve must be operable. This LCO can be exited provided the affected lines are isolated with a seismically qualified isolation valve or the inoperable valves are restored to operable status.

A.12

LA.2

d. The containment fan cooler outlet motor operated valves may be open for up to 72 hours provided that:

i. At least five service water pumps are operable.

Or

ii. At least three service water pumps are operable provided an evaluation is performed demonstrating required systems are operable prior to establishing the configuration.

Condition F
See Insert 3.7.8-4

D
Amend 199/204

Condition F
See Insert 3.7.8-5

This LCO can be exited provided the valves are returned to the closed position or the flowpath is isolated.

A.12

Basis

The normal procedure for starting the reactor is, first, to heat the reactor coolant to near operating temperature, by running the reactor coolant pumps. The reactor is then made critical by withdrawing control rods and/or diluting boron in the coolant.[1] With this mode of start-up, the energy stored in the reactor coolant during the approach to criticality is substantially equal to that during power operation and therefore to be conservative most engineered safety system components and auxiliary cooling systems, shall be fully operable. During low temperature physics tests there is a negligible amount of stored energy in the reactor coolant, therefore an accident comparable in severity to the Design Basis Accident is not possible, and the engineered safety systems are not required.

A.4

A.4

A total of six service water pumps are installed, only three of which are required to operate during the injection and recirculation phases of a postulated loss-of-coolant accident,[6] in one unit together with a hot shutdown or normal operation condition in the other unit. For either reactor to be critical, six service water pumps must be operable.

The allowed outage time for a single service water pump is 7 days. The allowed outage time for two or three service water pumps is 72 hours. If more than one service water pump is inoperable, the 7 day allowed outage time starts when the first pump is declared inoperable and the 72 hour allowed outage time for the second and third pumps is cumulative starting from the time the second pump is declared inoperable. Therefore, the total time that two or three pumps are inoperable during the period that LCO 15.3.3.D-2.a is in effect must not exceed 72 hours. All pumps must be restored to operable status within 7 days of the first pump being declared inoperable.

The service water ring header continuous flowpath LCO requirement (TS 15.3.3.D-2.b) applies anytime continuity of the flowpath in the service water ring header is interrupted. This includes isolation of any part of the ring header. This LCO recognizes that one aspect of redundancy in the service water system is the ability to isolate a break in the system and still maintain ability to provide required flow to supported equipment. This capability is impaired anytime the continuous flowpath of the ring header is blocked. The allowed outage time, up to 7 days, is based on the redundant capabilities afforded by the remaining operable equipment, and the low probability of a DBA or service water system line break occurring during this time period. Piping failures are not considered as the single failure for system functionality during an accident.

D
Amendment 199/204

TS 15.3.3.D-2.b requires that service water system flow is evaluated prior to establishing other than the specified alignments. This is necessary to ensure that all required equipment will receive sufficient flow in this condition. If it is determined that any equipment will not receive sufficient flow, the applicable LCOs for the affected equipment shall be entered. These LCOs can be exited if system realignment is completed to achieve the required flow rates for the affected equipment.

Entry into the applicable LCOs for the affected equipment is also required when any part of the service water ring header is removed from service. For example, if the north header is removed from service, all Technical Specification required equipment required for operation should be or have already been switched to the south header. The containment accident fan cooler inoperability requires entry into the applicable LCO for Unit 2 (TS 15.3.3.B.2.a which is 72 hours) when the header is removed from service. If Unit 2 is already in a shutdown condition where containment accident fan cooler operability is not required, no LCO would apply. Unit 1 would be subject to the 7 day allowed outage time for the loss of the service water ring header continuous flowpath. The 7 day allowed outage time is based on approximate repair time for system piping and the possibility that a mechanical failure in another part of the system could result in a loss of service water system function.

D
RAI 3.7.8-7

TS 15.3.3.D-2.c ensures that isolation capability of non-essential service water loads during an accident is maintained per the service water analysis. In flowpaths where the service water analysis takes credit for redundant automatic non-essential load isolation valves, one of the required redundant valves must remain operable. If an evaluation demonstrates, based on existent unit status and system configuration, that isolation of the affected lines is not required during accident conditions, then this LCO would not apply to that line.

The containment fan cooler service water outlet motor operated valves consist of two fully redundant valves that are automatically opened in response to a safety injection signal. Either valve is capable of passing the full flow required for all four fan cooler units in accident mode. At various times, these valves are opened to allow testing of the containment fan coolers or adjustment of the system flow rates. If one or both of these motor operated valves are open in a unit, there may be insufficient service water flow if an accident occurs in the other unit and single failure occurs. Therefore, in this case, the other unit is in a limiting condition for operation because relaxation of single failure is necessary. That unit would be considered the "affected unit" and hence the valves must be closed within 72 hours or the affected unit must be shut down. If the valves are open in both units, they would both be considered "affected" until such time that the motor operated valves were closed for a unit, at which time the affected unit would be the unit with the closed valves. The 72-hour allowed time is consistent with the relaxation of single failure and allowed outage time associated with a loss of redundancy for the service water system. For the case of single unit operation, the valves for the operating unit may be open without limitation if the valves for the shutdown unit are in the shut position or the flowpath is isolated. The flowpath is considered isolated if total flow would not exceed the expected flowrate in the non-accident unit during accident conditions.

D

Amendment 199/204

Specification 15.3.3.D-2.d requires five service water pumps to be operable to provide sufficient flow for accident mitigation when this specification is in effect. Unit status and system configuration lineups may result in sufficient flow being provided with only three or four service water pumps operable. Operation for 72 hours is allowed in this condition provided that an evaluation is performed to demonstrate system operability.

<u>References</u>

(1) FSAR Section 3.2.1
(2) FSAR Section 6.2
(3) FSAR Section 6.3.2
(4) FSAR Section 6.3
(5) FSAR Section 9.3.2
(6) FSAR Section 9.6.2

TABLE 15.4.1-2 (Continued)

< See LCOs 3.7.15 and 3.7.16 >

		Test	Frequency
7.	Spent Fuel Pit	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	Each refueling or after maintenance that could affect proper functioning [4] Following each refueling shutdown prior to commencing power operation
10.	Control Rod	Partial movement of all rods	Quarterly [18]
11.	Pressurizer Safety Valves	Set point < See 3.4.10 >	Every five years [11]
12.	Main Steam Safety Valves	Set Point < See 3.7.1 >	Every five years [11]
13.	Containment Isolation Trip	Functioning < See 3.6.3 and 3.7.2 >	Each refueling shutdown
14.	Refueling System Interlocks	Functioning < See 3.9.1 >	Each refueling shutdown
15.	Service Water System	Functioning	Each refueling shutdown
16.	Primary System Leakage	Evaluate < See 3.4.13 >	Monthly [6]
17.	Diesel Fuel Supply	Fuel inventory < See 3.8.3 >	Daily
18.	Deleted		
19.	Deleted		
20.	Boric Acid System	Storage Tank and piping temperatures $\geq$ temperature required by Table 15.3.2-1 < See LCO 3.5.2 >	Daily[19]

D

Amendment 195/200

Replace with Insert 3.7.8-6

The systems tests demonstrate proper automatic operation of the Safety Injection and Containment Spray Systems. With the pumps blocked from starting, a test signal is applied to initiate automatic action, and verification is made that the components receive the safety injection signal in the proper sequence. The test demonstrates the operation of the valves, pump circuit breakers, and automatic circuitry.[1]

< See Section 3.5 and 3.6 >

During reactor operation, the instrumentation which is depended on to initiate safety injection and containment spray is generally checked weekly and the initiating circuits are tested monthly (in accordance with Specification 15.4.1). In addition, the active components (pumps and valves) are to be tested in accordance with ASME Section XI requirements, to check the operation of the starting circuits and to verify that the pumps are in satisfactory running order. More frequent testing would not significantly increase the reliability (i.e. the probability that the component would operate when required), yet more frequent testing would result in increased wear over a long period of time.

Other systems that are also important to the emergency cooling function are the accumulators, the Component Cooling System, the Service Water System and the containment fan coolers. The accumulators are a passive safeguard. In accordance with Specification 15.4.1, the water volume and pressure in the accumulators are checked periodically. The other systems mentioned operate when the reactor is in operation and by these means are continuously monitored for satisfactory performance.

References

(1) FSAR Section 6.2.

A.4

SPEC 3.7.8 Inserts

Insert 3.7.8-1:

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SW pump inoperable.	A.1 Restore SW pump to OPERABLE status.	7 days AND 14 days from discovery of failure to meet the LCO
B. Two or three SW pumps inoperable.	B.1 Restore SW pump to OPERABLE status.	72 hours

A.1

M.1

D
Additional Change

SPEC 3.7.8 Inserts

Insert 3.7.8-2:

C. One or more SW ring header isolation valve(s) closed.	C.1 Verify SW System capable of providing required cooling water flow to required equipment. AND C.2 Open the SW ring header isolation valve(s).	1 hour 7 days AND 14 days from discovery of failure to meet the LCO

A.9

M.1

D

Amend 199/204

SPEC 3.7.8 Inserts

Insert 3.7.8-3:

D. One or more non-essential-SW-load flowpath(s) with one required automatic isolation valve inoperable.	---------NOTE--------- Not required to be met if in Condition E. ---------------------- D.1 Verify redundant automatic isolation valve in the affected non-essential flowpath(s) OPERABLE. <u>AND</u> D.2 Isolate the affected non-essential flowpath(s).	1 hour 72 hours <u>AND</u> 14 days from discovery of failure to meet the LCO
E. One or more non-essential-SW-load flowpath(s) with two required automatic isolation valves inoperable.	E.1 Isolate the affected non-essential flowpath(s).	1 hour

A.10

M.1

D
Amend 199/204

D
Amend 199/204

SPEC 3.7.8 Inserts

A.11

Insert 3.7.8-4:

F. One or more opposite unit containment accident fan cooler unit service water outlet valves open.	F.1 Verify SW System capable of providing required cooling water flow to required equipment. AND F.2 Isolate the opposite unit containment accident fan cooler unit service water flowpath.	1 hour 72 hours AND 14 days from discovery of failure to meet the LCO

M.1

D Amend 199/204

A.8

Insert 3.7.8-5:

G. Four or more SW pumps inoperable.	G.1 Restore SW pump(s) to OPERABLE status.	1 hour

D Amend 199/204

Insert 3.7.8-6:

H. Required Action and associated Completion Time not met.	H.1 Be in MODE 3. AND H.2 Be in MODE 5.	6 hours 36 hours

D Amend 199/204

A.8

SPEC 3.7.8 Inserts

Insert 3.7.8-7:

M.3

SURVEILLANCE		FREQUENCY
SR 3.7.8.1	-------------------NOTE------------------- Isolation of SW flow to individual components does not render the SW System inoperable. -- Verify each SW System manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.8.2	Verify each SW System automatic non-essential-SW-load isolation valve that is not locked, sealed, or otherwise secured in the closed position, actuates to the closed position on an actual or simulated actuation signal.	18 months
SR 3.7.8.3	Verify each SW pump starts automatically on an actual or simulated actuation signal.	18 months

Justification For Deviations - NUREG-1431 Section 3.07.08

21-Feb-01

JFD Number	JFD Text
01 Rev. A	NUREG 1431 LCO 3.7.8 addresses a Service Water System (SWS) design which consists of two separate and redundant trains which are not shared between the units. LCO 3.7.8 has been modified to reflect the Point Beach SWS design. The equipment specified in proposed LCO 3.7.8 are consistent with the CTS and licensing Basis for the plant. The Point Beach SWS is a common shared system (no train or unit distinctions), which provides cooling water to essential and non-essential loads. Essential loads are those loads required for the safe shutdown of the plant and to mitigate the consequences of a design basis accident. The SWS is designed to ensure adequate heat removal based on the highest expected cooling water temperature with maximum system loading. The major components which comprise the SWS are; six motor driven centrifugal pumps, a ring header, automatic non-essential-SW-load isolation valves, the piping, valves, instruments, and controls necessary to provide cooling water to the various system loads. The SW pumps discharge to a discharge header located in the circulating water pump house which exits the pump house through two supply headers (North and South) leading to the control building. The North and South supply headers then run to the auxiliary building where they connect to the West header, forming a continuous ring supply header. Loop header isolation valves are provided to allow isolation of a failed SW header. Isolation of any SW header will not impact the ability of the SWS to supply cooling water to the required number of essential loads for either unit. Cooling water from the essential and non-essential loads is discharged back to the lake via the circulating water discharge lines. Isolation of non-essential-SW-loads (i.e. turbine building, spent fuel pool cooling, radwaste systems, and the water treatment area) is necessary to meet SW capacity demands under limiting conditions. Non-essential-SW-loads are automatically isolated upon receipt of a Safety Injection signal coincident with less than four SW pumps running after a 30 second time delay. The turbine building isolation valve will close on the unit with the SI signal present.

ITS:	NUREG:
B 3.07.08	B 3.07.08
LCO 3.07.08	LCO 3.07.08
SR 3.07.08.02	SR 3.07.08.02

JFD Number	JFD Text
02 Rev. D	The Required Actions for LCO 3.7.8 have been modified to provide Conditions and Required Actions which address the Point Beach Service Water System (SWS) design. The Required Actions proposed are consistent with or more restrictive than the Current Technical Specifications Actions as identified in the following discussions. Each of the SWS configurations addressed by the proposed Conditions have been evaluated using the Service Water computer flow model used to determine minimum equipment and system alignment discussed in Justification for Deviation 1 of this Section. All SWS configurations addressed by the proposed Conditions and Required Actions with Completion Times in excess of one hour have been determined to provide acceptable SW flow and pressure to all required components. All SWS configurations addressed by the proposed Conditions and Required Actions with Completion Times of one hour have been determined to be unacceptable SWS configurations using the above criteria. The proposed Completion Time for these Required Actions provides sufficient time to accommodate transitory operations (e.g. additional equipment inoperabilities, operations required to realign systems and equipment, etc.) while recognizing the importance of maintaining the SWS in an operable configuration. The one hour Completion Time for these Required Actions is consistent with that allowed under current Technical Specification 15.0.3.B (equivalent to ITS LCO 3.0.3). With one SW pump inoperable, action must be taken to restore the pump to operable status within 7 days. This Action is consistent with the Current Technical Specifications. With two or three SW pumps inoperable, action must be taken to restore at least the minimum number of pumps to operable status required to exit this Condition within 72 hours. This Action and its associated Completion Time are consistent with the Current Technical Specifications. With one or more SW ring header isolation valves closed, the SW System must be verified capable of providing required cooling water flow to required equipment within 1 hour, and the valves must be restored to the open position within 7 days. As discussed in DOC A.9, this Action and its associated Completion Times are consistent with the Current Technical Specifications. With one or more non-essential-SW-load flowpath(s) with one required automatic isolation valve inoperable and open, the required redundant automatic isolation valves in the affected flowpath(s) must be verified operable within 1 hour, and the flowpath isolated within 72 hours. If both required isolation valves in a flowpath are inoperable, the flowpath is required to be isolated in 1 hour. A Note has been added to Required Action D.1, stating it is not required to be met if in Condition E. This Note precludes entry into Condition H, when the required redundant automatic isolation valve in the affected non-essential flowpath(s) are inoperable and Required Action D.1 cannot be met. As discussed in DOC A.10, this Action and its associated Completion Times are consistent with the Current Technical Specifications. With one or more opposite unit containment fan cooler service water outlet valves open the SW System must be verified capable of providing required cooling water flow to required equipment within 1 hour, and the flowpath must be isolated within 72 hours. As discussed in DOC A.11, this

JFD Number	JFD Text
	Action and its associated Completion Times are consistent with the Current Technical Specifications..

With four or more SW pumps inoperable, at least the minimum number of SW pumps needed to exit the Condition must be restored to operable status within 1 hour. Under CTS, entry into LCO 15.3.0.b would be required for this condition, thereby requiring that the unit be placed into Hot Shutdown (ITS Mode 3) within 7 hours and Cold Shutdown (ITS Mode 5) within 37 hours. Under proposed ITS Condition E, 1 hour will be allowed to restore the SW pumps to operable status, and proposed ITS Condition G will require that the unit be placed into Mode 3 within six hours and into Mode 5 within 36 hours if the minimum number of pumps cannot be restored.

The Bases have been modified as necessary to reflect the above changes.

ITS:	NUREG:
B 3.07.08	B 3.07.08
LCO 3.07.08 COND NOTE 2	N/A
LCO 3.07.08 COND A	N/A
LCO 3.07.08 COND A RA A.1	N/A
LCO 3.07.08 COND B	N/A
LCO 3.07.08 COND B RA B.1	N/A
LCO 3.07.08 COND C	N/A
LCO 3.07.08 COND C RA C.1	N/A
LCO 3.07.08 COND C RA C.2	N/A
LCO 3.07.08 COND D	N/A
LCO 3.07.08 COND D RA D.1	N/A
LCO 3.07.08 COND D RA D.2	N/A
LCO 3.07.08 COND E	N/A
LCO 3.07.08 COND E RA E.1	N/A
LCO 3.07.08 COND F	N/A
LCO 3.07.08 COND F RA F.1	N/A
LCO 3.07.08 COND F RA F.2	N/A
LCO 3.07.08 COND G	N/A
LCO 3.07.08 COND G RA G.1	N/A
LCO 3.07.08 COND H	LCO 3.07.08 COND B
LCO 3.07.08 COND H RA H.1	LCO 3.07.08 COND B RA B.1

JFD Number	JFD Text	
	LCO 3.07.08 COND H RA H.2	LCO 3.07.08 COND B RA B.2
	N/A	LCO 3.07.08 COND A LCO 3.07.08 COND A RA A.1

03
Rev. A

As discussed in Justification for Deviation 1 of this Section, several new Conditions have been added to NUREG 1431 LCO 3.7.8 to address the Point Beach Service Water (SW) System design and licensing basis. The introduction of these new Conditions could allow operation for an indefinite period of time with the Service Water System in a degraded condition due to multiple overlapping inoperabilities. The proposed ITS imposes a Completion Time limit which requires restoration of LCO compliance within 14 days of the first component becoming inoperable. The limit of 14 days is the summation of the two longest Completion Times within this LCO. The addition of this Completion time is consistent with the structure of the Improved Technical Specifications, in that an LCO should not allow indefinite non-compliance. This restriction has been placed on four Conditions (i.e. inoperable pump, inoperable ring header continuous flowpath, inoperable non-essential-SW-load isolation valves, and opposite unit containment fan cooler Service Water outlet valve open), because at least one of these four Conditions must occur for indefinite non-compliance to occur.

ITS:	NUREG:
B 3.07.08	B 3.07.08
LCO 3.07.08 COND A RA A.1	N/A
LCO 3.07.08 COND C RA C.2	N/A
LCO 3.07.08 COND D RA D.2	N/A
LCO 3.07.08 COND F RA F.2	N/A

04
Rev. A

The brackets have been removed and the proper plant specific information has been provided.

ITS:	NUREG:
B 3.07.08	B 3.07.08
SR 3.07.08.02	SR 3.07.08.02
SR 3.07.08.03	SR 3.07.08.03

Justification For Deviations - NUREG-1431 Section 3.07.08

21-Feb-01

JFD Number	JFD Text
05 Rev. D	NUREG 1431 LCO 3.7.8 Condition A contains two Notes in the Required Actions column requiring entry into the applicable conditions and Required Actions of LCOs 3.8.1 and 3.4.6 if a Service Water (SW) Train renders either a diesel generator or a residual heat removal train inoperable. These Notes are necessary to ensure that the appropriate Required Actions are taken if these components are rendered inoperable. As discussed in Justification for Deviations 1 and 2 of this Section, the Point Beach SW System is a common shared system (no train or unit distinctions), which provides cooling water to essential and non-essential-SW-loads via a single ring header. The LCO and Actions for LCO 3.7.8 have been modified accordingly to address the system design. The addition of these new Conditions and Required Actions, has introduced the potential for supported systems to become inoperable when one or more Conditions are in effect. Supported systems may be made inoperable as a result of an entire header being isolated (single Condition), or a combination of pumps inoperabilities concurrent with a ring header isolation valve being closed (multiple Conditions). As such, it is necessary to move this provision to the beginning of the Actions Table. The proposed ITS will also require the applicable Conditions and Required Actions for any system made inoperable to be entered. The Service Water System provides cooling water to the following Technical Specification addressed systems; a) Diesel Generators G01 and G02; b) the component cooling water system heat exchangers; c) the containment accident fan cooler units and their associated fan motors; and d) Auxiliary Feedwater Pump Bearing Oil Coolers and the back up water supply to the pumps. This presentation is consistent with the current Technical Specification, and will still require entry into LCOs 3.4.6 and 3.8.1 as the NUREG requires. An additional Note has been added to allow Separate Condition entry for each inoperable SW component. This Note is necessary because of the adoption of Specification 1.3. The restrictions of Specification 1.3 do not exist in the CTS and it is therefore necessary to adopt the Note to allow Separate Condition entry for each inoperable SW component. This is acceptable because the Required Actions for each Condition provide appropriate compensatory actions for an inoperable SW component. Complying with the Required Actions may allow for continued operation, and subsequent inoperable SW components are governed by subsequent condition entry and application of associated Required Actions.

ITS:	NUREG:
B 3.07.08	B 3.07.08
LCO 3.07.08 COND NOTE 1	LCO 3.07.08 COND A RA A.1 NOTE 1 LCO 3.07.08 COND A RA A.1 NOTE 2

Justification For Deviations - NUREG-1431 Section 3.07.08

21-Feb-01

JFD Number	JFD Text
06 Rev. D	The Ultimate Heat Sink (UHS) for Point Beach is Lake Michigan. As discussed in Justification for Deviation 01 to NUREG 1431 Section 3.07.09, Point Beach did not adopt the UHS Limiting Condition for Operation (LCO) provided in the STS because it is not necessary. The basis for not having a separate UHS LCO in the ITS is premised on the fact that the purpose of the LCO, which is to provide assurance that the UHS will be maintained within the minimum acceptable operational limits assumed in the safety analyses, is already satisfied elsewhere. Point Beach has an existing condition to the operating license for each unit (DPR-24, DPR-27) that requires plant operation within the service water system design analyses. A separate LCO for the UHS is therefore redundant since the two parameters that it would serve to ensure, UHS temperature and level, are already encompassed within the license condition, and because the ability of the UHS to satisfy service water system design analyses assumptions is monitored and alarmed in the main control room. Additionally, the current Technical Specifications do not contain a UHS LCO, Action, or Surveillance Requirements. Based on the support relationship that the UHS has with respect to the Service Water System (SWS), inability of the UHS to satisfy the service water safety analyses also result in inoperability of the SWS, and appropriate ACTION would be taken under proposed ITS LCO 3.7.8, SW System. Additional text has been provided in the Bases ASA for ITS 3.7.8 describing the relationship between UHS operability and SW system operability for clarification. **ITS:** B 3.07.08 **NUREG:** B 3.07.08

1

The SW System shall be OPERABLE with; six SW pumps, the SW ring header, and the required automatic non-essential-SW-load isolation valves.

D Additional change

3.7 PLANT SYSTEMS

3.7.8 Service Water System (SWS)

Throughout this LCO and associated Bases, replace SWS with SW System, this is for consistency with PBNP nomenclature.

LCO 3.7.8 ~~Two SWS trains shall be OPERABLE.~~

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
~~A. One SWS train inoperable.~~ Replace with Insert 3.7.8-1 2/3	~~A.1 --------NOTES------- 1. Enter applicable Conditions and Required Actions of LCO 3.8.1, "AC Sources – Operating," for emergency diesel generator made inoperable by SWS. 2. Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops – MODE 4," for residual heat removal loops made inoperable by SWS. --------------------- Restore SWS train to OPERABLE status.~~	~~72 hours~~

(continued)

--------NOTES--------
1. Enter applicable Conditions and Required Actions for systems made inoperable by SW System.
2. Separate Condition entry allowed for each inoperable SW component.

5

D Additional change

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
2 H ~~B~~ Required Action and associated Completion Time ~~of Condition A~~ not met.	~~B~~.1	Be in MODE 3.	6 hours
	AND		
	~~B~~.2	Be in MODE 5.	36 hours

D Amend 199/204

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.8.1	------------------------NOTE------------------------ Isolation of SW~~S~~ flow to individual components does not render the SW~~S~~ inoperable. --- Verify each SW~~S~~ manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	1 System 31 days
SR 3.7.8.2	1 non-essential-SW-load isolation valve Verify each SW~~S~~ 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. 1 required 1	[18] months 4
SR 3.7.8.3	Verify each SW~~S~~ pump starts automatically on an actual or simulated actuation signal.	[18] months

D Additional change

LCO 3.7.8 Insert

Insert 3.7.8-1:

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SW pump inoperable.	A.1 Restore SW pump to OPERABLE status.	7 days <u>AND</u> 14 days from discovery of failure to meet the LCO
B. Two or three SW pumps inoperable.	B.1 Restore SW pump(s) to OPERABLE status.	72 hours
C. One or more SW ring header isolation valves closed.	C.1 Verify SW System capable of providing required cooling water flow to required equipment <u>AND</u> C.2 Open the SW ring header isolation valve(s).	1 hour 7 days <u>AND</u> 14 days from discovery of failure to meet the LCO

D Amend 199/204

LCO 3.7.8 Insert

Insert 3.7.8-1 (continuedd):

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more non-essential-SW-load flowpath(s) with one required automatic isolation valve inoperable.	--------NOTE-------- Not required to be met if in Condition E. --------------------	
	D.1 Verify required redundant automatic isolation valve in the affected non-essential flowpath(s) OPERABLE.	1 hour
	<u>AND</u>	
	D.2 Isolate the affected non-essential flowpath(s).	72 hours <u>AND</u> 14 days from discovery of failure to meet the LCO
E. One or more non-essential-SW-load flowpath(s) with two required automatic isolation valves inoperable.	E.1 Isolate the affected non-essential flowpath(s).	1 hour
F. One or more opposite unit containment accident fan cooler unit service water outlet valves open.	F.1 Verify SW System capable of providing required cooling water flow to required equipment	1 hour
	<u>AND</u>	
	F.2 Isolate the opposite unit containment accident fan cooler unit service water flowpath.	72 hours <u>AND</u> 14 days from discovery of failure to meet the LCO
G. Four or more SW pumps inoperable.	G.1 Restore SW pump(s) to OPERABLE status.	1 hour

D Amend 199/204

D Amend 199/204 errata 58

D Amend 199/204

BASES

SURVEILLANCE REQUIREMENTS (continued)

that the proper flow paths exist for SWS operation. Included within the scope of this SR are the containment accident fan cooler isolation valves for the opposite unit. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they are verified to be in the correct position prior to being locked, sealed, or secured. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves. D RAI 3.7.8-7

The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve positions.

SR 3.7.8.2 2 non-essential-SW-load isolation

This SR verifies proper automatic operation of the SWS valves on an actual or simulated actuation signal. The SWS is a normally operating system that cannot be fully actuated as part of normal testing. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 4 [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit 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 is acceptable from a reliability standpoint. 4

SR 3.7.8.3

This SR verifies proper automatic operation of the SWS pumps on an actual or simulated actuation signal. The SWS is a normally operating system that cannot be fully actuated as part of normal testing during normal operation. The 4 [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit 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

NUREG 1431 LCO 3.7.8 BASES INSERTS

Insert B 3.7.8-1:

The SW System is a shared system, consisting of; six motor driven centrifugal pumps and the piping, valves, instruments, and controls necessary to provide cooling water to essential and non-essential components. Two service water pumps are connected to separate 480 volt buses (Unit 2 B03 and Unit 1 B04), one per bus. The four remaining pumps are connected, two per bus, to two separate 480 volt buses (Unit 1 B03 and Unit 2 B04). The SW pumps discharge to a normally cross-tied discharge header located in the circulating water pump house which exits the pump house through two supply headers (North and South) leading to the control building. The North and South supply headers then run to the primary auxiliary building where they connect to the West header, forming a ring supply header.

Essential loads are those loads required for the safe shutdown of the plant and to mitigate the consequences of a design basis accident. The SW System is a required back-up source of water for the Auxiliary Feedwater System. All essential-SW-loads are supplied from the North and South headers with the exception of two containment ventilation coolers in each unit which are supplied from the West header. Cooling water from the essential and non-essential-SW-loads is discharged back to the lake via the circulating water discharge lines.

Isolation of non-essential-SW-loads is necessary to meet SW capacity demands under limiting conditions. These limiting conditions include loss of a single train of safeguards equipment, and a Loss of Coolant Accident (LOCA) in one unit with continued operation of the other unit. Non-essential loads are automatically isolated upon receipt of a Safety Injection actuation. D Additional change

Isolation of any SW header will not impact the ability of the SW System to supply cooling water to the required number of essential loads for either unit.

Additional information about the design and operation of the SW System, along with a list of the components served, is presented in the FSAR, Section 9.6 (Ref. 1).

NUREG 1431 LCO 3.7.8 BASES INSERTS

Insert B 3.7.8-2:

The SW System is required to be OPERABLE to provide the required redundancy to ensure that the system will function to remove post accident heat loads, assuming the worst case single active failure. The SW System is OPERABLE during MODES 1, 2, 3, and 4 when: D Additional change

a. Six SW pumps are OPERABLE;

b. the SW ring header continuous flowpath is not interrupted;

c. the required non-essential-SW-load isolation valves are OPERABLE; D Additional change

d. the opposite Unit's containment fan cooler SW outlet valves are closed; and

e. the instrumentation and controls required to perform the safety related function are OPERABLE.

NUREG 1431 LCO 3.7.8 BASES INSERTS

Insert B 3.7.8-3:

The Actions Table is modified by a Note which requires the applicable Conditions and Required Actions to be entered for the system made inoperable as a result of any SW System inoperability. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components.

A.1

If one SW pump is inoperable, action must be taken to restore the pump to OPERABLE status within 7 days. In this Condition, the remaining OPERABLE SW pumps assure adequate system flow capability. However, the overall reliability is reduced because a single failure could result in less than the required number of pumps to assure this flow. The 7 day Completion Time is based on the redundant capabilities afforded by the remaining OPERABLE pumps, and the low probability of a DBA occurring during this time period.

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO. The 14 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 7 days and 14 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

B.1

If two or three SW pumps are inoperable, action must be taken to restore at least the minimum number of pumps to OPERABLE status required to exit this Condition within 72 hours. In this Condition, the remaining OPERABLE SW pumps are capable of providing the required system flow capability provided the requirements of the LCO are met (e.g., SW ring header continuous flowpath, non-essential SW isolation valves and the opposite Unit's containment fan cooler service water outlet valves). With four or more inoperable SW pumps inoperable, Condition F must be entered. D Amend 199/204

Insert B 3.7.8-3 (continued):

The 72 hour Completion Time is based on the redundant capabilities afforded by the remaining OPERABLE pumps, the probability for an additional active or passive failure, and the low probability of a DBA occurring during this time period.

C.1 and C.2

If one or more SW ring header isolation valves are closed, the ability of the System to provide required cooling water flow to required equipment must be verified within 1 hour. The 1 hour Completion Time for ACTION C.1 effectively limits the allowed system configuration to alignments previously evaluated and found acceptable. Additionally, the 1 hour Completion Time provides sufficient time to accommodate transitory operations (e.g. additional equipment inoperabilities, operations required to realign systems and equipment, etc;) without requiring initiation of a unit shutdown. The 1 hour Completion Time is commensurate with the importance of maintaining the SW System in an OPERABLE configuration.

D

Amend 199/204

In this Condition, the SW System is capable of providing required cooling water flow to required equipment, provided that:

a. At least five SW pumps are OPERABLE and aligned to all required portions of the SW header; or

b. Four SW pumps are OPERABLE and the flowpath is interrupted only between the SW pump bays or at one or more of the west header isolation valve locations; or

c. SW pump and continuous flowpath alignment may be different from that defined in a. or b. above, provided an evaluation is performed demonstrating required systems are OPERABLE.

Additionally, the closed SW ring header isolation valves must be restored to the open condition within 7 days.

With one or more ring header isolation valves inoperable, the SW System may continue to be capable of providing the required cooling water flow to required equipment (providing the valves remain open).

Insert B 3.7.8-3 (continued):

however, the ability to isolate a break in the system while continuing to provide cooling water to required equipment is impaired.

With one or more ring header isolation valves closed, the SW System may remain capable of providing the required cooling water flow to the minimum required number of components depending on system alignment and the OPERABILITY of other SW System components.

Multiple closed ring header isolation valves could result in loss of cooling water to required equipment (e.g. closure of the SW-2869 and SW-2870 will render two of the four containment fan coolers inoperable on each Unit). If multiple closed ring header isolation valves result in required equipment being inoperable, the Note to the ACTIONS Table requires entry into the applicable conditions and required actions for the systems made inoperable.

The 7 day Completion Time is acceptable based on the redundant capabilities afforded by the remaining OPERABLE equipment, and the low probability of a DBA or SW System line break occurring during this time period.

The second Completion Time for Required Action C.2 establishes a limit on the maximum time allowed for any combination of Conditions to be in effect during any continuous failure to meet this LCO. The 14 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 7 days and 14 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

D.1 and D.2

In the event one required automatic isolation valve in one or more non-essential-SW-load flowpath(s) is inoperable, the required redundant automatic isolation valve in the affected non-essential flowpath(s) must be verified OPERABLE within 1 hour. This verification may be performed administratively.

D

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The 1 hour Completion Time for Required Action D.1 provides sufficient time to accommodate transitory

Insert B 3.7.8-3 (continued):

operations (e.g. additional equipment inoperabilities, operations required to realign systems and equipment, etc;) without requiring initiation of a unit shutdown. The 1 hour Completion Time is commensurate with the importance of maintaining the SW System in an OPERABLE configuration. Required Action D.1 is modified by a Note stating it is not requirted to be met if in Condition E. This Note precludes entry into Condition H, when the required redundant automatic isolation valve in the affected non-essential flowpath(s) is inoperable and Required Action D.1 cannot be met.

D
Amend
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RAI 3.7.8-6

Additionally, the valve(s) must be restored to OPERABLE status or the flowpath(s) isolated with a seismically qualified isolation valve within 72 hours. In this Condition, the overall reliability is reduced because a single failure could result in system configuration which could not assure adequate flow to required equipment. The 72 hour Completion Time is based on the flow capabilities afforded by the number of OPERABLE pumps, and the low probability of a DBA occurring during this time period.

The second Completion Time for Required Action D.2 establishes a limit on the maximum time allowed for any combination of Conditions to be in effect during any continuous failure to meet this LCO.

The 14 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hours and 14 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

E.1 and E.2

With two required automatic isoaltion valves in one or more non-essential-SW-load flowpath(s) inoperable, the affected flowpath(s) shall be isolated with a seismically qualified isolation valve within 1 hour. The Completion Time of 1 hour reflects the importance of isolating the non-essential-SW-loads to meet SW capacity demands under limiting conditions.

D
Amend
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Insert B 3.7.8-3 (continued):

F.1 and F.2

If one or more opposite unit containment fan cooler service water outlet valves are open, the ability of the SW System to provide require cooling water flow to required equipment must be verified within 1 hour. The 1 hour Completion Time for ACTION F.1 effectively limits the allowed system configuration to a configuration that has been previously evaluated and found acceptable. Additionally, the 1 hour Completion Time provides sufficient time to accommodate transitory operations (e.g. additional equipment inoperabilities, operations required to realign systems and equipment, etc;) without requiring initiation of a unit shutdown. The 1 hour Completion Time is commensurate with the importance of maintaining the SW System in an OPERABLE configuration. Additionally, the flowpath must be isolated within 72 hours.

D Amend 199/204

In this Condition, the SW System is capable of providing required cooling water flow to required equipment, provided that:

a. At least five SW pumps are OPERABLE; or

b. At least three SW pumps are OPERABLE provided an evaluation is performed demonstrating required systems are OPERABLE prior to establishing the configuration.

Additionally, the flowpath associated with any opposite unit containment fan cooler service water outlet valve that is open must be isolated within 72 hours. In this condition, the overall reliability is reduced because a single failure could result in a system configuration which could not assure adequate flow to required equipment. The 72 hour Completion Time is based on the confirmed ability to provide required cooling water flow to required components. This time frame is also considered acceptable based on the low probability of a DBA occurring during this time period.

The second Completion Time for Required Action F.2 establishes a limit on the maximum time allowed for any combination of Conditions to be in effect during any continuous failure to meet this LCO. The 14 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in

NUREG 1431 LCO 3.7.8 BASES INSERTS

Insert B 3.7.8-3 (continued):

which multiple Conditions are entered concurrently. The AND connector between 72 hours and 14 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

G.1

If four or more SW pumps are inoperable, action must be taken within 1 hour to restore the SW pump(s) to OPERABLE status. The 1 hour Completion Time provides sufficient time to accommodate transitory operations (e.g. additional equipment inoperabilities, operations required to realign systems and equipment, etc;) to either restore the pump(s) to OPERABLE status or prepare for an orderly shutdown of the plant, and is commensurate with the importance of maintaining the SW System in an OPERABLE configuration.

D

Amend 199/204

NUREG 1431 LCO 3.7.8 BASES INSERTS

Insert B 3.7.8-4:

Heat transferred from the reactor core to the SW System during accidents and anticipated operational occurrences in which the unit is cooled down and placed on residual heat removal (RHR) operation is removed by Lake Michigan. Operating limits for the SW System are based on the approved SW System analyses as stated in Appendix C, Additional Conditions, Operating Licenses DPR-24 and DPR-27. D RAI 3.7.9-1

3.7 PLANT SYSTEMS

3.7.8 Service Water (SW) System

LCO 3.7.8 The SW System shall be OPERABLE with; six SW pumps, the SW ring header, and required automatic non-essential-SW-load isolation valves.

D Additional change

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

ACTIONS

---NOTES---

1. Enter applicable Conditions and Required Actions for systems made inoperable by SW System.

2. Separate Condition entry is allowed for each inoperable SW component.

D Additional change

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SW pump inoperable.	A.1 Restore SW pump to OPERABLE status.	7 days <u>AND</u> 14 days from discovery of failure to meet the LCO
B. Two or three SW pumps inoperable.	B.1 Restore SW pump(s) to OPERABLE status.	72 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. One or more SW ring header isolation valve(s) closed.	C.1	Verify SW System capable of providing required cooling water flow to required equipment.	1 hour
	AND		
	C.2	Open the SW ring header isolation valve(s).	7 days AND 14 days from discovery of failure to meet the LCO
D. One or more non-essential-SW-load flowpath(s) with one required automatic isolation valve inoperable.	D.1	-----------NOTE---------- Not required to be met if in Condition E. ---------------------------- Verify required redundant automatic isolation valve in the affected non-essential flowpath(s) OPERABLE.	1 hour
	AND		
	D.2	Isolate the affected non-essential flowpath(s).	72 hours AND 14 days from discovery of failure to meet the LCO

D
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D
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(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
E. One or more non-essential-SW-load flowpath(s) with two required automatic isolation valves inoperable.	E.1	Isolate the affected non-essential flowpath(s).	1 hour
F. One or more opposite unit containment accident fan cooler unit service water outlet valves open.	F.1	Verify SW System capable of providing required cooling water flow to required equipment.	1 hour
	<u>AND</u>		
	F.2	Isolate the opposite unit containment accident fan cooler unit service water flowpath.	72 hours <u>AND</u> 14 days from discovery of failure to meet the LCO
G. Four or more SW pumps inoperable.	G.1	Restore SW pump(s) to OPERABLE status.	1 hour
H. Required Action and associated Completion Time not met.	H.1	Be in MODE 3.	6 hours
	<u>AND</u>		
	H.2	Be in MODE 5.	36 hours

D Amend 199/204

D Amend 199/204

D Amend 199/204

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.8.1	-------------------------NOTE------------------------- Isolation of SW flow to individual components does not render the SW System inoperable. --- Verify each SW manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.8.2	Verify each required SW automatic non-essential-SW-load isolation valve that is not locked, sealed, or otherwise secured in the closed position, actuates to the closed position on an actual or simulated actuation signal.	18 months
SR 3.7.8.3	Verify each SW pump starts automatically on an actual or simulated actuation signal.	18 months

D
Additional change

B 3.7 PLANT SYSTEMS

B 3.7.8 Service Water (SW) System

BASES

BACKGROUND

The SW System provides a heat sink for the removal of process and operating heat from safety related components during a Design Basis Accident (DBA) or transient. During normal operation, and a normal shutdown, the SW System also provides this function for various safety related and non-safety related components. The safety related function is covered by this LCO.

The SW System is a shared system, consisting of; six motor driven centrifugal pumps and the piping, valves, instruments, and controls necessary to provide cooling water to essential and non-essential components. Two service water pumps are connected to separate 480 volt buses (Unit 2 B03 and Unit 1 B04), one per bus. The four remaining pumps are connected, two per bus, to two separate 480 volt buses (Unit 1 B03 and Unit 2 B04). The SW pumps discharge to a normally cross-tied discharge header located in the circulating water pump house which exits the pump house through two supply headers (North and South) leading to the control building. The North and South supply headers then run to the primary auxiliary building where they connect to the West header, forming a ring supply header.

Essential loads are those loads required for the safe shutdown of the plant and to mitigate the consequences of a design basis accident. The SW System is a required back-up source of water for the Auxiliary Feedwater System. All essential-SW-loads are supplied from the North and South headers with the exception of two containment ventilation coolers in each unit which are supplied from the West header. Cooling water from the essential and non-essential-SW-loads is discharged back to the lake via the circulating water discharge lines.

Isolation of non-essential-SW-loads is necessary to meet SW capacity demands under limiting conditions. These limiting conditions include loss of a single train of safeguards equipment, and a Loss of Coolant Accident (LOCA) in one unit with continued operation of the other unit. Non-essential loads are automatically isolated upon receipt of a Safety Injection actuation signal. D Additional change

BASES

BACKGROUND (continued)

Isolation of any SW header will not impact the ability of the SW System to supply cooling water to the required number of essential loads for either unit.

Additional information about the design and operation of the SW System, along with a list of the components served, is presented in the FSAR, Section 9.6 (Ref. 1).

APPLICABLE SAFETY ANALYSES

The design basis of the SW System is three SW pumps, in conjunction with the CCW System and a 100% capacity containment cooling system, to remove core decay heat following a design basis LOCA as discussed in the FSAR, Section 14.3.4 (Ref. 2). This prevents the containment sump fluid from increasing in temperature during the recirculation phase following a LOCA and provides for a gradual reduction in the temperature of this fluid as it is supplied to the Reactor Coolant System by the ECCS pumps. The SW System is designed to perform its function with a single failure of any active component, assuming the loss of offsite power.

The SW System, in conjunction with the CCW System, also cools the unit from residual heat removal (RHR), as discussed in the FSAR, Section 9.2, (Ref. 3) entry conditions to MODE 5 during normal and post accident operations. The time required for this evolution is a function of the number of CCW and RHR System pumps and heat exchangers that are operating. Heat transferred from the reactor core to the SW System during accidents and anticipated operational occurrences in which the unit is cooled down and placed on residual heat removal (RHR) operation is removed by Lake Michigan. Operating limits for the SW System are based on the approved SW System analyses as stated in Appendix C, Additional Conditions, Operating Licenses DPR-24 and DPR-27. D RAI 3.7.9-1

The SW System satisfies Criterion 3 of the NRC Policy Statement.

LCO

The SW System is required to be OPERABLE to provide the required redundancy to ensure that the system will function to remove post accident heat loads, assuming the worst case single active failure. The SW System is OPERABLE during MODES 1, 2, 3, and 4 when: D Additional change

a. six SW pumps are OPERABLE;

b. the required non-essential-SW-load isolation valves are OPERABLE; D Additional change

BASES

LCO (continued)

c. the opposite unit's containment fan cooler SW outlet valves are closed; and

d. the instrumentation and controls required to perform the safety related function are OPERABLE.

APPLICABILITY

In MODES 1, 2, 3, and 4, the SW System is a normally operating system that is required to support the OPERABILITY of the equipment serviced by the SW System and required to be OPERABLE in these MODES.

In MODES 5 and 6, the OPERABILITY requirements of the SW System are determined by the systems it supports.

ACTIONS

The Actions Table is modified by two Notes. Note 1 requires the applicable Conditions and Required Actions to be entered for the system made inoperable as a result of any SW System inoperability. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components. A second Note has been added to provide clarification that, for this LCO, separate Condition entry is allowed for each inoperable SW component. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable SW component. Complying with the Required Actions may allow for continued operation, and subsequent inoperable SW components are governed by subsequent Condition entry and application of associated Required Actions.

D
Additional change

A.1

If one SW pump is inoperable, action must be taken to restore the pump to OPERABLE status within 7 days. In this Condition, the remaining OPERABLE SW pumps assure adequate system flow capability. However, the overall reliability is reduced because a single failure could result in less than the required number of pumps to assure this flow. The 7 day Completion Time is based on the redundant capabilities afforded by the remaining OPERABLE pumps, and the low probability of a DBA occurring during this time period.

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO. The 14 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 7 days and 14 days

BASES

ACTIONS (continued)

dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

B.1

If two or three SW pumps are inoperable, action must be taken to restore at least the minimum number of pumps to OPERABLE status required to exit this Condition within 72 hours. In this Condition, the remaining OPERABLE SW pumps are capable of providing the required system flow capability provided the requirements of the LCO are met (e.g., SW ring header continuous flowpath, non-essential SW isolation valves and the opposite Unit's containment fan cooler service water outlet valves). With four or more inoperable SW pumps inoperable, Condition F must be entered.

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The 72 hour Completion Time is based on the redundant capabilities afforded by the remaining OPERABLE pumps, the probability for an additional active or passive failure, and the low probability of a DBA occurring during this time period.

C.1 and C.2

If one or more SW ring header isolation valves are closed, the ability of the System to provide required cooling water flow to required equipment must be verified within 1 hour. The 1 hour Completion Time for ACTION C.1 effectively limits the allowed system configuration to alignments previously evaluated and found acceptable. Additionally, the 1 hour Completion Time provides sufficient time to accommodate transitory operations (e.g. additional equipment inoperabilities, operations required to realign systems and equipment, etc;) without requiring initiation of a unit shutdown. The 1 hour Completion Time is commensurate with the importance of maintaining the SW System in an OPERABLE configuration.

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In this Condition, the SW System is capable of providing required cooling water flow to required equipment, provided that:

a. At least five SW pumps are OPERABLE and aligned to all required portions of the SW header; or

b. Four SW pumps are OPERABLE and the flowpath is interrupted only between the SW pump bays or at one or more of the west header isolation valve locations; or

BASES

ACTIONS (continued)

c. SW pump and continuous flowpath alignment may be different from that defined in a. or b. above, provided an evaluation is performed demonstrating required systems are OPERABLE.

D

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Additionally, the closed SW ring header isolation valves must be restored to the open condition within 7 days.

With one or more ring header isolation valves inoperable, the SW System may continue to be capable of providing the required cooling water flow to required equipment (providing the valves remain open). however, the ability to isolate a break in the system while continuing to provide cooling water to required equipment is impaired.

With one or more ring header isolation valves closed, the SW System may remain capable of providing the required cooling water flow to the minimum required number of components depending on system alignment and the OPERABILITY of other SW System components.

Multiple closed ring header isolation valves could result in loss of cooling water to required equipment (e.g. closure of the SW-2869 and SW-2870 will render two of the four containment fan coolers inoperable on each Unit). If multiple closed ring header isolation valves result in required equipment being inoperable, the Note to the ACTIONS Table requires entry into the applicable conditions and required actions for the systems made inoperable.

The 7 day Completion Time is acceptable based on the redundant capabilities afforded by the remaining OPERABLE equipment, and the low probability of a DBA or SW System line break occurring during this time period.

The second Completion Time for Required Action C.2 establishes a limit on the maximum time allowed for any combination of Conditions to be in effect during any continuous failure to meet this LCO. The 14 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The <u>AND</u> connector between 7 days and 14 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

BASES

ACTIONS (continued) D.1 and D.2

In the event one required automatic isolation valves in one or more non-essential-SW-load flowpath(s) is inoperable, the required redundant automatic isolation valve in the affected non-essential flowpath(s) must be verified OPERABLE within 1 hour. This verification may be performed administratively.

D
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RAI 3.7.8-6

The 1 hour Completion Time for Required Action D.1 provides sufficient time to accommodate transitory operations (e.g. additional equipment inoperabilities, operations required to realign systems and equipment, etc;) without requiring initiation of a unit shutdown. The 1 hour Completion Time is commensurate with the importance of maintaining the SW System in an OPERABLE configuration. Required Action D.1 is modified by a Note stating it is not required to be met if in Condition E. This Note precludes entry into Condition H, when the required redundant automatic isolation valve in the affected non-essential flowpath(s) is inoperable and Required Action D.1 cannot be met.

Additionally, the valve(s) must be restored to OPERABLE status or the flowpath(s) isolated with a seismically qualified isolation valve within 72 hours. In this Condition, the overall reliability is reduced because a single failure could result in system configuration which could not assure adequate flow to required equipment. The 72 hour Completion Time is based on the flow capabilities afforded by the number of OPERABLE pumps, and the low probability of a DBA occurring during this time period.

The second Completion Time for Required Action D.2 establishes a limit on the maximum time allowed for any combination of Conditions to be in effect during any continuous failure to meet this LCO.

The 14 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hours and 14 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

E.1 and E.2

With two required automatic isolation valves in one or more non-essential-SW-load flowpath(s) inoperable, the affected flowpath(s) shall be isolated with a seismically qualified isolation valve within 1 hour.

D
Amendment
199/204

BASES

ACTIONS (continued)

The Completion Time of 1 hour reflects the importance of isolating the non-essential-SW-loads to meet SW capacity demands under limiting conditions.

F.1 and F.2

If one or more opposite unit containment fan cooler service water outlet valves are open, the ability of the SW System to provide required cooling water flow to required equipment must be verified within 1 hour. The 1 hour Completion Time for ACTION F.1 effectively limits the allowed system configuration to a configuration that has been previously evaluated and found acceptable. Additionally, the 1 hour Completion Time provides sufficient time to accommodate transitory operations (e.g. additional equipment inoperabilities, operations required to realign systems and equipment, etc;) without requiring initiation of a unit shutdown. The 1 hour Completion Time is commensurate with the importance of maintaining the SW System in an OPERABLE configuration. D Amendment 199/204

In this Condition, the SW System is capable of providing required cooling water flow to required equipment, provided that:

a. At least five SW pumps are OPERABLE; or

b. At least three SW pumps are OPERABLE provided an evaluation is performed demonstrating required systems are OPERABLE prior to establishing the configuration.

Additionally, the flowpath associated with any opposite unit containment fan cooler service water outlet valve that is open must be isolated within 72 hours. In this Condition, the overall reliability is reduced because a single failure could result in a system configuration which could not assure adequate flow to required equipment. The 72 hour Completion Time is based on the confirmed ability of the SW pumps to provide required cooling water flow to required components. This time frame is also considered acceptable based on the low probability of a DBA occurring during this time period.

The second Completion Time for Required Action F.2 establishes a limit on the maximum time allowed for any combination of Conditions to be in effect during any continuous failure to meet this LCO. The 14 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hours and 14 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

BASES

ACTIONS (continued)

G.1

If four or more SW pumps are inoperable, action must be taken within 1 hour to restore the SW pump(s) to OPERABLE status. The 1 hour Completion Time provides sufficient time to accommodate transitory operations (e.g. additional equipment inoperabilities, operations required to realign systems and equipment, etc;) to either restore the pump(s) to OPERABLE status or prepare for an orderly shutdown of the plant, and is commensurate with the importance of maintaining the SW System in an OPERABLE configuration.

D
Amendment 199/204

H.1 and H.2

If the SW System cannot be restored to OPERABLE status within the associated Completion Times, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and in MODE 5 within 36 hours.

The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.8.1

This SR is modified by a Note indicating that the isolation of the SW System components or systems may render those components inoperable, but does not affect the OPERABILITY of the SW System.

Verifying the correct alignment for manual, power operated, and automatic valves in the SW System flow path provides assurance that the proper flow paths exist for SW System operation. Included within the scope of this SR are the containment accident fan cooler isolation valves for the opposite unit. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they are verified to be in the correct position prior to being locked, sealed, or secured. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves.

D
RAI 3.7.8-7

The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve positions.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.8.2

This SR verifies proper automatic operation of the SW System non-essential-SW-load isolation valves on an actual or simulated actuation signal. The SW System is a normally operating system that cannot be fully actuated as part of normal testing. 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 unit 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 is acceptable from a reliability standpoint.

SR 3.7.8.3

This SR verifies proper automatic operation of the SW System pumps on an actual or simulated actuation signal. The SW System is a normally operating system that cannot be fully actuated as part of normal testing during normal operation. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit 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 is acceptable from a reliability standpoint.

REFERENCES

1. FSAR. Section 9.6.
2. FSAR. Section 14.3.4.
3. FSAR. Section 9.2.

Justification For Deviations - NUREG-1431 Section 3.07.09

21-Feb-01

JFD Number	JFD Text
01 Rev. D	Adoption of an ultimate heat sink (UHS) Limiting Condition for Operation (LCO) is not necessary for Point Beach. The basis for not having a separate UHS LCO in the ITS is premised on the fact that the purpose of the UHS, which is to provide assurance that the UHS will be maintained within the minimum acceptable operational limits assumed in the safety analyses, is already satisfied elsewhere. Point Beach has an existing condition to the operating license for each unit (DPR-24, DPR-27) that requires plant operation within the service water system design analyses. For plants like Point Beach that utilize a lake as the UHS, the NUREG requires periodic verification of lake level and temperature. A separate LCO for the UHS is therefore redundant since the two parameters that the LCO would serve to ensure are already encompassed within the license conditions, and because the ability of the UHS to satisfy service water system design analyses assumptions is monitored in the main control room. Additionally, the current Technical Specifications do not contain a UHS LCO, Action, or Surveillance Requirements. The Point Beach UHS is Lake Michigan. The original analysis assumption for the UHS assumed lake level to be four feet under normal level (574 ft msl). The current analysis is based on a pump suction bay water level that is eleven feet below normal water level, and a temperature no greater than 80 degrees F (79 degrees F for the emergency diesel generators). The minimum recorded lake level reached 575.4 ft msl in 1964. Temperature stratification and circulation characteristics for Lake Michigan tend to limit the maximum lake temperature to 65 to 70 degrees F. Since sufficient margins exist between the UHS parameters and analysis limits, establishing another requirement to monitor and record monitoring lake parameters is redundant and unnecessary. Without a UHS LCO, Required Actions for an out-of-tolerance UHS will result in the Service Water System being declared inoperable, which requires the unit to be placed in Mode 3 within 6 hours and Mode 5 within 36 hours. This is the same as the NUREG Actions for an inoperable UHS, which would also require the unit to be placed in Mode 3 within 6 hours and Mode 5 within 36 hours.

ITS:	NUREG:
N/A	LCO 3.07.09
	LCO 3.07.09 COND A
	LCO 3.07.09 COND A RA A.1
	LCO 3.07.09 COND B
	LCO 3.07.09 COND B RA B.1
	LCO 3.07.09 COND B RA B.2
	SR 3.07.09.01
	SR 3.07.09.02
	SR 3.07.09.03
	SR 3.07.09.04

Description of Changes - NUREG-1431 Section 3.07.10

21-Feb-01

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:
15.03.12	LCO 3.07.09
15.03.12.02.a	SR 3.07.09.02
15.03.12.02.b	SR 3.07.09.02
15.04.11	LCO 3.07.09
15.04.11.01	SR 3.07.09.02

DOC Number	DOC Text
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:
15.03.12 APPL	LCO 3.07.09
15.04.11 APPL	LCO 3.07.09

DOC Number	DOC Text
A.03 Rev. A	The CTS provides an introductory statement (Objective) at the beginning of this Section of the Technical Specifications which provides 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:
15.03.12 OBJ	B 3.07.09
15.04.11 OBJ	B 3.07.09

DOC Number	DOC Text
A.04 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 3.07.09

DOC Number	DOC Text	
A.05 Rev. A	The CTS 15.3.12.1 requires the control room emergency filtration system to be operable during power operation (greater than or equal to 2% power) of either unit. However, CTS 15.3.12.1.c.4 requires the operating reactors to be placed into Cold Shutdown (ITS Mode 5) within 36 hours, if this system is inoperable in excess of the allowable outage time, implying an Applicability of ITS Modes 1, 2, 3, and 4. Proposed LCO 3.7.9 will require the Control Room Emergency Ventilation System to be operable in Modes 1, 2, 3, and 4. As such, this change is considered administrative relative to Modes 1, 2, 3, and 4, as it is clarifying an ambiguous relationship between the LCO Applicability and Action Statement. CTS 15.3.12.1 also requires the control room emergency filtration system to be operable during refueling operations. Proposed LCO 3.7.9 will require the Control Room Emergency Ventilation System to be operable during Core Alterations and movement of irradiated fuel. The change in Applicability to Core Alterations and movement of irradiated fuel is addressed by Discussion of Change LA.01 of this Section.	
	CTS:	**ITS:**
	15.03.12.01	LCO 3.07.09
A.06 Rev. A	CTS 15.3.12.1 states that "except as specified in 15.3.12.3, the emergency control room ventilation system shall be operable during power and refueling operations of either unit. Deletion of the statements, "except as specified in 15.3.12.3 below" and "of either unit" are unnecessary in the ITS and have therefore been deleted. These Statements establish the structure and usage of remedial actions and application of the LCO. The ITS contains specific usage rules for usage and application of the LCOs, Conditions, and Required Actions. System inoperabilities are addressed within specific Conditions, while Applicability is addressed on a unit specific basis. Accordingly, retention of these statements is unnecessary, as it duplicates ITS usage rules. This change is administrative.	
	CTS:	**ITS:**
	15.03.12.01	DELETED
A.07 Rev. A	CTS 15.4.11.4 establishes the required testing and associated testing frequencies for the control room emergency filtration system HEPA filter and charcoal adsorbers. Proposed ITS SR 3.7.9.2 will establish the requirement to perform control room emergency make-up filter unit testing, in accordance with the Ventilation Filter Testing Program (VFTP). The VFTP establishes the required tests, acceptance criteria, and test frequencies for the HEPA filter and charcoal adsorber. CTS 15.3.12.2 provides the acceptance criteria for the control room emergency filtration system HEPA filter and charcoal adsorbers. HEPA filter and charcoal adsorber testing will continue to be required as referenced by SR 3.7.9.2, making this change in presentation administrative, consistent with NUREG 1431. The acceptance criteria, tests and associated testing frequencies have been moved to Section 5.5 of the ITS. Changes to HEPA filter and charcoal adsorber acceptance criteria, tests and associated testing frequencies are addressed in the VFTP, Section 5.0 of this conversion package.	
	CTS:	**ITS:**
	15.04.11.04	SR 3.07.09.02

DOC Number	DOC Text
A.08 Rev. D	Specification 15.4.11.4.e requires the control room emergency filtration system fans to be tested following fan maintenance or repair. It is not necessary to explicitly state the requirement to perform fan testing following fan maintenance or repair in the proposed ITS. Post maintenance testing is captured through application of SR 3.0.1 and SR 3.0.2. SR 3.0.1 establishes the requirement that surveillances must be met when the LCO is applicable. Implicit in the application of SR 3.0.1, is the need to ensure that all Surveillance Requirements remain valid upon completion of maintenance. Following any maintenance, a review of applicable Surveillance Requirements must be conducted to determine the appropriate post maintenance testing that must be completed in order to declare the affected equipment operable. This includes ensuring applicable surveillances are not invalidated by the maintenance performed and their most recent performance is within its required frequency of performance in accordance with SR 3.0.2. Elimination of a redundant reference to this provision is administrative. **CTS:** 15.04.11.04.e **ITS:** DELETED
A.09 Rev. A	CTS 15.4.11.2 requires testing of the control room emergency filtration automatic actuation. This requirement has been divided into two Surveillance Requirements in the proposed ITS. SR 3.7.9.3 verifies that each control room emergency make-up fan start on an actual or simulated actuation signal. SR 3.7.9.4 similarly tests the control room emergency filtration automatic dampers. These Surveillance Requirements, taken in combination with the required testing specified in ITS LCO 3.3.7 for the control room emergency filtration actuation instrumentation, is equivalent to the CTS requirement, making this change administrative. **CTS:** 15.04.11.02 **ITS:** SR 3.07.09.03 SR 3.07.09.04

DOC Number	DOC Text
A.10 Rev. A	CTS 15.3.12.3 and 15.3.12.4 allow reactor and refueling operations to continue for up to seven days with the control room emergency filtration system inoperable, before requiring the unit(s) to be placed in Cold Shutdown and termination of refueling operations. The CTS allows 36 hours to achieve cold shutdown (ITS Mode 5), while refueling operations must be terminated as soon as practicable. ITS Condition A, Required Action A.1 allows 7 days to restore the control room emergency filtration system to operable status as the CTS allows, making this change administrative. In addition, after expiration of Condition A, ITS Condition B Required Action B.4 requires the unit(s) to be placed in Mode 5 within 36 hours. Accordingly, the time frame allowed to reach Mode 5 has remained unchanged, making this change administrative. ITS Condition B, Required Actions B.1 and B.2 require immediate suspension of Core Alterations and movement of irradiated fuel. Revising the Required Action to suspend Core Alterations and handling of irradiated fuel is consistent with the revised Applicability for this LCO which is addressed in Description of Change LA.01 of this LCO. As such, for the purposes of this Action, this change is considered administrative.

CTS:	ITS:
15.03.12.03	LCO 3.07.09 COND A
	LCO 3.07.09 COND A RA A.1
15.03.12.04	LCO 3.07.09 COND B
	LCO 3.07.09 COND B
	LCO 3.07.09 COND B RA B.1
	LCO 3.07.09 COND B RA B.2
	LCO 3.07.09 COND B RA B.4

DOC Number	DOC Text
L.01 Rev. D	CTS 15.4.11.4.e requires the control room emergency filtration system fans to be tested once per year. CTS 15.3.12.2.c requires the results of fan testing conducted in accordance with Specification 15.4.11 to show operation within 10% of design flow.

The ITS will require verification that each emergency make-up fan can maintain a positive pressure of greater than or equal to 0.125 inches water gauge in the control room envelope, relative to the adjacent turbine building during the emergency mode of operation at a makeup flow rate within plus or minus 10% of the nominal make-up pressurization flowrate. This SR verifies the integrity of the control room enclosure and the capability of the make-up fans/components to achieve flow rate within plus or minus 10% of system design.

In the emergency make-up mode of operation, the control room emergency filtration system is designed to pressurize the control room to greater than or equal to 0.125 inches water gauge positive pressure with respect to adjacent areas minimizing unfiltered inleakage. The control room emergency filtration system is designed to maintain this positive pressure with one emergency make-up fan in operation at a makeup flow rate within 10% of the nominal make-up pressurization flowrate.

The nominal make-up pressurization rate for Point Beach is 4950 cfm. NUREG 0800, Section 6.4 states that systems having a make-up pressurization rate in excess of 0.5 volume changes per hour (543 cfm for Point Beach) should be tested every 18 months to assure that the control room envelope will maintain a positive pressure of greater than or equal to 0.125 inches water gauge within plus or minus 10% of system design make-up rate. Therefore, this change in frequency is consistent with the guidance provided in NUREG-0800. Additionally, relaxing the required Frequency of testing is acceptable based on the inherent reliability of the control room boundary and make-up fans.

CTS:	ITS:
15.03.12.02.c	SR 3.07.09.06
15.04.11.04.e	SR 3.07.09.06

DOC Number	DOC Text
L.02 Rev. A	Specification 15.4.11.4.e requires the control room emergency filtration system fans to be tested after 720 hours of operation since the previous test.

Testing of the fans after 720 hours of operation is unnecessary. Boundary degradation is not specifically linked to operation of the emergency make-up fans, and fan degradation during this period is similarly not significant. The proposed 18 month Frequency of ITS SR 3.7.9.6 is adequate for monitoring both boundary and fan performance.

CTS:	ITS:
15.04.11.04.e	DELETED

DOC Number	DOC Text	
L.03 Rev. A	CTS 15.4.11.2 requires testing of the control room emergency filtration automatic initiation once per year. As discussed in Description of Change A.09 of this LCO, proposed SR 3.7.9.3 and SR 3.7.9.4 in combination with the required testing specified in ITS LCO 3.3.7 for the control room emergency filtration actuation instrumentation is equivalent to this CTS requirement; however, the frequency of testing for these ITS Surveillance Requirements has been relaxed to 18 months. The CTS control room emergency filtration LCO is based on a set of model Technical Specifications transmitted to Point Beach from the NRC in a letter dated December 16, 1974. Within this letter, the model Technical Specification frequency for CTS 15.4.11.2 was proposed to be 18 months. This frequency was changed at the request of Point Beach to be 12 months for "administrative convenience" as stated in the SER that issued the control room emergency filtration Technical Specifications, dated May 27, 1975. The proposed ITS frequency is based on industry operating and reliability experience for similar circuit and equipment and is consistent with NUREG 1431.	
	CTS:	**ITS:**
	15.04.11.02	SR 3.07.09.03 SR 3.07.09.04
L.04 Rev. D	Not used.	
	CTS:	**ITS:**
	N/A	N/A
L.05 Rev. D	CTS 15.4.11.3 requires the control room emergency filtration unit to be operated at least 10 hours every month. The proposed ITS will required the control room emergency make-up filter unit to be operated at least 15 minute every 31 days. The STS contains two different run time requirements for control room ventilation systems, either 10 hours or 15 minutes, depending upon whether or not the charcoal filtration unit has installed heaters. The wording of the STS is consistent with the guidance of ANSI N510-1980, which recommends that filter systems with installed heaters be operated for at least 10 continuous hours monthly, and that ventilation filter systems without installed heaters be operated for 15 minutes on a monthly basis to demonstrate function of the system. The run time requirements contained in the STS and ANSI N510-1980 are intended to provide assurance that the charcoal filter does not contain excessive moisture which could degrade charcoal adsorber efficiency, and are based on industry experience. Heaters are installed in some designs to reduce the relative humidity of the incoming air, thereby reducing the moisture level which the charcoal is exposed to as well as removing or reducing any moisture which may have accumulated in the charcoal between surveillance tests. The Point Beach CRERF design does not include heaters with filter drying capabilities. As a result, adopting the 15 minute run time requirement in lieu of the existing 10 hour run requirement is appropriate since there are neither any unique aspects of the CREF filter design that would preclude its applicability, nor any additional benefits to the longer run time requirement.	
	CTS:	**ITS:**
	15.04.11.03	SR 3.07.09.01

DOC Number	DOC Text	
L.06 Rev. D	CTS 15.3.12.1 requires CREFS to be operable at all times during power operations and refueling operations. The ITS operability requirements for CREFS are applicable in MODES 1, 2, 3, 4 and during Core Alterations and during movement of irradiated fuel assemblies within containment. The CTS definition of Refueling Operations is any operation that involves the movement of core components that could affect the reactivity of the core within the containment when the vessel head is removed. Core components which could affect the reactivity are considered to be control rods and fuel assemblies. The ITS definition of Core Alteration is "the movement of any fuel, sources, or reactivity control components, within the reactor vessel with the vessel head removed and fuel in the vessel." Since proposed ITS LCO 3.7.9 applicability also includes the movement of irradiated fuel inside containment, the combination of the defined term and specified applicability is equivalent to the CTS 15.3.12.1 applicability, with the exception of the movement of components other than irradiated fuel within containment. This change results in a relaxation of the current requirements, but is acceptable. Although CREFS is required to be operable to cope with the release from a fuel handling accident, the movement of components other than irradiated fuel within containment is not a precursor for a fuel handling accident.	
	CTS:	**ITS:**
	15.03.12.01	LCO 3.07.09
LA.01 Rev. D	Not used.	
	CTS:	**ITS:**
	N/A	N/A
M.01 Rev. A	The Point Beach CTS does not contain any requirements which establish or verify the capability of maintaining a positive pressure in the control room when the control room ventilation system is operating in the emergency make-up mode of operation. However, the Point Beach control room habitability analysis assumes a positive pressure in the control room envelope when the control room ventilation system is operating in the emergency make-up mode of operation. Positive pressure is assumed to minimize the inleakage of radioactive materials into the control room under accident conditions. SR 3.7.9.6 will verify the capability of the emergency make-up fans to maintain a positive pressure in the control room of at least 0.125 inches of water, when the control room ventilation system is operating in the emergency make-up mode. Frequency of test and acceptance criteria are consistent with NUREG 0800 for make-up system flow rates in excess of 0.5 control room volumes per hour. This is a new Surveillance Requirement being added to the Technical Specifications consistent with the control room habitability analysis and NUREG 1431.	
	CTS:	**ITS:**
	15.03.12.02.c	SR 3.07.09.06

DOC Number	DOC Text	
M.02 Rev. A	CTS 15.3.12.4 requires operating reactor(s) to be placed into the cold shutdown (ITS Mode 5) condition within 36 hours if the control room emergency filtration system is not restored to operable status within seven days. The proposed ITS will similarly require the unit be placed in Mode 5 within 36 hours, in addition to establishing a requirement to place the unit in Mode 3 within 6 hours. The addition of the 6 hour requirement for placing the unit in Mode 3 is an added restriction on unit operations, being added consistent with NUREG 1431.	
	CTS:	**ITS:**
	15.03.12.04	LCO 3.07.09 COND B RA B.3
M.03 Rev. A	The Point Beach control room habitability analysis assumes a positive pressure in the control room envelope when the control room ventilation system is operating in the emergency make-up mode of operation to minimize control room inleakage under DBA conditions. The control room ventilation system is load shed during a loss of offsite power, requiring the system to be manually restarted. The acceptability of manually re-establishing control room ventilation following a design basis event with loss of offsite power is addressed in Justification for Deviation 01 and the proposed Bases of this LCO. Proposed SR 3.7.9.5 assures the ability to manually start the control room ventilation system in the emergency make-up mode of operation following design basis event coincident with a loss of offsite power. The proposed frequency for this surveillance is consistent with that specified for manual actuation testing of the control room emergency filtration system in NUREG 1431 and is considered acceptable based on the inherent reliability of manual actuation circuits. This change represents an added system operability requirement and periodic surveillance test. The addition of this surveillance is consistent with the Point Beach design and the assumptions made in the control room habitability evaluation.	
	CTS:	**ITS:**
	NEW	SR 3.07.09.05

A.1

15.3.12 CONTROL ROOM EMERGENCY FILTRATION

LCO 3.7.9 A.2

A.3

Applicability

Applies to the operability of the control room emergency filtration.

Objective

To specify functional requirements of the ~~control room~~ emergency filtration during power operation and ~~refueling~~ operation.

LCO 3.7.9

A.5 A.6

Modes 1, 2, 3, and 4

During movement of irradiated fuel, and During CORE ALTERATIONS

L.6

D errata

Specification

1. Except as ~~specified in 15.3.12.3~~ below, the control room emergency filtration system shall be operable at all times during power operation and refueling operation of ~~either~~ unit.

A.6

Required by SR 3.7.9.2

2. a. The results of in-place cold DOP and halogenated hydrocarbon tests, conducted in accordance with Specification 15.4.11, on HEPA filter and charcoal adsorber banks shall show a minimum of 99% DOP removal and 99% halogenated hydrocarbon removal.

   b. The results of laboratory charcoal adsorbent tests, conducted in accordance with Specification 15.4.11, shall show a minimum of 99% removal of methyl iodide. If laboratory analysis results for in-place charcoal indicate less than 99% methyl iodide removal, this specification may be met by replacement with charcoal adsorbent which has been verified to achieve 99% minimum removal and which has been stored in sealed containers, and retesting the charcoal adsorber bank for halogenated hydrocarbon removal.

< See Section 5.0 >

   c. The results of fan testing, conducted in accordance with specification 15.4.11, shall show operation within ±10% of design flow.

SR 3.7.9.6	Verify one CREFS emergency make-up fan can main tain a positive pressure of ≥ 0.125 inches water gauge in the control room envelope, relative to the adjacent turbine building during the emergency mode of operation at a makeup flow rate of ± 10% of system design.	18 months

M.1 L.1

c. Halogenated hydrocarbon testing of the charcoal adsorber bank shall be performed after each complete or partial replacement of charcoal adsorbers or after any structural maintenance of the adsorber housing. Halogenated hydrocarbon testing shall be at design velocity ± 20%.

< See Section 5.0 >

d. Laboratory sample analysis of in-place charcoal adsorbent shall be performed at least once per year for standby service or after every 720 hours of system operation and, as a minimum, shall be conducted at velocities within 20% of design, 1.75 mg/m³ inlet iodide concentration, 95% relative humidity and 30°C (86°F).

L.2

e. Fans shall be tested at least once per year ~~or after 720 hours of operation since the previous test,~~ ~~and following fan maintenance or repair.~~

L.2

A.8

A.4

Add new SR 3.7.9.5 - See Insert 3.7.10-02

Basis

The control room emergency filtration system is designed to filter the control room atmosphere and makeup air to the control room during control room isolation conditions. The control room emergency filtration is normally isolated and not in operation and testing more frequently than that specified is not required to insure operability or performance. If the efficiencies of HEPA and charcoal adsorbers are as specified, the resulting control room doses during accident conditions will be less than allowable levels in Criterion 19 of Appendix A to 10 CFR 50. The charcoal adsorbent laboratory sample analysis is performed in accordance with ASTM D3803-89, "Standard Test Method for Nuclear-Grade Activated Carbon."

SR 3.7.9.6	Verify ~~one~~ each CREFS emergency make-up fan can maintain a positive pressure of ≥ 0.125 inches water gauge in the control room envelope, relative to the adjacent turbine building during the emergency mode of operation at a makeup flow rate of ~~± 10% of system design~~.	18 months 4950 cfm ± 10%

D
RAI 3.7.10-5

L.1

LCO 3.7.10 INSERTS

Insert 3.7.10-01:

L.3

SR 3.7.9.3	Verify each CREFS emergency make-up fan actuates on an actual or simulated actuation signal.	18 months
SR 3.7.9.4	Verify each CREFS automatic damper in the emergency mode flow path actuates to the correct position on an actual or simulated actuation signal.	18 months

D

A.9

Insert 3.7.10-02:

M.3

SR 3.7.9.5	Verify CREFS manual start capability and alignment.	18 months

JFD Number	JFD Text
04 Rev. A	NUREG 1431 SR 3.7.10.1 provides two bracketed run time requirements for the Control Room Emergency Make-up charcoal filter train. Either 10 hours or 15 minute is to be selected based on whether the make-up filter unit has installed heaters or not. The Point Beach control room emergency charcoal filter unit does not have installed heaters. Accordingly, the 15 minute option has been chosen.

ITS:	NUREG:
B 3.07.09	B 3.07.10
SR 3.07.09.01	SR 3.07.10.01

JFD Number	JFD Text
05 Rev. D	Based on System design as described in Justification for Deviation 1 of this section, NUREG 1431 SR 3.7.10.3 has been divided into two separate SRs. This change is necessary to allow differing acceptance criteria for the system fans and dampers. The fans are an active device, requiring testing of their actuation capability regardless of operating state, while the dampers may be secured in their required positions, placing the dampers in a passive state. Proposed SR 3.7.9.3 verifies each control room emergency filter system emergency fan starts on an actual or simulated actuation signal. Proposed ITS SR 3.7.9.4 verifies each control room emergency filter system automatic damper in the emergency mode flow path actuates to the correct position on an actual or simulated actuation signal. Subsequent changes to SR numbers have been made to maintain the SRs in an ascending frequency order.

ITS:	NUREG:
B 3.07.09	B 3.07.10
SR 3.07.09.03	SR 3.07.10.03
SR 3.07.09.04	N/A
SR 3.07.09.06	SR 3.07.10.04

JFD Number	JFD Text
06 Rev. A	Manual emergency mode start capability for the control room ventilation system has been moved from NUREG 1431 LCO 3.3.7 to proposed ITS SR 3.7.9.5. This change is necessary to reflect the Point Beach control room ventilation system design. There is no single control switch which places the control room ventilation system into its emergency operating configuration as NUREG 1431 LCO 3.3.7 addresses, but rather a number switches which must be manipulated to place the system in the emergency operating mode. Manual actuation capability is required for system operability. As addressed in Justification for Deviation 1 of this LCO, the control room ventilation system does not automatically restart after being load shed following a loss of offsite power. Manual action is required to restart the control room ventilation system after a loss of offsite power, which is verified through performance of this proposed surveillance. Incorporating this surveillance under LCO 3.7.9 recognizes the need to maintain and test manual actuation capability, while directing the appropriate Required Actions if this capability is lost.

ITS:	NUREG:
B 3.07.09	B 3.07.10
SR 3.07.09.05	N/A
SR 3.07.09.06	SR 3.07.10.04

JFD Number	JFD Text
07 Rev. D	NUREG 1431 SR 3.7.10.4 verifies that the control room emergency make-up filtration unit can maintain a positive pressure of at least 0.125 inches of water gage, when operated in the emergency filtration mode at a make-up flow rate of less than or equal to a given value. The proposed ITS for Point Beach will similarly require verification of positive pressure capability, but will require that this capability be verified with a make-up system flow rate within plus or minus 10% of the nominal make-up pressurization flowrate of 4950 cfm. CTS 15.3.12.2.c requires the make-up fans to achieve a flow rate within plus or minus 10% of design flow. This change is consistent with NUREG 0800, Section 6.4 states that systems having a make-up pressurization rate in excess of 0.5 volume changes per hour (543 cfm for Point Beach) should be tested every 18 months to assure that the control room envelope will maintain a positive pressure of greater than or equal to 0.125 inches water gauge within plus or minus 10% of system design make-up rate. Therefore, this change in acceptance criteria is consistent with the guidance provided in NUREG-0800 and the current Technical Specifications.

ITS:	NUREG:
B 3.07.09	B 3.07.10
SR 3.07.09.06	SR 3.07.10.04

SR 3.7.9.4	Verify each CREFS automatic damper in the emergency mode flow path that is actuates to the correct position on an actual or simulated actuation signal.	18 months

5

10

CREFS 3.7.~~10~~ 9

D

RAI 3.7.10-9

SURVEILLANCE REQUIREMENTS (continued)

10 → 9

SURVEILLANCE		FREQUENCY
SR 3.7.~~10~~.2	Perform required CREFS filter testing in accordance with the [Ventilation Filter Testing Program (VFTP)].	In accordance with [VFTP]
SR 3.7.~~10~~.3	Verify each CREFS ~~train~~ actuates on an actual or simulated actuation signal.	[18] months
SR 3.7.~~10~~.~~4~~	Verify ~~one~~ CREFS ~~train~~ can maintain a positive pressure of $\geq$ [0.125] inches water gauge, relative to the adjacent [turbine building] during the ~~pressurization~~ mode of operation at a makeup flow rate of ~~$\leq$ [3000] cfm~~.	[18] months on a STAGGERED TEST BASIS

1/5 emergency make-up fan

3

10 → 9

each 1

3

6

5/6

11

emergency 1

4950 cfm $\pm$ 10% 7

emergency make-up fan 1

in the control room envelope 1

D

RAI 3.7.20-5

SR 3.7.9.5	Verify CREFS manual start capability and alignment.	18 months

6

BASES

2

APPLICABILITY

In MODES 1, 2, 3, 4, ~~[5, and 6,]~~ and during movement of irradiated fuel assemblies [and during CORE ALTERATIONS], CREFS must be OPERABLE to control operator exposure during and following a DBA.

3

~~In [MODE 5 or 6], the CREFS is required to cope with the release from the rupture of an outside waste gas tank.~~

8

3

During movement of irradiated fuel assemblies [and CORE ALTERATIONS], the CREFS must be OPERABLE to cope with the release from a fuel handling accident.

D

RAI
3.7.10-2

ACTIONS

A.1

1

Replace with Insert B 3.7.10-04

~~When one CREFS train is inoperable, action must be taken to restore OPERABLE status within 7 days. In this Condition, the remaining OPERABLE CREFS train is adequate to perform the control room protection function. However, the overall reliability is reduced because a single failure in the OPERABLE CREFS train could result in loss of CREFS function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and ability of the remaining train to provide the required capability.~~

~~B.1 and B.2~~ B.1, B.2, B.3 and B.4

11 1

Insert B 3.7.10-06

In MODE 1, 2, 3, or 4, if ~~the inoperable~~ CREFS ~~train~~ cannot be restored to OPERABLE status within the required Completion Time, the unit must be placed in a MODE that minimizes accident risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

11

~~C.1, C.2.1, and C.2.2~~

~~[In MODE 5 or 6, or] during movement of irradiated fuel assemblies [, or during CORE ALTERATIONS], if the inoperable CREFS train cannot be restored to OPERABLE status within the required Completion Time, action must be taken to~~

10 → 9

SURVEILLANCE REQUIREMENTS (Continued)

9

moisture accumulated in the charcoal from ~~humidity in the ambient air. [Systems with heaters~~ must be operated for ~~≥ 10 continuous~~ hours with the heaters energized. Systems without heaters need only be operated for ≥ ~~15 minutes to demonstrate the function of the system.]~~ The 31 day Frequency is based on the reliability of the equipment ~~and the two train redundancy availability~~.

3

1

10 → 9

SR 3.7.~~10~~ 9.2

frequency of

D Errata

This SR verifies that the required CREFS testing is performed in accordance with the [Ventilation Filter Testing Program (VFTP)]. The CREFS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 3). The [VFTP] includes testing the performance of the HEPA filter, charcoal adsorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. Specific test Frequencies and additional information are discussed in detail in the [VFTP].

3

1/5/6

Replace with Insert B 3.7.10-05

~~SR 3.7.10.3~~

~~This SR verifies that each CREFS train starts and operates on an actual or simulated actuation signal. The Frequency of [18] months is specified in Regulatory Guid e 1.52 (Ref. 3).~~

10 → 9

SR 3.7.~~10~~ 9.~~4~~ 6

1

This SR verifies the integrity of the control room enclosure~~, and the assumed inleakage rates of the potentially contaminated air.~~ The control room positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify proper functioning of the CREFS. During the emergency mode of operation, the CREFS is designed to pressurize the control room ≥ [0.125] inches water gauge positive pressure with respect to adjacent areas in order to ~~prevent~~ minimize unfiltered inleakage. The CREFS is designed to maintain this positive pressure with one ~~train~~ emergency make-up fan in operation at a makeup flow rate of ~~[3000] cfm~~ ± 10% of the nominal make-up pressurization flow rate of approximately 4950 cfm. The Frequency of [18] months ~~on a STAGGERED TEST BASIS~~ is consistent with the guidance provided in NUREG -0800 (Ref. 4).

3

1

11

D RAI 3.7.10-5

10 → 9

Insert B 3.7.10-01:

The CREFS consists of: one emergency make-up air filtration unit, two emergency make-up fans, two recirculation fans, and the required ducts and dampers necessary to establish the required flow paths and isolation boundaries. The CREFS is an emergency system, parts of which operate during normal unit operations. The CREFS has four modes of operation.

- Mode 1 (normal operation) - One of the two recirculation fans (W-13B1 or W-13B2) are in operation. Outside air is supplied from an intake penthouse located on the roof of the auxiliary building at a rate of approximately 1000 cfm (5% of system design flow) via damper VNCR-4849C which is throttled to a predetermined position. The make-up air combines with return air from the control room and computer room then passing through filter (F-43) and cooling units (HX-100 A&B) before entering the recirculation fan. Filtered and cooled air is supplied to the mechanical equipment room and through separate heating coils (HX-92 and HX-91 A&B), and humidifiers (Z-78 and Z-77) to the computer and control rooms respectively. Room thermostats and humidistats control the operation of the heating coils, chilled water system, and humidifiers. The control room heating, cooling, and humidification systems are not required to demonstrate compliance with the control room habitability limits of 10 CFR 50 Appendix A, GDC-19 as required by NUREG-0737, Item III.D.3.4. The computer room is supplied with supplementary cooling during normal operation via supplementary air conditioning units (W-107A/HX-190A/HX-191A or W-107B/HX-190B/HX-191B). Nominally, the control room washroom exhaust fan (W-15) is also in operation. Operation of the Control Room Ventilation System in Mode 1 (normal operation) is not assumed for control room habitability, and is therefore not a Technical Specification required mode of operation. D RAI 3.7.10-9

- Mode 2 (recirculation operation) - 100% of the control room and computer room air is recirculated. In this mode, the outside air damper (VNCR-4849C) is closed and the control room washroom exhaust fan is de-energized. Recirculation can be automatically initiated by a Containment Isolation or Safety Injection signal, or can be manually initiated from the control room. Operation of the Control Room Ventilation System in Mode 2 (recirculation) is not assumed for control room habitability, and is therefore not a Technical Specification required mode of operation.

- Mode 3 (recirculation/charcoal adsorber operation) - One of two control room emergency make-up fans (W-14A or W-14B) is in operation and air is supplied to the emergency make-up charcoal filter unit (F-16) via the computer and control room

Insert B 3.7.10-05:

SR 3.7.9.3

This SR verifies that each CREFS emergency make-up fan starts and operates on an actual or simulated actuation signal. The Frequency of 18 months is specified in Regulatory Guide 1.52 (Ref. 3).

SR 3.7.9.4

This SR verifies that each C REFS automatic damper in the emergency make-up mode flow path will actuate to its required position on an actuation signal. The Frequency of 18 months is specified in Regulatory Guide 1.52 (Ref. 3).

D RAI 3.7.10-9

SR 3.7.9.5

This test verifies manual actuation capab ility for CREFS. Manual actuation capability is a required for OPERABILITY of the CREFS because CREFS does not automatically restart after being load shed following a loss of offsite power. Manual action is required to restart and align the CREFS after a loss of offsite power, which is verified through performance of this SR. The 18 month Frequency is acceptable based on the inherent reliability of manual actuation circuits.

Insert B 3.7.10-06:

If CREFS cannot be restored to OPERABLE status within the required Completion Time with CORE ALTERATIONS or movement of irradiated fuel in progress, these activities must be suspended immediately. Immediately suspending these activities places the unit in a condition that minimizes risk from these activities. This does not preclude the movement of fuel to a safe position.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.9.2	Perform required CREFS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.9.3	Verify each CREFS emergency make-up fan actuates on an actual or simulated actuation signal.	18 months
SR 3.7.9.4	Verify each CREFS automatic damper in the emergency mode flow path actuates to the correct position on an actual or simulated actuation signal.	18 months
SR 3.7.9.5	Verify CREFS manual start capability and alignment.	18 months
SR 3.7.9.6	Verify each CREFS emergency make-up fan can maintain a positive pressure of $\geq$ 0.125 inches water gauge in the control room envelope, relative to the adjacent turbine building during the emergency mode of operation at a makeup flow rate of 4950 cfm $\pm$ 10%.	18 months

D
RAI
3.7.10-9

D
RAI
3.7.10-5

B 3.7 PLANT SYSTEMS

B 3.7.9 Control Room Emergency Filtration System (CREFS)

BASES

BACKGROUND

The CREFS provides a protected environment from which operators can control the unit following an uncontrolled release of radioactivity.

The CREFS consists of one emergency make-up air filtration unit, two emergency make-up fans, two recirculation fans, and the required ducts and dampers necessary to establish the required flow paths and isolation boundaries. The CREFS is an emergency system, parts of which operate during normal unit operations. The CREFS has four MODES of operation.

- MODE 1 (normal operation) - One of the two recirculation fans (W-13B1 or W-13B2) are in operation. Outside air is supplied from an intake penthouse located on the roof of the auxiliary building at a rate of approximately 1000 cfm (5% of system design flow) via damper VNCR-4849C which is throttled to a predetermined position. The make-up air combines with return air from the control room and computer room then passing through filter (F-43) and cooling units (HX-100 A&B) before entering the recirculation fan. Filtered and cooled air is supplied to the mechanical equipment room and through separate heating coils (HX-92 and HX-91 A&B), and humidifiers (Z-78 and Z-77) to the computer and control rooms respectively. Room thermostats and humidistats control the operation of the heating coils, chilled water system, and humidifiers. The control room heating, cooling, and humidification systems are not required to demonstrate compliance with the control room habitability limits of 10 CFR 50 Appendix A, GDC-19 as required by NUREG-0737, Item III.D.3.4. The computer room is supplied with supplementary cooling during normal operation via supplementary air conditioning units (W-107A/HX-190A/HX-191A or W-107B/HX-190B/HX-191B). Nominally, the control room washroom exhaust fan (W-15) is also in operation. Operation of the Control Room Ventilation System in MODE 1 (normal operation) is not assumed for control room habitability, and is therefore not a Technical Specification required MODE of operation. D RAI 3.7.10-9

- MODE 2 (recirculation operation) - 100% of the control room and computer room air is recirculated. In this MODE, the outside air damper (VNCR-4849C) is closed and the control room washroom exhaust fan is de-energized. Recirculation can be automatically initiated by a Containment Isolation or Safety Injection signal, or can be manually initiated from the control room. Operation of the Control Room Ventilation System in MODE 2 (recirculation) is not assumed for control room habitability, and is therefore not a Technical Specification required MODE of operation.

BACKGROUND (continued)

- MODE 3 (recirculation/charcoal adsorber operation) - One of two control room emergency make-up fans (W-14A or W-14B) is in operation and air is supplied to the emergency make-up charcoal filter unit (F-16) via the computer and control room return air duct (damper VNCR-4851B). The normal outside air supply is secured (damper VNCR-4849C closed) and the control room washroom exhaust fan is de-energized. In this MODE approximately 25% of the return air is being recirculated by the emergency make-up charcoal filter unit back to the suction of the control room recirculation fans. Recirculation/charcoal adsorber MODE is manually initiated from the control room. Operation of the Control Room Ventilation System in MODE 3 (recirculation/charcoal adsorber MODE) is not assumed for control room habitability, and is therefore not a Technical Specification required MODE of operation.

- MODE 4 (emergency make-up) - Operation in this MODE is similar to MODE 3 except return air inlet damper VNCR-4851B to the emergency fans remains closed and outside air supply to the emergency make-up charcoal filter unit opens (damper VNCR-4851A). This allows approximately 4950 cfm (25% of system design flow) of make-up air to pass through the emergency make-up charcoal filter unit to the suction of the control room recirculation fan. This make-up flow rate is sufficient to assure a positive pressure of ≥ 1/8 in. water gage is maintained in the control and computer rooms to prevent excessive unfiltered in-leakage into the control room ventilation boundary. MODE 4 (emergency make-up) is automatically initiated by a high radiation signal from the control room area monitor RE-101, or a high radiation signal from noble gas monitor RE-235 located in the supply duct to the control room. This MODE of operation can also be manually initiated from the control room. Operation of the Control Room Ventilation System in MODE 4 (emergency make-up) is the assumed MODE of operation for the control room habitability analysis, and is therefore the only MODE of operation addressed by this LCO.

The air entering the control room is continuously monitored by noble gas radiation monitors and the control room itself is continuously monitored by an area radiation monitor. One detector output above its setpoint will actuate the emergency make-up MODE of operation (MODE 4) for the CREFS.

The limiting design basis accident for the control room dose analysis is the large break LOCA. CREFS does not automatically restart after being load shed following a loss of offsite power; manual action is required to restart CREFS. The control room emergency make-up and recirculation fans have been included in the emergency diesel generator loading profile during the recirculation phase of a loss of coolant accident.

BASES

BACKGROUND (continued)	The CREFS will pressurize the control and computer rooms to at least 0.125 inches water gauge in the emergency make-up MODE of operation. The CREFS role in maintaining the control room habitable is discussed in the FSAR, Section 9.8 (Ref. 1).

APPLICABLE SAFETY ANALYSES

The CREFS provides airborne radiological protection for control room personnel, as demonstrated by the limiting control room dose analyses for the design basis large break loss of coolant accident. Control room dose analysis assumptions are presented in the FSAR, Section 14.3.5 (Ref. 2).

The analyses for radiological consequences in the control room are based on operation of CREFS in the emergency make-up MODE (MODE 4). The radiological effects in the control room, of the stopping and subsequent restart of CREFS after a loss of offsite power would not be significantly greater than the doses associated with continuous operation of CREFS post-accident, based on the following:

1. The control room would start from positive pressurization because the system normally runs in a positive pressurization MODE (MODE 1).

2. During the loss of ventilation, the air inside the control room would heat up and expand, which would continue to enhance outflow, minimizing in-leakage.

3. The control room would normally be closed which reduces in-leakage.

4. The control room ventilation system damper positions would automatically reposition to the emergency make-up configuration (MODE 4). Therefore, if any in-leakage through the control room intake occurred, it would be filtered at the same or higher efficiency assumed in the analysis.

5. Noble gases would not be drawn into the control room by the control room charcoal filter fan.

The CREFS satisfies Criterion 3 of the NRC Policy Statement.

LCO

The CREFS (MODE 4) is required to be OPERABLE to ensure that the control room habitability limits are met following a limiting design basis LOCA. Total system failure could result in exceeding the control room operator thyroid dose limit of 30 rem in the event of a large radioactive release. The CREFS is considered OPERABLE when the individual

BASES

LCO (continued)

components necessary to filter and limit control room in-leakage are OPERABLE. CREFS is considered OPERABLE when:

a. Both emergency make-up fans (W-14A and W-14B) are OPERABLE;

b. Both recirculation fans (W-13B1 and W-13B2) are OPERABLE;

c. Emergency make-up filter unit (F-16), HEPA filters and charcoal adsorbers are not excessively restricting flow, and are capable of performing their filtration functions;

d. Control room ventilation envelope is capable of achieving and maintaining a positive pressure of at least 0.125 inches water gauge in the emergency make-up MODE of operation;

e. Ductwork and dampers are OPERABLE, and air circulation can be maintained; and

f. CREFS is capable of being manually initiated in the emergency make-up MODE of operation (MODE 4).

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors.

APPLICABILITY

In MODES 1, 2, 3, 4, and during movement of irradiated fuel assemblies and during CORE ALTERATIONS, CREFS must be OPERABLE to control operator exposure during and following a DBA.

During movement of irradiated fuel assemblies and CORE ALTERATIONS, the CREFS must be OPERABLE to cope with the release from a fuel handling accident.

D
RAI
3.7.10-2

ACTIONS

A.1

When CREFS is inoperable, action must be taken to restore the system to OPERABLE status within 7 days. In this Condition, the remaining OPERABLE CREFS components may be adequate to perform the control room protection function; however, overall reliability may be reduced because a single active failure could result in loss of CREFS function. The 7 day Completion Time is based on the low probability of a DBA challenging control room habitability occurring during this time period.

BASES

ACTIONS (continued)

B.1, B.2, B.3, and B.4

If CREFS cannot be restored to OPERABLE status within the required Completion Time with CORE ALTERATIONS or movement of irradiated fuel in progress, these activities must be suspended immediately. Immediately suspending these activities places the unit in a condition that minimizes risk from these activities. This does not preclude the movement of fuel to a safe position.

In MODE 1, 2, 3, or 4, if CREFS cannot be restored to OPERABLE status within the required Completion Time, the unit must be placed in a MODE that minimizes accident risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.9.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, testing each fan subsystem once every month provides an adequate check of this system. Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system. The 31 day Frequency is based on the reliability of the equipment.

SR 3.7.9.2

This SR verifies that the required CREFS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The Frequency of CREFS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 3). The VFTP includes testing the performance of the HEPA filter, charcoal adsorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. Specific test Frequencies and additional information are discussed in detail in the VFTP. D Errata

SR 3.7.9.3

This SR verifies that each CREFS emergency make-up fan starts and operates on an actual or simulated actuation signal. The Frequency of 18 months is specified in Regulatory Guide 1.52 (Ref. 3).

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.9.4

This SR verifies that each CREFS automatic damper in the emergency make-up MODE flow path will actuate to its required position on an actuation signal. The Frequency of 18 months is specified in Regulatory Guide 1.52 (Ref. 3). D RAI 3.7.10-9

SR 3.7.9.5

This test verifies manual actuation capability for CREFS. Manual actuation capability is a required for OPERABILITY of the CREFS because CREFS does not automatically restart after being load shed following a loss of offsite power. Manual action is required to restart and align the CREFS after a loss of offsite power, which is verified through performance of this SR. The 18 month Frequency is acceptable based on the inherent reliability of manual actuation circuits.

SR 3.7.9.6

This SR verifies the integrity of the control room enclosure. The control room positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify proper functioning of the CREFS. During the emergency MODE of operation, the CREFS is designed to pressurize the control room ≥ 0.125 inches water gauge positive pressure with respect to adjacent areas in order to minimize unfiltered inleakage. The CREFS is designed to maintain this positive pressure with one emergency make-up fan in operation at a makeup flow rate of ± 10% of the nominal make-up pressurization flow rate of approximately 4950 cfm. The Frequency of 18 months is consistent with the guidance provided in NUREG-0800 (Ref. 4). D RAI 3.7.10-5

REFERENCES

1. FSAR. Section 9.8.
2. FSAR. Section 14.3.5.
3. Regulatory Guide 1.52, Rev. 2.
4. NUREG-0800, Section 6.4, Rev. 2, July 1981.

Description of Changes - NUREG-1431 Section 3.07.16

21-Feb-01

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:**
	15.05.04	LCO 3.07.11
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:**
	15.05.04 APPL	LCO 3.07.11
A.03 Rev. A	The CTS provides an introductory statement (Objective) at the beginning of this Section of the Technical Specifications which provides 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:**
	15.05.04 OBJ	B 3.07.11
A.04 Rev. D	The current Technical Specifications do not contain any Bases for this section. As such, proposed Bases have been provided consistent with the Point Beach design and licensing basis. The proposed Bases are consistent with the format and content the Standard Technical Specifications for Westinghouse Plants, NUREG-1431, as well as the proposed Point Beach ITS. The revised Bases are as shown in the PBNP ITS Bases.	
	CTS:	**ITS:**
	NEW	B 3.07.11 B 3.07.11 B 3.07.11 B 3.07.11 B 3.07.11

DOC Number	DOC Text
A.05 Rev. D	CTS 15.5.4.3 specifies a minimum boron concentration of 2100 ppm boron whenever there are spent fuel assemblies in the storage pool. Proposed ITS LCO 3.7.11 will similarly require a minimum fuel pool boron concentration of 2100 ppm whenever fuel assemblies are stored in the spent fuel pool. As such the CTS and the ITS are equivalent and appropriate for the Point Beach design and licensing basis as discussed below: The Point Beach spent fuel storage racks are designed to allow storage of fuel with a maximum enrichment of 4.6 wt% U-235. Fuel with enrichments > 4.6 wt% may be stored as well, but must contain Integral Fuel Burnable Absorber (IFBA) to ensure a maximum keff of 0.95 based on the use of unborated water. However, the spent fuel pool keff storage limit of 0.95 can be exceeded as a result of an excessive pool cooldown or the inadvertent placement of a highly enriched fuel assembly between a storage rack module and the wall of the spent fuel pool. The spent fuel pool keff storage limit of 0.95 is maintained during these events by maintaining a minimum boron concentration of 700 ppm as addressed in NRC SER dated September 4, 1997, which approved increasing the fuel assembly enrichment storage capability for Point Beach. The specified concentration of 2100 ppm provides significant margin to the boron concentration used in the analyses of the potential critical accident scenarios as described above. The proposed Applicability for this LCO "whenever any fuel assembly is stored in the spent fuel storage pool" encompasses movement of fuel assemblies in the fuel storage pool, relative to inadvertent placement of a fuel assembly as well as excessive cooldown events. Accordingly, the proposed Applicability envelopes the initiating conditions for the accidents described above, while the limitations provide significant margin to the analysis limit.

CTS:	ITS:
15.05.04.03	LCO 3.07.11 SR 3.07.11.01
NEW	LCO 3.07.11 LCO 3.07.11

DOC Number	DOC Text
M.01 Rev. D	Required Actions for spent fuel pool boron concentration not within limits is being added. Therefore Required Actions A.1 and A.2.1 contained in NUREG 1431 LCO 3.7.16, "Fuel Storage Boron Concentration" have been adopted. Adoption of these actions is appropriate for Point Beach as discussed below: Required Action A.1 requires suspending movement of fuel assemblies if the concentration of boron in the fuel storage pool is less than 2100 ppm. By suspending movement of fuel, inadvertent placement of a fuel assembly between a fuel storage rack module and the wall of the spent fuel pool is precluded. This Action is not intended to preclude movement of a fuel assembly to a safe position. Required Action A.2 requires immediate action to be taken to restore boron concentration in the fuel storage pool to greater than or equal to 2100 ppm to assure protection from excessive fuel pool cooldown reactivity insertion events. Restoration of boron concentration could take several hours or days depending on the magnitude of change required, which may involve feed and bleed operations. Immediate initiation of action is warranted based on the importance of maintaining keff of the spent fuel pool < 0.95. However, for minor deviations in boron concentration, significant margin exists to the analysis limit of 700 ppm. **CTS:** NEW **ITS:** LCO 3.07.11 COND A LCO 3.07.11 COND A RA A.1 LCO 3.07.11 COND A RA A.1 NOTE LCO 3.07.11 COND A RA A.2
M.02 Rev. A	CTS Table 15.4.1-2 line item 7 requires spent fuel boron concentration to be verified once every month. Proposed SR 3.7.11.1 will require verification of boron concentration once every 7 days. The proposed frequency is more restrictive that the CTS consistent with the required frequency of performing NUREG 1431 SR 3.7.16.1. The 7 day Frequency is conservative based on the pool volume and the potential for an uncontrolled or unmonitored dilution. **CTS:** 15.04.01 T 15.04.01-02 07 (A) **ITS:** SR 3.07.11.01

A.1

15.5.4 FUEL STORAGE

LCO 3.7.11 A.2

Applicability

Applies to the capacity and storage arrays of new and spent fuel.

A.3/A.4 Bases added for LCO 3.7.11

Objective

To define those aspects of fuel storage relating to prevention of criticality in fuel storage areas.

Specification

< See 4.0 > < See LCO 3.7.17 >

1. The new fuel storage and spent fuel pool structures are designed to withstand the anticipated earthquake loadings as Class I structures. The spent fuel pool has a stainless steel liner to ensure against loss of water.
2. The new and spent fuel storage racks are designed so that it is impossible to store assemblies in other than the prescribed storage locations. The fuel is stored vertically in an array with sufficient center-to-center distance between assemblies to assure K_{eff}<0.95 with the storage pool filled with unborated water and with the fuel loading in the assemblies limited to 5.0 w/o U-235,with or without axial blanket loadings. Each assembly with a fuel loading greater than 4.6 w/o U-235 must contain Integral Fuel Burnable Absorber (IFBA) rods in accordance with Figure 15.5.4-1 ~~or have a reference infinite multiplication factor, K_{∞}, less than or equal to 1.49364, which includes a 1% ΔK reactivity bias~~. An inspection area shall allow rotation of fuel assemblies for visual inspection, but shall not be used for storage. < See 4.0 > LCO 3.7.11 / SR 3.7.11.1
3. The spent fuel storage pool shall be filled with borated water at a concentration of at least ~~1800~~ 2100 ppm boron whenever there are spent fuel assemblies in the storage pool. A.5
4. Except for the two storage locations adjacent to the designated slot for the spent fuel storage rack neutron absorbing material surveillance specimen irradiation, spent fuel assembly storage locations immediately adjacent to the spent fuel pool perimeter or divider walls shall not be occupied by fuel assemblies which have been subcritical for less than one year.

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for the spent fuel pool. Fresh fuel assemblies with the maximum enrichment of up to 5.0 w/o U-235 and a mimum of 32 1.25 x IFBA rods can utilize vault storage cells.

< See LCO 3.7.17 >

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Justification For Deviations - NUREG-1431 Section 3.07.16

21-Feb-01

JFD Number	JFD Text
01 Rev. A	NUREG 1431 LCO 3.7.9 and LCOs 3.7.11 through 3.7.14 have not been adopted as part of the Point Beach conversion to the ITS. As such, NUREG 1431 LCO 3.7.16 has been renumbered to maintain sequential order in the Plant Systems Chapter.

ITS:	NUREG:
B 3.07.11	B 3.07.16
LCO 3.07.11	LCO 3.07.16
SR 3.07.11.01	SR 3.07.16.01 SR 3.07.16.01

JFD Number	JFD Text
02 Rev. D	The Point Beach spent fuel storage racks are of a single design, which allow storage of fuel with a maximum enrichment of 4.6 wt% U-235. Fuel with enrichments > 4.6 wt% may be stored as well, but must contain Integral Fuel Burnable Absorber (IFBA) to ensure a maximum keff of 0.95 based on the use of unborated water. The spent fuel pool keff storage limit of 0.95 can be exceeded as a result of an excessive pool cooldown or the inadvertent placement of a highly enriched fuel assembly between a storage rack module and the wall of the spent fuel pool. The spent fuel pool keff storage limit of 0.95 is maintained during these events by maintaining a minimum boron concentration of 700 ppm as addressed in NRC SER dated September 4, 1997, which approved increasing the fuel assembly enrichment storage capability for Point Beach. The CTS concentration of 2100 ppm, which has been proposed for the ITS limits as well, provides significant margin to the boron concentration used in the analyses of the potential critical accident scenarios stated above. The proposed Applicability for this LCO "whenever any fuel assembly is stored in the spent fuel storage pool" encompasses movement of fuel assemblies in the fuel storage pool, relative to inadvertent placement of a fuel assembly as well as any time fuel is stored relative to excessive cooldown events. Accordingly, the proposed Applicability envelopes the initiating conditions for the accidents described above, while the limitation provide significant margin to the analysis limit. This Applicability is consistent with that specified for the CTS.

ITS:	NUREG:
B 3.07.11	B 3.07.16
LCO 3.07.11	LCO 3.07.16

JFD Number	JFD Text
03 Rev. A	The brackets have been removed and the proper plant specific information has been provided.

ITS:	NUREG:
B 3.07.11	B 3.07.16
LCO 3.07.11	LCO 3.07.16

1

3.7 PLANT SYSTEMS

3.7.~~16~~ 11 Fuel Storage Pool Boron Concentration

LCO 3.7.~~16~~ 11 The fuel storage pool boron concentration shall be ≥ ~~[2300]~~ 2100 ppm.

2/3

APPLICABILITY: ~~When fuel assemblies are stored in the fuel storage pool and a fuel storage pool verification has not been performed since the last movement of fuel assemblies in the fuel storage pool.~~

When fuel assemblies are stored in the spent fuel storage pool. 2

D

Amendment 194
Amendment 199

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Fuel storage pool boron concentration not within limit.	------------NOTE------------ LCO 3.0.3 is not applicable. ----------------------------	
	A.1 Suspend movement of fuel assemblies in the fuel storage pool.	Immediately
	AND	
	A.2~~.1~~ Initiate action to restore fuel storage pool boron concentration to within limit. (4)	Immediately
	~~OR~~	
	~~A.2.2 Verify by administrative means [Region 2] fuel storage pool verification has been performed since the last movement of fuel assemblies in the fuel storage pool.~~ (4)	~~Immediately~~

1

BASES

APPLICABLE SAFETY ANALYSES

2

Replace with Insert B 3.7.16-2

~~Most accident conditions do not result in an increase in the activity of either of the two regions. Examples of these accident conditions are the loss of cooling (reactivity increase with decreasing water density) and the dropping of a fuel assembly on the top of the rack. However, accidents can be postulated that could increase the reactivity. This increase in reactivity is unacceptable with unborated water in the storage pool. Thus, for these accident occurrences, the presence of soluble boron in the storage pool prevents criticality in both regions. The postulated accidents are basically of two types. A fuel assembly could be incorrectly transferred from [Region 1 to Region 2] (e.g., an unirradiated fuel assembly or an insufficiently depleted fuel assembly). The second type of postulated accidents is associated with a fuel assembly which is dropped adjacent to the fully loaded [Region 2] storage rack. This could have a small positive reactivity effect on [Region 2]. However, the negative reactivity effect of the soluble boron compensates for the increased reactivity caused by either one of the two postulated accident scenarios. The accident analyses is provided in the FSAR, Section [15.7.4] (Ref. 4).~~

3

2100

The concentration of dissolved boron in the fuel storage pool satisfies Criterion 2 of the NRC Policy Statement.

D

Amendment 194 & 199

LCO

2

Replace with Insert B 3.7.16-3

~~The fuel storage pool boron concentration is required to be ≥ [2300] ppm. The specified concentration of dissolved boron in the fuel storage pool preserves the assumptions used in the analyses of the potential critical accident scenarios as described in Reference 4. This concentration of dissolved boron is the minimum required concentration for fuel assembly storage and movement within the fuel storage pool.~~

APPLICABILITY

2

Replace with Insert B 3.7.16-4

~~This LCO applies whenever fuel assemblies are stored in the spent fuel storage pool, until a complete spent fuel storage pool verification has been performed following the last movement of fuel assemblies in the spent fuel storage pool. This LCO does not apply following the verification, since the verification would confirm that there are no misloaded~~

LCO 3.7.16 BASES INSERTS

Insert B 3.7.16-2:

Most accident conditions do not result in an reactivity increase for the fuel stored in the spent fuel pool (e.g. loss of cooling, dropping of a fuel assembly on the top of the rack, etc;). However, accidents are postulated that could result in the spent fuel pool k_{eff} storage limit of 0.95 being exceeded. These accidents are; excessive pool cooldown and the inadvertent placement of a highly enriched fuel assembly between a storage rack module and the wall of the spent fuel pool. For these events, the spent fuel pool k_{eff} storage limit of 0.95 is maintained by maintaining a minimum boron concentration of 700 ppm (Ref. 2). Simultaneous occurrence of these events is not postulated. The double contingency principle discussed in ANSI N-16.1-1975 and the April 1978 NRC letter (Ref. 3) allows credit for soluble boron under abnormal or accident conditions, since only a single accident need be considered at one time.

The accident analyses is provided in the FSAR, Section 14.2.1 (Ref. 4).

Insert B 3.7.16-3:

The fuel storage pool boron concentration is required to be $\geq$ 2100 ppm. The specified concentration of dissolved boron provides significant margin to the boron concentration used in the analyses of the potential critical accident scenarios as described in Reference 4. This concentration is the minimum required concentration for fuel assembly storage and movement within the fuel storage pool.

D
Amendment 194 & 199

Insert B 3.7.16-4:

This LCO applies whenever fuel assemblies are stored in the spent fuel storage pool and encompasses movement of fuel assemblies in the spent fuel storage pool. Postulated accident conditions include the inadvertent placement of a fuel assembly between the pool wall and the storage racks or an excessive cooldown rate. This LCO provides assurance that k_{eff} of the spent fuel storage pool will remain < 0.95, even under postulated accident conditions.

D
RAI 3.7.16-2

LCO 3.7.16 BASES INSERTS

Insert B 3.7.16-5:

The Required Actions are modified by a Note indicating that LCO 3.0.3 does not apply.

A.1

When the concentration of boron in the fuel storage pool is less than required, immediate action must be taken to suspending the movement of fuel assemblies. This does not preclude movement of a fuel assembly to a safe position. By suspending movement of fuel, inadvertent placement of a fuel assembly between a fuel storage rack module and the wall of the spent fuel pool is precluded.

A.2

Immediate action must be taken to restore boron concentration in the fuel storage pool to $\geq$ 2100 ppm to assure protection from excessive fuel pool cooldown reactivity insertion events. Restoration of boron concentration could take several hours or days depending on the magnitude of change required, which may involve feed and bleed operations. Immediate initiation of action is warranted based on the importance of maintaining k_{eff} of the spent fuel pool $\leq$ 0.95. As stated in Reference 2, 700 ppm is adequate to prevent the spent fuel pool k_{eff} storage limit of 0.95 from being exceeded as a result of an excessive pool cooldown. Accordingly, for minor deviations, significant margin exists to the analysis limit.

D

Amendment 194 & 199

3.7 PLANT SYSTEMS

3.7.11 Fuel Storage Pool Boron Concentration

D

LCO 3.7.11 The fuel storage pool boron concentration shall be $\geq$ 2100 ppm. Amendment 194 & 199

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Fuel storage pool boron concentration not within limit.	-----------------NOTE----------------- LCO 3.0.3 is not applicable. --	
	A.1 Suspend movement of fuel assemblies in the fuel storage pool.	Immediately
	AND	
	A.2 Initiate action to restore fuel storage pool boron concentration to within limit.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.11.1	Verify the fuel storage pool boron concentration is within limit.	7 days

B 3.7 PLANT SYSTEMS

B 3.7.11 Fuel Storage Pool Boron Concentration

BASES

BACKGROUND	The spent fuel storage racks are designed to allow unrestricted storage of fuel with a maximum enrichment of 4.6 wt% U-235. Fuel with enrichments > 4.6 wt% may be stored as well, but must contain Integral Fuel Burnable Absorbers (IFBA). These limitation ensure a maximum k_{eff} of 0.95 based on the use of unborated water. The spent fuel storage pool will accommodate 1502 fuel assemblies. One location in the spent fuel storage pool is provided to allow rotation of a fuel assembly for visual inspection, but this location cannot be used for fuel storage. A general description of the spent fuel storage pool design is given in the FSAR Section 9.4 (Ref. 1). The water in the spent fuel storage pool contains soluble boron, which results in large subcriticality margins under normal conditions. However, the NRC guidelines, based upon the accident condition in which all soluble poison is assumed to have been lost, specify that the limiting k_{eff} of 0.95 be evaluated in the absence of soluble boron. Hence, the design of the spent fuel storage racks is based on the use of unborated water. However, the spent fuel pool k_{eff} storage limit of 0.95 can be exceeded as a result of an excessive pool cooldown or the inadvertent placement of a highly enriched fuel assembly between a storage rack module and the wall of the spent fuel pool. The spent fuel pool k_{eff} storage limit of 0.95 is maintained during these events by maintaining a minimum boron concentration of 700 ppm (Ref. 2). Simultaneous occurrence of these events is not postulated. The double contingency principle discussed in ANSI N-16.1-1975 and the April 1978 NRC letter (Ref. 3) allows credit for soluble boron under abnormal or accident conditions, since only a single accident need be considered at one time.
APPLICABLE SAFETY ANALYSES	Most accident conditions do not result in an reactivity increase for the fuel stored in the spent fuel pool (e.g., loss of cooling, dropping of a fuel assembly on the top of the rack, etc.). However, accidents are postulated that could result in the spent fuel pool k_{eff} storage limit of 0.95 being exceeded. These accidents are excessive pool cooldown and the inadvertent placement of a highly enriched fuel assembly between a storage rack module and the wall of the spent fuel pool. For these events, the spent fuel pool k_{eff} storage limit of 0.95 is maintained by maintaining a minimum boron concentration of 700 ppm (Ref. 2). Simultaneous occurrence of these events is not postulated. The double contingency principle discussed in ANSI N-16.1-1975 and the

BASES

APPLICABLE SAFETY ANALYSES (continued)	April 1978 NRC letter (Ref. 3) allows credit for soluble boron under abnormal or accident conditions, since only a single accident need be considered at one time. The accident analyses is provided in the FSAR, Section 14.2.1 (Ref. 4). The concentration of dissolved boron in the fuel storage pool satisfies Criterion 2 of the NRC Policy Statement.
LCO	The fuel storage pool boron concentration is required to be ≥ 2100 ppm. The specified concentration of dissolved boron provides significant margin to the boron concentration used in the analyses of the potential critical accident scenarios as described in Reference 4. This concentration is the minimum required concentration for fuel assembly storage and movement within the fuel storage pool. (D Amendment 194 & 199)
APPLICABILITY	This LCO applies whenever fuel assemblies are stored in the spent fuel storage pool and encompasses movement of fuel assemblies in the spent fuel storage pool. Postulated accident conditions include the inadvertent placement of a fuel assembly between the pool wall and the storage racks or an excessive cooldown event. This LCO provides assurance that k_{eff} of the spent fuel storage pool will remain < 0.95, even under postulated accident conditions. (D RAI 3.7.16-2)
ACTIONS	The Required Actions are modified by a Note indicating that LCO 3.0.3 does not apply. If the LCO is not met while moving irradiated fuel assemblies in MODE 5 or 6, LCO 3.0.3 would not be applicable. If moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operation. Therefore, inability to suspend movement of fuel assemblies or restoration of boron concentration is not sufficient reason to require a reactor shutdown. <u>A.1</u> When the concentration of boron in the fuel storage pool is less than required, immediate action must be taken to suspending the movement of fuel assemblies. This does not preclude movement of a fuel assembly to a safe position. By suspending movement of fuel, inadvertent placement of a fuel assembly between a fuel storage rack module and the wall of the spent fuel pool is precluded.

BASES

ACTIONS (continued) A.2

Immediate action must be taken to restore boron concentration in the fuel storage pool to ≥ 2100 ppm to assure protection from excessive fuel pool cooldown reactivity insertion events. Restoration of boron concentration could take several hours or days depending on the magnitude of change required, which may involve feed and bleed operations. Immediate initiation of action is warranted based on the importance of maintaining k_{eff} of the spent fuel pool ≤ 0.95. As stated in Reference 2, 700 ppm is adequate to prevent the spent fuel pool k_{eff} storage limit of 0.95 from being exceeded as a result of an excessive pool cooldown. Accordingly, for minor deviations, significant margin exists to the analysis limit.

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Amendment 194 & 199

SURVEILLANCE REQUIREMENTS SR 3.7.11.1

This SR verifies that the concentration of boron in the fuel storage pool is within the required limit. As long as this SR is met, the analyzed accidents are fully addressed. The 7 day Frequency is appropriate because no major replenishment of pool water is expected to take place over such a short period of time.

REFERENCES

1. FSAR. Section 9.4.
2. NRC Safety Evaluation Report, USNRC to WEPCO, dated September 4, 1997.
3. Double contingency principle of ANSI N16.1-1975, as specified in the April 14, 1978 NRC letter (Section 1.2) and implied in the proposed revision to Regulatory Guide 1.13 (Section 1.4, Appendix A).
4. FSAR. Section 14.2.1.

Description of Changes - NUREG-1431 Section 3.07.17

21-Feb-01

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:**
	15.05.04.02	LCO 3.07.12
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:**
	15.05.04 APPL	LCO 3.07.12
A.03 Rev. A	The CTS provides an introductory statement (Objective) at the beginning of this Section of the Technical Specifications which provides 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:**
	15.05.04 OBJ	B 3.07.12
A.04 Rev. D	CTS 15.5.4.2 requires each fuel assembly stored in the spent fuel pool, with an initial enrichment of greater than 4.6 w/o U-235, to contain Integral Fuel Burnable Absorber (IFBA) rods in accordance with CTS Figure 15.5.4-1. The proposed ITS will require each fuel assembly stored in the spent fuel pool to be within storage limits, specifying the storage limits in LCO 3.7.12 and Figure 3.7.12-1. Additionally, compliance with these fuel storage limits will be administratively verified prior to storing fuel in the spent fuel storage pool by ITS SR 3.7.12.1. As such, the proposed ITS LCO, Surveillance Requirement, and Figure are equivalent to retained portion of the CTS, making this change administrative, consistent with the format and presentation for NUREG 1431.	
	CTS:	**ITS:**
	15.05.04 F 15.05.04-01	LCO 3.07.12 F 3.07.17-01
	15.05.04.02	LCO 3.07.12 LCO 3.07.12 F 3.07.17-01 SR 3.07.12.01

DOC Number	DOC Text	
A.05 Rev. A	CTS 15.5.4.2 states that the spent fuel storage racks are designed to assure a keff of less than 0.95 with the storage pool filled with unborated water and with the fuel loading in the assemblies limited to 5.0 w/o U-235, with or without axial blanket loadings. To ensure this limit is met, the CTS further restrict storage of each assembly with a fuel loading greater than 4.6 w/o U-235 to contain a minimum number of Integral Fuel Burnable Absorber rods of a specified concentration, or have a reference infinite multiplication factor less than or equal to 1.49364, which includes a 1% delta K reactivity bias. Accordingly, this CTS requirement establishes an implied Applicability of "Whenever fuel is stored in the spent fuel pool". The ITS establishes an Applicability for these requirements of "Whenever any fuel assembly is stored in the spent fuel storage pool". As such, the proposed ITS Applicability is equivalent to CTS requirement, making this change administrative, consistent with the format and presentation for NUREG 1431.	
	CTS:	**ITS:**
	15.05.04.02	LCO 3.07.12
A.06 Rev. A	The current Technical Specifications do not contain any Bases for this section. As such, proposed Bases have been provided consistent with the design and NRC Safety Evaluations issued for storage of fuel in the spent fuel pool. The proposed Bases are consistent with the format and content of the Standard Technical Specifications for Westinghouse Plants, NUREG-1431, as well as the proposed Point Beach ITS. The revised Bases are as shown in the PBNP ITS Bases.	
	CTS:	**ITS:**
	N/A	B 3.07.12

21-Feb-01

DOC Number	DOC Text	
LA.01 Rev. D	CTS 15.5.4.4 requires the spent fuel rack storage locations immediately adjacent to the spent fuel pool perimeter and divider walls to not be occupied by fuel assemblies which have been subcritical for less than one year. Exception to this requirement is allowed for the two storage locations adjacent to the spent fuel storage rack neutron absorbing material surveillance specimens. This requirement has been moved to TRM. This limitation provides assurance that the fuel pool wall will remain within its design temperature by minimizing radiation heating of the concrete walls. Fuel pool wall temperature is not a condition assumed in any design basis event, nor is it linked to the mitigation of any analyzed accident. Fuel pool wall temperature is limited to prevent exceeding acceptable design limits while maximizing useful life. The spent fuel pool perimeter and divider walls storage location have been filled for a number of years with fuel which has decayed significantly in excess of the CTS limit. There is no foreseeable reason to substitute decayed fuel for freshly exposed fuel in these locations. As such, these details are not required to be in the ITS to provide adequate protection of public health and safety. Changes to these details will be controlled in accordance with 10 CFR50.59. Since any changes to the TRM, or other plant controlled documents will be evaluated in accordance with the requirements of 10 CFR 50.59, no increase in the probability or consequences of an accident previously evaluated will be allowed, changes will not be allowed that create the possibility of a new or different kind of accident from any accident previously evaluated, and no reduction in a margin of safety will be allowed.	
	CTS:	**ITS:**
	15.05.04.04	TRM 3.07.01
M.01 Rev. D	CTS 15.5.4.2 specifies fuel storage requirements for the spent fuel pool; however, the CTS does not specify any Actions if these requirement are not met. The proposed ITS will require immediate action be initiated to restore the LCO storage limits. This Required Action is acceptable based on the fact that the spent fuel pool keff storage limit is required by NRC guidelines to be calculated assuming no credit for soluble boron. However, the water in the spent fuel storage pool contains soluble boron (as addressed by proposed ITS LCO 3.7.11, "Fuel Storage Pool Boron Concentration"), which results in large subcriticality margins under normal conditions. Accordingly, no immediate criticality concern exists for the range of fuel concentrations and Integral Fuel Burnable Absorber loadings which may reasonably exist provided boron concentration is maintained in accordance with LCO 3.7.11.	
	CTS:	**ITS:**
	NEW	LCO 3.07.12 COND A LCO 3.07.12 COND A RA A.1 LCO 3.07.12 COND A RA A.1 NOTE

Description of Changes - NUREG-1431 Section 3.07.17

21-Feb-01

DOC Number	DOC Text	
M.02 Rev. D	Not used.	
	CTS:	**ITS:**
	N/A	N/A

15.5.4 FUEL STORAGE

LCO 3.7.12 A.2

Applicability

Applies to the capacity and storage arrays of new and spent fuel.

A.3/A.6 Bases added for LCO 3.7.12

~~Objective~~

~~To define those aspects of fuel storage relating to prevention of criticality in fuel storage areas.~~

Specification

< See 4.0 >

1. The new fuel storage and spent fuel pool structures are designed to withstand the anticipated earthquake loadings as Class I structures. The spent fuel pool has a stainless steel liner to ensure against loss of water.
2. The new and spent fuel storage racks are designed so that it is impossible to store assemblies in other than the prescribed storage locations. The fuel is stored vertically in an array with sufficient center-to-center distance between assemblies to assure K_{eff}<0.95 with the storage pool filled with unborated water and with the fuel loading in the assemblies limited to 5.0 w/o U-235,with or without axial blanket loadings. Each assembly with a fuel loading greater than 4.6 w/o U-235 must contain Integral Fuel Burnable Absorber (IFBA) rods in accordance with Figure 15.5.4-1 for the spent fuel pool. Fresh fuel assemblies with the maximum enrichment of up to 5.0 weight percent U-235 and a minimum of 32 1.25X IFBA rods can utilize all new fuel vault storage cells. An inspection area shall allow rotation of fuel assemblies for visual inspection, but shall not be used for storage..

< See 4.0 >

D Amendment 194 & 199

< See LCO 3.7.16 >

3. The spent fuel storage pool shall be filled with borated water at a concentration of at least 2100 ppm boron whenever there are spent fuel assemblies in the storage pool.

D Amendment 194 & 199

4. ~~Spent fuel assembly storage locations immediately adjacent to the spent fuel pool perimeter or divider walls shall not be occupied by fuel assemblies which have been subcritical for less than one year.~~

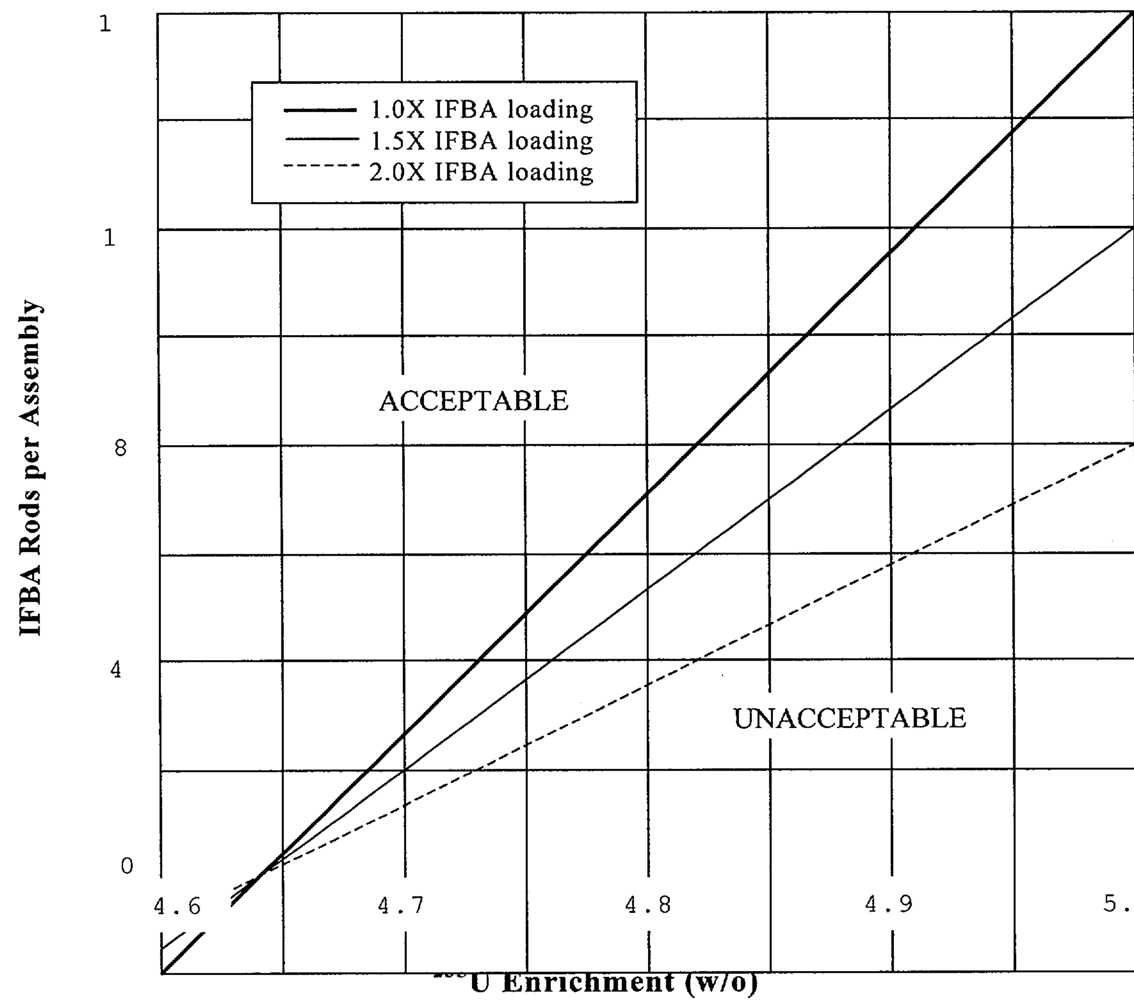
LCO 3.7.12/SR 3.7.12.1 - See Insert 3.7.17-1

LA.1

Add Condition and Required Action - See Insert 3.7.17-2

Figure 15.5.4-1

Fuel Assembly IFBA Requirements



Note: 1.0X, 1.5X, and 2.0X IFBA rods have normal poison material loadings of 1.67, 2.50, and 3.34 milligrams B-10 per inch, respectively.

Table 3.7.12-1

A.4

LCO 3.7.17 INSERTS

Insert 3.7.17-1:

LCO 2.7.12 Fuel assembly storage in the spent fuel storage pool shall be as follows:

a. Fuel assembly initial enrichment ≤ 4.6 w/o U-235;

OR

b. Fuel assembly contains Integral Fuel Burnable Absorber (IFBA) rods within the "acceptable" range of Figure 3.7.12-1

D
RAI
3.7.17-1

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

A.4

A.5

D
Amendment
194 & 199

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.12.1	Verify by administrative means each fuel assembly meets fuel storage limits.	Prior to storing fuel in the spent fuel storage pool

D
RAI
3.7.17-1

LCO 3.7.17 INSERTS

M.1

Insert 3.7.17-2:

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Requirements of the LCO not met.	------------NOTE------------ LCO 3.0.3 is not applicable. ---------------------------- A.1 Restore spent fuel pool within fuel storage limits.	 Immediately

D

RAI 3.7.17-1

Justification For Deviations - NUREG-1431 Section 3.07.17

21-Feb-01

JFD Number	JFD Text
02 Rev. D	The LCO, Actions, Surveillance Requirements, and associated Bases of NUREG 1431 LCO 3.7.17 have been modified to reflect the Point Beach spent fuel storage pool design. NRC SER dated April 4, 1979 approved installation of the spent fuel storage racks, NRC SER dated February 23, 1990 increased the fuel storage enrichment limits, and NRC SER dated September 4, 1997, approved increasing the fuel assembly enrichment storage capability. These proposed changes to the NUREG are consistent with the Safety Evaluation Reports referenced above and as described in the proposed ITS Bases. NUREG 1431 LCO 3.7.17 addresses spent fuel storage for plants which have both high and low density spent fuel storage racks (regionalized racks). Storage limits are established in LCO 3.7.17 to ensure a maximum keff of 0.95 in the spent fuel pool based on the use of unborated water. Acceptable storage in the low density rack is limited by maximum fuel enrichment alone, while acceptable storage in the high density racks is a function of initial enrichment and fuel burnup. The Point Beach spent fuel storage racks are designed to allow storage of fuel with a maximum enrichment of 4.6 wt% U-235. Fuel with enrichments greater than 4.6 wt% may be stored as well, but must contain Integral Fuel Burnable Absorber (IFBA) to ensure a maximum keff of 0.95 based on the use of unborated water. While the Point Beach spent fuel storage racks are not regionalized as the NUREG addresses, specific storage limitations are warranted for criticality protection. As such, the following changes have been proposed to reflect the Point Beach design and licensing basis: The LCO title has been changed from "Spent Fuel Assembly Storage" to "Spent Fuel Pool Storage" in accordance with TSTF- 255, Rev. 1, as the limitations contained within the proposed LCO pertain to the spent fuel pool . Similarly, the LCO statement was changed to whenever fuel is stored in the spent fuel pool, versus stored in "Region 2" of the spent fuel pool, as the Point Beach spent fuel storage racks are not regionalized; there is only a single rack design. The LCO statement, associated Surveillance Requirement, and Figure 3.7.17-1 have been altered/replaced to reflect the storage limitations contained in the CTS, which are necessary to assure a maximum keff of 0.95 in the spent fuel pool based on the use of unborated water. As previously stated. these limits have been previously reviewed and approved by the NRC in a SER dated September 4, 1997. Required Action A.1 has been changed to require initiation of action to restore the spent fuel pool to within LCO limits. This Required Action is acceptable based on the fact that the spent fuel pool keff storage limit is required by NRC guidelines to be calculated assuming no credit for soluble boron. However, the water in the spent fuel storage pool contains soluble boron (as addressed by proposed ITS LCO 3.7.11, "Fuel Storage Pool Boron Concentration"), which results in large subcriticality margins under normal conditions. Accordingly, no immediate criticality concern exists for the range of fuel concentrations and Integral Fuel Burnable Absorber loadings which may reasonably exist provided boron concentration is maintained in accordance with LCO 3.7.11. Complementary Bases changes have been provided which address the above changes, consistent with the Point Beach licensing basis. **ITS:** **NUREG:**

Justification For Deviations - NUREG-1431 Section 3.07.17

21-Feb-01

JFD Number	JFD Text	
	B 3.07.12	B 3.07.17
	LCO 3.07.12	LCO 3.07.17
		LCO 3.07.17
		LCO 3.07.17
	LCO 3.07.12 COND A RA A.1	LCO 3.07.17 COND A RA A.1
	LCO 3.07.12 F 3.07.17-01	LCO 3.07.17 F 3.07.17-01
	SR 3.07.12.01	SR 3.07.17.01
	TRM 3.07.01	N/A
03 Rev. A	The brackets have been removed and the proper plant specific information has been provided.	
	ITS:	**NUREG:**
	B 3.07.12	B 3.07.17

LCO 3.7.17 INSERTS

Insert 3.7.17-1:

Fuel assembly storage in the spent fuel pool shall be as follows:

a. Fuel assembly initial enrichment $\leq$ 4.6 w/o U-235; or

b. Fuel assembly contains Integral Fuel Burnable Absorber (IFBA) rods within the "acceptable" range of Figure 3.7.12-1.

D

RAI 3.7.17-1

Insert 3.7.17-2:

Restore spent fuel pool within fuel storage limits.

Insert 3.7.17-3:

SR 3.7.12.1	Verify by administrative means each fuel assembly meets fuel storage limits.	Prior to storing the fuel assemblies in the spent fuel storage pool

BASES

APPLICABILITY

In MODES 1, 2, 3, and 4, the CC System is a normally operating system, which must be prepared to perform its post accident safety functions, primarily RCS heat removal, which is achieved by cooling the RHR heat exchanger.

In MODE 5 or 6, the OPERABILITY requirements of the CC System are determined by the systems it supports.

ACTIONS

The Required Actions are modified by a Note indicating that the applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops-MODE 4," are required to be entered if inoperable CC loop components result in the inoperability of an RHR loop. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components.

A.1

If one required CC pump is inoperable (including inoperability of any associated piping, valves, and controls required to perform the safety related function that renders the pump inoperable), action must be taken to restore the pump to OPERABLE status within 72 hours. In this Condition, the remaining OPERABLE CC pump is adequate to perform the heat removal function. The 72 hour Completion Time is reasonable, based on the redundant capabilities afforded by the OPERABLE pump, and the low probability of a DBA occurring during this period. D RAI 3.7.7-2

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 144 hour Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hour and 144 hour dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

B.1

If one required CC heat exchanger is inoperable (including inoperability of any associated piping, valves, and controls required to perform the safety related function that renders the heat exchanger inoperable), action must be taken to restore the inoperable heat exchanger to OPERABLE status within 72 hours. In this Condition, the remaining OPERABLE CC heat exchanger is adequate to perform the heat D RAI 3.7.7-2

BASES

ACTIONS (continued)

removal function. The 72 hour Completion Time is reasonable, based on the redundant capabilities afforded by the OPERABLE heat exchanger, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 144 hour Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hour and 144 hour dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

D
Additional change

C.1 and C.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 unit must be placed in at least MODE 3 within 6 hours and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.7.1

This SR is modified by a Note indicating that the isolation of the CC flow to individual components may render those components inoperable but does not affect the OPERABILITY of the CC System.

Verifying the correct alignment for manual, power operated, and automatic valves in the CC flow path provides assurance that the proper flow paths exist for CC operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves are verified to be in the correct position prior to locking, sealing, or securing. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This Surveillance does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position.

The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve positions.

D
Additional change

BASES

REFERENCES	1. FSAR. Section 9.1.

Description of Changes - NUREG-1431 Section 3.07.08

21-Feb-01

DOC Number	DOC Text
A.05 Rev. A	The CTS 15.3.3.D requires the Service Water System to be operable prior to the reactor being made critical. However, CTS 15.3.3.D.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 3.7.8 will require the Service Water 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.D.01	LCO 3.07.08

DOC Number	DOC Text
A.06 Rev. D	CTS 15.3.3.D.1.b, requires all necessary valves and interlocks required for the functioning of the Service Water System to be operable. Proposed ITS LCO 3.7.8 requires the Service Water System to be operable with; six Service Water pumps, one continuous Service Ring Header, and the automatic non-essential-Service-Water-load isolation valves. The proposed ITS definition of operability requires "all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its specified safety function(s)" to be capable of performing their related support function(s). Additionally, the proposed ITS Surveillance Requirements specify verification of required system alignment and interlock functions. Proposed ITS SR 3.7.8.1 requires verification that each SW manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position. Proposed ITS SR 3.7.8.2 requires the automatic non-essential Service Water isolation valves that are not locked, sealed, or otherwise secured in position, to be tested to ensure they actuate to their required positions on an actual or simulated actuation signal. Similarly, proposed SR 3.7.8.3 will require the Service Water pumps to be tested to ensure they will auto start on an actuation signal. The CTS does not directly state that the continuous Service Water Ring Header is an LCO Requirement, however Actions contained in the CTS for an inoperable continuous loop, establish it as an attribute encompassed under the "required piping" statement contained in CTS 15.3.3.D.1.b. Accordingly, the proposed ITS Surveillance Requirements and definition of operability address all the required attributes of operability, making this change administrative.

CTS:	ITS:
15.03.03.D.01.a	LCO 3.07.08
15.03.03.D.01.b	LCO 3.07.08

Description of Changes - NUREG-1431 Section 3.07.08

21-Feb-01

DOC Number	DOC Text	
A.07 Rev. A	The CTS states that during power operation the requirements of Specifications 15.3.3.D.1 (i.e. Service Water System) may be modified to allow certain defined system inoperabilities to exist for a limited period of time before requiring a unit shutdown. This Specification establishes the structure for the remedial actions in the CTS. The ITS contains specific usage rules for consistent application of the Conditions and Required Actions associated with varying system inoperabilities consistent with the format and presentation of NUREG 1431. Accordingly, deletion of a specific Specification directing usage of Actions is unnecessary, as it duplicates the ITS usage rules. This change is administrative.	
	CTS:	**ITS:**
	15.03.03.D.02	DELETED
A.08 Rev. A	CTS 15.3.3.D.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 Actions for various system/component inoperabilities listed in CTS 15.3.3.D.2.a through d are not met. The ITS will similarly require the unit to be placed into Mode 3 within 6 hours and Mode 5 within 36 hours if established Required Actions are not met. As such, this change is administrative.	
	CTS:	**ITS:**
	15.03.03.D.02	LCO 3.07.08 COND G LCO 3.07.08 COND G RA G.1 LCO 3.07.08 COND H LCO 3.07.08 COND H RA H.1 LCO 3.07.08 COND H RA H.2

DOC Number	DOC Text
A.09 Rev. D	CTS 15.3.3.D.2.b allows 7 days to restore a Service Water ring header continuous flowpath to service provided restrictions on the minimum number of operable SW pumps and SW configuration are satisfied. ITS 3.7.8, Condition C, retains this requirement to restore the SW ring header continuous flowpath within 7 days, but replaces the listing of acceptable SW System configurations provided in the CTS with a Required Action to verify the SW System is capable of providing required cooling water flow to required equipment within 1 hour. The 1 hour Completion time is essentially the same as the CTS listing of acceptable SW System configurations since it effectively limits allowed system configurations to alignments that have been previously evaluated and found acceptable. The Bases states that the continuous flowpath Action applies anytime the service water header flowpath is interrupted (e.g. flowpath blocked, ring header valve closed, etc;). In addition, the CTS Bases recognize that the redundancy allowed by the ring header allows isolation of a break, while maintaining flow to all essential loads. Accordingly, continuous ring header operability is defined as maintaining break isolation capability and the ability to maintain cooling capability to the essential loads. The proposed Bases for the ITS has been written to address these system attributes, as required for operability, allowing for simplification of the Conditions and Required Actions, to state loop inoperability and restoration of the loop to an operable status. This presentation is consistent with the manner in which Conditions and Required Actions are presented in NUREG 1431, and is administrative.

CTS:	ITS:
15.03.03.D.02.b	LCO 3.07.08 COND C
	LCO 3.07.08 COND C RA C.1
	LCO 3.07.08 COND C RA C.2

DOC Number	DOC Text
A.10 Rev. D	CTS 15.3.3.D.2.c addresses the inoperability of the Service Water non-essential isolation valves. These valves are designed to isolate non-essential portions of the Service Water system to assure adequate cooling water flow is maintained to safety related loads in the event of a Safety Injection (SI) by isolating the non-essential Service Water loads after receipt of an SI actuation signal. The CTS allows 72 hours for restoration of inoperable non-essential Service Water valves, if the required redundant automatic isolation valve is operable. Alternately, isolation of the affected flowpath(s) using seismically qualified isolation valve(s) is considered an acceptable means for exiting the CTS Action. Proposed ITS Condition D, requires verification that required redundant automatic isolation valves in the affected flowpath(s) are operable within 1 hour, and isolation of the affected flowpath(s) within 72 hours. Required Action D.1 is modified by a Note that states the Required Action is not required to be met, if in Condition E. This Note precludes entry into Condition H, when the required redundant automatic isolation valve in the affected non-essential flowpath(s) are inoperable and Required Action D.1 cannot be met. Additionally, the CTS statement regarding restoration of the affected valve(s) to operable status has been omitted, as restoration of LCO compliance is always an option which does not have to be stated unless it is the only Action available. Additionally, if the redundant automatic isolation valve is also inoperable and the flowpath cannot be isolated, the CTS would require entry into LCO 15.3.0.b, allowing 1 hour to initiate actions to place the unit in Hot Shutdown (ITS Mode 3) within 7 hours and Cold Shutdown (ITS Mode 5) within 37 hours. Under proposed ITS Condition E, 1 hour will be allowed to isolate the affected flowpath(s). If the Required Action and Completion Time of Condition E are not met, proposed ITS Condition H will require that the unit be placed in Mode 3 within 6 hours and in Mode 5 within 36 hours. As such, the ITS Required Actions and Completion Times are equivalent to the CTS Actions (15.3.0.b) making this change administrative. Use of a seismically qualified isolation valve to isolated the affected penetration has been moved to the Bases as discussed in Description of Change LA.02 of this LCO.

CTS:	ITS:
15.03.03.D.02.c	LCO 3.07.08 COND D
	LCO 3.07.08 COND D RA D.1
	LCO 3.07.08 COND D RA D.2
	LCO 3.07.08 COND E
	LCO 3.07.08 COND E RA E.1

DOC Number	DOC Text
A.11 Rev. D	CTS 15.3.3.D.2.d contains an Action which addresses the condition where one or more opposite unit containment fan cooler Service Water outlet valves are open. These valves automatically open upon receipt of a Safety Injection (SI) actuation signal from their respective unit, to increase Service Water flow though the containment fan cooler to greater than or equal to that assumed in the containment integrity analysis; however, opening an opposite unit's containment fan cooler service water outlet valve increases system flow demand in excess of that which can be accommodated during a design basis LOCA in combination with a worst case single active failure (i.e. loss of one safeguards train). The CTS allows 72 hours to return these valves to the closed position provided restrictions on the minimum number of operable SW pumps and SW configuration are satisfied. Alternately, isolation of the affected flowpath(s) is considered an acceptable means for exiting the CTS Action. ITS 3.7.8, Condition E, retains this requirement to isolate the opposite unit's containment accident fan cooler unit service water flowpath within 72 hours, but replaces the CTS listing of acceptable SW System configurations with a Required Action to verify the SW System is capable of providing required cooling water flow to required equipment within 1 hour. The 1 hour Completion time is essentially the same as the CTS listing of acceptable SW System configurations since it effectively limits allowed system configurations to alignments that have been previously evaluated and found acceptable. With a containment accident fan cooler unit service water flowpath open and the SW System not within one of the acceptable configurations listed, the CTS would require entry into LCO 15.3.0.b, requiring the unit to be placed into Hot Shutdown (ITS Mode 3) within 7 hours and Cold Shutdown (ITS Mode 5) within 37 hours. Under proposed ITS Condition E, 1 hour will be allowed to verify that the SW System is capable of providing required cooling water flow to required equipment, and proposed ITS Conditions G will require that the unit be placed into Mode 3 within six hours and into Mode 5 within 36 hours if this verification cannot be satisfied. As such, the ITS Required Actions and Completion Times are equivalent to the CTS Actions (15.3.0.b) making this change administrative.

CTS:	ITS:
15.03.03.D.02.d	LCO 3.07.08 COND F
	LCO 3.07.08 COND F RA F.1
	LCO 3.07.08 COND F RA F.2

Description of Changes - NUREG-1431 Section 3.07.08

21-Feb-01

DOC Number	DOC Text
A.12 Rev. D	CTS 15.3.3.D.2.c and 15.3.3.D.2.d contain a provision that allows an LCO's Actions to be exited if appropriate compensatory measures are taken. This provision has been reflected in ITS Conditions D and F by effectively allowing separate condition entry for simultaneously inoperable components. CTS 15.3.3.D.2.c and 15.3.3.D.2.d also contain a provision that allows an LCO's Actions to be exited if the affected equipment is returned to operable status. In accordance with the ITS usage rules, when a component becomes operable (the LCO Condition is no longer applicable), the Conditions and associated Required Actions may be exited. As such, the ITS Conditions and Required Actions are equivalent to the CTS Actions making this change administrative.

CTS:	ITS:
15.03.03.D.02.c	DELETED LCO 3.07.08 COND D
15.03.03.D.02.d	LCO 3.07.08 COND F

DOC Number	DOC Text
A.13 Rev. D	CTS 15.3.3 has been modified by the adoption of a Note allowing separate Condition entry for each inoperable SW component. This Note is necessary because of the adoption of ITS Specification 1.3, which states, "Once a Condition as been entered, subsequent trains, subsystem, components, or variables expressed in the Condition discovered to be inoperable or not within limits, will not result in separate entry into the Condition, unless specifically stated." This restriction on Condition entry does not exist in the CTS, therefore, it is necessary to adopt the Note allowing separate Condition entry for each inoperable SW component, as would be permitted under the current licensing basis.

CTS:	ITS:
15.03.03.D	LCO 3.07.08 COND NOTE 2

DOC Number	DOC Text
LA.01 Rev. A	CTS 15.3.3.D.1.b requires all necessary piping for the Service Water System to be operable. System piping is an attribute associated with system design and configuration, which are adequately captured through application of the definition of operability. As such, this detail is not required to be in the ITS to provide adequate protection of public health and safety. System piping is addressed within the Bases for the proposed Point Beach ITS through discussion of system function, but have been deleted from the Technical Specifications. Changes will be controlled in accordance with the provisions of the Bases Control Program described in Chapter 5 of the Technical Specifications and 10CFR 50.59 as applicable.

CTS:	ITS:
15.03.03.D.01.b	B 3.07.08

Description of Changes - NUREG-1431 Section 3.07.08

21-Feb-01

DOC Number	DOC Text
LA.02 Rev. D	Under CTS 15.3.3.D.2.c, a required automatic non-essential load isolation valve may be inoperable for up to 72 hours prior to requiring that the affected line be isolated, provided the required redundant automatic non-essential SW load isolation valve is operable. Additionally, the LCO may be exited if the affected line is isolated with a seismically qualified isolation valve, or if the inoperable valves are restored to operable status. Similarly, ITS 3.7.8, Required Actions D.1 and D.2, specify that when one required automatic isolation valve in one or more non-essential-SW-load flowpath(s) is inoperable, that the required redundant automatic isolation valves in the affected non-essential flowpath(s) be verified as OPERABLE within 1 hour, and that the flowpath be isolated within 72 hours AND within 14 days from discovery of failure to meet the LCO. It is not necessary that the level of detail provided in the CTS regarding the seismic qualification of isolation valves that may be used to isolate an affected line be reflected in the LCO for ITS 3.7.8. Consequently, this information has been relocated to the Bases for ITS 3.7.8. Changes to the Bases will be controlled in accordance with the provisions of the Bases Control Program, as described in Chapter 5 of the Technical Specifications and 10 CFR 50.59, as appropriate.

CTS:	ITS:
15.03.03.D.02.c	LCO 3.07.08 COND D LCO 3.07.08 COND D RA D.1 LCO 3.07.08 COND D RA D.2

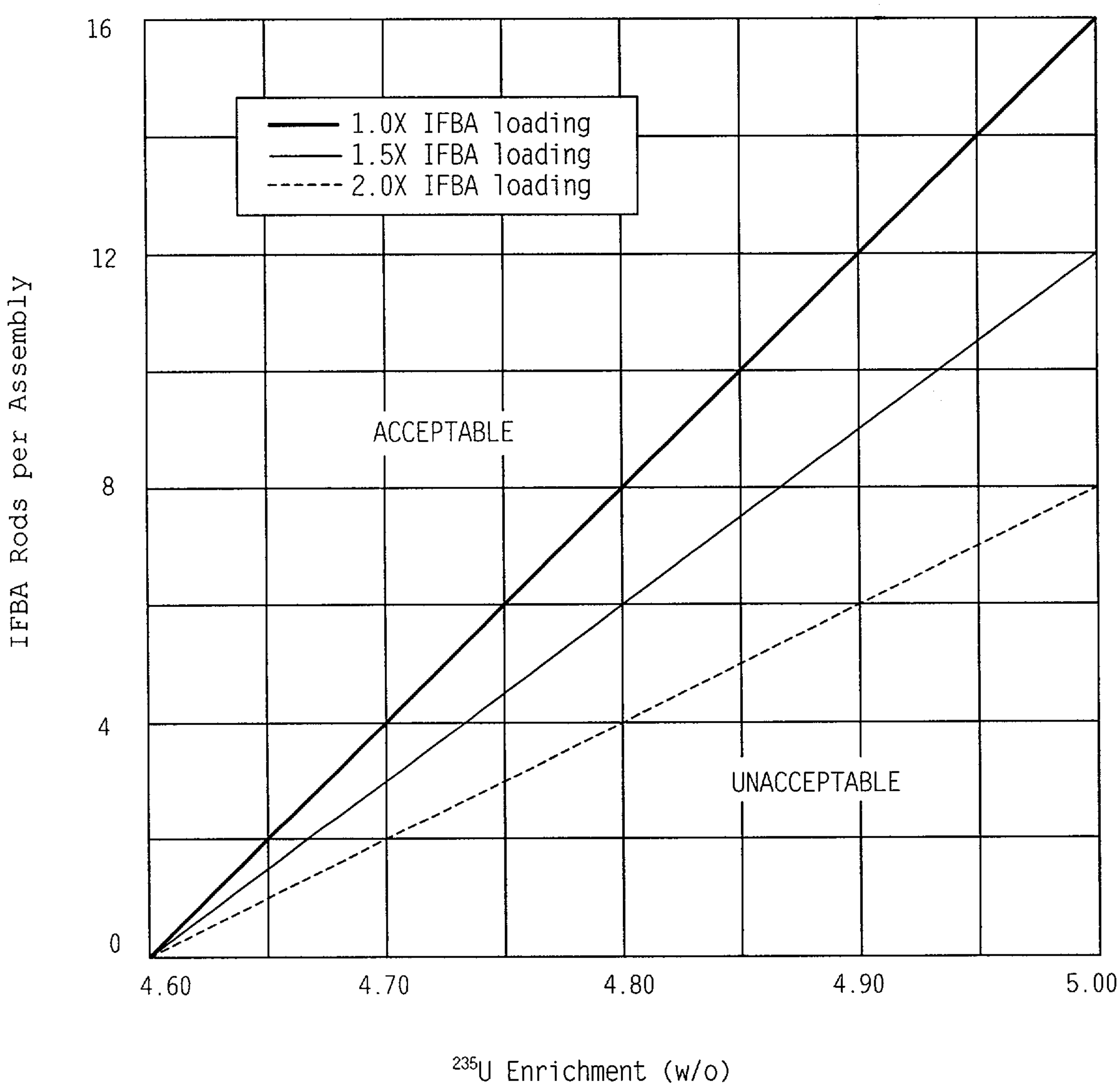
DOC Number	DOC Text
M.01 Rev. A	CTS 15.3.3.D.2 list a number of conditions which allow operation, for a limited period of time, with certain component (e.g. pumps, valves, flowpaths) inoperable. The CTS does not establish any limitation which requires reestablishment of LCO compliance if multiple overlapping inoperabilities were to occur. This could allow operation for an indefinite period of time with the Service Water System in a degraded condition. The proposed ITS imposes a Completion Time limit which requires restoration of LCO compliance within 14 days of first component becoming inoperable. The limit of 14 days is the summation of the two longest Completion Times within this LCO. The addition of this Completion time is consistent with the structure of the Improved Technical Specifications, in that an LCO should not allow indefinite non-compliance to exist. This restriction has been placed on four Conditions (i.e. inoperable pump, inoperable ring header, inoperable non-essential isolation valve, and opposite unit containment fan cooler Service Water outlet valve open), as at least one of these four Conditions must exist for indefinite non-compliance to exist.

CTS:	ITS:
15.03.03.D.02.a	LCO 3.07.08 COND A RA A.1
15.03.03.D.02.b	LCO 3.07.08 COND C RA C.2
15.03.03.D.02.c	LCO 3.07.08 COND D RA D.2
15.03.03.D.02.d	LCO 3.07.08 COND F RA F.2

DOC Number	DOC Text
M.02 Rev. D	Not used.

CTS:	ITS:
N/A	N/A

Insert 3.7.17-4:



Note: 1.0X, 1.5X, and 2.0X IFBA rods have normal poison material loadings of 1.67, 2.50, and 3.34 milligrams B-10 per inch, respectively.

Figure 3.7.12-1 (page 1 of 1)
Fuel Assembly IFBA Requirements

D

RAI
3.7.17-1

Approved TSTF 255,R.1

1 → 12

BASES

APPLICABLE SAFETY ANALYSES

2 Replace with Insert B 3.7.17-2

~~The hypothetical accidents can only take place during or as a result of the movement of an assembly (Ref. 4). For these accident occurrences, the presence of soluble boron in the spent fuel storage pool (controlled by LCO 3.7.16, "Fuel Storage Pool Boron Concentration") prevents criticality in both regions. By closely controlling the movement of each assembly and by checking the location of each assembly after movement, the time period for potential accidents may be limited to a small fraction of the total operating time. During the remaining time period with no potential for accidents, the operation may be under the auspices of the accompanying LCO.~~

~~The configuration of fuel assemblies in the fuel storage pool satisfies Criterion 2 of the NRC Policy Statement.~~

LCO

The restrictions on the placement of fuel assemblies within the spent fuel pool, in accordance with Figure 3.7.~~17~~ 12-1, ~~in~~ 2 and the fuel storage limits of the accompanying LCO, ensures the k_{eff} of the spent fuel storage pool will always remain < 0.95, assuming the pool to be flooded with unborated water. 2 ~~Fuel assemblies not meeting the criteria of Figure [3.7.17-1] shall be stored in accordance with Specification 4.3.1.1 in Section 4.3.~~

D RAI 3.7.17-1

1 → 12

APPLICABILITY

This LCO applies whenever any fuel assembly is stored in 2 ~~[Region 2] of~~ the fuel storage pool.

ACTIONS

A.1

Required Action A.1 is modified by a Note indicating that LCO 3.0.3 does not apply.

2 Replace with Insert B 3.7.17-3

~~When the configuration of fuel assemblies stored in [Region 2] the spent fuel storage pool is not in accordance with Figure 3.7.17-1, or paragraph 4.3.1.1, the immediate action is to initiate action to make the necessary fuel assembly movement(s) to bring the configuration into compliance with Figure 3.7.17-1 or Specification 4.3.1.1.~~

LCO 3.7.17 BASES INSERTS

Insert B 3.7.17-2:

The spent fuel pool k_{eff} storage limit of 0.95 can be exceeded as a result of an excessive pool cooldown or the inadvertent placement of a highly enriched fuel assembly between a storage rack module and the wall of the spent fuel pool. The spent fuel pool k_{eff} storage limit of 0.95 is maintained during these events by maintaining a minimum boron concentration (controlled by LCO 3.7.11, "Fuel Storage Pool Boron Concentration") of 700 ppm (Ref. 3). Simultaneous occurrence of these events is not postulated. The double contingency principle discussed in ANSI N-16.1-1975 and the April 1978 NRC letter (Ref. 2) allows credit for soluble boron under abnormal or accident conditions, since only a single accident need be considered at one time.

Fuel assembly storage limits for fuel stored in the spent fuel storage pool satisfy Criterion 2 of the NRC Policy Statement.

Insert B 3.7.17-3:

When the fuel assembly storage limits specified in LCO 3.7.12 are not met, immediate action must be initiated to restore the spent fuel pool within fuel storage limits. D RAI 3.7.17-1 Amendment 194/199

The spent fuel pool k_{eff} storage limit is required by NRC guidelines to be calculated assuming no credit for soluble boron. However, the water in the spent fuel storage pool contains soluble boron (as addressed by LCO 3.7.11, "Fuel Storage Pool Boron Concentration"), which results in large subcriticality margins under normal conditions. Accordingly, no immediate criticality concern exists for the range of fuel concentrations and IFBA loadings which may exist provided boron concentration is maintained in accordance with LCO 3.7.11. D RAI 3.7.17-1

LCO 3.7.17 BASES INSERTS

Insert B 3.7.17-4:

This SR verifies by administrative means, that fuel assemblies are within acceptable limits for storage in the spent fuel pool. Fuel assemblies meeting at least one of the following storage limits may be stored in the spent fuel storage racks;

1. Fuel assemblies with an initial enrichment of $\leq$ 4.6 w/o U-235; or D Errata

2. Fuel assemblies which contains Integral Fuel Burnable Absorber (IFBA) rods in the "acceptable range" of Figure 3.7.12-1.

3.7 PLANT SYSTEMS

3.7.12 Spent Fuel Pool Storage

LCO 3.7.12 Fuel assembly storage in the spent fuel pool shall be as follows:

a. Fuel assembly initial enrichment $\leq$ 4.6% w/o U-235; or

b. Fuel assembly contains Integral Fuel Burnable Absorber (IFBA) rods within the "acceptable" range of Figure 3.7.12-1.

D
RAI 3.7.17-1

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

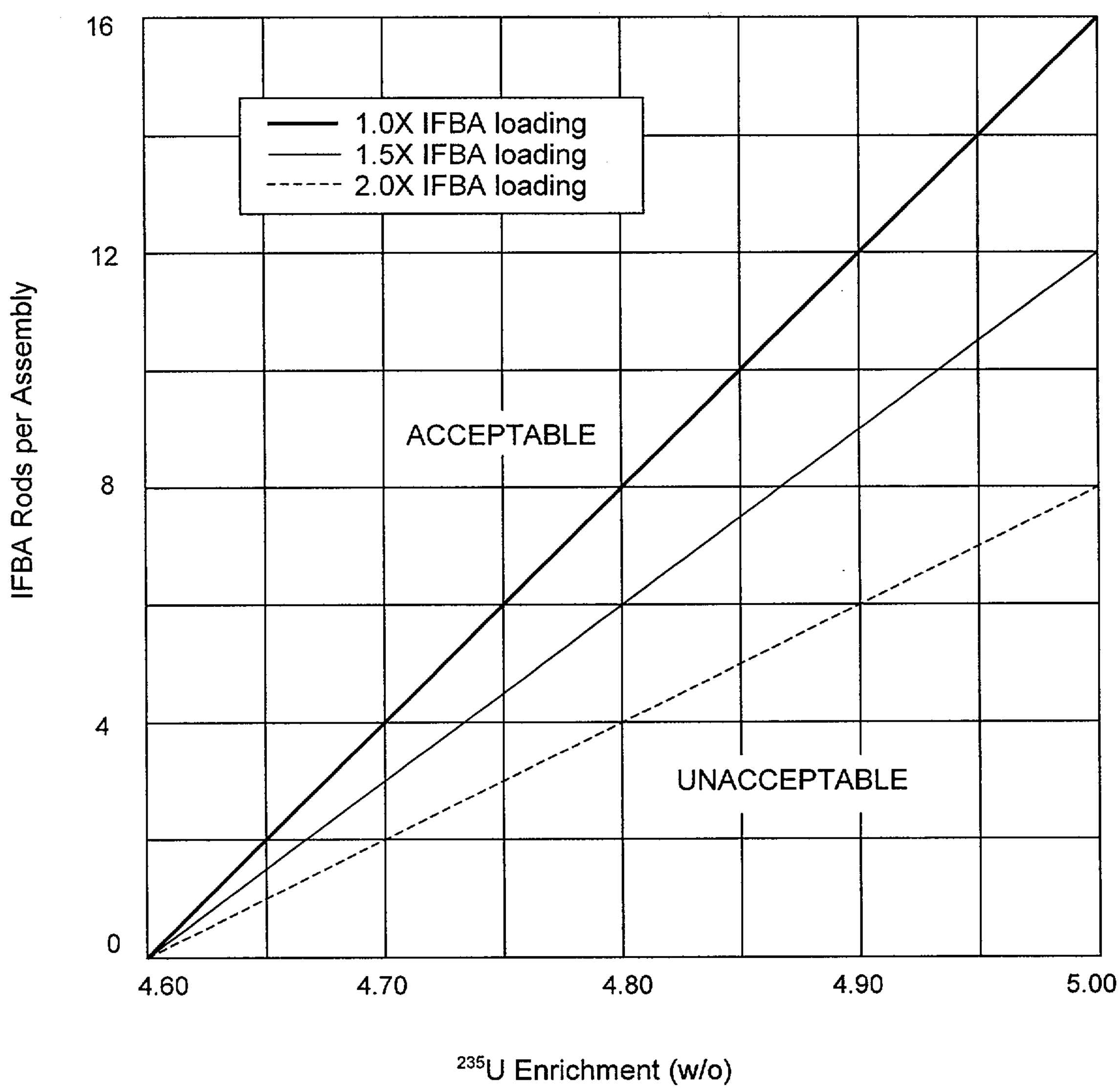
ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Requirements of the LCO not met.	----------------NOTE---------------- LCO 3.0.3 is not applicable. -- A.1 Restore spent fuel pool within fuel storage limits.	 Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.12.1	Verify by administrative means each fuel assembly meets fuel storage limits.	Prior to storing the fuel assemblies in the spent fuel storage pool

D
RAI 3.7.17-1



Note: 1.0X, 1.5X, and 2.0X IFBA rods have normal poison material loadings of 1.67, 2.50, and 3.34 milligrams B-10 per inch, respectively.

Figure 3.7.12-1 (page 1 of 1)
Fuel Assembly IFBA Requirements

D
RAI
3.7.17-1

B 3.7 PLANT SYSTEMS

B 3.7.12 Spent Fuel Pool Storage

BASES

BACKGROUND

The spent fuel storage racks are designed to allow unrestricted storage of fuel with a maximum enrichment of 4.6 wt% U-235. Fuel with enrichments > 4.6 wt% may be stored as well, but must contain Integral Fuel Burnable Absorbers (IFBA). These limitations ensure a maximum k_{eff} of 0.95 based on the use of unborated water.

The spent fuel storage pool will accommodate 1502 fuel assemblies. One location in the spent fuel storage pool is provided to allow rotation of a fuel assembly for visual inspection, but this location cannot be used for fuel storage. A general description of the spent fuel storage pool design is given in the FSAR Section 9.4 (Ref. 1).

The water in the spent fuel storage pool contains soluble boron, which results in large subcriticality margins under normal conditions. However, the NRC guidelines, based upon the accident condition in which all soluble poison is assumed to have been lost, specify that the limiting k_{eff} of 0.95 be evaluated in the absence of soluble boron. Hence, the design of the spent fuel storage racks is based on the use of unborated water.

APPLICABLE SAFETY ANALYSES

The spent fuel pool k_{eff} storage limit of 0.95 can be exceeded as a result of an excessive pool cooldown or the inadvertent placement of a highly enriched fuel assembly between a storage rack module and the wall of the spent fuel pool. The spent fuel pool k_{eff} storage limit of 0.95 is maintained during these events by maintaining a minimum boron concentration (controlled by LCO 3.7.11, "Fuel Storage Pool Boron Concentration") of 700 ppm (Ref. 3). Simultaneous occurrence of these events is not postulated. The double contingency principle discussed in ANSI N-16.1-1975 and the April 1978 NRC letter (Ref. 2) allows credit for soluble boron under abnormal or accident conditions, since only a single accident need be considered at one time.

Fuel assembly storage limits for fuel stored in the spent fuel storage pool satisfy Criterion 2 of the NRC Policy Statement.

LCO

The restrictions on the placement of fuel assemblies within the spent fuel pool, in accordance with Figure 3.7.12-1, and the fuel storage limits of the accompanying LCO, ensures the k_{eff} of the spent fuel storage pool will always remain < 0.95, assuming the pool to be flooded with unborated water. D RAI 3.7.17-1

BASES

APPLICABILITY

This LCO applies whenever any fuel assembly is stored in the fuel storage pool.

ACTIONS

A.1

Required Action A.1 is modified by a Note indicating that LCO 3.0.3 does not apply.

When the fuel assembly storage limits specified in LCO 3.7.12 are not met, immediate action must be initiated to restore the spent fuel pool within fuel storage limits.

D
RAI 3.7.17-1
Amendment
194/1999

The spent fuel pool k_{eff} storage limit is required by NRC guidelines to be calculated assuming no credit for soluble boron. However, the water in the spent fuel storage pool contains soluble boron (as addressed by LCO 3.7.11, "Fuel Storage Pool Boron Concentration"), which results in large subcriticality margins under normal conditions. Accordingly, no immediate criticality concern exists for the range of fuel concentrations and IFBA loadings which may exist provided boron concentration is maintained in accordance with LCO 3.7.11.

If unable to move fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not be applicable. If unable to move irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the action is independent of reactor operation. Therefore, inability to move fuel assemblies is not sufficient reason to require a reactor shutdown.

D
RAI 3.7.17-3

SURVEILLANCE REQUIREMENTS

SR 3.7.12.1

This SR verifies by administrative means, that fuel assemblies are within acceptable limits for storage in the spent fuel pool. Fuel assemblies meeting at least one of the following storage limits may be stored in the spent fuel storage racks;

1. Fuel assemblies with an initial enrichment of ≤ 4.6 w/o U-235; or

D
Errata

2. Fuel assemblies which contains Integral Fuel Burnable Absorber (IFBA) rods in the "acceptable range" of Figure 3.7.12-1.

BASES

REFERENCES

1. FSAR. Section, 9.4.

2. Double contingency principle of ANSI N16.1-1975, as specified in the April 14, 1978 NRC letter (Section 1.2) and implied in the proposed revision to Regulatory Guide 1.13 (Section 1.4, Appendix A).

3. NRC Safety Evaluation Report, USNRC to WEPCO, dated September 4, 1997.

4. NRC Safety Evaluation Report, USNRC to WEPCO, dated February 23, 1990.

Description of Changes - NUREG-1431 Section 3.07.18

21-Feb-01

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:**
	15.03.04.B	LCO 3.07.13
A.02 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 3.07.13

DOC Number	DOC Text
L.01 Rev. A	The CTS does not contain an explicit Mode of Applicability for secondary system dose equivalent iodine-131 activity. However, CTS Table 15.4.1-2 line item 8 requires secondary coolant sampling, except during periods of refueling shutdown, which verify dose equivalent iodine-131 activity is within limits. Refueling shutdown is defined as being a shutdown to move fuel to and from the reactor core with RCS temperature less than or equal to 140 degrees and a shutdown margin of at least 5%. The CTS does not contain Actions if the secondary activity limit is exceeded, which requires entry into CTS 15.3.0.b. CTS 15.3.0.b requires the unit to be placed into hot shutdown (equivalent to ITS Mode 3) within 7 hours and cold shutdown (equivalent to ITS Mode 5) within 37 hours. As such, the CTS Applicability for this requirement is unclear, as the surveillance is required whenever the reactor is not in a refueling shutdown (a shutdown to move fuel to and from the reactor core with RCS temperature less than or equal to 140 degrees and a shutdown margin of at least 5%), while the Actions place the unit into the cold shutdown condition. The proposed ITS establishes an explicit Mode of Applicability with Required Actions which exit the Mode of Applicability if Dose Equivalent I-131 exceeds its limit. The proposed Applicability of Mode 1, 2, 3, and 4, are based on the potential for secondary steam releases to the atmosphere, significant fuel damage, and primary or secondary boundary failures. Once a unit is placed into Mode 5 or 6, the steam generators are depressurized, primary to secondary leakage is minimal, and the potential for fuel damage is minimized. Based on the reduced energy states in Modes 5 and 6, fuel damage from Reactor Coolant Pump locked rotor and the potential for a Steam Generator Tube Rupture or Main Steam Line Break are unlikely. Therefore, monitoring of secondary specific activity is not necessary based on the probability for fuel damage and breach of primary or secondary boundaries at reduced pressures and temperatures.

CTS:	ITS:
15.03.04.B	LCO 3.07.13
15.04.01 T 15.04.01-02 08 (A)(6)	LCO 3.07.13
15.04.01 T 15.04.01-02 08 (B)(6)	LCO 3.07.13

DOC Number	DOC Text
L.02 Rev. A	CTS Table 15.4.1-2 line item 8 requires verification that the secondary dose equivalent iodine-131 limits are maintained once every week. The proposed ITS will require verification that secondary coolant Dose Equivalent I-131 is within limits once every 31 days. Routine verification is acceptable based on the stability of this parameter, however, transients and events can result in variations in activity levels. Secondary activity is a relatively stable parameter, which tracks near linear with RCS activity and Steam Generator tube leakage. Significant increases in RCS activity are typified by events or transient involving significant power changes. Therefore, significant power changes can be considered precursors to increased secondary activity. Significant power changes require non-routine verification of RCS activity, alerting personnel to the need for non-routine or increased monitoring of secondary activity level. Increases in Steam Generator tube leakage can also be a precursor to increased secondary activity. Steam Generator leakage is detected through monitoring of RCS leakage rates and non-Technical Specification primary to secondary isotopic analysis. Absent increases in Steam Generator leakage or increased RCS activity levels, secondary coolant activity remains virtually unchanged. Accordingly, based on the stability of this parameter and the monitoring of several precursors to increased activity levels, a periodic frequency of once every 31 days is acceptable.

CTS:	ITS:
15.04.01 T 15.04.01-02 08 (A)	SR 3.07.13.01
15.04.01 T 15.04.01-02 08 (B)	SR 3.07.13.01

DOC Number	DOC Text
L.03 Rev. D	CTS 15.3.1.D.8 requires secondary coolant gross radioactivity to be monitored continuously by an air ejector gas monitor. This requirement will not be retained in the ITS. The proposed deletion of this requirement is acceptable based on the stability of the parameter monitored and the availability of other indicators which will alert personnel to potential changes in secondary activity. Periodic verification of secondary coolant specific activity performed under SR 3.7.13.1 will provide assurance that operations will be conducted within analyzed limits. The frequency for performing secondary sampling does not directly influence activity levels. Secondary activity is a stable parameter, which tracks linearly with RCS activity and Steam Generator tube leakage. Significant increases in RCS activity are typified by events or transients involving significant power changes. Significant power changes require non-routine verification of RCS activity, alerting personnel to potential for changes in secondary activity. Increases in Steam Generator tube leakage are detected through monitoring of RCS leakage rate and primary to secondary isotopic analysis. Accordingly, direct and indirect non-routine indications are available which supplement routine secondary activity verification. Based on the availability of precursor information, reasonable assurance exists that secondary activity is maintained within limits.

CTS:	ITS:
15.03.01.D.08	SR 3.07.13.01

Description of Changes - NUREG-1431 Section 3.07.18

21-Feb-01

DOC Number	DOC Text
LA.01 Rev. A	The CTS requires gross beta-gamma or gamma isotopic measurement to be taken to verify that secondary coolant specific activity is less than or equal to 1.0 μCi/gm Dose Equivalent I-131. When gross specific activity is in excess of 1.0 μCi/gm, the CTS requires iodine concentration measurements. Proposed ITS SR 3.7.13.1 requires verification that secondary coolant specific activity is less than or equal to 1.0 μCi/gm Dose Equivalent I-131, moving the method of determining compliance with the LCO limit to the Bases. Dose equivalent iodine activity is a subset of gross secondary system activity. As such, verifying gross secondary coolant activity, conservatively verifies secondary activity from Dose Equivalent iodine alone is within limits. Specific calculation of Dose equivalent I-131 activity is only necessary when gross activity approaches or exceeds 1.0 μCi/gm. While the CTS specifically states which surveillance methods must be used, this level of detail is unnecessary in the ITS. The method of verifying LCO compliance is more appropriately controlled in documents such as the Bases and procedures. The method of performing these surveillances is independent of the actual regulatory requirement (verification that the LCO limit is met). Moving the method of performance to licensee control is appropriate based on the retention of the actual requirement within the Technical Specifications (verification that the limit is preserved). Since these details are not necessary to adequately describe the actual regulatory requirement, they can be moved to other documents without impact on safety. The Bases will be controlled by the Bases Control Process in Section 5 of the proposed ITS. 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:
15.04.01 T 15.04.01-02 08 (A)	SR 3.07.13.01
15.04.01 T 15.04.01-02 08 (B)	SR 3.07.13.01

Description of Changes - NUREG-1431 Section 3.07.18

21-Feb-01

DOC Number	DOC Text
LA.02 Rev. D	CTS 15.3.1D.8 requires that secondary coolant gross radioactivity be measured daily to evaluate steam generator leak tightness when the air ejector monitor is not operating. This requirement is moved to TRM 3.3.1, which will require determination of secondary coolant gross radioactivity once per 24 hours when the air ejector monitor is inoperable. Monitoring of secondary activity provides assurance that operations will be conducted within analyzed limits and does not directly influence activity levels. Secondary activity is a stable parameter, which tracks linearly with RCS activity and Steam Generator tube leakage. Significant increases in RCS activity are typified by events or transients involving significant power changes. Significant power changes require non-routine verification of RCS activity, alerting personnel to potential for changes in secondary activity. Increases in Steam Generator tube leakage are detected through monitoring of RCS leakage rate and primary to secondary isotopic analysis. Accordingly, direct and indirect non-routine indications are available which supplement routine secondary activity verification. Based on the availability of precursor information, reasonable assurance exists that secondary activity is maintained within limits. The Air Ejector monitor is not assumed in any accident analyses, nor is it used to mitigate a design basis accident or transient. As such, the requirements and associated required actions are not required to be in the ITS to provide adequate protection to the public health and safety. Controls for handling of these components have been moved to the Technical Requirements Manual (TRM). Placing these details in controlled documents under 50.59 control provides adequate assurance that control will be maintained and is consistent with licensee commitments made to NUREG 0612. These controls provide assurance that an equivalent level of safety is maintained.

CTS:	ITS:
15.03.01.D.08	TRM

Description of Changes - NUREG-1431 Section 3.07.18

21-Feb-01

DOC Number	DOC Text	
M.01 Rev. A	The current Point Beach Main Steam Line Break (MSLB) dose analyses as referenced in the NRC Safety Evaluation Report for Technical Specification amendment 173/177, dated July 1, 1997, are based solely on the activity contained in the Steam Generator (SG) associated with the ruptured Main Steam Line. No consequential or subsequent releases are accounted for in this calculation. Thyroid dose at the site boundary using this calculation is approximately 1.2 Rem. Main Steam Line Break offsite radiological analyses have been performed for Point Beach using the analytical methods and assumptions outlined in the Standard Review Plan 15.1.5. The results of these analyses show that the radiological consequences of a MSLB do not exceed a small fraction of the 10 CFR 100 plant Exclusion Area Boundary limits for whole body and thyroid dose rates. Thyroid doses using the SRP methodology are approximately 8.0 Rem for an accident induced iodine spike and 8.3 Rem for the pre-accident iodine spike case. Whole body dose for both cases is approximately 0.03 Rem. While the secondary coolant specific activity limitation has remained unchanged, adoption of the SRP methodology is more restrictive than the CTS, because the SRP methodology requires calculation of offsite doses accounting for both pre and post accident RCS iodine spiking, in addition to consequential and subsequent releases.	
	CTS:	**ITS:**
	BASES	B 3.07.13
M.02 Rev. A	The CTS contains a Requirement to maintain secondary coolant activity less than or equal to 1.0 microCi/g, however, the CTS does not contain Actions if this limit is exceeded. As such, the CTS requires entry into CTS 15.3.0.b, which requires the unit to be placed into hot shutdown (equivalent to ITS Mode 3) within 7 hours and cold shutdown (equivalent to ITS Mode 5) within 37 hours. The proposed ITS will require the unit to be placed into Mode 3 within 6 hours and Mode 5 within 36 hours if secondary coolant activity exceeds 1.0 microCi/g. As such, the proposed ITS will require the unit to be placed into Mode 3 and 5 within a shorter time frame, making this change more restrictive.	
	CTS:	**ITS:**
	NEW	LCO 3.07.13 COND A LCO 3.07.13 COND A RA A.1 LCO 3.07.13 COND A RA A.2

< See LCO 3.4.13 >

4. If the leakage is determined to be primary to secondary steam generator leakage in excess of 500 GPD in either steam generator, the reactor shall be shutdown and the plant placed in the cold shutdown condition within 30 hours after detection.

5. If any reactor coolant leakage exists through a non-isolable fault in a reactor coolant system component (exterior wall of the reactor vessel, piping, valve body, pressurizer or steam generator head), the reactor shall be shutdown, and cooldown to the cold shutdown condition shall be initiated within 24 hours of detection.

6. The reactor shall not be restarted until the leak is repaired or until the problem is otherwise corrected.

< See LCO 3.4.15 >

7. When the reactor is in power operation, two reactor coolant leak detection systems of different operating principles shall be in operation, with one of the two systems sensitive to radioactivity. The systems sensitive to radioactivity may be out of service for 48 hours provided two other means are available to detect leakage .

8. Secondary coolant gross radioactivity shall be monitored continuously by an air ejector gas monitor.

Secondary coolant gross radioactivity shall be measured weekly. If the air ejector monitor is not operating, the secondary coolant gross radioactivity shall be measured daily to evaluate steam generator leak tightness.

D

RAI 3.7.18-2

LA.02

Basis:
Water inventory balances, monitoring equipment, radioactive tracing, boric acid crystalline deposits, and physical inspections can disclose reactor

< See LCO 3.4.13 >

L.3

SR 3.7.13.1	Verify the specific activity of the secondary coolant is ≤ 1.0 Ci/gm DOSE EQUIVALENT I -131.	31 days

Justification For Deviations - NUREG-1431 Section 3.07.18

21-Feb-01

JFD Number	JFD Text
03 Rev. A	The Bases for NUREG 1431 LCO 3.7.18 "Secondary Specific Activity" contains a description of the assumptions and calculational methods used in the Main Steam Line Break (MSLB) offsite dose analysis. This description has been changed to address calculations performed for Point Beach in accordance with the methods and assumptions contained in NRC Standard Review Plan 15.1.5, "Steam Piping Failures Inside and Outside of Containment" (PWR), Rev. 2, dated July 1981. The current Point Beach MSLB dose analysis as referenced in the NRC Safety Evaluation Report for Technical Specification amendment 173/177, dated July 1, 1997, is based solely on the activity contained in the Steam Generator (SG) associated with the ruptured Main Steam Line. No consequential or subsequent releases are accounted for in this calculation. Thyroid dose at the site boundary using this calculation is approximately 1.2 Rem. Main Steam Line Break offsite radiological analyses have been performed for Point Beach using the analytical methods and assumptions outlined in the Standard Review Plan 15.1.5. The results of these analyses show that the radiological consequences of a MSLB do not exceed a small fraction of the 10 CFR 100 plant Exclusion Area Boundary limits for whole body and thyroid dose rates. Thyroid doses using the SRP methodology are approximately 8.0 Rem for an accident induced iodine spike and 8.3 Rem for the pre-accident iodine spike case. Whole body dose for both cases is approximately 0.03 Rem. Using the SRP methodology, two offsite dose calculations are performed, one assuming a pre-accident RCS iodine spike, and the second involving an iodine spike as a result of the MSLB. The affected Steam Generator (SG) will release all of the radioiodines initially contained in the SG and radioiodines transferred from the Reactor Coolant System through SG tube leakage. A portion of the iodine activity initially contained in the intact SG is also accounted for in the dose calculations, in addition to radioiodines and noble gases released during plant cooldown through SG tube leakage. **ITS:** B 3.07.13 — **NUREG:** B 3.07.18
04 Rev. A	The Bases for NUREG 1431 LCO 3.7.18 contain a discussion of offsite dose based on a normal plant trip with Steam Generator specific activity at the secondary limit. Specific offsite dose calculations for normal operational occurrence are not available, accordingly, this statement has been omitted. **ITS:** B 3.07.13 — **NUREG:** B 3.07.18
05 Rev. D	Not used. **ITS:** N/A — **NUREG:** N/A

Justification For Deviations - NUREG-1431 Section 3.07.18

21-Feb-01

JFD Number	JFD Text
06 Rev. A	The method of determining compliance with the secondary coolant specific activity limit of proposed ITS LCO 3.7.13 has been revised to be consistent with the CTS. ITS SR 3.7.13.1 requires verification that secondary coolant specific activity is less than or equal to 1.0 µCi/gm Dose Equivalent I-131. The CTS specifically states that a gross beta-gamma or gamma isotopic measurement fulfills this requirement when gross beta-gamma activity is less than or equal to 1.0 µCi/gm. When gross activity is in excess of 1.0 µCi/gm, iodine concentration measurements are required. Dose equivalent iodine activity is a subset of gross secondary system activity. As such, verifying gross secondary coolant activity, conservatively verifies secondary activity from Dose Equivalent iodine alone is within limits. Specific calculation of Dose equivalent I-131 activity may only be necessary when gross activity approaches or exceeds 1.0 µCi/gm. While the CTS specifically states which surveillance methods must be used, this level of detail is unnecessary in the ITS as discussed in Description of Change LA.1 of this LCO. Methods for verifying compliance are stated in the proposed ITS Bases. **ITS:** B 3.07.13 **NUREG:** B 3.07.18
07 Rev. A	The Bases for NUREG 1431, LCO 3.7.18, implies that the release of secondary specific activity is only assumed in the Main Steam Line Break accident, while it is assumed in the calculation of offsite dose for other design basis accidents to include; reactor coolant pump locked rotor, steam generator tube rupture accident. The MSLB is the most limiting relative to secondary specific activity, and is therefore used to establish the secondary coolant activity limit. **ITS:** B 3.07.13 **NUREG:** B 3.07.18

1

13

B 3.7 PLANT SYSTEMS

B 3.7.~~18~~ Secondary Specific Activity

BASES

BACKGROUND

Activity in the secondary coolant results from steam generator tube outleakage from the Reactor Coolant System (RCS). Under steady state conditions, the activity is primarily iodines with relatively short half lives and, thus, indicates current conditions. During transients, I-131 spikes have been observed as well as increased releases of some noble gases. Other fission product isotopes, as well as activated corrosion products in lesser amounts, may also be found in the secondary coolant.

A limit on secondary coolant specific activity during power operation minimizes releases to the environment because of normal operation, anticipated operational occurrences, and accidents.

3/7

Replace with Insert B 3.7.18-1

This limit is lower than the activity value that might be expected from a 1 gpm tube leak (LCO 3.4.13, "RCS Operational LEAKAGE") of primary coolant at the limit of [1.0] Ci/gm (LCO 3.4.16, "RCS Specific Activity"). The steam line failure is assumed to result in the release of the noble gas and iodine activity contained in the steam generator inventory, the feedwater, and the reactor coolant LEAKAGE. Most of the iodine isotopes have short half lives, (i.e., < 20 hours). I-131, with a half life of 8.04 days, concentrates faster than it decays, but does not reach equilibrium because of blowdown and other losses.

Approved TSTF-173

4

With the specified activity limit, the resultant 2 hour thyroid dose to a person at the exclusion area boundary (EAB) would be about 0.58 rem if the main steam safety valves (MSSVs) open for 2 hours following a trip from full power.

Operating a unit at the allowable limits could result in a 2 hour EAB exposure of a small fraction of the 10 CFR 100 (Ref. 1) limits, ~~or the limits established as the NRC staff approved licensing basis~~.

3

D

RAI 3.7.18-5

BASES

LCO (continued)

exceeded, appropriate actions are taken in a timely manner to place the unit in an operational MODE that would minimize the radiological consequences of a DBA.

APPLICABILITY

In MODES 1, 2, 3, and 4, the limits on secondary specific activity apply due to the potential for secondary steam releases to the atmosphere.

In MODES 5 and 6, the steam generators are not being used for heat removal. Both the RCS and steam generators are depressurized, and primary to secondary LEAKAGE is minimal. Therefore, monitoring of secondary specific activity is not required.

ACTIONS

A.1 and A.2

DOSE EQUIVALENT I-131 exceeding the allowable value in the secondary coolant, is an indication of a problem in the RCS and contributes to increased post accident doses. If the secondary specific activity cannot be restored to within limits within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

D
RAI 3.7.18-5

SURVEILLANCE REQUIREMENTS

13
1

SR 3.7.~~18~~.1

6

Replace with Insert B 3.7.18-4

This SR verifies that the secondary specific activity is within the limits of the accident analysis. ~~A gamma isotopic analysis of the secondary coolant, which determines DOSE EQUIVALENT I-131, confirms the validity of the safety analysis assumptions as to the source terms in post accident releases.~~ It also serves to identify and trend any unusual isotopic concentrations that might indicate changes in

LCO 3.7.18 BASES INSERTS

Insert B 3.7.18-1:

The release of secondary system activity is assumed in several accidents to include; reactor coolant pump locked rotor, steam generator tube rupture, and Main Steam Line Break. The MSLB is the most limiting relative to secondary activity and is therefore used to establish the secondary coolant activity limit.

The MSLB involves a complete severance of a main steam line outside containment. The affected SG will rapidly depressurize and release to the outside atmosphere all of the radioiodines initially contained in the SG and the radioiodines which are transferred from the primary coolant through SG tube leakage. Iodine and noble gas activity is also released from the intact SG. A portion of the iodine activity initially contained in the intact SG is released, in addition to radioiodines and noble gases from the RCS through SG tube leakage, during plant cooldown to Residual Heat Removal entry conditions.

Insert B 3.7.18-2:

MSLB. The MSLB offsite radiological analysis uses the analytical methods and assumptions outlined in the Standard Review Plan (Ref. 3). The result of the radiological analysis for this event shows that the radiological consequences of an MSLB do not exceed a small fraction of the plant Exclusion Area Boundary limits (Ref. 1) for whole body and thyroid dose rates.

Two offsite dose analyses are performed, one assuming a pre-accident RCS iodine spike, and the second involving an RCS iodine spike as a result of the MSLB. For the pre-accident iodine spike, it is assumed that a reactor transient has occurred prior to the MSLB which has raised the most limiting RCS DOSE EQUIVALENT I -131 concentration to the allowed Technical Specification value of 50 μCi/gm. For the accident-initiated iodine spike, the reactor trip associated with the MSLB creates an iodine spike in the RCS which increases the iodine release rate from the fuel to the RCS to a value of 500 times greater than the release rate corresponding to the maximum proposed Technical Specification gross specific activity level I -131 of 0.8 μCi/gm. The duration of the accident-initiated iodine spike is assumed to be 1.6 hours. D RAI 3.7.18-5

The following is a summary of other major assumptions and parameters used in both the pre and post accident cases outlined above:

LCO 3.7.18 BASES INSERTS

hours after the accident, the residual heat removal system is assumed to be placed into operation.

Insert B 3.7.18-3:

NOT USED D RAI 3.7.18-5

Insert B 3.7.18-4:

A gross beta-gamma or gamma isotopic analysis of the secondary coolant, may be used to confirm DOSE EQUIVALENT I-131 is $\leq$ 1.0 μCi/gm. Confirmation of gross activity is a conservative means of determining compliance with the LCO limit. However, if gross activity exceeds the 1.0 μCi/gm limit, an isotopic analysis should be performed to determine DOSE EQUIVALENT I-131, to prevent unnecessary shutdowns. Performance of this SR confirms the validity of the safety analysis assumptions as to the secondary system source terms for post accident releases.

B 3.7 PLANT SYSTEMS

B 3.7.13 Secondary Specific Activity

BASES

BACKGROUND

Activity in the secondary coolant results from steam generator tube outleakage from the Reactor Coolant System (RCS). Under steady state conditions, the activity is primarily iodines with relatively short half lives and, thus, indicates current conditions. During transients, I-131 spikes have been observed as well as increased releases of some noble gases. Other fission product isotopes, as well as activated corrosion products in lesser amounts, may also be found in the secondary coolant.

A limit on secondary coolant specific activity during power operation minimizes releases to the environment because of normal operation, anticipated operational occurrences, and accidents.

The release of secondary system activity is assumed in several accidents to include reactor coolant pump locked rotor, steam generator tube rupture, and Main Steam Line Break. The MSLB is the most limiting relative to secondary activity and is therefore used to establish the secondary coolant activity limit.

The MSLB involves a complete severance of a main steam line outside containment. The affected SG will rapidly depressurize and release to the outside atmosphere all of the radioiodines initially contained in the SG and the radioiodines which are transferred from the primary coolant through SG tube leakage. Iodine and noble gas activity is also released from the intact SG. A portion of the iodine activity initially contained in the intact SG is released, in addition to radioiodines and noble gases from the RCS through SG tube leakage, during plant cooldown to Residual Heat Removal entry conditions.

Operating a unit at the allowable limits could result in a 2 hour EAB exposure of a small fraction of the 10 CFR 100 (Ref. 1) limits. D RAI 3.7.18-5

APPLICABLE SAFETY ANALYSES

The accident analysis of the main steam line break (MSLB), as discussed in the FSAR, Chapter 14.2.5 (Ref. 2) assumes the initial secondary coolant specific activity to have a radioactive isotope concentration of 1.0 μCi/gm DOSE EQUIVALENT I-131. This assumption is used in the analysis for determining the radiological consequences of the MSLB. The MSLB offsite radiological analysis uses the analytical methods and assumptions outlined in the Standard Review Plan (Ref. 3). The result of the radiological analysis for this

BASES

APPLICABLE SAFETY ANALYSES (continued)

event shows that the radiological consequences of an MSLB do not exceed a small fraction of the plant Exclusion Area Boundary limits (Ref. 1) for whole body and thyroid dose rates.

Two offsite dose analyses are performed, one assuming a pre-accident RCS iodine spike, and the second involving an RCS iodine spike as a result of the MSLB. For the pre-accident iodine spike, it is assumed that a reactor transient has occurred prior to the MSLB which has raised the RCS DOSE EQUIVALENT I-131 concentration to the allowed Technical Specification value of 50 μCi/gm. For the accident-initiated iodine spike, the reactor trip associated with the MSLB creates an iodine spike in the RCS which increases the iodine release rate from the fuel to the RCS to a value of 500 times greater than the release rate corresponding to the maximum proposed equilibrium RCS DOSE EQUIVALENT I-131 Technical Specification concentration of 0.8 μCi/gm. The duration of the accident-initiated iodine spike is assumed to be 1.6 hours.

The following is a summary of other major assumptions and parameters used in both the pre and post accident cases outlined above:

1. Primary and secondary system activities are at equilibrium prior to the accidents.

2. The RCS noble gas activity is based on a fuel defect level of 1.0%. This is approximately equal to 100/E-bar μCi/gm for gross radioactivity.

3. The secondary coolant iodine activity is assumed to be 1.0 μCi/gm of DOSE EQUIVALENT I-131.

4. Primary to secondary SG tube leakage in each SGs is assumed to be 0.35 gpm.

5. The atmospheric dispersion factor (χ/Q) at site boundary during the two hours following the accident is 5.0 x 10^{-4} m³/sec.

6. Breathing rate used to calculate the thyroid dose for the accidents is 3.47 x 10^{-4} m³/sec.

7. The SG connected to the ruptured main steam line is assumed to boil dry within 30 minutes.

8. All of the activity contained in the steam generator connected to the ruptured steam line is assumed to be released directly to the environment. No credit is taken for activity plate out or retention.

BASES

APPLICABLE SAFETY ANALYSES (continued)

9. Iodine carried over to the faulted SG by SG tube leaks is assumed to be released directly to the environment.

10. No credit is taken for iodine removal from steam released to the condenser prior to reactor trip and concurrent loss of offsite power.

11. With the loss of offsite power, the remaining intact steam generator is available for core decay heat removal by venting steam to the atmosphere.

12. The intact steam generator is assumed to discharge entrained activity to the atmosphere. The iodine partition factor for the intact SG is assumed to be 0.01.

13. The Auxiliary Feedwater System supplies makeup to the intact steam generator.

14. Venting of steam from the intact SG continues until the reactor coolant temperature and pressure have decreased sufficiently for the Residual Heat Removal System to be placed into operation to complete the cooldown. Eight hours after the accident, the residual heat removal system is assumed to be placed into operation.

Secondary specific activity limits satisfy Criterion 2 of the NRC Policy Statement.

LCO

As indicated in the Applicable Safety Analyses, the specific activity of the secondary coolant is required to be $\leq$ 1.0 μCi/gm DOSE EQUIVALENT I-131 to limit the radiological consequences of a Design Basis Accident (DBA) to a small fraction of the required limit (Ref. 1).

Monitoring the specific activity of the secondary coolant ensures that when secondary specific activity limits are exceeded, appropriate actions are taken in a timely manner to place the unit in an operational MODE that would minimize the radiological consequences of a DBA.

APPLICABILITY

In MODES 1, 2, 3, and 4, the limits on secondary specific activity apply due to the potential for secondary steam releases to the atmosphere.

In MODES 5 and 6, the steam generators are not being used for heat removal. Both the RCS and steam generators are depressurized, and primary to secondary LEAKAGE is minimal. Therefore, monitoring of secondary specific activity is not required.

BASES

ACTIONS

A.1 and A.2

DOSE EQUIVALENT I-131 exceeding the allowable secondary coolant, is an indication of a problem in the RCS and contributes to increased post accident doses. If the secondary specific activity cannot be restored to within limits within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. D RAI 3.7.18-5

SURVEILLANCE REQUIREMENTS

SR 3.7.13.1

This SR verifies that the secondary specific activity is within the limits of the accident analysis. A gross beta-gamma or gamma isotopic analysis of the secondary coolant, may be used to confirm DOSE EQUIVALENT I-131 is $\leq 1.0\ \mu$Ci/gm. Confirmation of gross activity is a conservative means of determining compliance with the LCO limit. However, if gross activity exceeds the $1.0\ \mu$Ci/gm limit, an isotopic analysis should be performed to determine DOSE EQUIVALENT I-131, to prevent unnecessary shutdowns. Performance of this SR confirms the validity of the safety analysis assumptions as to the secondary system source terms for post accident releases. It also serves to identify and trend any unusual isotopic concentrations that might indicate changes in reactor coolant activity or LEAKAGE. The 31 day Frequency is based on the detection of increasing trends of the level of DOSE EQUIVALENT I-131, and allows for appropriate action to be taken to maintain levels below the LCO limit.

REFERENCES

1. 10 CFR 100.11.
2. FSAR. Chapter 14.2.5.
3. NUREG 0800, USNRC Standard Review Plan, 15.1.5, Steam Piping Failures Inside and Outside of Containment (PWR), Rev. 2, July 1981.

Description of Changes - NUREG-1431 Section 5.05

21-Feb-01

DOC Number	DOC Text	
A.01 Rev. A	The information contained in CTS sections 15.3.9, 15.4.10, 15.7.3, 15.7.4, 15.7.5, 15.7.6 and 15.7.7 is not being retained in ITS. This information does not provide any regulatory requirements necessary to protect the public health and safety, but rather states that the requirements previously contained in the above CTS sections were relocated to the Radiological Effluents and Materials Control and Accountability Program Manual (REMCAP). Therefore, deletion of this information is administrative.	
	CTS:	**ITS:**
	15.03.09	N/A
	15.04.10	N/A
	15.07.03	N/A
	15.07.04	N/A
	15.07.05	N/A
	15.07.06	N/A
	15.07.07	N/A
A.02 Rev. A	The information contained in CTS 15.7 is not being retained in ITS. This information does not provide any regulatory requirements necessary to protect the public health and safety, but rather states that the RETS do not expand the responsibilities of the licensed operators, and the material contained therein will not be the subject of SRO/RO licensing examinations. Therefore, deletion of this information is administrative.	
	CTS:	**ITS:**
	15.07	N/A
A.03 Rev. A	CTS 15.7.8.3.a is revised to reflect the format of the ISTS. The Environmental Manual (EM) will become the ODCM, which will contain the methodology and parameters used in the conduct of the radiological environmental monitoring program. The ODCM will also contain the radiological effluent controls and radiological environmental monitoring activities and descriptions of the information that should be included in the Annual Monitoring Report.	
	CTS:	**ITS:**
	15.07.08.03.A	SPEC 5.05.01.A SPEC 5.05.01.B

Description of Changes - NUREG-1431 Section 5.05

21-Feb-01

DOC Number	DOC Text
A.04 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:
15.04.02	SPEC 5.05.07
15.04.02 T 15.04.02-01	SPEC 5.05.08 T 5.05.08-01
15.04.02.A	SPEC 5.05.08
15.04.02.A.01	SPEC 5.05.08.a.01
15.04.02.A.02	SPEC 5.05.08.b
15.04.02.A.02.A	SPEC 5.05.08.b.01
15.04.02.A.02.A.01	SPEC 5.05.08.b.01.i
15.04.02.A.02.A.02	SPEC 5.05.08.b.01.ii
15.04.02.A.02.B	SPEC 5.05.08.b.02 SPEC 5.05.08.b.02.i SPEC 5.05.08.b.02.ii SPEC 5.05.08.b.02.iii
15.04.02.A.02.C	SPEC 5.05.08.b.03
15.04.02.A.02.D	SPEC 5.05.08.b.04
15.04.02.A.02.F	SPEC 5.05.08.b.05
15.04.02.A.04	SPEC 5.05.08.d
15.04.02.A.04.A	SPEC 5.05.08.d.01
15.04.02.A.04.B	SPEC 5.05.08.d.02
15.04.02.A.04.C	SPEC 5.05.08.d.03
15.04.02.A.04.D	SPEC 5.05.08.d.04
15.04.02.A.04.E	SPEC 5.05.08.d.05
15.04.02.A.05.A	SPEC 5.05.08.a SPEC 5.05.08.a.02 SPEC 5.05.08.a.03 SPEC 5.05.08.a.04 SPEC 5.05.08.a.05 SPEC 5.05.08.a.06
15.04.02.B	SPEC 5.05.07
15.04.02.B.03	SPEC 5.05.07

Description of Changes - NUREG-1431 Section 5.05

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DOC Number	DOC Text	
	15.04.02.B.03.a	SPEC 5.05.07.d
	15.04.11.04.a	SPEC 5.05.10.a
	15.04.11.04.b	SPEC 5.05.10.a
	15.04.11.04.d	SPEC 5.05.10.c
	15.04.16 T 15.04.16-01 FOOTNOTE (a).01	SPEC 5.05.16.01
	15.04.16 T 15.04.16-01 FOOTNOTE (a).02	SPEC 5.05.16.02
	15.04.16 T 15.04.16-01 FOOTNOTE (a).03	SPEC 5.05.16.03
	15.04.16 T 15.04.16-01 FOOTNOTE (a).04	SPEC 5.05.16.04
	15.06.08.04.A.I	SPEC 5.05.03.A
	15.06.08.04.A.II	SPEC 5.05.03.B
	15.06.08.04.A.III	SPEC 5.05.03.C
	15.06.12	SPEC 5.05.15
	15.06.12.A	SPEC 5.05.15.A
	15.06.12.B	SPEC 5.05.15.B
	15.06.12.C	SPEC 5.05.15.C
	15.06.12.D	SPEC 5.05.15.D
	15.06.12.D.01	SPEC 5.05.15.D.01
	15.06.12.D.02	SPEC 5.05.15.D.02
	15.06.12.E	SPEC 5.05.15.E
	15.06.12.F	SPEC 5.05.15.F
	15.07.08.03.A	SPEC 5.05.01.B
	15.07.08.03.B.02	SPEC 5.05.04.C
	15.07.08.03.B.03	SPEC 5.05.04.B
	15.07.08.03.B.04	SPEC 5.05.04.E
	15.07.08.03.B.06	SPEC 5.05.04.G
	15.07.08.03.B.06.a	SPEC 5.05.04.G
	15.07.08.03.B.06.b	SPEC 5.05.04.G
	15.07.08.03.B.06.c	SPEC 5.05.04.G
	15.07.08.03.B.07	SPEC 5.05.04.I
	15.07.08.03.B.08	SPEC 5.05.01.B
	15.07.08.03.C	SPEC 5.05.01.A SPEC 5.05.04.D
	15.07.08.07.B.01.a	SPEC 5.05.01.C.01.i
	15.07.08.07.B.01.b	SPEC 5.05.01.C.01.ii
	15.07.08.07.B.02	SPEC 5.05.01.C.02

Description of Changes - NUREG-1431 Section 5.05

21-Feb-01

DOC Number	DOC Text	
	BASES	SPEC 5.05.10.c
	DPR-24 OL 3.I	SPEC 5.05.09
	DPR-24 OL 3.I.01	SPEC 5.05.09.A
	DPR-24 OL 3.I.02	SPEC 5.05.09.B
	DPR-24 OL 3.I.03	SPEC 5.05.09.C
	DPR-24 OL 3.I.04	SPEC 5.05.09.D
	DPR-24 OL 3.I.05	SPEC 5.05.09.E
	DPR-24 OL 3.I.06	SPEC 5.05.09.F
	DPR-27 OL 3.I	SPEC 5.05.09
	DPR-27 OL 3.I.01	SPEC 5.05.09.A
	DPR-27 OL 3.I.02	SPEC 5.05.09.B
	DPR-27 OL 3.I.03	SPEC 5.05.09.C
	DPR-27 OL 3.I.04	SPEC 5.05.09.D
	DPR-27 OL 3.I.05	SPEC 5.05.09.E
	DPR-27 OL 3.I.06	SPEC 5.05.09.F
	NEW	SPEC 5.05.10

A.05
Rev. A

15.7.8.3, 15.7.8.3.b, 15.7.8.3.c and 15.7.8.7.B have been revised to reflect the concurrent reorganization of the Radiological Effluents and Materials Control and Accountability Program Manual (REMCAP), Environmental Manual (EM), Radiological Environmental Monitoring Program (REMP) and Radiological Effluent Control Program (RECP) into the Offsite Dose Calculation Manual (ODCM), consistent with the recommendation of GL 89-01. The revisions to the CTS are necessary to adopt certain wording preferences or conventions which do not result in technical changes.

CTS:	ITS:
15.07.08.03	SPEC 5.05.04
15.07.08.03.B	SPEC 5.05.04 SPEC 5.05.04.C
15.07.08.03.B.02	SPEC 5.05.04.C
15.07.08.03.C	SPEC 5.05.01.A SPEC 5.05.04.D
15.07.08.07.B	SPEC 5.05.01.C
15.07.08.07.B.01	SPEC 5.05.01.C.01
15.07.08.07.B.03	SPEC 5.05.01.C.03

DOC Number	DOC Text
A.06 Rev. D	CTS 15.7.8.7.B.4 requires all changes regarding explosive gas to be made via the 50.59 process. The Explosive Gas Monitoring Program is contained in the TRM and requires that all changes regarding explosive gas must be made via the 10 CFR 50.59 process. It is unnecessary to state this requirement in Technical Specifications. Therefore, deletion of this statement is administrative in nature.

CTS:	ITS:
15.07.08.07.B.04	N/A

DOC Number	DOC Text
A.07 Rev. A	CTS 15.6.8.4.A is modified by foot note *, "Post-Accident Coolant Sampling and Post-Accident Containment Atmospheric Sampling Systems" and foot note **, "It is acceptable if the licensee maintains details of the program in plant operation manuals." These footnotes do not establish or relax any requirement and these details are not required in ITS to provide adequate protection of the public health and safety.

CTS:	ITS:
15.06.08.04.A	SPEC 5.05.03
15.06.08.04.A FOOT NOTE *	N/A
15.06.08.04.A FOOT NOTE **	N/A

DOC Number	DOC Text
A.08 Rev. A	CTS 15.4.16, Table 15.4.16-1, footnotes (a) and (b) are retained in ITS as the requirements of the RCS PIV Leakage Program. These footnotes are being preceded by a statement that the program shall be established to verify the leakage from each RCS PIV is within the limits specified, in accordance with the Event V Order, issued April 20, 1981. This statement does not impose any additional requirements, but rather provides information necessary to apply the specified limits to the RCS PIVs.

CTS:	ITS:
NEW	SPEC 5.05.16

DOC Number	DOC Text
A.09 Rev. A	CTS 15.4.2.A.2(e) and associated footnote 1, and 15.4.2.A.5(a) Definitions for F* Distance and F* Tube and associated footnote 2, have not been retained in ITS. These items were applicable only to Westinghouse Model 44 steam generators in Unit 2. According to the footnotes, these requirements, definitions, and repair options are null and void following Unit 2 steam generator replacement. Due to the replacement of the Unit 2 steam generators, these requirements, definitions, and repair options are no longer required to be in the Technical Specifications, and are therefore deleted.

CTS:	ITS:
15.04.02.A.02.E	N/A
15.04.02.A.05.A	N/A
15.04.02.A.06	SPEC 5.05.08.e

Description of Changes - NUREG-1431 Section 5.05

21-Feb-01

DOC Number	DOC Text

A.10
Rev. A

CTS 15.4.2.A.3 has been modified by replacing reference to CTS 15.4.2.B.1 with a reference to 10 CFR 50.55a(g). CTS 15.4.2.B.1 provided Inservice Inspection requirements, which have been removed from the Technical Specifications, because they are duplicative of the 10 CFR 50.55a(g) requirements.

CTS:	ITS:
15.04.02.A.03	SPEC 5.05.08.c

A.11
Rev. A

CTS 15.3.12.2.a states the results of the in-place cold DOP and halogenated hydrocarbon tests on the HEPA and charcoal adsorber banks shall show a "minimum of 99% DOP removal and 99% halogenated hydrocarbon removal." CTS 15.3.12.2.b states the laboratory charcoal adsorbent tests shall show a "minimum of 99% removal of methyl iodide." The requirements of CTS 15.3.12.2.a have been changed to "penetration and system bypass </= 1.0%." The requirement of CTS 15.3.12.2.b has been changed to "methyl iodide penetration </= 1.0%." These revisions do not change the requirements, but rather restate the same requirement in different terms. Therefore, this change is administrative.

CTS:	ITS:
15.03.12.02.a	SPEC 5.05.10.a
	SPEC 5.05.10.b
15.03.12.02.b	SPEC 5.05.10.c

A.12
Rev. A

CTS 15.4.2 and 15.7.5 provide introductory statements (Applicability / Objectives) which simply state which systems/components are addressed within each section and provide a brief summary of the purpose for each Section. 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:
15.04.02 APPL	N/A
15.04.02 OBJ	N/A
15.07.05 APPL	N/A
15.07.05 OBJ	N/A

A.13
Rev. A

Editorial changes to CTS 15.4.6.A.6 have been made to clarify the diesel fuel oil testing program. The program will include sampling and testing requirements and acceptance criteria in accordance with applicable ASTM standards.

CTS:	ITS:
15.04.06.A.06	SPEC 5.05.12

Description of Changes - NUREG-1431 Section 5.05

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DOC Number	DOC Text
LA.01 Rev. A	The information contained in CTS sections 15.7.1 is not being retained in ITS. This information does not provide any regulatory requirements necessary to protect the public health and safety, but provides definitions for frequently used terms in the RETS. The requirements of the RETS were removed from the CTS in Amendments 184/188 and placed in the Radiological Effluents and Materials Control and Accountability Program (REMCAP). In conjunction with the ITS project, the REMCAP is being reorganized to reflect the recommendations of GL 89-01, and will become the Offsite Dose Calculation Manual (ODCM). The information contained in CTS 15.7.1 will be moved to the ODCM. This information is not necessary to adequately describe the actual regulatory requirement and can be moved to other documents without impact on safety. Changes to the ODCM will be controlled by the ODCM process in Section 5 of the proposed ITS.

CTS:	ITS:
15.07.01.A	ODCM
15.07.01.B	ODCM
15.07.01.C	ODCM
15.07.01.D	ODCM

DOC Number	DOC Text
LA.02 Rev. A	The information contained in CTS sections 15.7.8.3.a regarding an annual milk survey is not being retained in ITS. This information will be located in the ODCM. This information is not necessary to adequately protect the public and can be moved to other documents without impact on safety. Changes to the ODCM will be controlled by the ODCM process in Section 5 of the proposed ITS.

CTS:	ITS:
15.07.08.03.A	N/A

DOC Number	DOC Text
LA.03 Rev. A	The information contained in CTS 15.7.8.5 regarding major changes to radioactive liquid, gaseous and solid waste treatment systems is not being retained in ITS. This information will be located in the ODCM. This information is not necessary to adequately protect the public and can be moved to other documents without impact on safety. Changes to the ODCM will be controlled by the ODCM process in Section 5 of the proposed ITS.

CTS:	ITS:
15.07.08.05	N/A
15.07.08.05.A	N/A
15.07.08.05.B	N/A
15.07.08.05.C	N/A
15.07.08.05.D	N/A
15.07.08.05.E	N/A
15.07.08.05.F	N/A

DOC Number	DOC Text	
LA.04 Rev. A	The information contained in CTS 15.7.8.2 regarding audits of the activities encompassed by the Radioactive Effluent and Materials and Accountability Program (REMCAP) is not being retained in ITS. In conjunction with the ITS project, the REMCAP is being reorganized to reflect the recommendations of GL 89-01, and will become the Offsite Dose Calculation Manual (ODCM). The information contained in CTS 15.7.8.2 will be moved to the ODCM. This information is not necessary to adequately protect the public and can be moved to other documents without impact on safety. Changes to the ODCM will be controlled by the ODCM process in Section 5 of the proposed ITS.	
	CTS:	**ITS:**
	15.07.08.02	N/A
	15.07.08.02.A	N/A
	15.07.08.02.B	N/A
LA.05 Rev. A	The Bases associated with CTS 15.4.2 is not being retained in ITS, but is moved to the FSAR. This information provides details which are not directly pertinent to the actual requirements. Since these details are not necessary to adequately describe the actual regulatory requirement, they can be moved to other documents without impact on safety. Changes to the FSAR are controlled in accordance with the 10 CFR 50.59 process.	
	CTS:	**ITS:**
	BASES	N/A

DOC Number	DOC Text
LA.06 Rev. D	CTS 15.3.12.A, Control Room Emergency Filtration, has been modified by removing the testing requirements of the Control Room Emergency Filtration (CREF) system. The CREF testing requirements will instead be in accordance with the frequencies specified in Regulatory Guide (RG) 1.52, Revision 2, and in accordance with ASTM D3803-1989 and the methodology of ASME N510-1980, Sections 10, 12 and 13, excluding subsections 10.3 and 12.3. Although this change will result in less restrictive testing requirements for the HEPA filters and charcoal adsorbers, Regulatory Guide 1.52 contains methods acceptable to the NRC for implementing the regulations in 10 CFR 50, Appendix A, with regard to the testing criteria for air filtration and adsorption units of ESF atmospheric cleanup systems designed to mitigate the consequences of a postulated accident. Additionally, these documents are consistent with the ventilation system testing requirements specified in the STS and industry standards. The test frequency relaxation that results from adopting provisions of these documents is considered acceptable given that these components traditionally pass during testing performed at the CTS specified frequency.

CTS:	ITS:
15.03.12.02.a	N/A
15.03.12.02.b	N/A
15.04.11.01	SPEC 5.05.10.d
15.04.11.04.a	N/A
15.04.11.04.b	N/A
15.04.11.04.c	N/A
15.04.11.04.d	N/A SPEC 5.05.10.c

DOC Number	DOC Text
LA.07 Rev. A	The Gas Decay Tank oxygen concentration limit and the required actions if the limit is exceeded are not being retained in ITS. This information will be contained in the Explosive Gas Monitoring Program. This information is not necessary to adequately protect the public and can be moved to other documents without impact on safety. Changes to the Explosive Gas Monitoring Program will be controlled via the 10 CFR 50.59 process.

CTS:	ITS:
15.07.05.A	N/A
15.07.05.A.01	N/A
15.07.05.A.02	N/A

DOC Number	DOC Text
LA.08 Rev. D	CTS 15.7.8.3 lists regulations and PBNP GDC regarding control of radioactive effluents, control of the release of and processing of waste materials, and the assessment of radioactivity in the environs of PBNP. This list includes PBNP GDC 17, PBNP GDC 70, and GDC 60 of Appendix A to 10 CFR 50. This information (PBNP GDCs) is duplicated in the PBNP FSAR (Section 1.3). PBNP GDC 70 restates GDC 60 of Appendix A to 10 CFR 50. These criteria contain broad standards regarding the associated requirements and may be moved the the FSAR without impact on safety. The FSAR is controlled via the 10CFR 50.59 process. DOC LB.6 contains additional information.

CTS:	ITS:
15.07.08.03	N/A
15.07.08.03.A	N/A

DOC Number	DOC Text
LA.09 Rev. D	The Tendon Surveillance Program of CTS 15.4.4.II is being replaced by the Tendon Surveillance Program of STS 5.5.6. 10 CFR 50.55.a requires facilities to adopt the ASME Section XI, Subsection IWE and IWL programs by September 2001. The details currently contained in CTS 5.4.4.11 will be moved to the Tendon Surveillance Program. These details are also specified by ASME Section XI, as endorsed and required by 10 CFR 50.55.a. Since these regulations apply to PBNP, this change is an administrative relocation of information.

CTS:	ITS:
15.04.04.II	N/A
15.04.04.II.A	N/A
15.04.04.II.B	N/A
15.04.04.II.C	N/A
15.04.04.II.C.01	N/A
15.04.04.II.C.01.A	N/A
15.04.04.II.C.02	N/A
15.04.04.II.C.02.A	N/A
15.04.04.II.C.02.B	N/A
15.04.04.II.C.02.B.I	N/A
15.04.04.II.C.02.B.II	N/A
15.04.04.II.C.02.B.III	N/A
15.04.04.II.C.02.B.IV	N/A
15.04.04.II.C.02.C	N/A
15.04.04.II.C.02.D	N/A
15.04.04.II.C.02.E	N/A
15.04.04.II.C.02.E.01	N/A
15.04.04.II.C.02.E.02	N/A
15.04.04.II.C.02.E.03	N/A
15.04.04.II.D	N/A

DOC Number	DOC Text
LB.01 Rev. A	CTS 15.7.8.3.d and 15.7.8.7 contain requirements to establish and maintain a Process Control Program (PCP) to assure compliance with 10 CFR Parts 20, 61 and 71. These requirements duplicate current regulations which provide sufficient and appropriate control of these requirements. Therefore, these details are not required to be in the ITS to provide adequate protection of public health and safety. Since this information is contained in 10 CFR Parts 20, 61 and 71, the requirements will continue to be applicable to Point Beach. Therefore, this change is an administrative relocation of information.

CTS:	ITS:
15.07.08.03.D	N/A
15.07.08.07.A	N/A
15.07.08.07.A.01	N/A
15.07.08.07.A.02	N/A
15.07.08.07.A.03	N/A

DOC Number	DOC Text
LB.02 Rev. D	Not used.

CTS:	ITS:
N/A	N/A

DOC Number	DOC Text
LB.03 Rev. A	The End Anchorage Concrete Surveillance requirements of CTS 15.4.4.III are not being retained in the ITS. The Inservice Inspection of ASME Code Class 1, Class 2, and Class 3 components are required to 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 50.55.a(g) modified by Section 50.55.a(b), except where specific relief is granted by the NRC, pursuant to 10 CFR 50, Section 50.55a(g)(6)(i). Therefore, the Inservice Inspection requirements in the CTS are duplicative of the above ASME Section XI requirements and removing these requirements from CTS is an administrative relocation of the information.

CTS:	**ITS:**
15.04.04.III	N/A
15.04.04.III.A	N/A
15.04.04.III.B	N/A
15.04.04.III.C	N/A
15.04.04.III.C.01	N/A
15.04.04.III.C.02	N/A
15.04.04.III.C.03	N/A
15.04.04.III.C.04	N/A
15.04.04.III.C.05	N/A
15.04.04.III.C.06	N/A
15.04.04.III.D	N/A
15.04.04.III.E	N/A

DOC Number	DOC Text
LB.04 Rev. A	The Liner Plate examination requirements of CTS 15.4.4.IV are not being retained in the ITS. The Inservice Inspection of ASME Code Class 1, Class 2, and Class 3 components are required to 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 50.55.a(g) modified by Section 50.55.a(b), except where specific relief is granted by the NRC, pursuant to 10 CFR 50, Section 50.55a(g)(6)(i). Therefore, the Inservice Inspection requirements in the CTS are duplicative of the above ASME Section XI requirements and removing these requirements from CTS is an administrative relocation of the information.

CTS:	ITS:
15.04.04.IV	N/A
15.04.04.IV.A	N/A
15.04.04.IV.A.01	N/A
15.04.04.IV.A.02	N/A
15.04.04.IV.B	N/A
15.04.04.IV.C	N/A
15.04.04.IV.D	N/A
15.04.04.IV.E	N/A

DOC Number	DOC Text
LB.05 Rev. A	The Inservice Inspection requirements of CTS 15.4.2.B, 15.4.2.B.1 and 15.4.2.B.3 are not being retained in the ITS. The Inservice Inspection of ASME Code Class 1, Class 2, and Class 3 components are required to 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 50.55.a(g) modified by Section 50.55.a(b), except where specific relief is granted by the NRC, pursuant to 10 CFR 50, Section 50.55a(g)(6)(i). Therefore, the Inservice Inspection requirements in the CTS are duplicative of the above ASME Section XI requirements and removing these requirements from CTS is an administrative relocation of the information.

CTS:	ITS:
15.04.02.B	N/A
15.04.02.B.01	N/A
15.04.02.B.01.a	N/A
15.04.02.B.03	N/A

DOC Number	DOC Text	
LB.06 Rev. D	CTS 15.7.8.3 lists regulations regarding control of radioactive effluents, control of the release of and processing of waste materials, and the assessment of radioactivity in the environs of PBNP. This list includes 10 CFR 50.34a and 10 CFR 50.36a. This duplicates current regulations, which provide sufficient and appropriate control of these requirements. Therefore, these details are not required to be in ITS to provide adequate protection of public health and safety. Since these requirements continue to apply to PBNP, this change is an administrative relocation of information.	
	CTS:	**ITS:**
	15.07.08.03	N/A
M.01 Rev. A	CTS 15.6.8.4.A is proposed to be revised by the addition of "radioactive gases, and particulates in" before the words "containment atmosphere and in plant gaseous effluent samples . . " The addition of this text imposes additional requirements on unit operation and is more restrictive.	
	CTS:	**ITS:**
	15.06.08.04.A	SPEC 5.05.03
M.02 Rev. A	The CTS has been revised by the addition of a requirement to establish, implement and maintain a Primary Coolant Sources Outside Containment Program. This program is required to provide controls to minimize leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to levels as low as practical. The program will be required to include preventive maintenance and periodic visual inspection requirements, and integrated leak test requirements for each system. This change imposes additional requirements for unit operation and is more restrictive.	
	CTS:	**ITS:**
	NEW	SPEC 5.05.02 SPEC 5.05.02.a SPEC 5.05.02.b
M.03 Rev. A	CTS 15.4.11.1 has been revised from requiring the pressure drop test across the combined HEPA filters and charcoal adsorber banks be demonstrated to be < 6 inches of water at "design Flow rate" to "4950 cfm +/- 10%." Stipulating the value of the design flow in the Technical Specifications imposes additional requirements and is therefore more restrictive.	
	CTS:	**ITS:**
	15.04.11.01	SPEC 5.05.10.d

Description of Changes - NUREG-1431 Section 5.05

21-Feb-01

DOC Number	DOC Text	
M.04 Rev. A	CTS 15.7.8.3.b.4) has been modified by the addition of a requirement in the Radiological Effluent Program to provide limitations on the functional capability and use of the appropriate portions of the of the liquid and gaseous effluent treatment system. This revision imposes additional requirements on unit operation and is more restrictive.	
	CTS:	**ITS:**
	15.07.08.03.B.05	SPEC 5.05.04.F
M.05 Rev. A	CTS 15.7.8.3.c has been modified by the addition of the following requirements. In addition to the requirements to specify the annual doses to a member of the public from radioactive materials in liquid effluents and radioactivity and radiation from uranium fuel cycle sources released from the facility to unrestricted areas, the ODCM will be required to specify quarterly doses and dose commitments. This revision imposes additional requirements and is more restrictive.	
	CTS:	**ITS:**
	15.07.08.03.C	SPEC 5.05.04.D SPEC 5.05.04.J
M.06 Rev. A	The CTS has been modified by the addition of the requirement to provide limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from the facility to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I. This revision imposes additional requirements and is more restrictive.	
	CTS:	**ITS:**
	NEW	SPEC 5.05.04.H
M.07 Rev. A	The CTS has been revised by the addition of a requirement to establish, implement and maintain a Component Cyclic or Transient Limit Program. This program is required to provide controls to track the FSAR Section 4.1, cyclic and transient occurrences to ensure that components are maintained within design limits. The requirement to establish, implement and maintain a Component Cyclic or Transient Limit Program imposes additional requirements for unit operation and is more restrictive.	
	CTS:	**ITS:**
	NEW	SPEC 5.05.05

DOC Number	DOC Text	
M.08 Rev. A	The CTS has been revised by the addition of a requirement to establish, implement and maintain a Reactor Coolant Pump Flywheel Inspection Program. This program is required to provide for the inspection of each reactor coolant pump flywheel per the recommendations of Regulatory Position c.4.b of Regulatory Guide 1.14, Revision 1. However, in lieu of position c.4.b(1) and c.4.b(2), a qualified in-place UT examination over the volume from the inner bore of the flywheel to the circle one-half of the outer radius or a surface examination (MT and PT) of exposed surfaces of the removed flywheels may be conducted at approximately 10 year intervals coinciding with the Inservice Inspection schedule as required by ASME Section XI. The requirement to establish, implement and maintain a Reactor Coolant Pump Flywheel Inspection Program imposes additional requirements for unit operation and is more restrictive.	
	CTS:	**ITS:**
	NEW	SPEC 5.05.06
M.09 Rev. A	CTS 15.4.2.B.3 has been modified by the adoption of a table that indicates the required frequencies for performing inservice testing activities as they relate to the testing frequencies specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda. Also, statements requiring the provisions of SR 3.0.2 and SR 3.0.3 to be applicable to the inservice testing activities frequencies have been added to CTS 15.4.2.B.3. These changes impose additional requirements and are therefore more restrictive.	
	CTS:	**ITS:**
	NEW	SPEC 5.05.07.a SPEC 5.05.07.b SPEC 5.05.07.c
M.10 Rev. A	A statement requiring the provisions of SR 3.0.2 to be applicable to the SG Tube Surveillance Testing Program test frequencies has been added to CTS 15.4.2.A. This change imposes additional requirements and is therefore more restrictive.	
	CTS:	**ITS:**
	NEW	SPEC 5.05.08
M.11 Rev. A	CTS 15.4.11.4.b and 15.4.11.4.c have been revised from requiring the DOP and the halogenated hydrocarbon testing at "design velocity +/- 20%" to "4950 cfm +/- 10%," to stipulate the actual design flowrate of the Control Room Emergency ventilation system. This change imposes additional requirements and is therefore more restrictive.	
	CTS:	**ITS:**
	15.04.11.04.b	SPEC 5.05.10.b
	15.04.11.04.c	SPEC 5.05.10.b

DOC Number	DOC Text	
M.12 Rev. A	A statement requiring the provisions of SR 3.0.2 and SR 3.0.3 to be applicable to the Ventilation Filter Test Program test frequencies has been added to CTS 15.4.11. This change imposes additional requirements and is therefore more restrictive.	
	CTS:	**ITS:**
	NEW	SPEC 5.05.10
M.13 Rev. A	CTS 15.7.5 has been modified by the addition of a requirement to establish, implement and maintain an Explosive Gas Monitoring Program. This program is required to provide controls for potentially explosive gas mixtures contained in the on-service Gas Decay Tank. The program will include a limit for oxygen concentration in the on-service Gas Decay Tank and a surveillance program to ensure the limit is maintained. Additionally, the provisions of SR 3.0.2 and SR 3.0.3 will be applicable to the program surveillance frequencies. The requirement to establish, implement and maintain an Explosive Gas Monitoring Program imposes additional requirements and is therefore more restrictive.	
	CTS:	**ITS:**
	NEW	SPEC 5.05.11 SPEC 5.05.11.A
M.14 Rev. A	CTS 15.4.6.A.6 has been modified by specifying the diesel fuel oil program will establish acceptability of new fuel for use by: determining that the fuel has an API gravity or an absolute specific gravity within limits, a flash point and kinematic viscosity within limits for ASTM 2D fuel oil, and by determining the fuel has a clear and bright appearance with proper color; within 31 days of addition of the new fuel oil to storage tanks, the properties of the new fuel oil (other than API or absolute specific gravity, appearance, and flash point and kinematic viscosity) will be verified to be within limits for ASTM 2D fuel oil; and total particulate concentration of the fuel oil shall be < 10 mg/l, when tested every 92 days in accordance with the applicable ASTM standards. Adopting these requirements imposes additional requirements on unit operation and is therefore more restrictive.	
	CTS:	**ITS:**
	NEW	SPEC 5.05.12.A SPEC 5.05.12.A.1 SPEC 5.05.12.A.2 SPEC 5.05.12.A.3 SPEC 5.05.12.B SPEC 5.05.12.C

DOC Number	DOC Text
M.15 Rev. A	Two new programs are added in the ITS. These programs are:

ITS 5.5.13 Technical Specification (TS) Bases Control
ITS 5.5.14 Safety Function Determination Program (SFDP)

The TS Bases Control Program is provided to specifically delineate the appropriate methods and reviews necessary for a change to the Technical Specification Bases. The Safety Function Determination Program is included to support implementation of the support system OPERABILITY characteristics of the Technical Specifications.

Adopting these programs imposes additional requirements and is therefore more restrictive.

CTS:	ITS:
NEW	SPEC 5.05.13
	SPEC 5.05.13.A
	SPEC 5.05.13.B.1
	SPEC 5.05.13.B.2
	SPEC 5.05.13.C
	SPEC 5.05.13.D
	SPEC 5.05.14
	SPEC 5.05.14.01.A
	SPEC 5.05.14.01.B
	SPEC 5.05.14.01.C
	SPEC 5.05.14.01.D
	SPEC 5.05.14.02.A
	SPEC 5.05.14.02.B
	SPEC 5.05.14.02.C

DOC Number	DOC Text
M.16 Rev. A	Included in CTS 15.6.12 are the requirements for the Containment Leakage Rate Testing Program (CLRTP). These requirements will be retained in the proposed ITS in new section 5.5.15, with additional requirements for air lock testing being added. NUREG-1431 SR 3.6.1.1 includes CLRTP acceptance criteria, which mirror those contained in CTS 15.6.12.D. However, these requirements were not adopted in proposed ITS SR 3.6.1.1. Proposed ITS SR 3.6.1.1 simply states "in accordance with the Containment Leakage Rate Testing Program" when describing the CLRTP acceptance criteria. Therefore, the PBNP CLRTP requirements are being added to section 5.5, "Programs and Manuals," of the proposed ITS so that the CLRTP requirements are included in the Technical Specifications. NUREG-1431 SR 3.6.2.1 includes air lock leakage rate acceptance criteria. However, these requirements were not adopted in proposed ITS SR 3.6.2.1. Proposed ITS SR 3.6.2.1 simply states "in accordance with the Containment Leakage Rate Testing Program" when describing the air lock leakage rate acceptance criteria. Therefore, the PBNP air lock leakage rate acceptance criteria is being added to section 5.5.15 (CLRTP requirements) of the proposed ITS so that the requirements are included in the Technical Specifications. This change is more restrictive, since it adds an additional section on CLRTP requirements to proposed ITS section 5.5.

CTS:	ITS:
NEW	SPEC 5.05.15.D.03
	SPEC 5.05.15.D.03.a
	SPEC 5.05.15.D.03.b

5.6 Reporting Requirements

5.6.2 Annual Monitoring Report (continued)

The Annual Monitoring Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

The Annual Monitoring Report shall also include The Radioactive Effluent Release Report covering the operation of the units in the previous year and submitted in accordance with 10 CFR 50.36a.

The submittal shall combine sections common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the units. The material provided shall be consistent with the objectives outlined in the ODCM and Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR 50, Appendix I, Section IV.B.1.

5.6.3 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis by the 15th of each month following the calendar month covered by the report. D

Additional change

5.6.4 CORE OPERATING LIMITS REPORT (COLR)

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

(1) LCO 2.1.1, "Safety Limits (SLs)"
(2) LCO 3.1.1,"Shutdown Margin (SDM)"
(3) LCO 3.1.3, "Moderator Temperature Coefficient (MTC)"
(4) LCO 3.1.5,"Shutdown Bank Insertion Limits"
(5) LCO 3.1.6,"Control Bank Insertion Limits"
(6) LCO 3.2.1,"Heat Flux Hot Channel Factor ($F_Q(Z)$)"