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November 30, 2000
IPN-00-085

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

SUBJECT: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Supplement to Proposed Improved Technical Specifications

REFERENCE:
1. NYPA letter, J. Knubel to USNRC dated August 16, 2000 (IPN-00-059), "Proposed ITS - Reply to NRC RAI."
2. NYPA letter, J. Knubel to USNRC dated September 14, 2000 (IPN-00-069), "Proposed ITS Reply to NRC RAI."
3. NYPA letter, J. Knubel to USNRC dated September 27, 2000, (IPN-00-071), "Proposed ITS - Reply to NRC RAI."

Dear Sir:

The staff at Indian Point 3 is providing a supplement to the proposed Improved Technical Specifications (ITS) for Indian Point 3. This letter addresses questions and changes discussed with the NRC staff during a telephone call of October 23, 2000. The Revision 1a pages provided in this letter supplement the Revision 1 pages transmitted in References 1, 2, and 3. Attachment I is a summary of each topic and the affected pages for the ITS conversion submittal are provided in Attachment II.

A001

There are no new commitments made in this letter. If you have any questions, please contact Mr. Ken Peters.

Very truly yours,

Michael R. Kansler
Senior Vice President and
Chief Operating Officer

STATE OF NEW YORK
COUNTY OF WESTCHESTER
Subscribed and sworn to before me
this 30th day of November 2000

Patricia L. Terry

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SUMMARY OF REVISION 1a CHANGES TO PROPOSED IP3 ITS
(Revision 1a pages pertaining to these changes are provided in Attachment II)

ITS SECTION	SUMMARY OF REVISION 1a CHANGE
3.1.7	Added new Condition B and changes to the Bases to incorporate TSTF 234, Rev 1. Condition B is for 'More than one IRPI per group inoperable. DOC A.3 revised DOC L.3 added with a supporting NSHE. This change closes RAI 3.1-04.
3.3.1	A. Revise Bases to delete reference to WCAP 10271 as justification for 'Required Actions Note' regarding 8-hour allowance used in ITS Conditions D, E, H, I, and J. Reply to RAI 3.3.1-07 updated to reflect this change. B. Revised Bases to correct the stated value of the 'Surveillance Acceptance Criterion' used for Functions 3, 4, 17c, 17d, and 17e. C. Revise ITS Table 3.3.1-1, Function 13 to specify '≥' for the allowable value. D. Revise Specification and Bases to change frequency for SR 3.3.1.6 from 31 EFPD to 92 EFPD. DOC L.5 and associated NSHE are revised to support this change. E. Revise Bases to correct the stated value of the 'Surveillance Acceptance Criterion' used for Function 14. DOC A.20, subparagraph 'e,' of ITS 3.3.1 was revised to reflect the corrected value. Various 'A-DOCs' affected by changes A, B, and C are included in Attachment II.
3.3.2	A. Revise Bases to delete reference to WCAP 10271 as justification for 'Required Actions Note' regarding 8-hour allowance used in ITS Conditions C, D, E, G and H. B. Revise Bases to correct the stated value of the 'Surveillance Acceptance Criterion' used for Functions 1e and 7. Various 'A-DOCs' affected by these changes are included in Attachment II.
3.4.12	Corrected Bases for ITS SR 3.4.12.6 to reflect a 24 month frequency consistent with the frequency stated in the Technical Specification.
3.5.3	Revise LCO Note and Bases to support valve testing requirements. DOC A.3 is revised to reflect this change and JFD DB.1 is expanded to provide an explanation.
3.6.1	Deleted frequency Note (i.e., SR 3.0.2 is not applicable) from SR 3.6.1.1 per TSTF 52 Rev 3.
3.6.2	Reply to RAI 3.6.2-2 updated and STS markup pages provided to show DB.1 and DB.2 designation. No changes to ITS required.
3.6.3	A. Revised reply to RAI 3.6.3-2 to delete reference to DOC A.4. B. Revised Specification and Bases to adopt the format of TSTF 207, Rev 5 regarding ITS surveillance SR 3.6.3.10. This change ensures that Condition D applies, with a 72 hour completion time if this surveillance is not met. Replies to RAIs 3.6.0-2 and 3.6.3-11 updated to show this change. C. Revised Specification and Bases to adopt the format of TSTF 207, Rev 5 regarding ITS 3.6.3 Condition B.
3.6.5	Editorial rewording of LCO Bases statement.
3.6.9	Revise Bases to more specifically identify the relevant portion of 10 CFR 50, Appendix J. Reply to RAI 3.6.9-8 also updated to reflect this change.

ITS SECTION	SUMMARY OF REVISION 1a CHANGE
3.7.9	Added new Condition E, including Bases, for 'SWS piping and valves inoperable for reasons other than Conditions A, B, C, or D ....'. Condition E maintains an existing condition in CTS 3.3.10.F.a, including the 12-hour completion time. DOC A.8 is added for this change.
3.8.2	Revised STS Note used in ITS SR 3.8.2.1 to eliminate referenced 3.8.1 SRs that are not applicable in 3.8.2 for IP3. Also added a new Note 2 to clarify that testing requirements regarding an actual or simulated ESF signal are not applicable for 3.8.2. Bases related to this SR were also changed. The reply to RAI 3.8.2-4 was updated to explain this change.
3.9.3	Revised ITS LCO 3.9.3.c.2 to ensure that the containment pressure relief flow path is included in this requirement.
5.5.1	Editorial change of subsection numbers to provide unique identifier for each paragraph.
5.5.13	Revision of ITS 5.5.13.b.2 (STS section 5.5.14) to incorporate TSTF 364 Rev 0, regarding proposed changes to 10 CFR 50.59.

ATTACHMENT II TO IPN-00-085

REVISION 1a PAGES FOR

PROPOSED IMPROVED TECHNICAL SPECIFICATIONS

(Revision 1a pages are provided for ITS sections as outlined in Attachment I)

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
DPR-64

ATTACHMENT II TO IPN-00-0xx

REVISION 1a PAGES FOR

PROPOSED IMPROVED TECHNICAL SPECIFICATIONS

(Revision 1a pages are provided for ITS sections as outlined in Attachment I)

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
DPR-64

ITS 3.1.7 -- Rev 1a

Update to IP3 ITS Conversion Package

3.1 REACTIVITY CONTROL SYSTEMS

3.1.7 Rod Position Indication

LCO 3.1.7 The Individual Rod Position Indication (IRPI) System and the Demand Position Indication System shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

------------------------------------NOTE------------------------------------
Separate Condition entry is allowed for each inoperable rod position indicator and each demand position indicator.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One IRPI per group inoperable for one or more groups.	A.1	Verify the position of the rods with inoperable position indicators indirectly by using movable incore detectors.	Once per 8 hours
	<u>OR</u>		
	A.2	Reduce THERMAL POWER to ≤ 50% RTP.	8 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. More than one IRPI per group inoperable.	B.1	Place the control rods under manual control.	Immediately
	AND		
	B.2	Monitor and record RCS Tavg.	Once per 1 hour
	AND		
	B.3	Verify the position of the rods with inoperable position indicators indirectly by using the movable incore detectors.	Once per 8 hours
	AND		
	B.4	Restore inoperable position indicators to OPERABLE status such that a maximum of one IRPI per group is inoperable.	24 hours
C. One or more rods with inoperable position indicators have been moved in excess of 24 steps in one direction since the last determination of the rod's position.	C.1	Verify the position of the rods with inoperable position indicators indirectly by using movable incore detectors.	4 hours
	OR		
	C.2	Reduce THERMAL POWER to ≤ 50% RTP.	8 hours

R. 1/9

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. One demand position indicator per bank inoperable for one or more banks.	D.1.1	Verify by administrative means all IRPIs for the affected banks are OPERABLE.	Once per 8 hours
	<u>AND</u>		
	D.1.2	Verify the most withdrawn rod and the least withdrawn rod of the affected banks are ≤ 12 steps apart when > 85% RTP and ≤ 24 steps apart when ≤ 85% RTP.	Once per 8 hours
	<u>OR</u>		
	D.2	Reduce THERMAL POWER to ≤ 50% RTP.	8 hours
E. Required Action and associated Completion Time not met.	E.1	Be in MODE 3.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.7.1	Verify each IRPI agrees within 12 steps of the group demand position for the full indicated range of rod travel.	Prior to reactor criticality after each removal of the reactor vessel head

B 3.1 REACTIVITY CONTROL SYSTEM

B 3.1.7 Rod Position Indication

BASES

BACKGROUND

According to GDC 13 (Ref. 1), instrumentation to monitor variables and systems over their operating ranges during normal operation, anticipated operational occurrences, and accident conditions must be OPERABLE. LCO 3.1.7 is required for rod cluster control assemblies (RCCAs), or rods, to ensure OPERABILITY of position indicators to determine control rod positions and thereby ensure compliance with the rod alignment and insertion limits.

The OPERABILITY, including position indication, of the shutdown and control rods is an initial assumption in all safety analyses that assume rod insertion upon reactor trip. Maximum rod misalignment is an initial assumption in the safety analysis that directly affects core power distributions and assumptions of available SDM. Rod position indication is required to assess OPERABILITY and misalignment.

Mechanical or electrical failures may cause a rod to become inoperable or to become misaligned from its group. Rod inoperability or misalignment may cause increased power peaking, due to the asymmetric reactivity distribution and a reduction in the total available rod worth for reactor shutdown. Therefore, rod alignment and OPERABILITY are related to core operation in design power peaking limits and the core design requirement of a minimum SDM.

Limits on rod alignment and OPERABILITY have been established, and all rod positions are monitored and controlled during power operation to ensure that the power distribution and reactivity limits defined by the design power peaking and SDM limits are preserved.

Rod cluster control assemblies (RCCAs), or rods, are moved out of the core (up or withdrawn) or into the core (down or inserted) by their control rod drive mechanisms. The RCCAs are divided among control banks and shutdown banks. Each bank may be further subdivided into two groups to provide for precise reactivity control.

(continued)

BASES

BACKGROUND (continued)

The axial position of shutdown rods and control rods are determined by two separate and independent systems: the Bank Demand Position Indication System (commonly called group step counters) and the Individual Rod Position Indication (IRPI) System.

The Bank Demand Position Indication System counts the pulses from the Rod Control System that move the rods. There is one step counter for each group of rods. Individual rods in a group all receive the same signal to move and should, therefore, all be at the same position indicated by the group step counter for that group. The Bank Demand Position Indication System is considered highly precise (± 1 step or ± ⅝ inch). If a rod does not move one step for each demand pulse, the step counter will still count the pulse and incorrectly reflect the position of the rod.

The IRPI System provides an accurate indication of actual control rod position, but at a lower precision than the step counters. This system is based on inductive analog signals from a coil stack located above the stepping mechanisms of the control rod magnetic jacks, external to the pressure housing, but concentric with the rod travel. When the associated control rod is at the bottom of the core, the magnetic coupling between the primary and secondary coil winding of the detector is small and there is a small voltage induced in the secondary. As the control rod is raised by the magnetic jacks, the relatively high permeability of the lift rod causes an increase in magnetic coupling. Thus, an analog signal proportional to rod position is obtained. An indicated misalignment limit of 12 steps precludes a rod misalignment of > 15 inches when instrument error is considered. An indicated misalignment limit of 24 steps precludes a rod misalignment of > 22.5 inches when instrument error is considered.

APPLICABLE SAFETY ANALYSES

Control and shutdown rod position accuracy is essential during power operation. Power peaking, ejected rod worth, or SDM limits may be violated in the event of a Design Basis Accident (Ref. 2), with control orshutdown rods operating outside their

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

limits undetected. Therefore, the acceptance criteria for rod position indication is that rod positions must be known with sufficient accuracy in order to verify the core is operating within the group sequence, overlap, design peaking limits, ejected rod worth, and with minimum SDM (LCO 3.1.5, "Shutdown Bank Insertion Limits," and LCO 3.1.6, "Control Bank Insertion Limits"). The rod positions must also be known in order to verify the alignment limits are preserved (LCO 3.1.4, "Rod Group Alignment Limits"). Rod positions are continuously monitored to provide operators with information that ensures the plant is operating within the bounds of the accident analysis assumptions.

The rod position indicator channels satisfy Criterion 2 of 10 CFR 50.36. The control rod position indicators monitor rod position, which is an initial condition of the accident.

LCO

LCO 3.1.7 specifies that one IRPI System and one Bank Demand Position Indication System be OPERABLE for each rod. For the rod position indicators to be OPERABLE, the SR of the LCO and the following must be met:

a. The IRPI System indicates within the required number of steps of the group step counter demand position as required by LCO 3.1.4, "Rod Group Alignment Limits";

b. For the IRPI System there are no failed coils; and

c. The Bank Demand Indication System has been calibrated either in the fully inserted position or to the IRPI System.

The agreement limit between the Bank Demand Position Indication System and the IRPI System indicates that the Bank Demand Position Indication System is adequately calibrated, and can be used for indication of the measurement of control rod bank position.

(continued)

BASES

LCO (continued)

A deviation of less than the allowable limit, given in LCO 3.1.4, in position indication for a single rod, ensures high confidence that the position uncertainty of the corresponding rod group is within the assumed values used in the analysis (that specified rod group insertion limits).

These requirements ensure that rod position indication during power operation and PHYSICS TESTS is accurate, and that design assumptions are not challenged.

OPERABILITY of the position indicator channels ensures that inoperable, misaligned, or mispositioned rods can be detected. Therefore, power peaking, ejected rod worth, and SDM can be controlled within acceptable limits.

APPLICABILITY

The requirements on the IRPI and step counters are only applicable in MODES 1 and 2 (consistent with LCO 3.1.4, LCO 3.1.5, and LCO 3.1.6), because these are the only MODES in which power is generated, and the OPERABILITY and alignment of rods have the potential to affect the safety of the plant. In the shutdown MODES, the OPERABILITY of the shutdown and control banks has the potential to affect the required SDM, but this effect can be compensated for by an increase in the boron concentration of the Reactor Coolant System.

ACTIONS

The ACTIONS table is modified by a Note indicating that a separate Condition entry is allowed for each inoperable rod position indicator and each demand position indicator. This is acceptable because the Required Actions for each Condition provide appropriate compensatory actions for each inoperable position indicator.

A.1

When one IRPI channel per group fails, the position of the rod may still be determined indirectly by use of the movable incore detectors. The Required Action may also be satisfied by ensuring at least once per 8 hours that F_Q satisfies LCO 3.2.1, $F_{\Delta}H$ satisfies LCO 3.2.2, and shutdown MARGIN is within the limits provided in the COLR, provided the nonindicating rods have not been moved.

(continued)

BASES

ACTIONS

A.1 (continued)

Based on experience, normal power operation does not require excessive movement of banks. If a bank has been significantly moved, the Required Action of C.1 or C.2 below is required.

Therefore, verification of RCCA position within the Completion Time of 8 hours is adequate for allowing continued full power operation, since the probability of simultaneously having a rod significantly out of position and an event sensitive to that rod position is small.

Note that an IRPI channel is not inoperable if rod position can be determined using a digital voltmeter in lieu of the installed indicators.

A.2

Reduction of THERMAL POWER to ≤ 50% RTP puts the core into a condition where rod position is not significantly affecting core peaking factors (Ref. 2).

The allowed Completion Time of 8 hours is reasonable, based on operating experience, for reducing power to ≤ 50% RTP from full power conditions without challenging plant systems and allowing for rod position determination by Required Action A.1 above.

B.1, B.2, B.3 and B.4

When more than one IRPI per group fail, additional actions are necessary to ensure that acceptable power distribution limits are maintained, minimum SDM is maintained, and the potential effects of rod misalignment on associated accident analyses are limited. Placing the Rod Control System in manual assures unplanned rod motion will not occur. Together with the indirect position determination available via movable incore detectors will minimize the potential for rod misalignment. The immediate Completion Time for placing the Rod Control System in manual reflects the urgency with which unplanned rod motion must be prevented while in this condition.

R.1/9

(continued)

BASES

ACTIONS

B.1, B.2, B.3 and B.4 (continued)

Monitoring and recording reactor coolant T_{avg} helps assure that significant changes in power distribution and SDM are avoided. The once per hour Completion Time is acceptable because only minor fluctuations in RCS temperature are expected at steady state plant operating conditions.

The position of the rods may be determined indirectly by use of the movable incore detectors. The Required Action may also be satisfied by ensuring at least once per 8 hours that F_Q satisfies LCO 3.2.1, $F^N_{\Delta H}$ satisfies LCO 3.2.2, and SHUTDOWN MARGIN is within the limits provided in the COLR, provided the nonindicating rods have not been moved. Verification of control rod position once per 8 hours is adequate for allowing continued full power operation for a limited, 24 hour period, since the probability of simultaneously having a rod significantly out of position and an event sensitive to that rod position is small. The 24 hour Completion Time provides sufficient time to troubleshoot and restore the IRPI system to operation while avoiding the plant challenges associated with a shutdown without full rod position indication.

Based on operating experience, normal power operation does not require excessive rod movement. If one or more rods have been significantly moved, the Required Action of C.1 or C.2 below is required. R. 1a

C.1 and C.2

These Required Actions clarify that when one or more rods with inoperable position indicators have been moved in excess of 24 steps in one direction, since the position was last determined, the Required Actions of A.1 and A.2 are still appropriate but must be initiated promptly under Required Action C.1 to begin verifying that these rods are still properly positioned, relative to their group positions.

(continued)

BASES

ACTIONS

C.1 and C.2 (continued)

If, within 4 hours, the rod positions have not been determined, THERMAL POWER must be reduced to ≤ 50% RTP within 8 hours to avoid undesirable power distributions that could result from continued operation at ≥ 50% RTP, if one or more rods are misaligned by more than 24 steps. The allowed Completion Time of 4 hours provides an acceptable period of time to verify the rod positions.

D.1.1 and D.1.2

With one demand position indicator per bank inoperable (i.e., bank demand position cannot be determined), the rod positions can be determined by the IRPI System. Since normal power operation does not require excessive movement of rods, verification by administrative means that the rod position indicators are OPERABLE and the most withdrawn rod and the least withdrawn rod are ≤ 12 steps apart when > 85% RTP and ≤ 24 steps apart when ≤ 85% RTP within the allowed Completion Time of once every 8 hours is adequate.

D.2

Reduction of THERMAL POWER to ≤ 50% RTP puts the core into a condition where rod position is not significantly affecting core peaking factor limits. The allowed Completion Time of 8 hours provides an acceptable period of time to verify the rod positions per Required Actions C.1.1 and C.1.2 or reduce power to ≤ 50% RTP.

E.1

If the Required Actions cannot be completed within the associated Completion Time, the plant must be brought to a MODE in which the requirement does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours. The allowed Completion Time is reasonable, based on operating experience, for reaching the required MODE from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.1.7.1

Verification that the IRPI agrees with the demand position within the required number of steps ensures that the IRPI is operating correctly. This surveillance is performed prior to reactor criticality after each removal of the reactor vessel head because there is a potential for unnecessary plant transients if the SR were performed with the reactor at power.

REFERENCES

1. 10 CFR 50, Appendix A.

2. FSAR, Chapter 14.

3. WCAP-14668, Conditional Extension of the Rod Misalignment Technical Specification for Indian Point Unit 3, October 1996 (Proprietary).

DISCUSSION OF CHANGES
ITS SECTION 3.1.7 - Rod Position Indication

ADMINISTRATIVE

A.1 In the conversion of the Indian Point Unit 3 Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Additionally, editorial changes, reformatting, and revised numbering are adopted to make ITS consistent with the conventions in NUREG-1431, Standard Technical Specifications, Westinghouse Plants, Rev. 1, i.e., the improved Standard Technical Specifications.

The CTS Bases are deleted and replaced with comprehensive ITS Bases designed to support interpretation and implementation of the associated Technical Specifications. The Bases explain, clarify, and document the reasons (i.e., bases) for the associated Technical Specifications, and reflect the IP3 plant specific design, analyses, and licensing basis. In accordance with 10 CFR 50.36(a), the ITS Bases are included with the proposed ITS conversion application; however, deletion of the CTS Bases and the adoption of the ITS Bases is an administrative change with no impact on safety because neither are required by 10 CFR 50.36, and neither define nor impose any specific requirements.

A.2 CTS Limiting Conditions for Operation (LCOs) and Surveillance Requirements (SRs) include statements of the objective and the applicability. The CTS statements of objective and applicability are deleted because these statements do not establish any requirements and do not provide any guidance for the application of CTS requirements. Therefore, deletion of these statements has no significant adverse impact on safety.

A.3 CTS 3.10.6.2 specifies that not more than one rod position indicator channel per group nor two rod position indicator channels per bank shall be permitted to be inoperable at any time. ITS LCO 3.1.7.Condition A applies when one IRPI per group is inoperable for one or more groups. This is an administrative change because Condition A maintains the same requirement for one IRPI per group inoperable. ITS requirements for more than one IRPI per group inoperable are discussed in DOC L.3.

ITS LCO 3.1.7 requires the Operability of the Demand Position Indication System in Modes 1 and 2. In conjunction with this change, ITS LCO 3.1.7, Condition C and associated Required Actions, specifies the requirements if one demand position indicator per bank is inoperable for one or more banks. Specifically, if one demand position indicator per bank is inoperable for one or more banks, then Required Actions C.1.1 and C.1.2 allow plant operation to continue if every 8 hours it is verified that all IRPIs for the affected banks are Operable and the most withdrawn rod and the least withdrawn rod of the affected banks are ≤ 12 steps apart when > 85% RTP and within 24 steps of the group step counter demand position when ≤ 85% RTP.

This change is needed and is acceptable because rod group alignment limits and rod insertion limits can be verified to meet the requirements of ITS LCO 3.1.4, 3.1.5 and 3.1.6 with a very high degree of confidence if all IRPIs for the affected banks are Operable and the most withdrawn rod and the least withdrawn rod of the affected banks are ≤ 12 steps apart when > 85% RTP and within 24 steps of the group step counter demand position when ≤ 85% RTP. Therefore, this change has no significant adverse impact on safety.

L.3 CTS 3.10.6.2 specifies that not more than one rod position indicator channel per group nor two rod position indicator channels per bank shall be permitted to be inoperable at any time. Requirements regarding one IRPI inoperable are included in ITS as explained in DOC A.3. However, CTS does not establish any requirement for more than one rod position indicator channel per group inoperable and defaults to immediate shutdown. Incorporation of TSTF-234 in the ITS LCO 3.1.7 (Condition B), for more than one rod position indicator channel per group inoperable, allows 24 hours to restore the inoperable position indicators to OPERABLE status such that a maximum of one rod position indicator per group is inoperable. This change is less restrictive because it provides 24 hours compared to immediate shutdown for more than one rod position indicator per group inoperable. This change is acceptable because appropriate Required Actions are established for the limited time allowed for this condition.

REMOVED DETAIL

None

NO SIGNIFICANT HAZARDS EVALUATION
ITS SECTION 3.1.7 - Rod Position Indication

LESS RESTRICTIVE
("L.3" Labeled Comments/Discussions)

New York Power Authority has evaluated the proposed Technical Specification change identified as "Less Restrictive" in accordance with the criteria set forth in 10 CFR 50.92, and has determined that the proposed change does not involve a significant hazards consideration. The bases for the determination that the proposed changes do not involve a significant hazards consideration are discussed below:

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

   CTS 3.10 does not include any Required Action for more than one rod position indicator channel per group inoperable. This change adds Required Actions and Completion Times for the condition of 'More than one IRPI per group inoperable.' This change will not result in a significant increase in the probability of an accident previously evaluated because rod misalignment is not the initiator of any accident previously evaluated. Rod position accuracy is important to assure that accident analysis initial conditions regarding power peaking, ejected rod worth, or shutdown margin limits remain valid. This change does not result in a significant increase in the consequences of an accident previously evaluated because the Required Actions established for this condition ensure that the potential effects of rod misalignment on associated accident analyses are limited. The additional time to restore an inoperable IRPI would require that the control rods be under manual control, that RCS Tavg be monitored and recorded hourly, and that the rod position be verified indirectly every 8 hours using the moveable incore detectors, thereby assuring that the rod alignment and rod insertion LCOs are met. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed change will not involve any physical changes to plant systems, structures, or components (SSC), or involve changes in normal plant operation. Therefore, it will not create the possibility of a new or different kind of accident from any accident previously evaluated.

R.19

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

This change does not involve a significant reduction in a margin of safety because the additional time to restore an inoperable IRPI would require that the control rods be under manual control, that RCS Tavg be monitored and recorded hourly, and that the rod position be verified indirectly every 8 hours using the moveable incore detectors, thereby assuring that the rod alignment and rod insertion LCOs are met and the required shutdown margin will be mantained. Therefore, this change does not involve a significant reduction in a margin of safety.

R.1
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ITS 3.3.1 -- Rev 1a

Update to IP3 ITS Conversion Package

NYPA REPLY TO NRC RAI
REGARDING REVISION 1a OF PROPOSED ITS

ITS LCO: **3.3.1 Reactor Protection System (RPS) Instrumentation**

NRC RAI No: **3.3.1--07**

RAI STATEMENT:

--DOC 3.3.1 A.4.c (example)
--CTS 3.5.4
--ITS 3.3.1 Action D Note
--ITS 3.3.1 Action D Bases, STS markup page B 3.3-40

The submittal states that the CTS allowance of 8 hours for testing is supported by WCAP-10271-P-A. However, it appears that this topical report only addressed a 6-hour testing window, the value found in the STS.

Comment: Revise the submittal to correct this error in all the DOCs where it occurs. If referencing the topical report, the 6-hour time period should be adopted.

NYPA RESPONSE:

NYPA revised the ITS conversion submittal to revise paragraph 'c' of each affected Admin. DOC to state that the 8 hour bypass allowance is maintained based on CLB established by CTS 3.5.4. The following A-DOCs are affected:
A.4, A.5, A.8, A.10, A.11, A.13, A.15, A.16, A.17, A.18, A.19, A.21, A.22, and A.37

ITS Bases for Conditions D, E, H, I, and J were also revised to reflect this change. Condition K also has the Required Actions Note (DOC A.22), however a change to the Bases is not needed because Revision 0 of ITS did not contain the reference to the WCAP.

The scope of this topic was also expanded to include ITS 3.3.2, Conditions C, D, E, G, and H.

R. 1/9

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.4	-------------------NOTE------------------ This Surveillance must be performed on the reactor trip bypass breaker prior to placing the bypass breaker in service. -- Perform TADOT.	31 days on a STAGGERED TEST BASIS
SR 3.3.1.5	Perform ACTUATION LOGIC TEST.	31 days on a STAGGERED TEST BASIS
SR 3.3.1.6	-------------------NOTE------------------ Only required to be performed when THERMAL POWER is > 90% RTP. -- Calibrate excore channels to agree with incore detector measurements.	ITS Rev 1 was 31 STS is [92] See DOC L.5 92 EFPD R.19
SR 3.3.1.7	-------------------NOTE------------------ Not required to be performed for source range instrumentation prior to entering MODE 3 from MODE 2 until 4 hours after entry into MODE 3. -- Perform COT.	92 days

(continued)

Table 3.3.1-1 (page 4 of 8)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
10. Reactor Coolant Pump (RCP) Breaker Position					
a. Single Loop	1(f)	1 per RCP	I	SR 3.3.1.14	NA
b. Two Loops	1(g)	1 per RCP	H	SR 3.3.1.14	NA
11. Undervoltage RCPs (6.9 kV bus)	1(e)	1 per bus	H	SR 3.3.1.9 SR 3.3.1.10	NA
12. Underfrequency RCPs (6.9 kV bus)	1(e)	1 per bus	H	SR 3.3.1.9 SR 3.3.1.10	≥ 57.22 Hz
13. Steam Generator (SG) Water Level – Low Low	1,2	3 per SG	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10	≥ 4.0%
14. SG Water Level – Low	1,2	2 per SG	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10	NA
Coincident with Steam Flow/ Feedwater Flow Mismatch	1,2	2 per SG	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10	NA

added

R.1a

(correction to ITS typed page)

(continued)

(e) Above the P-7 (Low Power Reactor Trips Block) interlock.

(f) Above the P-8 (Power Range Neutron Flux) interlock.

(g) Above the P-7 (Low Power Reactor Trips Block) interlock and below the P-8 (Power Range Neutron Flux) interlock.

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

Rev 1 was 25%
See DOC A.6

Table 3.3.1-1 identifies the Technical Specification Allowable Value for this trip function as not applicable (NA) because LCO 3.3.1, Function 2.b, Power Range Neutron Flux-Low, is used to bound the analysis for an uncontrolled control rod assembly withdrawal from a subcritical condition. The surveillance acceptance criterion used for this function is ≤28% RTP. This value was established based on Indian Point Nuclear Generating Station Unit No. 3 Plant Manual Volume VI: Precautions, Limitations, and Setpoints, March 1975, (Ref. 8). R.1a

Because this trip Function is important only during startup, there is generally no need to disable channels for testing while the Function is required to be OPERABLE. Therefore, a third channel is unnecessary.

The Intermediate Range Neutron Flux trip must be OPERABLE in MODE 1 below the P-10 setpoint, and in MODE 2 above the P-6 setpoint, when there is a potential for an uncontrolled RCCA bank rod withdrawal accident during reactor startup. Above the P-10 setpoint, the Power Range Neutron Flux – High Setpoint trip provides core protection for a rod withdrawal accident. In MODE 2, below the P-6 setpoint, the source Range Neutron Flux Trip provides backup core protection for reactivity accidents. In MODE 3, 4, or 5, the Intermediate Range Neutron Flux trip does not have to be OPERABLE because the control rods must be fully inserted and only the shutdown rods may be withdrawn. The reactor cannot be started up in this condition. The core also has the required SDM to mitigate the consequences of a positive reactivity addition accident. In MODE 6, all rods are fully inserted and the core has a required increased SDM. Also, the NIS intermediate range detectors cannot detect neutron levels present in this MODE.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

4. Source Range Neutron Flux

The LCO requirement for the Source Range Neutron Flux trip Function ensures that protection is provided against an uncontrolled RCCA bank rod withdrawal accident from a subcritical condition during startup. This trip Function provides redundant protection to the Power Range Neutron Flux - Low trip Function. Therefore, only one of the two channels of Source Range Neutron Flux is Required to be OPERABLE in the Applicable MODES. Either of the two channels can be used to satisfy this requirement. In MODES 3, 4, and 5, administrative controls also prevent the uncontrolled withdrawal of rods. The NIS source range detectors are located external to the reactor vessel and measure neutrons leaking from the core. The NIS source range detectors do not provide any inputs to control systems. The source range trip is the only RPS automatic protection function required in MODES 3, 4, and 5 when rods are capable of withdrawal or one or more rods are not fully inserted.

The LCO requires one channel of Source Range Neutron Flux to be OPERABLE. One OPERABLE channel is sufficient to provide redundant protection to the Power Range Neutron Flux - Low Setpoint trip Function.

Table 3.3.1-1 identifies the Technical Specification Allowable Value for this trip function as not applicable (NA) because LCO 3.3.1, Function 2.b, Power Range Neutron Flux-Low, is used to bound the analysis for an uncontrolled control rod assembly withdrawal from a subcritical condition. The surveillance acceptance criterion used for this function is ≤6.0 E+5 counts per second.

Rev 1 was 5.0 E+5
See DOC A.7

A.19

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

Each SG is considered to be a separate function. Therefore, separate condition entry is allowed for each SG.

Table 3.3.1-1 identifies the Technical Specification Allowable Value for this trip function as not applicable (NA) because LCO 3.3.1, Function 13, Steam Generator Water Level-Low Low, is used to bound the analysis for a loss of feedwater event. The allowable values required for OPERABILITY of Function 13 is ≥ 4.0%. The surveillance acceptance criteria used for Function 14 are ≥7.5% narrow range level and ~~≤3.3E+5~~ ≤1.33 E+6 pounds per hour steam flow/feedwater flow mismatch. R1a

In MODE 1 or 2, when the reactor requires a heat sink, the SG Water Level – Low coincident with Steam Flow/Feedwater Flow Mismatch trip must be OPERABLE. The normal source of water for the SGs is the MFW System (not safety related). The MFW System is only in operation in MODE 1 or 2. The AFW System is the safety related backup source of water to ensure that the SGs remain the heat sink for the reactor. During normal startups and shutdowns, the AFW System provides feedwater to maintain SG level. In MODE 3, 4, 5, or 6, the SG Water Level – Low coincident with Steam Flow/Feedwater Flow Mismatch Function does not have to be OPERABLE because the MFW System is not in operation and the reactor is not critical. Decay heat removal is accomplished by the AFW System in MODE 3 and 4 and by the RHR System in MODE 4, 5, or 6. The MFW System is in operation only in MODE 1 or 2 and, therefore, this trip Function need only be OPERABLE in these MODES.

15. <u>Turbine Trip – Low Auto-Stop Oil Pressure</u>

The Turbine Trip – Low Auto-Stop Oil Pressure trip Function anticipates the loss of heat removal capabilities of the secondary system following a turbine trip. This trip Function acts to minimize the pressure/temperature transient on the reactor. Any turbine trip from a power

(continued)

Function 17 b, continued

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

EDITORIAL

An Allowable Value is not applicable to the P-7 interlock because it is a logic Function. The P-10 interlock (Function 17.d) governs input from the Power Range instruments and the Turbine First Stage Pressure interlock (Function 17.e) governs input for turbine power. R1.9

The P-7 interlock is a logic Function with train and not channel identity. Therefore, the LCO requires one channel per train (i.e., two trains) of Low Power Reactor Trips Block, P-7 interlock to be OPERABLE in MODE 1.

The low power trips are blocked below the P-7 setpoint and unblocked above the P-7 setpoint. In MODE 2, 3, 4, 5, or 6, this Function does not have to be OPERABLE because the interlock performs its Function when power level drops below 10% power, which is in MODE 1.

c. Power Range Neutron Flux, P-8

The Power Range Neutron Flux, P-8 interlock is actuated at approximately 50% power as determined by NIS power range detectors. The P-8 interlock automatically enables the Reactor Coolant Flow—Low (Single Loop) and RCP Breaker Position (Single Loop) reactor trips on low flow in one or more RCS loops whenever at least 2 of 4 of the Power Range instruments increase to above the P-8 setpoint. The LCO requirement for this trip Function ensures that protection is provided against a loss of flow in any RCS loop that could result in DNB conditions in the core when greater than approximately 50% power. On decreasing power, the reactor trip on low flow in any loop is automatically blocked whenever at least 3 of 4 the Power Range instruments decrease to below the P-8 setpoint.

The LCO requires four channels of Power Range Neutron Flux, P-8 interlock to be OPERABLE in MODE 1.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

In MODE 1, a loss of flow in one RCS loop could result in DNB conditions, so the Power Range Neutron Flux, P-8 interlock must be OPERABLE. In MODE 2, 3, 4, 5, or 6, this Function does not have to be OPERABLE because the core is not producing sufficient power to be concerned about DNB conditions.

The Allowable Value is NA for this Function because there is no corresponding analytical limit modeled in the accident analysis. The surveillance acceptance criterion used for this Function is ≤35% RTP.

(Rev 1 was ≤ 50%
See Doc A.28

R. 1/9

d. Power Range Neutron Flux, P-10

The Power Range Neutron Flux, P-10 interlock is actuated at approximately 10% power, as determined by two-out-of-four NIS power range detectors. If power level falls below 10% RTP on 3 of 4 channels, the nuclear instrument trips will be automatically unblocked. The LCO requirement for the P-10 interlock ensures that the following Functions are performed:

- on increasing power, the P-10 interlock allows the operator to manually block the Intermediate Range Neutron Flux reactor trip;
- on increasing power, the P-10 interlock allows the operator to manually block the Power Range Neutron Flux – Low reactor trip;
- on increasing power, the P-10 interlock automatically provides a backup signal to block the Source Range Neutron Flux reactor trip by de-energizing the NIS source range detectors;
- the P-10 interlock provides one of the two inputs to the P-7 interlock; and

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

- on decreasing power, the P-10 interlock automatically enables the Power Range Neutron Flux – Low reactor trip and the Intermediate Range Neutron Flux reactor trip (and rod stop).

The LCO requires four channels of Power Range Neutron Flux, P-10 interlock to be OPERABLE in MODE 1 or 2.

OPERABILITY in MODE 1 ensures the Function is available to perform its decreasing power Functions in the event of a reactor shutdown. This Function must be OPERABLE in MODE 2 to ensure that core protection is provided during a startup or shutdown by the Power Range Neutron Flux – Low and Intermediate Range Neutron Flux reactor trips. In MODE 3, 4, 5, or 6, this Function does not have to be OPERABLE because the reactor is not at power and the Source Range Neutron Flux reactor trip provides core protection.

The Allowable Value is NA for this Function because there is no corresponding analytical limit modeled in the accident analysis. The surveillance acceptance criterion used for this Function is ≤9% RTP.

Rev 1 was ≤10% R.19
See DOC A.29

e. Turbine First Stage Pressure

The Turbine First Stage Pressure interlock is actuated when the pressure in the first stage of the high pressure turbine is greater than approximately 10% of the rated full power pressure. This is determined by one-out-of-two pressure detectors. The LCO requirement for this Function ensures that one of the inputs to the P-7 interlock is available.

The LCO requires two channels of Turbine Impulse Pressure, input to the P-7 interlock, to be OPERABLE in MODE 1.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

The Turbine First Stage Pressure interlock must be OPERABLE when the turbine generator is operating. The interlock Function is not required OPERABLE in MODE 2, 3, 4, 5, or 6 because the turbine generator is not operating.

The Allowable Value is NA for this Function because there is no corresponding analytical limit modeled in the accident analysis. The surveillance acceptance criterion used for this Function is ≤9.5% RTP.

Rev 1 was < 10% R. 19

See DOC A.37

18. <u>Reactor Trip Breakers</u>

This trip Function applies to the RTBs exclusive of individual trip mechanisms. The LCO requires two OPERABLE trains of trip breakers. A trip breaker train consists of all trip breakers associated with a single RPS logic train that are racked in, closed, and capable of supplying power to the Rod Control System. Thus, the train may consist of the main breaker, bypass breaker, or main breaker and bypass breaker, depending upon the system configuration. Two OPERABLE trains ensure no single random failure can disable the RPS trip capability.

The LCO requires two OPERABLE trains of trip breakers. Two OPERABLE trains ensure no single random failure can disable the RPS trip capability. When a reactor trip breaker is being tested, both reactor trip breaker and the reactor trip bypass breaker associated with the RPS logic train not in test are closed. In this configuration, a single failure in the RPS logic train not in test could disable RPS trip capability; therefore, limits on the duration of testing are established.

These trip Functions must be OPERABLE in MODE 1 or 2 when the reactor is critical. In MODE 3, 4, or 5, these RPS trip Functions must be OPERABLE when the Rod Control System is capable of rod withdrawal or one or more rods are not fully inserted.

(continued)

BASES

ACTIONS

D.1 and D.2 (continued)

As an alternative to the above Actions, the plant must be placed in a MODE where this Function is no longer required OPERABLE. Twelve hours are allowed to place the plant in MODE 3. This is a reasonable time, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging plant systems. If Required Actions cannot be completed within their allowed Completion Times, LCO 3.0.3 must be entered.

The Required Actions have been modified by a Note that allows placing the inoperable channel in the bypass condition for up to 8 hours while performing routine surveillance testing of other channels. The Note also allows placing the inoperable channel in the bypass condition to allow setpoint adjustments of other channels when required to reduce the setpoint in accordance with other Technical Specifications.

Rev 1a delete reference to WCAP 10271 [See JFD CLB.3] R.1a

E.1 and E.2

Condition E applies to the following reactor trip Functions:

- Power Range Neutron Flux - Low;
- Overtemperature ΔT;
- Overpower ΔT;
- Pressurizer Pressure - High;
- SG Water Level - Low Low; and
- SG Water Level - Low coincident with Steam Flow/Feedwater Flow Mismatch.

(continued)

BASES

ACTIONS

E.1 and E.2 (continued)

A known inoperable channel must be placed in the tripped condition within 6 hours. Placing the channel in the tripped condition results in a partial trip condition requiring only one-out-of-two logic for actuation of the two-out-of-three trips and one-out-of-three logic for actuation of the two-out-of-four trips. The 6 hours allowed to place the inoperable channel in the tripped condition is justified in Reference 7.

If the operable channel cannot be placed in the trip condition within the specified Completion Time, the unit must be placed in a MODE where these Functions are not required OPERABLE. An additional 6 hours is allowed to place the unit in MODE 3. Six hours is a reasonable time, based on operating experience, to place the unit in MODE 3 from full power in an orderly manner and without challenging unit systems.

The Required Actions have been modified by a Note that allows placing the inoperable channel in the bypassed condition for up to 8 hours while performing routine surveillance testing of the other channels.

Same as D.1 / D.2 R. / 9

F.1 and F.2

Condition F applies when there are no Intermediate Range Neutron Flux trip channels OPERABLE in MODE 2 when THERMAL POWER is above the P-6 setpoint and below the P-10 setpoint. Required Actions specified in this Condition are only applicable when channel failures do not result in reactor trip. Above the P-6 setpoint and below the P-10 setpoint, the NIS intermediate range detector performs the monitoring Functions. With no intermediate range channels OPERABLE, the Required Actions are to suspend operations involving positive reactivity additions immediately. This will preclude any power level increase since there are no OPERABLE Intermediate Range Neutron Flux channels. The operator must also reduce THERMAL POWER below the P-6 setpoint within two hours. Below P-6, one or both Source Range Neutron Flux channels will be able to monitor the core power level. The Completion Time of

(continued)

BASES

ACTIONS

F.1 and F.2 (continued)

2 hours will allow a slow and controlled power reduction to less than the P-6 setpoint and takes into account the low probability of occurrence of an event during this period that may require the protection afforded by the NIS Intermediate Range Neutron Flux trip.

G.1

Condition G applies when there are no Source Range Neutron Flux trip channels OPERABLE when in MODE 2, below the P-6 setpoint, and in MODE 3, 4, or 5 with the Rod Control capable of rod withdrawal or one or more rods not rods fully inserted. With the unit in this Condition, below P-6, the NIS source range performs the monitoring and protection functions. With both source range channels inoperable, the RTBs must be opened immediately. With the RTB's open, the core is in a more stable condition.

H.1 and H.2

Condition H applies to the following reactor trip Functions:

- Pressurizer Pressure – Low;
- Pressurizer Water Level – High;
- Reactor Coolant Flow – Low;
- RCP Breaker Position (Two Loops);
- Undervoltage RCPs; and
- Underfrequency RCPs.

With one channel inoperable, the inoperable channel must be placed in the tripped condition within 6 hours. Placing the channel in the tripped condition results in a partial trip condition requiring only one additional channel to initiate a reactor trip above the P-7 setpoint for the two loop function and above the P-8 setpoint for the single loop function.

(continued)

BASES

ACTIONS

H.1 and H.2 (continued)

These Functions do not have to be OPERABLE below the P-7 setpoint because there are no loss of flow trips below the P-7 setpoint. The 6 hours allowed to place the channel in the tripped condition is justified in Reference 7. An additional 6 hours is allowed to reduce THERMAL POWER to below P-7 if the inoperable channel cannot be restored to OPERABLE status or placed in trip within the specified Completion Time. The Reactor Coolant Flow-Low (Single Loop) reactor trip does not have to be OPERABLE below the P-8 setpoint; however, the Required Action must take the plant below the P-7 setpoint if the inoperable channel is not tripped within 6 hour because of the shared components between this function and the Reactor Coolant Flow-Low (Two Loop) reactor trip function.

Allowance of this time interval takes into consideration the redundant capability provided by the remaining redundant OPERABLE channel, and the low probability of occurrence of an event during this period that may require the protection afforded by the Functions associated with Condition H.

The Required Actions have been modified by a Note that allows placing the inoperable channel in the bypassed condition for up to 8 hours while performing routine surveillance testing of the other channels.

Same as D.1/D.2 R.1a

I.1 and I.2

Condition I applies to the RCP Breaker Position (Single Loop) reactor trip Function. There is one breaker position device per RCP breaker. With one channel inoperable, the inoperable channel must be restored to OPERABLE status within 6 hours. If the channel cannot be restored to OPERABLE status within the 6 hours, then THERMAL POWER must be reduced below the P-8 setpoint within the next 4 hours.

This places the unit in a MODE where the LCO is no longer applicable. This Function does not have to be OPERABLE below the P-8 setpoint because other RPS Functions provide core protection below the P-8 setpoint. The 6 hours allowed to restore the

(continued)

BASES

ACTIONS

I.1 and I.2 (continued)

channel to OPERABLE status and the 4 additional hours allowed to reduce THERMAL POWER to below the P-8 setpoint are justified in Reference 7.

The Required Actions have been modified by a Note that allows placing the inoperable channel in the bypassed condition for up to 8 hours while performing routine surveillance testing of the other channels. R.1/9

Same as D.1/D.2

J.1 and J.2

Condition J applies to Turbine Trip on Low Auto-Stop Oil Pressure. With one channel inoperable, the inoperable channel must be placed in the trip condition within 6 hours. If placed in the tripped condition, this results in a partial trip condition requiring only one additional channel to initiate a reactor trip. If the channel cannot be restored to OPERABLE status or placed in the trip condition, then power must be reduced below the P-8 setpoint within the next 6 hours. The 6 hours allowed to place the inoperable channel in the tripped condition and the 10 hours allowed for reducing power are justified in Reference 7.

The Required Actions have been modified by a Note that allows placing the inoperable channel in the bypassed condition for up to 8 hours while performing routine surveillance testing of the other channels. R.1/9

Same as D.1/D.2

K.1 and K.2

Condition K applies to the SI Input from ESFAS reactor trip and the RPS Automatic Trip Logic in MODES 1 and 2. These actions address the train orientation of the RPS for these Functions. With one train inoperable, 6 hours are allowed to restore the train to OPERABLE status (Required Action K.1) or the unit must be placed in MODE 3 within the next 6 hours. The Completion Time of 6 hours (Required Action K.1) is reasonable considering that in this Condition, the remaining OPERABLE train is adequate to

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.1.6

SR 3.3.1.6 is a calibration of the excore channels to the incore channels. If the measurements do not agree, the excore channels are not declared inoperable but must be calibrated to agree with the incore detector measurements. If the excore channels cannot be adjusted, the channels are declared inoperable. This Surveillance is performed to verify the f(ΔI) input to the overtemperature ΔT Function.

A Note modifies SR 3.3.1.6. The Note states that this Surveillance is required only if reactor power is > 90% because the requirements of LCO 3.2.3, Axial Flux Difference (AFD), are relaxed significantly below 90% RTP. SR 3.3.1.6 is performed to ensure that the AFD input to the Overtemperature Delta T and the system used to monitor LCO 3.2.3 AFD are within acceptable limits. The limiting AFD is established to provide the required margin when operating at the highest power level. As power level decreases, the thermal limit becomes less sensitive to AFD because the overall margin to the thermal limit increases.

Rev 1 was 31 EFPD STS is [92] See DOC L.5

The Frequency of 92 EFPD is adequate based on operating experience, considering instrument reliability and operating history data for instrument drift. R.19

SR 3.3.1.7

SR 3.3.1.7 is the performance of a COT every 92 days.

A COT is performed on each required channel to ensure the entire channel will perform the intended Function.

Setpoints must be within the Allowable Values specified in Table 3.3.1-1.

The "as found" and "as left" values must also be recorded and reviewed. The difference between the current "as found" values and the previous test "as left" values must be consistent with the drift

(continued)

If requirements for minimum number of channels or minimum level of redundancy are not met, ITS LCO 3.3.1, Required Action E.2 (if there is a loss of redundancy), or ITS LCO 3.0.3 (if there is a loss of function), will allow 6 or 7 hours, respectively, to be in Mode 3.

d. ITS SR 3.3.1.1 is added to require a channel check every 12 hours.

ITS SR 3.3.1.7 is added to require a Channel Operation Test (COT) at a Frequency of 92 days.

ITS SR 3.3.1.10 is added to a Channel Calibration at a Frequency of 24 months.

e. CTS does not establish an allowable value for SG Water Level Low Coincident with Steam Flow/Feedwater Flow Mismatch.

Table 3.3.1-1 identifies the Technical Specification Allowable Value for this trip function as not applicable (NA) because the LCO 3.3.1, Function 13, Steam Generator Water Level-Low Low, is used to bound the analysis for a loss of feedwater event. The allowable values required for OPERABILITY of Function 13 is ≥4.0%. The surveillance acceptance criterion used for Function 14 are ≥7.5% narrow range level and ~~3.3E+5~~ ≤ 1.33 E+6 pounds per hour steam flow/feedwater flow mismatch. NYPA R1a

A.21 **ITS 3.3.1, Function 15, Turbine Trip-Auto Stop Oil Pressure**, is equivalent to CTS 2.3.1.C(3) and CTS Table 3.5-2, Function 12, Turbine Trip: Low auto stop oil pressure. The ITS conversion modifies the CTS requirements for Turbine Trip-Auto Stop Oil Pressure as follows:

a. CTS 2.3.1.C.3 and CTS 2.3.2.B establishes an Applicability for this Function as whenever the reactor is ≥ 50% RTP. ITS requires this function operable in Mode 1 and associated Note (h) specifies that this Function is required only when above the P-8 interlock. Therefore, there is no change to the Applicability of this Function. Amend 192 that the SRM trip and IRM trip are not credited.

ITS 3.3.1 requires that Surveillance Tests be performed at the normal periodic Frequency only and tests are not required to be repeated prior to a specific event, such as a reactor startup. This change is acceptable because the normal periodic Surveillance Frequency is established to provide adequate assurance of the Operability of the instruments that provide these Functions. ITS SR 3.0.4 ensures that the required Surveillances have been performed within the normal specified interval prior to entering an applicable Mode or Condition. Additionally, there are redundant channels and any substantial degradation of the Power Range Neutron Flux-Low of a channel will be evident prior to the scheduled performance of these tests because of the following: Technical Specifications require Channel Checks on redundant Operable channels; and, Power Range Instrument response to reactivity changes is distinctive and well known to plant operators and nuclear instrumentation response is closely monitored during reactivity changes. Therefore, this change has no impact on safety.

L.5 CTS Table 4.1-1, Item 1 (Remark 3 with Note *), requires that the monthly calibration of the power range channels include a comparison of the upper and lower axial offset using the incore detectors. ITS SR 3.3.1.3 maintains the requirement to compare results of the incore detector measurements to NIS AFD; however, the Frequency is extended from once per month to every 31 effective full power days (EFPD). Extending the Frequency for ITS 3.3.1.3 from monthly to every 31 EFPD is acceptable because the SR is intended to detect changes that are a function of core exposure effects as opposed to elapsed time. Therfore it is more appropriate to specify a Frequency based on fuel burnup rather than calendar days. Additionally, CTS Table 4.1-1, Item 1 (Remark 3 with Note *), requires a calibration of the excore channels to the incore channels every month. ITS SR 3.3.1.6 maintains the requirement to calibrate the excore channels to the incore channels; however, the Frequency is extended from once per month to every 92 EFPDs. Extending the Frequency for ITS SR 3.3.1.6 from monthly to every 92 EFPDs is acceptable because this SR is intended to make adjustments for relatively slow changes in flux patterns that are a function of core exposure. Also, SR 3.3.1.3 is still required every 31 EFPD and this SR

R.1a

requires that an adjustment be made if the absolute difference is ≥ 3%. Therefore, the combination of the 'comparison SR' every 31 EFPD and the 'calibration SR' every 92 EFPD provides assurance that the input to the overtemperature delta-T function meets the setpoint calculation assumptions. Operating experience indicates that these Frequencies are appropriate to compensate for the slow changes in neutron flux patterns during this interval. These SRs are not intended to detect flux tilts that occur quickly (e.g., a dropped rod) for which there are other indications of abnormality that prompt a verification of core power tilt. Therefore, this change has no adverse impact on safety. R/9

L.6 CTS Table 3.5-2 (Note ****) establishes requirements to defeat rod withdrawal capability within 1 hour after the reactor is in Mode 3 for 48 hours as a result of an inoperable RTB. Therefore, CTS has an implied Applicability of the Rod Control System is capable of rod withdrawal. ITS requires this function operable if the Rod Control System is capable of rod withdrawal or all rods are not fully inserted (ITS Table 3.3.1-1, Note a). Expansion of the applicability to include whenever all control rods are not fully inserted is a less restrictive change. This change is needed because it provides an alternative to opening the RTBs so that certain SRs can be performed (e.g., COTs on certain channels). This change is acceptable because having all control rods fully inserted meets the intent implied by opening the RTBs. Additionally, required reactor trip functions must be made Operable before any control rod can be withdrawn and the potential for a rod withdrawal event is created. Therefore, this change has no adverse impact on safety.

L.7 NUREG 1431, Rev 1, Section 3.3.1, Condition R for Reactor Trip Breakers contains Note 1 regarding an allowance to bypass one train for up to 2 hours for surveillance testing provided the other train is operable. ITS Condition L for Reactor Trip Breakers adopts the same note. This allowance is not explictly stated in the CTS. However, the CTS establishes requirements for surveillance testing the reactor trip breakers (CTS Table 4.1-1, item39), and the design of the system provides for the use of bypass breakers to allow testing of the RTBs at power as required to meet the surveillance requirement. The 2-hour time period is a reasonable period of time to perform the test and is consistent with the STS allowance. This change has no significant adverse impact on safety because the bypass configuration is a design

Checks on redundant Operable channels; and. Power Range Instrument response to reactivity changes is distinctive and well known to plant operators and nuclear instrumentation response is closely monitored during reactivity changes. Finally. the Power Range Neutron Flux-Low trip is supported by a diverse trip from the IRMs or SRMs which are being added to Technical Specifications as part of the conversion to ITS.

LESS RESTRICTIVE
("L.5" Labeled Comments/Discussions)

New York Power Authority has evaluated the proposed Technical Specification change identified as "Less Restrictive" in accordance with the criteria set forth in 10 CFR 50.92. and has determined that the proposed change does not involve a significant hazards consideration. The bases for the determination that the proposed change does not involve a significant hazards consideration are discussed below.

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

   This change extends the Surveillance Frequency for CTS Table 4.1-1. Item 1 (Remark 3 with Note *). which requires that the monthly calibration of the power range channels include a comparison of the upper and lower axial offset using the incore detectors. ITS SR 3.3.1.3 maintains the requirement to compare results of the incore detector measurements to NIS AFD: however. the Frequency is extended from once per month to every 31 effective full power days (EFPD). Additionally. CTS Table 4.1-1. Item 1 (Remark 3 with Note *). requires a calibration of the excore channels to the incore channels every month. ITS SR 3.3.1.6 maintains the requirement to calibrate the excore channels to the incore channels: however. the Frequency is extended from once per month to 92 EFPDs. R.1 9

   This change will not result in a significant increase in the probability of an accident previously evaluated because Surveillance Frequency is not assumed as the initiator of any accident previously evaluated. This change will not result in a significant increase in the consequences of an accident previously evaluated because these SRs are intended to detect and make adjustments for relatively slow changes in flux patterns that are a function of core exposure. Therefore. the SR Frequency is being changed to a function of core exposure. Operating experience indicates that this Frequency is sufficient to compensate for the slow changes in neutron flux patterns during this interval. These SRs are not intended to detect flux tilts that occur quickly (e.g., a dropped rod) for which there are other indications of abnormality that prompt a verification of core power tilt. | R.1/9

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

   The proposed change will not involve any physical changes to systems, structures, or components, or involve a change in normal plant operation. Therefore, it will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

   This change does not involve a significant reduction in a margin of safety because these SRs are intended to detect and make adjustments for relatively slow changes in flux patterns that are a function of core exposure. Therefore, the SR Frequency is being changed to a function of core exposure with an interval consistent with the current SR Frequency if the plant is operated at full power during the SR interval. The combination of the 'comparison SR' every 31 EFPD and the 'calibration SR' every 92 EFPD provides assurance that the input to the overtemperature delta-T function meets the setpoint calculation assumptions. Operating experience indicates that this Frequency is sufficient to compensate for the slow changes in neutron flux patterns during this interval. These SRs are not intended to detect flux tilts that occur quickly (e.g., a dropped rod) for which there are other indications of abnormality that prompt a verification of core power tilt. R.1/9

LESS RESTRICTIVE
<u>("L.6" Labeled Comments/Discussions)</u>

New York Power Authority has evaluated the proposed Technical Specification change identified as "Less Restrictive" in accordance with the criteria set forth in 10 CFR 50.92, and has determined that the proposed change does not involve a significant hazards consideration. The bases for the determination

JUSTIFICATION OF DIFFERENCES FROM NUREG-1431
ITS SECTION 3.3.1 - REACTOR TRIP SYSTEM (RTS) INSTRUMENTATION

RETENTION OF EXISTING REQUIREMENT (CURRENT LICENSING BASIS)

CLB.1 NUREG-1431, Rev 1, Section 3.3.6, was modified as needed to reflect the IP3 design and current licensing basis. A detailed description of the design, accident analysis assumptions, and Operability requirements are incorporated into the IP3 ITS Bases. These changes maintain the IP3 current licensing basis except as identified and justified in the CTS/ITS discussion of changes.

CLB.2 NUREG-1431, Rev 1, Bases discussion for Note 2 of SR 3.3.1.3 clarifies that a period of 24 hours is allowed to perform the surveillance after reaching the specified power level. The ITS Bases discussion is modified to reflect CTS 3.11.B which requires that the surveillance be performed before the specified power level is reached. The revised wording maintains the IP3 current licensing basis and provides a clearer explanation of the intent of the requirement. At power levels below the specified limit, the surveillance does not need to be performed because the overall margin to fuel thermal limits is increased.

CLB.3 NUREG-1431, Rev 1 identifies WCAP 10271 as the justification for the 4 hour allowance for bypassing an inoperable channel for surveillance testing of other channels. CTS 3.5.4 allows a period of 8 hours. This change maintains the IP3 current licensing basis and is consistent with IP3 design as an analog relay plant as opposed to a solid state protection system (SSPS) plant. R.-9

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT

PA.1 Corrected typographical error or made a minor editorial improvement to improve clarity and ensure requirements are fully understood and consistently applied. There are no technical changes to requirements as specified in NUREG 1431, Rev. 1; therefore, this change is not a significant or generic deviation from NUREG 1431, Rev 1.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN OR DESIGN BASIS

DB.1 Design or implementation details are incorporated or revised as

DOC A.6
(continued)

applicable (NA) because the LCO 3.3.1, Function 2.b, Power Range Neutron Flux-Low, is used to bound the analysis for an uncontrolled control rod assembly withdrawal from a subcritical condition. A Surveillance Acceptance Criterion (SAC) used for evaluating OPERABILITY of this trip function will be maintained in the Bases. The Source Range (Function 4) and Intermediate Range setpoints may be modified based on cycle specific inputs that account for flux level viewed by the detectors for a given core configuration. The settings are selected to maintain an appropriate overlap and to minimize the risk of spurious trips on plant startup. Changes to the setpoints are controlled and documented using plant administrative procedures. The SAC currently in place for the intermediate range instrument channel is a detector current that is equivalent to ≤ 28% power. This value is consistent with the CTS Bases setpoint value of 'approximately 25%'. R.1/9

Each of the changes described above is an administrative change with no adverse impact on safety except as noted with a cross reference to the associated description and justification.

A.7 **ITS 3.3.1, Function 4, Source Range Neutron (SRM) Flux (trip)**, is not identified as a safety limit or limiting condition of operation in the CTS because SRM trip Function is assumed to be a backup to Power Range Neutron Flux-Low trip in the transient and accident analysis (FSAR Section 14).

a. ITS 3.3.1, Function 4, SRM Flux (trip), is required to be Operable in Mode 2 below the P-6 (IRM interlock) setpoint, and in Modes 3, 4 and 5 when the rod control system is capable of rod withdrawal or any rod is not fully inserted. The NIS source range detectors do not provide any inputs to control systems. The source range trip is the only RPS automatic protection function required in MODES 3, 4, and 5. Therefore, the functional capability at the specified Trip Setpoint is assumed to be available.

b. ITS 3.3.1, Function 4, SRM Flux (trip), will require one channel of the SRM trip function. This requirement is added to the ITS because it provides redundant protection to the Power Range

Doc A.7
(continued)

ITS 3.3.1. Function 4. within 4 hours after entering Mode 3 from Mode 2 and every 92 days thereafter. This change is needed because the source range trip is the only RPS automatic protection function required in MODES 3. 4. and 5 (See ITS 3.3.1. DOC M.4).

CTS Table 4.1-1. Item 3. does not include an explicit requirement Channel Calibration of the SRM Flux (trip) although the trip setpoints are verified as part of the operational test. ITS SR 3.3.1.11 is added to require a Channel Calibration of the Source Range Neutron Flux trip function every 24 months. This is a more restrictive change (See ITS 3.3.1. DOC M.7).

e. CTS 2.3 does not establish a limiting safety system setting (allowable value) for the SRM Flux (trip) function although the CTS Bases indicate that the setpoint is equivalent to approximately 1.0 E+5 counts per second.

Table 3.3.1-1 identifies the Technical Specification Allowable Value for this trip function as not applicable (NA) because the LCO 3.3.1. Function 2.b. Power Range Neutron Flux-Low. is used to bound the analysis for an uncontrolled control rod assembly withdrawal from a subcritical condition. A Surveillance Acceptance Criterion (SAC) used for evaluating OPERABILITY of this trip function will be maintained in the Bases. The Source Range and Intermediate Range (Function 3) setpoints may be modified based on cycle specific inputs that account for flux level viewed by the detectors for a given core configuration. The settings are selected to maintain an appropriate overlap and to minimize the risk of spurious trips on plant startup. Changes to the setpoints are controlled and documented using plant administrative procedures. The SAC currently in place for the source range instrument channel is $\leq$ 6.0E+5 counts per second. This value is consistent with the CTS Bases setpoint value of 'approximately 1.0 E+5 cps'. particularly considering the fact that the source range instrumentation is a logarithmic scale. R/9

A.8 **ITS 3.3.1, Function 5, Overtemperature delta** T. is equivalent to CTS 2.3.1.B(4) and CTS Table 3.5-2. Function 3. Overtemperature delta T. The

DOC A.28 (continued)

d. CTS Table 4.1-1, Item 1 (Remark 2), Nuclear Power Range, requires the testing for the P-8 Interlock consistent with the requirements for testing Nuclear Power Range instruments. ITS SR 3.3.1.11 and ITS SR 3.3.1.13 maintain this requirement and require periodic Channel Operation Test and Channel Calibrations for this interlock.

e. CTS 2.3.2.B establishes the trip setpoints for the P-8 interlock at nuclear flux ≤ 50% of rated power. The allowable value is NA for this Function because there is no corresponding analytical limit modeled in the accident analysis. A turbine trip causes a reactor trip, when operating at or above the P-8 setpoint. Although site specific analyses support a P-8 setting of up to 50% power, the actual implemented setting is well below 50% to provide additional conservatism. Therefore, the surveillance acceptance criterion currently in use based on the actual implemented setpoint is ≤35% RTP. R.19

Each of the changes described above is an administrative change with no adverse impact on safety except as noted with a cross reference to the associated description and justification.

A.29 **ITS 3.3.1, Function 17.d, Power Range Neutron Flux (P-10)**, is an interlock that automatically enables ITS 3.3.1, Function 2.b, Power Range Neutron Flux-Low (trip) and ITS 3.3.1, Function 3, Intermediate Range Neutron Flux (trip) on decreasing power. This interlock also provides a permissive to block the SRM, IRM and the Power Range Neutron Flux-Low trips when increasing reactor power. This interlock automatically enforces requirements established by CTS 2.3.2.A.1 by serving as an input to P-7. The P-10 interlock is actuated at approximately 10% RTP as determined by two-out-of-four NIS power range detectors. ITS 3.3.1, Table 3.3.1-1, maintains these requirements as follows:

a. ITS 3.3.1, Function 17.d, P-10, is required to be Operable in Modes 1 and 2 to ensure that P-10 performs it design function of ensuring that SRM, IRM and the PR Neutron Flux-Low trips are actuated when required and can be blocked only when not needed.

DOC A.29
(continued)

DISCUSSION OF CHANGES
ITS SECTION 3.3.1 - REACTOR PROTECTION SYSTEM (RPS) INSTRUMENTATION

b. ITS 3.3.1, Function 17.d, requires 4 Operable channels of the P-10 function. Therefore, there is no change to the existing requirements.

c. ITS 3.3.1, Required Action M.1, specifies that if a channel is inoperable, the verify interlock is in the required state for plant conditions. Therefore, this requires that the ITS 3.3.1 Functions enabled by this interlock are Operable when required. Therefore, there is no change to the existing requirements.

d. CTS Table 4.1-1, Item 1 (Remark 2), Nuclear Power Range, requires the testing for the P-10 Interlock consistent with the requirements for testing Nuclear Power Range instruments. ITS SR 3.3.1.11 and ITS SR 3.3.1.13 maintain this requirement and require periodic Channel Operation Test and Channel Calibrations for this interlock.

e. CTS 2.3.2.A establishes the trip setpoints for the P-10 interlock at nuclear flux < 10% of rated power. This value was established based on Indian Point Nuclear Generating Station Unit No. 3 Plant Manual Volume VI: Precautions, Limitations, and Setpoints, March 1975, and are considered conservative. The allowable value is NA for this Function because there is no corresponding analytical limit modeled in the accident analysis. The surveillance acceptance criterion used for this Function is ≤ 9% RTP. R/9

Each of the changes described above is an administrative change with no adverse impact on safety except as noted with a cross reference to the associated description and justification.

A.30 **ITS 3.3.1, Function 17.e, Turbine First Stage Pressure (P-7 Input)**, is one of the inputs to the P-7 interlock which is an interlock that enables various Reactor Protection System trips that are required only when operating above the P-7 setpoint (approximately 10% power) and disabling these trip when reactor power is below the P-7 setpoint. This interlock automatically enforces requirements established by CTS 2.3.2.A.2. ITS 3.3.1, Table 3.3.1-1, maintains these requirements as follows:

a. ITS 3.3.1, Function 17.d, is required to be Operable in Mode 1 to ensure that P-7 performs it design function of ensuring that the various ITS 3.3.1 Functions enabled by this interlock are enabled before exceeding the P-7 setpoint.

b. ITS 3.3.1, Function 17.b, requires 2 Operable channels of the Turbine First Stage Pressure (P-7 Input) function.

c. ITS 3.3.1, Required Action N.1, specifies that if a channel is inoperable, the verify interlock is in the required state for plant conditions. Therefore, this requires that the various ITS 3.3.1 Functions enabled by this interlock are Operable when required.

d. CTS Table 4.1-1, Item 19, Turbine First Stage Pressure, requires daily Channels Checks, quarterly Channel Operational Tests, and 24 month Channels Calibrations. ITS SR 3.3.1.1, ITS SR 3.3.1.11 and ITS SR 3.3.1.13 maintain these requirements at the existing Frequency.

e. CTS 2.3.2.A.2 establishes the trip setpoints for the Turbine First Stage Pressure (P-7 Input) interlock at nuclear flux > 10% of rated power. This value was established based on Indian Point Nuclear Generating Station Unit No. 3 Plant Manual Volume VI: Precautions, Limitations, and Setpoints, March 1975, and are considered conservative. The allowable value is NA for this Function because there is no corresponding analytical limit modeled in the accident analysis. The surveillance acceptance criterion used for this Function is $\leq$ 9.5% RTP. R/9

Each of the changes described above is an administrative change with no adverse impact on safety except as noted with a cross reference to the associated description and justification.

A.31 CTS 3.5.2 specifies that plant operation shall be permitted to continue in accordance with Tables 3.5-2 through 3.5-4 for instrumentation testing or instrumentation channel failure; and, no more than one channel of a particular protection channel set shall be tested at the same time. ITS establishes equivalent requirements and allowances by nuclear flux ≥ 10% of rate power; or, (2) Turbine first stage pressure ≥ 10% of equivalent full load. This combination of requirements is defined as the P-7 interlock. Part (1) of this interlock, Power range nuclear flux ≥ 10% of rate power, is the P-10 interlock. Therefore, CTS table 3.5-2, Item 8(b), should specify the applicability using the P-7 interlock. This CTS error had no impact on plant safety because of the following: the P-7 and P-10 interlock have the same setpoint; the plant design correctly provides the interlock based on P-7; the FSAR correctly describes this feature and associated requirements. This discrepancy is corrected in ITS Function 9.b, Note (g). Neither the typographical error or this change have any impact on safety.

A.36 CTS Tables 3.5-2, 3.5-3 and 3.5-4 establish minimum requirements for protective instrumentation Operability and specifies the Required Actions if these requirements are not met. Typically, these Required Actions specify proceed to or "maintain hot shutdown." ITS LCO 3.3.1 and ITS LCO 3.3.2 specify specific Required Actions are designed to place the plant outside the Applicable Modes or conditions. This is an administrative change with no impact on safety because it is a reasonable interpretation of the existing requirement.

A.37 CTS 3.5.4 allows a channel to be bypassed for up to 8 hours for testing without taking Actions for an inoperable channel if Function trip capability is maintained. ITS LCO 3.3.1, Notes to various Required Actions, maintains this allowance for surveillance testing and setpoint adjustment of other channels. The 8-hour bypass allowance of CTS 3.5.4 is being maintained in ITS based on CLB.

~~Additionally, ITS LCO 3.3.1, Note 2 to Actions, clarifies this allowance as follows: When a channel or train is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 8 hours provided the associated Function maintains RPS trip capability.~~

Deleted -- consistent with RAI 3.33.1-02

This is an administrative change with no adverse impact on safety because it is a reasonable interpretation of the equivalent CTS requirement in CTS 3.5.4.

ITS 3.3.2 -- Rev 1a

Update to IP3 ITS Conversion Package

Rev 1a changes annotated on ITS clean pages.

B 3.3 INSTRUMENTATION

B 3.3.2 Engineered Safety Feature Actuation System (ESFAS) Instrumentation

BASES

BACKGROUND

The ESFAS initiates necessary safety systems, based on the values of selected unit parameters, to protect against violating core design limits and the Reactor Coolant System (RCS) pressure boundary, and to mitigate accidents.

The ESFAS instrumentation is segmented into three distinct but interconnected modules as identified below:

- Field transmitters or process sensors and instrumentation: provide a measurable electronic signal based on the physical characteristics of the parameter being measured;

- Signal processing equipment including analog protection system, field contacts, and protection channel sets: provide signal conditioning, bistable setpoint comparison, process algorithm actuation, compatible electrical signal output to protection system devices, and control board/control room/ miscellaneous indications; and

- ESFAS automatic initiation relay logic: initiates the proper engineered safety feature (ESF) actuation in accordance with the defined logic and based on the bistable outputs from the signal process control and protection system.

Field Transmitters or Sensors

To meet the design demands for redundancy and reliability, more than one, and often as many as four, field transmitters or sensors are used to measure unit parameters. In many cases, field transmitters or sensors that input to the ESFAS are shared with the Reactor Protection System (RPS). In some cases, the same channels also provide control system inputs. To account for calibration tolerances and instrument drift, which are assumed to

(continued)

[Function 1e, continued]

APPLICABLE SAFETY ANALYSES, LCO and APPLICABILITY (continued)

- SLB; and
- Inadvertent opening of an ADV or an SG safety valve.

High Differential Pressure Between Steam Lines provides no input to any control functions. Thus, three OPERABLE channels on each steam line are sufficient to satisfy the requirements, with a two-out-of-three logic on each steam line.

With the transmitters located inside the auxiliary feed pump room, it is possible for them to experience adverse environmental conditions during a HELB event. Therefore, the surveillance acceptance criterion reflects both steady state and adverse environmental instrument uncertainties.

Steam line high differential pressure must be OPERABLE in MODES 1, 2, and 3 when a secondary side break or stuck open valve could result in the rapid depressurization of the steam line(s). This Function is not required to be OPERABLE in MODE 4, 5, or 6 because there is not sufficient energy in the secondary side of the unit to cause an accident.

Rev 1 was ≤ 142; See DOC A.7

The surveillance acceptance criterion used for this function is ≤132 psid. R.19

f, g. <u>Safety Injection-High Steam Flow in Two Steam Lines Coincident With T_{avg}-Low or Coincident With Steam Line Pressure-Low</u>

These Functions (1.f and 1.g) provide protection against the following accidents:

- SLB; and
- the inadvertent opening of a SG safety valve.

(continued)

every 24 months which maintains the existing requirement and Frequency. Therefore, there is no change to the CTS Surveillance requirements or the associated Frequency.

CTS allowances for bypassing channels and deferring entry into Conditions and Required Actions during testing are maintained (See ITS 3.3.2, DOC A.36).

e. CTS Table 3.5-1, Item 3, establishes the allowable value for Pressurizer Low Pressure at ≥1700 psig. ITS 3.3.2, Function 1.d, Safety Injection-Pressurizer Pressure-Low, establishes the allowable value at ≥1690 psig because ITS uses allowable values calculated in accordance with Engineering Standards Manual IES-3 and IES-3B, Instrument Loop Accuracy and Setpoint Calculation Methodology (IP3) (See ITS 3.3.1, DOC L.1).

f. Confirmation of the applicability of WCAP-10271 to the Indian Point 3 design and operation has already been confirmed by NYPA and reviewed by the NRC as part of Technical Specification Amendment 107, dated March 22, 1991.

Each of the changes described above is an administrative change with no adverse impact on safety except as noted with a cross reference to the associated justification.

A.7 **ITS 3.3.2, Function 1.e. Safety Injection-High Differential Pressure Between Steam Lines**, is equivalent to CTS Table 3.5-1, Item 4, and CTS Table 3.5-3, Item 1.c, (Safety Injection) High Differential Pressure Between Steam Lines. The ITS conversion modifies the CTS requirements as follows:

a. CTS 3.5.1 establishes the Applicability for Engineered Safety Features initiation instrumentation as whenever the plant is not in the cold shutdown condition. ITS requires this function operable in Modes 1, 2 and 3 (i.e., Tavg ≥ 350°F). This is a less restrictive change because ITS 3.3.2 does not require automatic initiation capability for Safety Injection in Mode 4 (See 3.3.2. DOC L.4).

b. CTS Table 3.5-3 specifies that the IP3 design includes 3 channels per steam line and that 2 channels per steam line in any steam line will cause actuation. CTS Table 3.5-3 requires 2 operable channels in each steam line with a minimum degree of redundancy of 1 channel per steam line. This combination creates a requirement for 3 channels per steam line with no more than 1 channel per steam line in trip and enforces an unstated requirement that an inoperable channel be placed in trip (See ITS 3.3.2. DOC A.34).

   ITS 3.3.2. Function 1.e. restates the requirement for minimum operable channels as 3 channels per steam line and associated Required Action D.1 requires that an inoperable channel be tripped. Therefore. there is no change to the existing requirements for minimum number of operable channels or minimum degree of redundancy.

c. (See ITS 3.3.2. DOC A.5.c for a discussion of Required Actions.)

d. CTS Table 4.1-1. Item 18. Steam Line Pressure. requires a channel check every shift. a channel test every quarter. and a channel calibration every 24 months. ITS SR 3.3.2.1 requires a channel check every 12 hours which maintains the existing requirement and Frequency: ITS SR 3.3.2.4 requires a channel operational test every 92 days which maintains the existing requirement and Frequency: and. ITS SR 3.3.2.7 requires a channel calibration every 24 months which maintains the existing requirement and Frequency. Therefore. there is no change to the CTS Surveillance requirements or the associated Frequency.

   CTS allowances for bypassing channels and deferring entry into Conditions and Required Actions during testing are maintained (See ITS 3.3.2. DOC A.36).

e. CTS Table 3.5-1, Item 4, (Safety Injection) High Differential Pressure Between Steam Lines, establishes the allowable value at ≤150 psi. ITS 3.3.2, Function 1.e, Safety Injection-High Differential Pressure Between Steam Lines, states 'NA' for allowable value because there is no safety analysis analytical limit for this function. Alternatively, the actual surveillance acceptance criterion (≤ 132 psid) used for perfomance monitoring of this instrument loop is stated in the Bases. This value is conservative with respect to the CTS 'allowable value'.

f. Confirmation of the applicability of WCAP-10271 to the Indian Point 3 design and operation has already been confirmed by NYPA and reviewed by the NRC as part of Technical Specification Amendment 107, dated March 22, 1991.

Each of the changes described above is an administrative change with no adverse impact on safety except as noted with a cross reference to the associated justification.

A.8 **ITS 3.3.2, Function 1.f, Safety Injection-High Steam Flow in Two Steam Lines Coincident with Tavg-Low**, is equivalent to CTS Table 3.5-1, Item 5.a, and CTS Table 3.5-3, Item 1.e.1 (Safety Injection) High Steam Flow in 2/4 Steam Lines Coincident with Low Tavg. The ITS conversion modifies the CTS requirements as follows:

a. CTS 3.5.1 establishes the Applicability for Engineered Safety Features initiation instrumentation as whenever the plant is not in the cold shutdown condition and CTS Table 3.5-3 establishes an implied Applicability by requiring either plant be in cold shutdown (Mode 5) or all MSIVs closed if requirements cannot be met. ITS 3.3.2 requires this function operable in Mode 1 and in Modes 2 and 3 unless all MSIVs are closed. This is a less restrictive change because ITS 3.3.2 does not require automatic initiation capability for Safety Injection in Mode 4 (See 3.3.2, DOC L.4).

BASES

APPLICABLE SAFETY ANALYSES, LCO and APPLICABILITY (continued)

This is acceptable because this is a backup method for starting AFW and other Functions, in particular SG Water Level – Low Low, provide the primary protection against a loss of heat sink. The LCO requires one Operable channel for each operating MBFP. A trip of either MBFW pump starts both motor driven AFW pumps to ensure that at least one SG is available with water to act as the heat sink for the reactor.

Function 6.e must be OPERABLE in MODES 1 and 2. This ensures that at least one SG is provided with water to serve as the heat sink to remove reactor decay heat and sensible heat in the event of loss of normal feedwater. In MODES 3, 4, and 5, the MBFW pumps are shut down, and thus MBFW pump trip does not require automatic AFW initiation.

7. ESFAS Interlock-Pressurizer Pressure

The Pressurizer Pressure interlock permits a normal unit cooldown and depressurization without actuation of SI. With two-out-of-three pressurizer pressure channels (discussed previously) less than the setpoint, the operator can manually block the Pressurizer Pressure-Low SI signal. With two-out-of-three pressurizer pressure channels above the setpoint, the Pressurizer Pressure-Low SI signal is automatically enabled. The operator can also enable these trips by use of the respective manual blocking switches.

This Function must be OPERABLE in MODES 1, 2, and 3 to allow an orderly cooldown and depressurization of the unit without the actuation of SI. The interlock Functions back up manual actions to ensure bypassable functions are in operation under the conditions assumed in the safety analyses. This Function does not have to be OPERABLE in MODE 4, 5, or 6 because system pressure must already be below the setpoint for the requirements of the heatup and cooldown curves to be met.

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES, LCO and APPLICABILITY (continued)

Rev 1 was ≤1980 See Doc A.30

The surveillance acceptance criterion for this function is ≤1884 psig.

R.19

The ESFAS instrumentation satisfies Criterion 3 of 10 CFR 50.36.

ACTIONS

A Note has been added in the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed on Table 3.3.2-1.

In the event a channel's trip setpoint is found nonconservative with respect to the Allowable Value, or the transmitter, instrument Loop, signal processing electronics, or bistable is found inoperable, then all affected Functions provided by that channel must be declared inoperable and the LCO Condition(s) entered for the protection Function(s) affected. When the Required Channels in Table 3.3.2-1 are specified (e.g., on a per steam line, per loop, per SG, etc., basis), then the Condition may be entered separately for each steam line, loop, SG, etc., as appropriate.

When the number of inoperable channels in a trip function exceed those specified in one or other related Conditions associated with a trip function, then the unit is outside the safety analysis. Therefore, LCO 3.0.3 should be immediately entered if applicable in the current MODE of operation.

A.1

Condition A applies to all ESFAS protection functions.

Condition A addresses the situation where one or more channels or trains for one or more Functions are inoperable at the same time. The Required Action is to refer to Table 3.3.2-1 and to take the Required Actions for the protection functions affected. The Completion Times are those from the referenced Conditions and Required Actions.

(continued)

function.

f. The IP3 plant design for this Function is not addressed in WCAP-10271 even after requirements were revised to require 1 channel per operating main feed pump. However, the allowable out of service times and surveillance test intervals are more conservative than CTS requirements (See 3.3.2, DOC M.4), accident scenarios are protected by Functions addressed in WCAP-10271, and the requirements specified in ITS 3.3.2 are consistent with plant design as described in the FSAR.

A.30 **ITS 3.3.2, Function 7, ESFAS Interlocks-Pressurizer Pressure**, is equivalent to CTS Table 3.5-3, Item 1.f, Pressurizer Low Pressure (Automatic Unblock), and CTS 3.5.5. The ITS conversion modifies the CTS requirements as follows:

a. (See ITS 3.3.2, DOC A.6.a and DOC L.4 for changes to the Applicability.)

b. (See ITS 3.3.2, DOC A.6.b for changes to the number of required channels.)

c. CTS Table 3.5-3, Note 5, specifies that the Minimum Number of Operable Channels and the Minimum Degree of Redundancy may be reduced to zero if the SI bypass is in the unblocked position. ITS 3.3.2, Required Action K.1, maintains thins requirement by requiring that if one or more channels are inoperable, then verify the interlock is in the required state for existing plant conditions. If this requirement cannot be met, then the shutdown requirements for an inoperable Pressurizer Pressure-Low Function are Applicable (See ITS 3.3.2, DOC A.6.c).

d. (See ITS 3.3.2, DOC A.6.d for changes to surveillance testing requirements.)

e. CTS 3.5.5 specifies that low pressurizer pressure safety injection trip shall be unblocked when the pressurizer pressure is > 2000 psig. ITS 3.3.2, Function 7, ESFAS Interlocks- Pressurizer Pressure, states 'NA' for allowable value because there is no safety analysis analytical limit for this function. Alternatively, the actual surveillance acceptance criterion (≤ 1980 psig) used for perfomance monitoring of this instrument loop is stated in the Bases. This value is conservative with respect to CTS 3.5.5 because the requirement is to ensure that above 2000 psig, the pressurizer pressure safety injection trip is not blocked.

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A.31 CTS 3.5.2 specifies that plant operation shall be permitted to continue in accordance with Tables 3.5-2 through 3.5-4 for instrumentation testing or instrumentation channel failure; and, no more than one channel of a particular protection channel set shall be tested at the same time. ITS establishes equivalent requirements and allowances by establishing specific Required Actions for each Function. Specifically, ITS 3.3.1, Required Actions and associated Notes establishing time limits for testing, always require verification that the inoperable channel does not result in a loss of trip Function before allowable out of service time may be applied for testing or inoperability. Additionally, ITS Required Action Notes limit the number of channels made inoperable by testing by requiring that the trip function be maintained during testing (although redundancy may be lost). This is an administrative change with no impact on safety because there is no change to the existing requirements.

A.32 The Actions for ITS 3.3.2, Engineered safety Feature Actuation System (ESFAS) Instrumentation, are preceded by a Note that specifies: "Separate Condition entry is allowed for each Function." This allowance provides explicit recognition that the ITS is designed to allow completely separate re-entry into any Condition for each train and/or channel addressed by the Condition. This includes separate tracking of Completion Times based on this re-entry. This allowance is consistent with an unstated assumption in the CTS. Therefore, the addition of this Note is an administrative change with no impact on safety.

BASES

ACTIONS

C.1, C.2.1 and C.2.2 (continued)

- Containment Spray;
- Phase A Isolation; and
- Phase B Isolation.

This action addresses the train orientation of the relay logic and the master and slave relays. If one train is inoperable, 6 hours are allowed to restore the train to OPERABLE status. The specified Completion Time is reasonable considering that there is another train OPERABLE, and the low probability of an event occurring during this interval. If the train cannot be restored to OPERABLE status, the unit must be placed in a MODE in which the LCO does not apply. This is done by placing the unit in at least MODE 3 within an additional 6 hours (12 hours total time) and in MODE 5 within an additional 30 hours (42 hours total time). The 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.

The Required Actions are modified by a Note that allows one train to be bypassed for up to 8 hours for surveillance testing, provided the other train is OPERABLE.

Rev 1a deletes reference to WCAP-10271-P-A (REF 7)

D.1, D.2.1 and D.2.2

[See JFD CLB-2]

P. 1/9

Condition D applies to:

- Containment Pressure-High;
- Pressurizer Pressure-Low;
- High Differential Pressure Between Steam Lines;
- High Steam Flow in Two Steam Lines Coincident With T_{avg}-Low or Coincident With Steam Line Pressure-Low; and

(continued)

BASES

ACTIONS

D.1, D.2.1 and D.2.2 (continued)

The 6 hours allowed to restore the channel to OPERABLE status or to place the inoperable channel in the tripped condition, is justified in Reference 7.

Rev 1a deletes reference to WCAP-10271-P-A for 8 hours [JFD CLB 2]

R.19

E.1, E.2.1 and E.2.2

Condition E applies to:

- Steam Line Isolation Containment Pressure-(High High);
- Containment Spray Containment Pressure-(High, High); and
- Containment Phase B Isolation Containment Pressure-(High, High).

The IP3 design for the Containment Pressure (High High) ESFAS Function consists of 2 sets of 3 channels. This design requires that 2 channels from each set of 3 are energized to actuate the Containment Spray or Steam Line Isolation Functions. This configuration provides sufficient redundancy to prevent a single failure from causing or preventing containment spray initiation or steamline isolation even when testing with one inoperable channel per set already in trip.

Note that Condition E applies only when no more than one channel in one or both sets is inoperable. Otherwise, entry into LCO 3.0.3 is required. This is required because two inoperable channels from the same set that fail low could result in a loss of containment spray initiation or steamline isolation when a Containment Pressure (High High) ESFAS initiation is required. Additionally, this ensures that no more than one channel per set can be placed in trip which is required to decrease the probability of an inadvertent actuation of containment spray or steamline isolation if additional channels fail high.

An inoperable channel is placed in trip within 6 hours to limit the amount of time that a single failure of a different channel on the same set could result in the failure of containment spray or steamline isolation to actuate.

(continued)

BASES

ACTIONS

E.1, E.2.1 and E.2.2 (continued)

With no more than one channel from each set in trip, a single failure will not cause or prevent containment spray initiation or steamline isolation. Failure to place an inoperable channel in trip within 6 hours, requires the unit be placed in MODE 3 within the following 6 hours and MODE 4 within the next 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. In MODE 4, these Functions are no longer required OPERABLE.

The Required Actions are modified by a Note that allows one additional channel to be bypassed for up to 8 hours for surveillance testing.

Rev 1a delete reference to WCAP-10271

F.1, F.2.1 and F.2.2 [JFD CLB 2] R.1/9

Condition F applies to:

- Manual Initiation of Steam Line Isolation; and
- Loss of Offsite Power (Non Safety Injection).

For the manual MSIV isolation Function, each MSIV will close if either of the two channels required per MSIV is tripped. If one channel is inoperable, the ability to tolerate a single failure is lost but manual isolation capability is maintained. Therefore, an inoperable channel cannot be placed in trip without causing an actuation and the inoperable channel must be restored to Operable to restore single failure protection. Additionally, since a single switch actuates both channels for each MSIV, the failure of a manual switch may result in the failure of both channels and a loss of Function. The specified Completion Time, 48 hours to restore an inoperable channel, is reasonable considering that there are two automatic actuation trains and another manual initiation train OPERABLE for each MSIV, and the low probability of an event occurring during this interval. Each MSIV is considered a separate Function.

(continued)

BASES

ACTIONS

G.1, G.2.1 and G.2.2 (continued)

OPERABLE, and the low probability of an event occurring during this interval. If the train cannot be returned to OPERABLE status, the unit must be brought to MODE 3 within the next 6 hours and MODE 4 within the following 6 hours unless the plant can be placed outside of the Applicable MODE or Conditions by other means (e.g., shutting all MSIVs). 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. Placing the unit in MODE 4 removes all requirements for OPERABILITY of the protection channels and actuation functions. In this MODE, the unit does not have analyzed transients or conditions that require the explicit use of the protection functions noted above.

The Required Actions are modified by a Note that allows one train to be bypassed for up to 8 hours for surveillance testing provided the other train is OPERABLE.

Rev in deletes reference to WCAP-10271-P-A [JFD CLB 2]

R.1/9

H.1 and H.2

Condition H applies to the automatic actuation logic and actuation relays for the Feedwater Isolation Function.

This action addresses the train orientation of the relay logic and the actuation relays for this Function. If one train is inoperable, 6 hours are allowed to restore the train to OPERABLE status or the unit must be placed in MODE 3 within the following 6 hours unless the plant can be placed outside of the Applicable MODE or Conditions by other means (e.g., shutting all MBFPDVs or MBFRVs and associated bypass valves). The Completion Time for restoring a train to OPERABLE status is reasonable considering that there is another train OPERABLE, and the low probability of an event occurring during this interval. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging unit

(continued)

BASES

ACTIONS

H.1 and H.2 (continued)

systems. These Functions are no longer required in MODE 3. Placing the unit in MODE 3 removes all requirements for OPERABILITY of the protection channels and actuation functions. In this MODE, the unit does not have analyzed transients or conditions that require the explicit use of the protection functions noted above.

The Required Actions are modified by a Note that allows one train to be bypassed for up to 8 hours for surveillance testing provided the other train is OPERABLE.

Rev 1a delete reference to WCAP-10271-P-A [JFD CLB-2] R.1/9

I.1, I.2 and J.1

Condition I applies to the AFW pump start on trip of either Main Boiler Feedwater pump.

The OPERABILITY of the AFW System must be assured by allowing automatic start of the AFW System pumps. The single channel associated with each operating MBFP will start both motor driven AFW pumps. However, there is no single failure tolerance for this Function unless both MBFPs are operating. Therefore, when a channel is inoperable, Required Action I.1, verifies that one channel associated with an operating MBFP is OPERABLE to ensure that there is no loss of function. Otherwise, entry into LCO 3.0.3 is required. If both MBFPs are operating, Required Action I.2 allows 48 hours to restore redundancy by requiring one channel associated with each operating MBFP to be OPERABLE. Continued operation without redundant channels for 48 hours is acceptable because this is a backup method for starting AFW and other Functions, in particular SG Water Level – Low Low, provide the primary protection against a loss of heat sink.

If the function cannot be returned to an OPERABLE status, 6 hours are allowed by Required Action J.1 to place the unit in MODE 3.

(continued)

JUSTIFICATION OF DIFFERENCES FROM NUREG-1431
ITS SECTION 3.3.2 - ENGINEERED SAFETY FEATURE ACTUATION SYSTEM
(ESFAS) INSTRUMENTATION

RETENTION OF EXISTING REQUIREMENT (CURRENT LICENSING BASIS)

CLB.1 NUREG-1431, Rev 1, Section 3.3.2, was modified as needed to reflect the IP3 design and current licensing basis. A detailed description of the design, accident analysis assumptions, and Operability requirements are incorporated into the IP3 ITS Bases. These changes maintain the IP3 current licensing basis except as identified and justified in the CTS/ITS discussion of changes.

CLB.2 NUREG-1431, Rev 1 identifies WCAP 10271 as the justification for the 4 hour allowance for bypassing an inoperable channel for surveillance testing of other channels. CTS 3.5.4 allows a period of 8 hours. This change maintains the IP3 current licensing basis and is consistent with IP3 design as an analog relay plant as opposed to a solid state protection system (SSPS) plant. Rev 1/9

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT

PA.1 Corrected typographical error or made a minor editorial improvement to improve clarity and ensure requirements are fully understood and consistently applied. There are no technical changes to requirements as specified in NUREG 1431, Rev. 1; therefore, this change is not a significant or generic deviation from NUREG 1431, Rev 1.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN OR DESIGN BASIS

DB.1 Design or implementation details are incorporated or revised as necessary to more precisely describe IP3 current design or practice. These changes are intended to describe the design, improve clarity, or ensure requirements are fully understood and consistently applied. Unless identified and described blow, these changes are self-explanatory. A detailed description of the design, accident analysis assumptions, and Operability requirements are incorporated into the IP3 ITS Bases. These changes maintain the IP3 current licensing basis except as identified and justified in the CTS/ITS discussion of changes.

ITS 3.4.12 -- Rev 1a

Update to IP3 ITS Conversion Package

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.12.6 (continued)

setpoint. The COT will verify the setpoint is within the allowed maximum limits in Figure 3.4.12-1. PORV actuation could depressurize the RCS and is not required.

The 24 month Frequency considers the demonstrated reliability of the Overpressure Protection System and the PORVs.

A Note has been added indicating that this SR is required to be met 12 hours after decreasing RCS cold leg temperature to < 319 °F. The COT cannot be performed until in the LTOP MODES when the PORV lift setpoint can be reduced to the LTOP setting. The test must be performed within 12 hours after entering the LTOP MODES.

SR 3.4.12.7

Performance of a CHANNEL CALIBRATION on each required PORV actuation channel is required every 18 months. Performance of a CHANNEL CALIBRATION of RCS pressure and temperature instruments that support the Overpressure Protection System is required every 24 months. These calibrations verify both the OPS and PORV function and ensure the OPERABILITY of the whole channel so that it responds and the valve opens within the required range and accuracy to known input.

SR 3.4.12.8 and SR 3.4.12.9

The RCP starting prerequisites must be satisfied prior to starting or jogging any reactor coolant pump (RCP) when low temperature overpressure protection is required. The RCP starting prerequisites prevent an overpressure event due to thermal transients when an RCP is started. Plant conditions prior to the RCP start determines whether SR 3.4.12.8 or SR 3.4.12.9 must be satisfied prior to starting any RCP.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.12.~~6~~ 5 (continued)

The 72 hour Frequency is considered adequate ~~in view of~~ other administrative controls available to the operator in the control room, such as valve position indication, that verify that the PORV block valve remains open.

Insert: B3.4-71-01

~~SR 3.4.12.7~~

~~Each required RHR suction relief valve shall be demonstrated OPERABLE by verifying its RHR suction valve and RHR suction isolation valve are open and by testing it in accordance with the Inservice Testing Program. (Refer to SR 3.4.12.4 for the RHR suction valve Surveillance and for a description of the requirements of the Inservice Testing Program.) This Surveillance is only performed if the RHR suction relief valve is being used to satisfy this LCO.~~

~~Every 31 days the RHR suction isolation valve is verified locked open, with power to the valve operator removed, to ensure that accidental closure will not occur. The "locked open" valve must be locally verified in its open position with the manual actuator locked in its inactive position. The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve position.~~

SR 3.4.12.~~8~~ 6

R.1a

24 month

Performance of a COT is required within 12 hours after decreasing RCS temperature to ~~≤ [275]~~ < 319 °F and every 31 days on each required PORV to verify and, as necessary, adjust its lift setpoint. The COT will verify the setpoint is within the PTLR allowed maximum limits in the PTLR. PORV actuation could depressurize the RCS and is not required.

The ~~12 hour~~ 31 day Frequency considers ~~the unlikelihood of a low temperature overpressure event during this time.~~

Insert: B3.4-71-02

R.1

A Note has been added indicating that this SR is required ~~to be met~~ 12 hours after decreasing any RCS cold leg temperature to ~~≤ [275]~~ < 319 °F. The COT cannot be performed until in the LTOP MODES when the PORV lift setpoint can be reduced to the LTOP

R.1

(continued)

ITS 3.5.3 -- Rev 1a
Update to IP3 ITS Conversion Package

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.3 ECCS – Shutdown

LCO 3.5.3 One ECCS residual heat removal (RHR) subsystem and one ECCS recirculation subsystem shall be OPERABLE.

---------------------------- NOTE ----------------------------
An RHR train may be considered OPERABLE during alignment and operation for decay heat removal, and during valve testing if capable of being manually realigned to the ECCS mode of operation.

R.19

APPLICABILITY: MODE 4.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. Required ECCS residual heat removal (RHR) subsystem inoperable.	A.1	Initiate action to restore required ECCS RHR subsystem to OPERABLE status.	Immediately
B. Required ECCS Recirculation subsystem inoperable.	B.1	Restore required ECCS recirculation subsystem to OPERABLE status.	1 hour
C. Required Action and associated Completion Time of Condition B not met.	C.1	Be in MODE 5.	24 hours

BASES (continued)

LCO (continued)

In MODE 4, ECCS requirements may be met using containment Recirculation subsystem 31 or 32 and RHR subsystem 31 or 32.

An ECCS RHR subsystem consists of one RHR pump and one RHR heat exchanger as well as associated piping and valves and instrumentation and controls needed to transfer water from the RWST or containment sump to the core. Either RHR heat exchanger may be used with either RHR pump to meet requirements for an RHR subsystem.

A containment Recirculation subsystem consists of one Containment Recirculation pump and one RHR heat exchanger as well as associated piping, valves, instrumentation and controls needed to transfer water from the recirculation sump to the core. Note that Recirculation pump OPERABILITY requires the functional availability of the associated auxiliary component cooling water pump. Either RHR heat exchanger may be used with either recirculation pump to meet requirements for a recirculation subsystem. The same RHR heat exchanger may be used to meet requirements for both the RHR subsystem and the Recirculation subsystem.

During an event requiring ECCS actuation, a flow path is required to provide an abundant supply of water from the RWST to the RCS via the RHR pumps and their respective supply headers to each of the four cold leg injection nozzles. In the long term, the recirculation flow path using the Recirculation sump or containment sump may be used to deliver its flow to the RCS cold legs.

This LCO is modified by a Note that allows an RHR subsystem to be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned (remote or local) to the ECCS mode of operation and not otherwise inoperable. This allows operation in the RHR mode during MODE 4. Similarly, this Note allows an RHR subsystem to be considered OPERABLE during alignment and operation for valve testing if capable of being manually realigned (remote or local) to the ECCS mode of operation and not otherwise inoperable. This allows testing of certain valves in MODE 4. R.19

(continued)

DISCUSSION OF CHANGES
ITS SECTION 3.5.3 - ECCS - Shutdown

ADMINISTRATIVE

A.1 In the conversion of the Indian Point Unit 3 Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Additionally, editorial changes, reformatting, and revised numbering are adopted to make ITS consistent with the conventions in NUREG-1431, Standard Technical Specifications, Westinghouse Plants, Rev. 1, i.e., the improved Standard Technical Specifications.

The CTS Bases are deleted and replaced with comprehensive ITS Bases designed to support interpretation and implementation of the associated Technical Specifications. The Bases explain, clarify, and document the reasons (i.e., bases) for the associated Technical Specifications, and reflect the IP3 plant specific design, analyses, and licensing basis. In accordance with 10 CFR 50.36(a), the ITS Bases are included with the proposed ITS conversion application; however, deletion of the CTS Bases and the adoption of the ITS Bases is an administrative change with no impact on safety because neither are required by 10 CFR 50.36, and neither define nor impose any specific requirements.

A.2 CTS Limiting Conditions for Operation (LCOs) and Surveillance Requirements (SRs) include statements of the objective and the applicability. The CTS statements of objective and applicability are deleted because these statements do not establish any requirements and do not provide any guidance for the application of CTS requirements. Therefore, deletion of these statements has no significant adverse impact on safety.

A.3 CTS 3.3.A.1.c requires at least one residual heat removal (RHR) subsystem operable for ECCS injection when in Mode 4. ITS LCO 3.5.3 maintains the requirement to have at least one RHR subsystem operable for ECCS injection when in Mode 4; however, ITS LCO 3.5.3 is modified by a note that allows an RHR subsystem to be considered Operable for the ECCS initiation function during alignment and operation for decay heat removal, and during ~~pressure isolation~~ valve testing ~~per ITS SR 3.4.14.1~~, if the RHR subsystem is capable of being manually realigned (remote or local) to the ECCS mode of operation and is not otherwise inoperable. Although this allowance is not specifically stated in CTS 3.3, the requirement for an RHR pump to satisfy the ECCS function in CTS 3.3.A.1.c with a concurrent requirement in CTS 3.3.A.6.a for two RHR pumps in decay heat removal function implies that an RHR pump can satisfy both requirements concurrently. Additionally, CTS does not require the Operability of ECCS automatic initiation functions in Mode 4. Therefore, consistent with industry practice, IP3 does allow an RHR pump to satisfy concurrent requirements for ECCS injection function and decay heat removal function. R/9

This allowance is acceptable because of the stable conditions associated with operation in Mode 4, the reduced probability of occurrence of a Design Basis Accident (DBA)in Mode 4 and the limited core cooling requirements in Mode 4. Therefore, sufficient time exists for manual actuation of the required ECCS to mitigate the consequences of a DBA in Mode 4.

Adding a statement that an RHR subsystem is Operable for the ECCS initiation function during alignment and operation for decay heat removal, and during ~~pressure isolation~~ valve testing ~~per ITS SR 3.4.14.1~~, if capable of being manually realigned (remote or local) to the ECCS mode of operation and not otherwise inoperable is an administrative change with no impact on safety (See ITS 3.5.3, DOC L.3). R/9

MORE RESTRICTIVE

M.1 CTS 3.3 and CTS 4.5.A do not establish any requirements for the periodic verification that containment sump and recirculation sump suction inlets are unrestricted and otherwise in proper operating condition.

ITS SR 3.5.3.1 is added (in conjunction with ITS SR 3.5.2.7) to require verification every 24 months that containment sump suction inlets are unrestricted and otherwise in proper operating condition. This Frequency is consistent with the need to perform this verification while the plant is shutdown and, based on industry experience, is sufficient

JUSTIFICATION OF DIFFERENCES FROM NUREG-1431
ITS SECTION 3.5.3 - ECCS - Shutdown

RETENTION OF EXISTING REQUIREMENT (CURRENT LICENSING BASIS)

CLB.1 NUREG 1431, Rev. 1, requires that one ECCS train shall Operable in Mode 4. IP3 ITS LCO 3.5.3 requires one ECCS residual heat removal (RHR) subsystem and one ECCS recirculation subsystem Operable in Mode 4. This change is needed and is acceptable because the ECCS residual heat removal (RHR) subsystem and one ECCS recirculation subsystem supply sufficient volume at the required pressure to provide adequate makeup in the event of a LOCA in Mode 4. This difference is consistent with the current licensing basis because CTS 3.3.A does not require the safety injection (high head) pumps to be operable in Mode 4.

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT

PA.1 Corrected typographical errors or made a minor editorial improvements to improve clarity and ensure requirements are fully understood and consistently applied. There are no technical changes to requirements as specified in NUREG 1431, Rev. 1; therefore, these changes are not significant or generic deviations from NUREG 1431, Rev 1.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN OR DESIGN BASIS

DB.1 Design or implementation details are incorporated or revised as necessary to more precisely describe IP3 current design or practice. These changes are intended to describe the design, improve clarity, or ensure requirements are fully understood and consistently applied. Unless identified and described blow, these changes are self-explanatory. There are no technical changes to requirements as specified in NUREG 1431, Rev 1; therefore, this change is not a significant or generic deviation from NUREG 1431, Rev 1.

IP3 ITS deviates from STS by a modification to the LCO 3.5.3 Note regarding when an RHR train may be considered OPERABLE. IP3 ITS allows the RHR to be considered OPERABLE during valve testing. The same restriction applies as used in STS regarding ability for manual realignment. This difference is required because the IP3 RHR design has several valves that are common to both RHR loops. Required testing

R-1/9

includes Pressure Isolation Valve tests, IST valve stroke tests, and disk integrity tests. The modified note supports the performance of required valve tests while maintaining the same limitation as STS on the ability to restore the system to the ECCS mode of operation.

DIFFERENCE BASED ON A GENERIC CHANGE TRAVELER FOR NUREG-1431

T.1 This change incorporates Generic Change TSTF-90, Rev.1 (WOG-12) which adds a Note that allows RHR to be considered Operable as an ECCS system when aligned for decay heat removal. This is an approved generic change traveler for NUREG-1431.

DIFFERENCE FOR ANY REASON OTHER THAN ABOVE

None

ITS 3.6.1 -- Rev 1a

Update to IP3 ITS Conversion Package

<CTS>

SURVEILLANCE REQUIREMENTS

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

<4.4.A>

R. 1a

CLB 1

SURVEILLANCE REQUIREMENTS

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

R.1 9

ITS 3.6.2 -- Rev 1a

Update to IP3 ITS Conversion Package

NYPA REPLY TO NRC RAI
REGARDING REVISION 1a OF PROPOSED ITS

ITS LCO: **3.6.2 Containment Air Locks**

NRC RAI No: **3.6.2 -- 02**

RAI STATEMENT:

--DOC A.9
--JFD CLB.1
--JFD PA.1
--JFD DB.1
--JFD DB.2
--CTS 4.4.D
--ITS SR 3.6.2.1 and Associated Bases

Comment: See Comment Numbers 3.6.1-2 and 3.6.2-3.

NYPA RESPONSE:

See Responses to RAI 3.6.1-02 and RAI 3.6.2-03. Addtional information on specific items is provided below.

--PA.1 for ITS LCO 3.6.2 addresses an editorial improvement to the Bases for ITS 3.6.2, Required Action C.3, Restore air lock to OPERABLE status within 24 hours. The Bases for Required Action C.3 explains this requirement as "Additionally, the affected air lock(s) must be restored to OPERABLE status within the 24 hour Completion Time" to which IP3 attached the phrase "unless Condition C is exited in accordance with LCO 3.0.2 (i.e., one door is made OPERABLE)." The phrase added by IP3 adds clarification for the operators that if Condition C is exited before one or both airlocks are Operable, then Required Action C.3 no longer applies in accordance with LCO 3.0.2. This change is an IP3 wording preference intended to prevent a potential misreading of the NUREG-1431 Bases.

--JFD DB.1 markings in the ITS 3.6.2 Bases were inadvertently omitted. DB.1 applies to the change to the third paragraph of NUREG-1431 page B 3.6-21.

--JFD DB.2 applies to insert B 3.6-21-01.

--ITS SR 3.6.2.1 and Associated Bases are addressed in the responses to RAI 3.6.1-02.

R.1a

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2 Containment Air Locks ~~(Atmospheric, Subatmospheric, Ice Condenser, and Dual)~~

BASES

BACKGROUND

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

Insert: B 3.6-21-01

~~Each air lock is nominally a right circular cylinder, 10 ft in diameter, with a door at each end. The doors are interlocked to prevent simultaneous opening. During periods when containment is not required to be OPERABLE, the door interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary. Each air lock door has been designed and tested to certify its ability to withstand a pressure in excess of the maximum expected pressure following a Design Basis Accident (DBA) in containment. As such, closure of a single door supports containment OPERABILITY. Each of the doors contains double gasketed seals and local leakage rate testing capability to ensure pressure integrity. To effect a leak tight seal, the air lock design uses pressure seated doors (i.e., an increase in containment internal pressure results in increased sealing force on each door).~~

DB.2

Each personnel air lock is provided with limit switches on both doors that provide control room indication ~~of door position~~. ~~Additionally, control room indication is provided to alert the operator whenever an air lock door interlock mechanism is defeated.~~

when an airlock door is not fully closed.

DB.1

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

(continued)

INSERT: B 3.6-21-01

DB2

Each air lock is a cylinder with a door at each end. One of the two air locks is designed as a part of the containment structure and the other is designed as an integral part of the containment equipment hatch but otherwise the two air locks function identically. Each air lock door has been designed and tested to certify its ability to withstand a pressure in excess of the maximum expected pressure following a Design Basis Accident (DBA) in containment. As such, closure of a single door supports containment OPERABILITY.

Each air lock door and the equipment hatch is designed with double gasketed seals to permit pressurization between the gaskets. The double gasketed seals are normally continuously pressurized above accident pressure. Finally, to effect a leak tight seal, the air lock design uses pressure seated doors (i.e., an increase in containment internal pressure results in increased sealing force on each door) and local leakage rate testing capability is available to ensure containment integrity is being maintained.

The doors are interlocked to prevent simultaneous opening of the inner and outer door. This interlock is a requirement for OPERABILITY. During periods when containment is not required to be OPERABLE, the door interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary.

ITS 3.6.3 -- Rev 1a

Update to IP3 ITS Conversion Package

NYPA REPLY TO NRC RAI
REGARDING REVISION 1a OF PROPOSED ITS

ITS LCO: **3.6.3 Containment Isolation Valves**

NRC RAI No: **3.6.0 -- 02**

RAI STATEMENT:

4.4.E.3 Service Water Isolation Valve Leakage System

--DOC R.13
--CTS 4.4.E.3
--CTS 6.14.c

--CTS 4.4.E.3 and 6.14.c specify the surveillances and criteria for the service water isolation valve leakage system. The CTS markup indicates by DOC R.13 that these requirements are to be relocated to the FSAR and plant procedures. The staff has reviewed the justification provided in DOC R.13, as well as the Safety Evaluation (SE) issued with Amendment No. 174, dated June 17, 1997, and supplemented on June 27, 1997. The staff concludes, based on the Amendment No. 174 SE that CTS 4.4.E.3 and CTS 6.14.c cannot be relocated out of the ITS since it is considered part of the Containment Leakage Test Program. The staff finds that CTS 4.4.E.3 and 6.14.c must be retained in ITS 3.6.3. and 5.5.15 respectively, however, specific details (i.e., test pressures and leakage rates) may be relocated to the appropriate ITS Bases or the Containment Leakage Rate Testing Program, depending on how similar SRs are addressed in the 11/2/95 letter and TSTF-52 as modified by staff comments (See Comment Number 3.6.1-2).

Comment: Revise the CTS and ITS markups and provide the appropriate discussions and justifications for the retention of the specification. See Comment Number 3.6.1-2.

NYPA RESPONSE:

NYPA revised ITS 5.5.15, Containment Leakage Rate Testing Program, to retain CTS 4.4.E.3 and CTS 6.14.c as part of the Containment Leakage Rate Testing Program. As a result of adding this back to ITS 5.5.15, ITS SR 3.6.3.10 was added to include the requirements of CTS 4.4.E.3. In addition, DOC R.13 was deleted.

This change was incorporated following the format provided in TSTF 207, Rev 5 to ensure that the appropriate action (Condition D) is taken in the event that SR 3.6.3.10 is not met.

NYPA REPLY TO NRC RAI
REGARDING REVISION 1a OF PROPOSED ITS

ITS LCO: **3.6.3 Containment Isolation Valves**

NRC RAI No: **3.6.3 -- 02**

RAI STATEMENT:

--DOC A.5
--JFD PA.1
--JFD DB.1
--CTS 3.6.A.1
--ITS 3.6.3 ACTION Notes 4 and 5

--CTS 3.6.A.1 is modified to add ITS 3.6.3 ACTION Note 4. This change is characterized as an Administrative change (DOC A.5.). DOC A.5 describes the addition of both ITS 3.6.3 ACTION Notes 4 and 5. The CTS markup does not show the addition of ACTION Note 5. See Comment Number 3.6.3-3.

Comment: Correct this discrepancy. See Comment Number 3.6.3-3.

NYPA RESPONSE:

NYPA revised ITS for LCO 3.6.3, Containment Isolation Valves, so that the markup of CTS page 3.6-1 indicates that the addition of Notes 5 and 6 is explained and justified in DOC A.13.

NYPA REPLY TO NRC RAI
REGARDING REVISION 1a OF PROPOSED ITS

ITS LCO: **3.6.3 Containment Isolation Valves**

NRC RAI No: **3.6.3 -- 11**

RAI STATEMENT:

--JFD CLB.1
--JFD PA.1
--JFD DB.1
--CTS 4.4.E.1
--STS 3.6.3 Conditions A and B, 3.6.3 ACTION D, SR 3.6.3.11 and Associated Bases
--ITS 3.6.3 Conditions A and B, SR 3.6.3.8 and Associated Bases.
--
--STS SR 3.6.3.11 verifies that the shield building bypass leakage is within limits. Failure to meet the requirement of STS SR 3.6.3.11 requires entry into STS 3.6.3 ACTION D, and not STS 3.6.3 ACTIONS A and B as stated in the Condition statements ("except for...shield building bypass leakage not within limits"). The ITS markup modifies STS SR 3.6.3.11 to verify the combined leakage rate for all containment bypass leakage paths (ITS SR 3.6.3.8). See Comment Numbers 3.6.1-2 and 3.6.3-10 for the TSTF-52 concerns with regards to ITS SR 3.6.3.8. Since the ITS markup deletes the exception phrases from ITS 3.6.3 Conditions A and B and deletes STS 3.6.3 ACTION D, it is unclear what ACTION would be taken for containment bypass leakage not within limits. It would seem that a modified STS 3.6.3 ACTION D and a modified fourth paragraph to ITS B3.6.3 Bases - LCO should have been included to provide appropriate ACTIONS for bypass leakage not within limits and appropriate OPERABILITY leakage description.
--Comment: Provide a discussion and justification to address these changes to the STS/ITS. See Comment Numbers 3.6.1-2 and 3.6.3-10..

NYPA RESPONSE:

NYPA revised ITS LCO 3.6.3, Containment Isolation Valves, to retain NUREG-1431, Condition D and associated Required Action D.1, as modified by TSTF 207 Rev 5. Additionally, Conditions A and B and were revised to include the phrase "... for reasons other than Condition D" to ensure that Condition D is entered if ITS SR 3.6.3.9 or SR 3.6.3.10 are not met.

3.6 CONTAINMENT SYSTEMS

3.6.3 Containment Isolation Valves

LCO 3.6.3 Each containment isolation valve shall be OPERABLE.

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

ACTIONS

------------------------------------NOTES------------------------------------

1. Penetration flow path(s) except for 36 inch purge valve flow paths may be unisolated intermittently under administrative controls.

2. Separate Condition entry is allowed for each penetration flow path.

3. Enter applicable Conditions and Required Actions for systems made inoperable by containment isolation valves.

4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when isolation valve leakage results in exceeding the overall containment leakage rate acceptance criteria.

5. Enter applicable Conditions and Required Actions of LCO 3.6.9, "Isolation Valve Seal Water (IVSW) System," when required IVSW supply to a penetration flowpath is inoperable.

6. Enter applicable Conditions and Required Actions of LCO 3.6.10, "Weld Channel and Penetration Pressurization System (WC&PPS)," when required WC&PPS supply to a penetration flowpath is inoperable.

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. ---------NOTE--------- Only applicable to penetration flow paths with two or more containment isolation valves. --------------------- One or more penetration flow paths with one containment isolation valve inoperable, for reasons other than Condition D.	A.1	Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.	4 hours
	<u>AND</u>		
	A.2	--------NOTE--------- Isolation devices in high radiation areas may be verified by use of administrative means. -------------------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment <u>AND</u> Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. ---------NOTE-------- Only applicable to penetration flow paths with two or more containment isolation valves. -------------------- One or more penetration flow paths with two or more containment isolation valves inoperable, for reasons other than Condition D.	B.1	Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour
C. ---------NOTE-------- Only applicable to penetration flow paths with only one containment isolation valve and a closed system. -------------------- One or more penetration flow paths with one containment isolation valve inoperable.	C.1	Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	72 hours
	<u>AND</u>		
	C.2	--------NOTE-------- Isolation devices in high radiation areas may be verified by use of administrative means. ------------------- Verify the affected penetration flow path is isolated.	Once per 31 days

R.1.9

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Containment bypass leakage or hydrostatically tested valve leakage not within limit.	D.1 Restore leakage within limit.	4 hours for containment bypass leakage AND 72 hours for hydrostatically tested valve leakage
E. Required Action and associated Completion Time not met.	E.1 Be in MODE 3. AND E.2 Be in MODE 5.	6 hours 36 hours

R-19

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.3.1	Verify each 36 inch purge supply and exhaust isolation valve is sealed closed.	31 days
SR 3.6.3.2	Verify each 10 inch pressure relief isolation valve is closed, except when these valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open.	31 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.6.3.3	-------------------NOTE------------------- Valves and blind flanges in high radiation areas may be verified by use of administrative controls. -- Verify each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	31 days
SR 3.6.3.4	-------------------NOTE------------------- Valves and blind flanges in high radiation areas may be verified by use of administrative means. -- Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.3.5	Verify the isolation time of each automatic power operated containment isolation valve is within limits.	In accordance with the Inservice Testing Program
SR 3.6.3.6	Verify each automatic containment isolation valve that is not locked, sealed or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	24 months
SR 3.6.3.7	Verify each 10 inch containment pressure relief line isolation valve is blocked to restrict valve opening to ≤ 60 degrees.	24 months
SR 3.6.3.8	Perform one complete cycle of each manually operated containment isolation valve on essential lines.	24 months
SR 3.6.3.9	Verify the combined leakage rate for all containment bypass leakage paths is ≤ 0.6 La when pressurized to ≥ 42.42 psig.	In accordance with the Containment Leakage Rate Testing Program
SR 3.6.3.10	Verify leakage rate into containment from isolation valves sealed with the service water system, is within limit.	In accordance with the Containment Leakage Rate Testing Program

R/9

BASES

ACTIONS (continued)

or WC&PPS supply to a penetration flowpath is inoperable. Note 5 and Note 6 direct entry into the applicable Conditions and Required Actions of LCO 3.6.9 and LCO 3.6.10, as appropriate.

A.1 and A.2

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

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

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

pressure relief isolation valves, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

Condition A has been modified by a Note indicating that this Condition is only applicable to those penetration flow paths with two or more containment isolation valves. Although most penetrations have two containment isolation valves, the term "two or more" is used so that Condition A includes penetrations such as the pressure relief line penetration which has three valves in series. For penetration flow paths with only one containment isolation valve and a closed system, Condition C provides the appropriate actions.

Required Action A.2 is modified by a Note that applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these devices once they have been verified to be in the proper position, is small.

R1a

B.1

With two or more containment isolation valves in one or more penetration flow paths inoperable, except for containment bypass leakage or hydrostatically tested valve leakage, the affected penetration flow path must be isolated within 1 hour. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1. In the event the affected penetration is isolated in accordance with

(continued)

BASES

ACTIONS

B.1 (continued)

Required Action B.1, the affected penetration must be verified to be isolated on a periodic basis per Required Action A.2, which remains in effect. This periodic verification is necessary to assure leak tightness of containment and that penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying each affected penetration flow path is isolated is appropriate considering the fact that the valves are operated under administrative control and the probability of their misalignment is low.

or more | R1a

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two containment isolation valves. Although most penetrations have two containment isolation valves, the term "two or more" is used so that Condition B includes penetrations such as the pressure relief line penetration which has three valves in series. Condition A of this LCO addresses the condition of one containment isolation valve inoperable in this type of penetration flow path.

C.1 and C.2

With one or more penetration flow paths with one containment isolation valve inoperable, the inoperable valve flow path must be restored to OPERABLE status or the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier, other than the closed system, that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange (Ref. 3). A check valve may not be used to isolate the affected penetration flow path. Required Action C.1 must be completed within the 72 hour Completion Time. The specified time period is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of maintaining containment integrity during MODES 1, 2, 3, and 4. In the event the affected penetration flow path is isolated in accordance with Required Action C.1, the affected penetration

(continued)

BASES

ACTIONS

C.1 and C.2 (continued)

flow path must be verified to be isolated on a periodic basis. This periodic verification is necessary to assure leak tightness of containment and that containment penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying that each affected penetration flow path is isolated is appropriate because the valves are operated under administrative controls and the probability of their misalignment is low.

Condition C is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with only one containment isolation valve and a closed system. This Note is necessary since this Condition is written to specifically address those penetration flow paths in a closed system. The closed system must meet the requirements of Reference 3.

Required Action C.2 is modified by a Note that applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these valves, once they have been verified to be in the proper position, is small.

D.1

With the containment bypass leakage rate not within limit of SR 3.6.3.9, the assumptions of the safety analyses are not met. Therefore, the leakage must be restored to within limit within 4 hours. Restoration can be accomplished by isolating the penetration(s) that caused the limit to be exceeded by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. When a penetration is isolated the leakage rate for the isolated penetration is assumed to be the actual pathway leakage through the isolation device. If two isolation devices are used to isolate the penetration, the leakage rate is assumed

(continued)

BASES

ACTIONS

D.1 (continued)

to be the lesser actual pathway leakage of the two devices. The 4 hour Completion Time is reasonable considering the time required to restore the leakage by isolating the penetration(s) and the relative importance of containment bypass leakage to the overall containment function.

With the hydrostatically tested valve leakage not within limit of SR 3.6.3.10, the potential exists for flooding the Containment Recirculation Pumps during long term post-accident cooling. The 72 hour Completion Time is reasonable because of the low probability of an event occuring during this period.

R. 1/9

E.1 and E.2

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

SURVEILLANCE REQUIREMENTS

SR 3.6.3.1

Each 36 inch containment purge supply and exhaust isolation valve (FCV-1170, FCV-1171, FCV-1172, and FCV-1173) is required to be verified sealed closed at 31 day intervals. This Surveillance is designed to ensure that a gross breach of containment is not caused by an inadvertent or spurious opening of a containment purge valve. Detailed analysis of the purge valves failed to conclusively demonstrate their ability to close during a LOCA in time to limit offsite doses. Therefore, these valves are required to be in the sealed closed position during MODES 1, 2, 3, and 4. A containment purge valve that is sealed closed must have motive power to the valve operator removed. This can be accomplished by de-energizing

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.3.9

This SR ensures that the combined leakage rate of all containment leakage paths is less than or equal to the specified leakage rate for those paths that are not sealed by the Isolation Valve Seal Water System or sealed by the RHR system or sealed by the service water system. This provides assurance that the assumptions in the safety analysis are met. The leakage rate of each bypass leakage path is assumed to be the maximum pathway leakage (leakage through the worse of the two isolation valves) unless the penetration is isolated by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. In this case, the leakage rate of the isolated bypass leakage path is assumed to be the actual pathway leakage through the isolation device. If both isolation valves in the penetration are closed, the actual leakage rate is the lesser leakage rate of the two valves.

This testing is performed in accordance with the requirements, Frequency and acceptance criteria required by Specification 5.5.15, Containment Leakage Rate Testing Program. This program was established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by IP3 specific approved exemptions. This program conforms to guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak Test Program, dated September 1995." In the event containment isolation valve leakage results in exceeding the overall containment leakage rate, entry into the applicable Conditions and Required Actions of LCO 3.6.1 is required.

SR 3.6.3.10

The Containment Leakage Rate Testing Program includes verification that inleakage rate from the containment isolation valves sealed with service water is maintained at a level that will prevent flooding the internal recirculation pumps for the full 12-month period of post accident recirculation. This inleakage test has specific acceptance criteria ($\leq$0.36 gpm per fan cooler unit when pressurized at $\geq$1.1 P_a) specified in the

R.19

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.3.10 (continued)

Containment Leakage Rate Testing Program and the results for this inleakage test are not counted against the acceptance criteria for the Type B and C tests that are also performed as part of the SR.

REFERENCES

1. FSAR, Section 14.
2. FSAR, Section 6.
3. Standard Review Plan Section 6.2.4.
4. FSAR, Section 5.2.
5. Generic Issue B-24.
6. Safety Evaluation Report for IP3 Amendment 195.

Typical

3.6 CONTAINMENT SYSTEMS

<CTS>

3.6.3 Containment Isolation Valves ~~(Atmospheric, Subatmospheric, Ice Condenser, and Dual)~~

<3.6.A.1>
<1.10.4>
<DOC A.3>

LCO 3.6.3 Each containment isolation valve shall be OPERABLE.

<3.6.A.1>
<DOC A.4>

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

ACTIONS

Insert: 3.6-8-01

-----------------------------------NOTES-----------------------------------

<1.10.1> <3.6.A.1>

1. Penetration flow path(s) ~~[~~except for ~~[42]~~ 36 inch purge valve flow paths~~]~~ may be unisolated intermittently under administrative controls.

<DOC L.3>

2. Separate Condition entry is allowed for each penetration flow path.

<DOC A.7>

3. Enter applicable Conditions and Required Actions for systems made inoperable by containment isolation valves.

<DOC A.5>

4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when isolation valve leakage results in exceeding the overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<DOC A.8> A. ---------NOTE--------- Only applicable to penetration flow paths with two or more containment isolation valves. --------------------- <1.10.4> <DOC L.2> DOC L.4 <DOC M.5> One or more penetration flow paths with one containment isolation valve inoperable ~~[except for purge valve or shield building bypass leakage not within limit]~~ for reasons other than Condition D.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	4 hours
		(continued)

R.1

R.1a

TSTF 207

<DOC M.1>

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. (continued)	A.2	---------NOTE--------- Isolation devices in high radiation areas may be verified by use of administrative means. ---------------------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment **AND** Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment
B. ---------NOTE--------- Only applicable to penetration flow paths with two or more containment isolation valves. ---------------------- One or more penetration flow paths with two or more containment isolation valves inoperable ~~[except for purge valve or shield building bypass leakage not within limit]~~ for reasons other than Condition D.	B.1	Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour

<DOC A.8>
<1.10.4>
<3.6.A.3>
<DOC L.4>
<DOC M.5>

R1a

R.1

(continued)

R.1a TSTF 207

<DOC A.8>
<1.10.4>
<DOC L.2>
<3.6.A3>
<DOC M.1>
<DOC A9>
<DOC A.15>

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. ---------NOTE--------- Only applicable to penetration flow paths with only one containment isolation valve and a closed system. --------------------- One or more penetration flow paths with one containment isolation valve inoperable.	C.1	Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	~~[4]~~ 72 hours
	AND		
	C.2	--------NOTE--------- Isolation devices in high radiation areas may be verified by use of administrative means. --------------------- Verify the affected penetration flow path is isolated.	Once per 31 days
D. ~~Shield building~~ Containment bypass leakage not within limit.	D.1	Restore leakage within limit.	~~4 hours~~
~~E. One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits.~~	~~E.1~~	~~Isolate the affected penetration flow path by use of at least one [closed and de-activated automatic valve, closed manual valve, or blind flange].~~	~~24 hours~~
	AND		

(continued)

T.3

R1

R.1

or hydrostatically tested valve leakage

4 hours for containment bypass leakage
AND
72 hours for hydrostatically

R.1a

TSTF 207

CL3.1

INSERT 3.6-15-01:

SR 3.6.3.8 <DOC M.6>	Perform one complete cycle of each manually operated containment isolation valve on essential lines.	24 months

INSERT 3.6-15-02:

SR 3.6.3.9 <4.4.E.1>	Verify the combined leakage rate for all containment bypass leakage paths is $\leq 0.6\ L_a$ when pressurized to ≥ 42.42 psig.	In accordance with the Containment Leakage Rate Testing Program

R.1

Insert 3.6-15-03:

SR 3.6.3.10 <4.4.E 3>	Verify leakage rate ~~of service water lines that penetrate the primary containment is within limits.~~ into containment from isolation valves sealed with the service water system, is within limit.	In accordance with the Containment Leakage Rate Testing Program

R.1

R.1a

BASES (continued)

36 Note 1 which allows

ACTIONS

The ACTIONS are modified by a Note allowing penetration flow paths, except for [42] inch purge valve penetration flow paths, to be unisolated intermittently under administrative controls. These administrative controls consist of stationing a dedicated operator at the valve controls, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for containment isolation is indicated. Due to the size of the containment purge line penetration and the fact that those penetrations exhaust ~~directly~~ from the containment atmosphere to the environment, the penetration flow path containing these valves may not be opened under administrative controls. ~~A single purge valve in a penetration flow path may be opened to effect repairs to an inoperable valve, as allowed by SR 3.6.3.1.~~ | R.1

Insert B3.6-33-02

~~A second~~ 2 Note has been added to provide clarification that, for this LCO, separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable containment isolation valve. Complying with the Required Actions may allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent Condition entry and application of associated Required Actions.

The ACTIONS are further modified by ~~a third~~ Note 3, which ensures appropriate remedial actions are taken, ~~if necessary,~~ if the affected systems are rendered inoperable by an inoperable containment isolation valve.

Containment isolation valve

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

Insert B3.6-33-01

A.1 and A.2

In the event one containment isolation valve in one or more penetration flow paths is inoperable (except for ~~purge valve or shield building~~ bypass leakage not within limit), the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active | R.1

Containment

or hydrostatically tested valve leakage | R.1a

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

Required Action A.2 is modified by a Note that applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these devices once they have been verified to be in the proper position, is small.

B.1

With two or more containment isolation valves in one or more penetration flow paths inoperable, except for containment bypass leakage or hydrostatically tested valve leakage, the affected penetration flow path must be isolated within 1 hour. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1. In the event the affected penetration is isolated in accordance with Required Action B.1, the affected penetration must be verified to be isolated on a periodic basis per Required Action A.2, which remains in effect. This periodic verification is necessary to assure leak tightness of containment and that penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying each affected penetration flow path is isolated is appropriate considering the fact that the valves are operated under administrative control and the probability of their misalignment is low. R1a

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two or more containment isolation valves. Insert: B3.6-35-01 Condition A of this LCO addresses the condition of one containment isolation valve inoperable in this type of penetration flow path. R1a

(continued)

BASES

ACTIONS (continued)

D.1

of SR 3.6.3.9

Containment

R.1

With the ~~shield building~~ bypass leakage rate not within limit, the assumptions of the safety analyses are not met. Therefore, the leakage must be restored to within limit within 4 hours. Restoration can be accomplished by isolating the penetration(s) that caused the limit to be exceeded by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. When a penetration is isolated the leakage rate for the isolated penetration is assumed to be the actual pathway leakage through the isolation device. If two isolation devices are used to isolate the penetration, the leakage rate is assumed to be the lesser actual pathway leakage of the two devices. The 4 hour Completion Time is reasonable considering the time required to restore the leakage by isolating the penetration(s) and the relative importance of secondary containment bypass leakage to the overall containment function.

With the hydrostatically tested valve leakage not within limit of SR 3.6.3.10, the potential exists for flooding the Containment Recirculation Pumps during long term post-accident cooling. The 72 hour Completion Time is reasonable because of the low probability of an event occuring during this period.

R.1a

E.1, E.2, and E.3

In the event one or more containment purge valves in one or more penetration flow paths are not within the purge valve leakage limits, purge valve leakage must be restored to within limits, or the affected penetration flow path must be isolated. The method of isolation must be by the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a [closed and de-activated automatic valve, closed manual valve, or blind flange]. A purge valve with resilient seals utilized to satisfy Required Action E.1 must have been demonstrated to meet the leakage requirements of SR 3.6.3.7. The specified Completion Time is reasonable, considering that one containment purge valve remains closed so that a gross breach of containment does not exist.

In accordance with Required Action E.2, this penetration flow path must be verified to be isolated on a periodic basis. The periodic verification is necessary to ensure that containment penetrations required to be isolated following an accident, which are no longer capable of being

(continued)

BASES

9

SURVEILLANCE REQUIREMENTS

SR 3.6.3.~~11~~ (continued)

maximum pathway leakage (leakage through the worse of the two isolation valves) unless the penetration is isolated by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. In this case, the leakage rate of the isolated bypass leakage path is assumed to be the actual pathway leakage through the isolation device. If both isolation valves in the penetration are closed, the actual leakage rate is the lesser leakage rate of the two valves. ~~This method of quantifying maximum pathway leakage is only to be used for this SR (i.e., Appendix J maximum pathway leakage limits are to be quantified in accordance with Appendix J). The Frequency is required by 10 CFR 50, Appendix J, as modified by approved exemptions (and therefore, the Frequency extensions of SR 3.0.2 may not be applied), since the testing is an Appendix J, Type C test. This SR simply imposes additional acceptance criteria.~~

~~[By pass leakage is considered part of L_a. [Reviewer's Note: Unless specifically exempted]]~~

Insert B 3.6-44-01

Insert B 3.6-44-02

R.1

REFERENCES

1. FSAR, Section ~~15~~. 14
2. FSAR, Section ~~6.2~~. 6
3. ~~Generic Issue B-20, "Containment Leakage Due to Seal Deterioration."~~
~~4~~ 3. Generic Issue B-24.

Insert B 3.6-44-03

NUREG-1431 Markup Inserts
ITS SECTION 3.6.3 - Containment Isolation Valves

INSERT: B 3.6-44-01

This testing is performed in accordance with the requirements. Frequency and acceptance criteria required by Specification 5.5.15. Containment Leakage Rate Testing Program. This program was established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50. Appendix J. Option B. as modified by IP3 specific approved exemptions. This program conforms to guidelines contained in Regulatory Guide 1.163. "Performance-Based Containment Leak Test Program. dated September 1995." In the event containment isolation valve leakage results in exceeding the overall containment leakage rate. entry into the applicable Conditions and Required Actions of LCO 3.6.1 is required.

INSERT: B 3.6-44-02

SR 3.6.3.10
The Containment Leakage Rate Testing Program includes verification that inleakage rate from the containment isolation valves sealed with service water is maintained at a level that will prevent flooding the internal recirculation pumps for the full 12-month period of post accident recirculation. This inleakage test has specific acceptance criteria ($\leq$ 0.36 gpm per fan cooler unit when pressurized at $\geq 1.1P_a$) specified in the Containment Leakage Rate Testing Program and the results for this inleakage test are not counted against the acceptance criteria for the Type B and C tests that are also performed as part of the SR.

R-19

INSERT: B 3.6-44-03

3. Standard Review Plan Section 6.2.4.

4. FSAR, Section 5.2.

6. Safety Evaluation Report for IP3 Amendment 195.

ITS 3.6.5 -- Rev 1a

Update to IP3 ITS Conversion Package

See next page for Rev 1a change

BASES (continued)

LCO

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

upper | R1

Insert: B 3.6-54-01 | R1

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, maintaining containment average air temperature within the limit S is not required in MODE 5 or 6. | R1

Insert: B 3.6-54-02 | R.1

ACTIONS

~~A~~ B.1

When containment average air temperature is ~~not within the limit of the LCO, it must be restored to within limit~~ S greater than 130°F within ~~8 hours~~. This Required Action is necessary to return operation to within the bounds of the containment analysis. The 8 hour Completion Time is acceptable considering the sensitivity of the analysis to variations in this parameter and provides sufficient time to correct minor problems. | R1

~~B~~ C.1 and ~~B~~ C.2 | R1

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

(continued)

INSERT: B 3.6-54-01

Rev 1a

The lower limit for containment average air temperature ~~is to assure that the minimum service metal temperature of the containment liner~~. assures that the containment liner temperature is maintained well above the NDT temperature.

CLB.1

INSERT: B 3.6-54-02

A.1

When containment average air temperature is ≤ 50°F, it must be restored within limits immediately. This Required Action is necessary to ensure that a sufficient margin of safety is maintained so the NDT limit is not compromised. The Completion Time of immediately ensures that containment temperature is restored to within limits without delay.

BASES

APPLICABLE SAFETY ANALYSES (continued)

LOCA or a SLB. The upper temperature limit is used in this analysis to ensure that in the event of an accident the maximum containment internal pressure will not be exceeded.

Containment average air temperature satisfies Criterion 2 of 10 CFR 50.36.

LCO

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

The lower limit for containment average air temperature assures that the containment liner temperature is maintained well above the NDT temperature.

R. 1a

APPLICABILITY

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

ACTIONS

A.1

When containment average air temperature is ≤50 °F, it must be restored within limits immediately. This required action is necessary to ensure that a sufficient margin of safety is maintained so the NDT limit is not compromised. The completion time of immediately ensures that containment temperature is restored to within limits without delay.

(continued)

ITS 3.6.9 -- Rev 1a

Update to IP3 ITS Conversion Package

NYPA REPLY TO NRC RAI
REGARDING REVISION 1a OF PROPOSED ITS

ITS LCO: **3.6.9 Isolation Valve Seal Water (IVSW) System**

NRC RAI No: **3.6.9 -- 08**

RAI STATEMENT:

--CTS 4.4.E.2
--ITS B3.6.9 Bases
--See Comment Number 3.6.1-2.

Comment: See Comment Number 3.6.1-2.

NYPA RESPONSE:

See Response to RAI 3.6.1-02.

Note that ITS LCO 3.6.9, Isolation Valve Seal Water (IVSW) System, is unique to IP3 and is not covered in NUREG-1431. Therefore there are no NUREG markup pages in TSTF 52 to use as a model for changes to ITS 3.6.9. However, NYPA did revise ITS 3.6.9 Bases to incorporate the intent of TSTF 52. Although IP3 has adopted Option B of 10 CFR 50 Appendix J, the appropriate reference for most of the affected statements in this section is the Option A portion of Appendix J. This reference is now reflected in the Bases of ITS 3.6.9.

Rev 1a

B 3.6 CONTAINMENT SYSTEMS

B 3.6.9 Isolation Valve Seal Water (IVSW) System

BASES

BACKGROUND

The Isolation Valve Seal Water (IVSW) System improves the effectiveness of certain containment isolation valves (CIVs) by providing a water seal to valve leakage paths. This is accomplished by injecting water between the seats and stem packing of globe and double-disk type isolation valves and into the piping between other closed containment isolation valves. IVSW sealing water is maintained in a seal water supply tank filled with water and pressurized with nitrogen. The IVSW System is actuated in conjunction with automatic initiation of containment isolation and is applied to CIVs in lines connected to the Reactor Coolant System or exposed to the containment atmosphere during an accident. The seal water is injected at a pressure of at least 47 psig which is > 1.1 times the calculated peak containment pressure (P_a). For those valves sealed by IVSW, the possibility of leakage from the Containment or Reactor Coolant System to the atmosphere outside containment is eliminated because leakage will be from the IVSW system into the Containment.

The containment is designed with an allowable leakage rate not to exceed 0.1% of the containment air weight per day. The maximum allowable leakage rate is used to evaluate offsite doses resulting from a DBA. Confirmation that the leakage rate is within limit is demonstrated by the performance of a Type A leakage rate test in accordance with the Containment Leakage Rate Testing Program as required by LCO 3.6.1, "Containment." During the performance of the Type A test, no credit is taken for the IVSW System in meeting the containment leakage rate criteria. As such, in the event of a DBA without an OPERABLE IVSW System, both the whole body and thyroid offsite doses would be within the guidelines specified in 10 CFR Part 100.

Although IVSW is not needed to maintain plant releases such that the whole body and thyroid offsite doses would be within the guidelines specified in 10 CFR Part 100 based on Type A leakage

(continued)

BASES

BACKGROUND (continued)

testing, Indian Point 3 elected to consider IVSW as a seal system as described in Reference 3. This election allows leakage through CIVs sealed by IVSW to be excluded when calculating Type B and C testing results. Therefore, operation of IVSW is an implicit assumption in the calculation of post accident offsite radiation doses. R.1/9

To satisfy the requirements of Reference 3, for excluding leakage from CIVs sealed by IVSW from Type B and C limits, Technical Specifications must ensure the IVSW sealing function (i.e., both sealing water supply and nitrogen gas supply) is maintained at a pressure of 1.10 P_a for at least 30 days. R.1/9

Sealing water design capacity is sufficient to maintain a source of seal water at the required pressure for a minimum of 24 hours without operator intervention assuming worst case leakage and the single failure of a CIV sealed by IVSW. The requirements for a 24 hour supply of seal water under worst case conditions is satisfied by maintaining a minimum of 144 gallons in the 176 gallon capacity seal water tank.

Nitrogen gas for IVSW seal water pressurization is satisfied by having three compressed nitrogen bottles in the IVSW supply bank aligned to the IVSW supply tank.

To satisfy the requirement of Reference 3 for maintaining the IVSW sealing function for at least 30 days, manual operator action may be required to replenish the IVSW seal water supply and/or compressed gas supply. Two sources of makeup water and two alternate sources of compressed gas with sufficient capacity to maintain the IVSW sealing function for 30 days are available. The two sources of makeup water are the primary water storage tank and the city water system. The two alternate sources of compressed gas are the normally isolated nitrogen gas bottles in the nitrogen supply bank and the ability to refill or replace the IVSW nitrogen supply bottles from the plant Nitrogen System. Manual operations required to supply makeup water and gas to the IVSW system are performed in an area that is R.1/9

(continued)

BASES

BACKGROUND (continued)

accessible during an accident. The IVSW tank is instrumented to provide local indication of pressure and water level. Low water level, low pressure and high pressure in the IVSW supply tank are alarmed.

The IVSW System distribution piping consists of five headers. Three of the five IVSW headers are pressurized by opening either of a pair of normally closed air operated header injection valves. These valves open automatically on a containment Phase "A" isolation signal to admit seal water to the associated CIVs. One of the five IVSW headers is pressurized by opening either of a pair of normally closed, air-motor operated, header injection valves. These valves open automatically on a containment Phase "A" isolation signal to admit seal water to the associated CIVs. One IVSW header is used to supply seal water to CIVs on process lines that are not automatically closed on a containment Phase "A" isolation signal. This header is normally pressurized by the IVSW System with a normally closed manual or air-motor operated isolation valve for each pair of CIVs served by this IVSW header.

Redundant automatic header injection valves in parallel ensures the IVSW header is pressurized if there is a failure of one injection valve. Each of the two automatic header injection valves in each pair are actuated from separate and independent signals.

A related system, the Isolation Valve Seal Gas System, is not credited as a seal system as described in Reference 3, and is not addressed by this Technical Specification. This system uses the nitrogen bank used to supply the IVSW System to supply high pressure nitrogen that may be used to seal lines subjected to pressure in excess of the 150 psig IVSW design pressure due to operation of the recirculation pumps. This system is manually initiated during the post accident recovery phase and is not part of the IVSW System.

R. 1/9

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

The IVSW System LCO was derived from the requirement related to the control of leakage from the containment during major accidents. This LCO is intended to ensure the actual containment leakage rate is maintained within the maximum value assumed in the safety analyses. As part of the containment boundary, containment isolation valves function to support the leak tightness of the containment. The IVSW System assures the effectiveness of certain containment isolation valves by providing a water seal pressurized to $\geq$ 1.1 times the maximum peak containment accident pressure at the valves and thereby reducing containment leakage. As such, the IVSW System is considered a seal system as described in Reference 3. Therefore, the safety analyses of any event requiring isolation of containment is applicable to this LCO.

R.1/9

The DBA that results in a release of radioactive material within containment is a loss of coolant accident (LOCA)(Ref. 2). The DBAs assume that, within 60 seconds after the accident, isolation of the containment is complete and leakage terminated except for the design leakage rate, L_a. The containment isolation total response time of 60 seconds includes signal delay, diesel generator startup (for loss of offsite power) and containment isolation valve stroke time. The IVSW System actuates on a containment isolation signal and functions within 60 seconds to help reduce containment leakage within the allowable design leakage rate value, L_a.

The Isolation Valve Seal Water System satisfies Criterion 3 of 10 CFR 50.36.

LCO

OPERABILITY of the IVSW System is based on the system's capability to supply seal water to selective containment isolation valves within the time assumed in the applicable safety analyses and to ensure pressure is maintained for at least 30 days. This requires the IVSW tank be maintained with an adequate volume of water, an air or nitrogen overpressure sufficient to provide the motive force to move the water to the applicable

(continued)

BASES

LCO (continued)	penetration, piping to provide an OPERABLE flow path and two air operated header injection valves on each automatically actuated branch header.
APPLICABILITY	The IVSW System is required to be OPERABLE in MODES 1, 2, 3, and 4 because a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, the IVSW System is not required to be OPERABLE in MODE 5 or 6.

ACTIONS

A.1

With one IVSW System header inoperable, a portion of the CIVs serviced by IVSW may not receive seal water at the required pressure and volume for effective sealing. However, the CIVs are OPERABLE and will still close, the affected CIVs provide adequate isolation to meet containment isolation requirements without IVSW during the most recent Type A test, and the number of CIVs affected by the failure of one IVSW header is small compared to the total number of CIVs. Therefore, the 7 days is allowed to restore the IVSW System header to OPERABLE status.

With one IVSW automatic actuation valve inoperable, the IVSW function is still available because the redundant automatic actuation valve is OPERABLE. Therefore, the 7 days is allowed to restore the IVSW automatic actuation valve to OPERABLE status.

B.1

With the IVSW system inoperable for reasons other than Condition A, the effectiveness of CIVs sealed by IVSW may be compromised. This Condition may result from failure to meet any of the surveillance requirements needed to verify Operability of IVSW or the inoperability of multiple IVSW headers or automatic actuation devices. However, the CIVs are OPERABLE and will still close and the affected CIVs provide adequate isolation to meet containment

(continued)

BASES

ACTIONS

B.1 (continued)

isolation requirements without IVSW during the most recent Type A test. Additionally, except in the unusual case where inoperability is the result of failure to meet SR 3.6.9.5, the affected CIVs have demonstrated the ability to satisfy IVSW leakage requirements using IVSW seal water in lieu of meeting Type C testing requirements. Therefore, the 24 hours is allowed to restore the IVSW System to OPERABLE status.

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 plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems

SURVEILLANCE REQUIREMENTS

SR 3.6.9.1

This SR verifies the IVSW tank has the necessary pressure to provide motive force to the seal water. A 47 psig pressure is sufficient to ensure the containment penetration flowpaths that are sealed by the IVSW System are maintained at a pressure equal to or greater than 1.1 times the calculated peak containment internal pressure (Pa) related to the design bases accident. Verification of the IVSW tank pressure on a Frequency of once per 24 hours is acceptable because operating experience has shown this Frequency to be appropriate for early detection and correction of off normal trends.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.9.2

This SR ensures the capability of the IVSW nitrogen source to pressurize the IVSW system as needed to support IVSW operation for a minimum of 30 days. Verification of the IVSW tank pressure on a Frequency of once per 24 hours is acceptable because operating experience has shown this Frequency to be appropriate for early detection and correction of off normal trends.

SR 3.6.9.3

This SR verifies the IVSW tank has an initial volume of water necessary to provide seal water to the containment isolation valves served by the IVSW System for a period of at least 24 hours assuming the failure of one CIV and the maximum allowed leakage past other CIVs served by IVSW. Verification of IVSW tank level on a Frequency of once per 24 hours is acceptable since tank level is monitored by installed instrumentation and will alarm in the Primary Auxiliary Building prior to level decreasing to 20 gallons which provides sufficient time to re-fill the tank before it is depleted.

SR 3.6.9.4

This SR verifies the stroke time of each automatic IVSW header injection solenoid valve is within limits. The frequency is 24 months. Previous operating experience has shown that these valves usually pass the required test when performed.

SR 3.6.9.5

This SR ensures that automatic header injection valves actuate to the correct position on a simulated or actual signal. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.9.5 (continued)

Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed at the 24 month Frequency.

SR 3.6.9.6

Integrity of the IVSW seal boundary is important in providing assurance that the design leakage value required for the system to perform its sealing function is not exceeded. This testing is performed in accordance with the requirements, Frequency and acceptance criteria established in Specification 5.5.15, Containment Leakage Rate Testing Program. This program was established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by IP3 specific approved exemptions. This program conforms to guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak Test Program, dated September 1995."

REFERENCES

1. FSAR, Section 6.
2. FSAR, Chapter 14.
3. 10 CFR 50, Appendix J, Option A, Section III. B

R.1/9

ITS 3.7.9 -- Rev 1a

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ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. One EDG ESFAS Service Water valve inoperable.	C.1	Restore both EDG ESFAS Service Water valves to OPERABLE status.	12 hours
D. One FCU ESFAS Service Water valve inoperable.	D.1	Restore both FCU ESFAS Service Water valves to OPERABLE status.	12 hours
E. SWS piping and valves inoperable for reasons other than Conditions A, B, C, or D, with no loss of safety function.	E.1	Restore SWS to OPERABLE Status	12 hours
F. Required Action and associated Completion Time of Condition A, B, C, D or E not met.	F.1	Be in MODE 3	6 hours
	<u>AND</u>		
	F.2	Be in MODE 5.	36 hours

R. 1/9

ACTIONS

C.1 and D.1 (continued)

EDGs. Similarly, required ESFAS flow to all five FCUs is initiated when either of the redundant SWS to FCU valves (TCV-1104 or TCV-1105) opens automatically in response to an ESFAS actuation signal. The SWS to FCU valves and SWS to EDG valves are OPERABLE when they open automatically in response to an ESFAS actuation signal or are blocked open.

If one of the redundant SWS to EDG valves is inoperable, a single failure of the redundant valve could result in the failure of all three EDGs shortly after the initiation of an event. If one of the redundant SWS to FCU valves is inoperable, a single failure of the redundant valve could result in the failure of all five FCUs. Therefore, a Completion Time of 12 hours is established to restore the required redundancy.

A 12 hour Completion Time is acceptable for the SWS to EDG valves because SWS to the EDGs is still available and the low probability of an event with a loss of offsite power during this period. A 12 hour Completion Time is acceptable for the SWS to FCU valves because SWS to the FCUs is still available, the availability of Containment Spray, and the low probability of an event during this period.

If both SWS to EDG valves or both SWS to FCU valves are inoperable, entry into LCO 3.0.3 is required.

E.1

If the SWS piping and valves are inoperable for reasons other than those listed in Conditions A, B, C or D, the SWS must be restored within 12 hours. This is necessary to ensure that repairs to affected portions of the SWS are completed in a timely manner. This Action also ensures no unnecessary transients (i.e. plant shutdown) are placed on the plant as a result of conditions in the SWS that may challenge OPERABILITY but do not result in a loss of function.

R.19

(continued)

ACTIONS

E.1 (continued)

A 12 hour Completion Time is acceptable for SWS piping and valves other than those listed in Conditions A, B, C, or D based on the low probability of an event during this period. Additionally, the 12 hour Completion Time allows the Operator to perform the evaluations and/or actions necessary for restoring the SWS OPERABILITY. This Action is in lieu of the potential for decreased safety as a result of diverting the Operator's attention to the actions associated with taking the unit to shutdown.

R.1a

F.1 and F.2

If more than one required SWS pump in either the essential or the nonessential header is inoperable; or, if the flow path associated with either header is not capable of performing its safety function (e.g., both SWS to EDG valves or both SWS to FCU valves are inoperable), then the unit must be placed in a MODE in which the LCO does not apply.

Additionally, if an SWS header 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 the required 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

This SR is modified by a Note indicating that the isolation of the SWS components or systems may render those components inoperable, but does not affect the OPERABILITY of the SW.

(continued)

SEE ITS 3.7.8

3. If the Component Cooling System is not restored to meet the requirements of 3.3.E.1 within the time periods specified in 3.3.E.2, then:

   a. If the reactor is critical, it shall be in the hot shutdown condition within four hours and in the cold shutdown condition within the following 24 hours.

   b. If the reactor is subcritical, the reactor coolant system temperature and pressure shall not be increased more than 25°F and 100 psi, respectively, over existing values. If the requirements of 3.3.E.1 are not satisfied within an additional 48 hours, the reactor shall be brought to the cold shutdown condition utilizing normal operating procedures. The shutdown shall start no later than the end of the 48 hour period.

F. Service Water System/~~Ultimate Heat Sink~~ SEE ITS 3.7.10

LCO 3.7.9 Applicability

1. ~~The reactor shall not be brought above cold shutdown unless~~ Mode 1, 2, 3 & 4 A.3

LCO 3.7.9

   a. Three service water pumps on the designated essential header and a minimum of two service water pumps on the designated non-essential header, together with their associated piping and valves, are operable. Condition E A.8 R.1a

SEE ITS 3.7.10

   b. The service water inlet temperature is less than or equal to 95°F.

Req Act C.1, D.1, E.1
Req Act F.1
Req Act F.2

2. ~~When the reactor is above cold shutdown and~~ if the requirements of 3.3.F.1.a cannot be met within twelve hours, the reactor shall be brought to the cold shutdown condition, starting no later than the end of the twelve hour period, utilizing normal operating procedures A.3 Mode 3 in 6 hrs, Mode 5 in 36 hrs A.4 R

SEE ITS 3.7.10

3. When the reactor is above cold shutdown and if the requirement of 3.3.F.1.b is exceeded, the reactor shall be placed in at least hot shutdown within seven hours, and in cold shutdown within the following thirty hours unless the service water inlet temperature decreases to within the requirement of 3.3.F.1.b.

~~Add LCO 3.7.9, Actions Note 1: Separate Cond entry~~ ~~A.5~~ R.1

Add Condition and and associated Req Act A.1, B.1 M.1 L.1 R.1

Add Condition E and Req Action E.1 M.1 M.2

Amendment No. ~~34~~, ~~98~~, 145

Rev 1a

an administrative change with no adverse impact on safety because it is a reasonable interpretation of the CTS requirement.

A.8 CTS 3.3.F.1.a specifies that SWS pumps '.... together with their associated piping and valves are operable.' ITS maintains the same requirement by providing a required action and completion time for SWS piping and valves that are inoperable for reasons other than the remaining defined conditions as long as there is no loss of safety function. The ITS completion time of 12 hours is the same as that provided in CTS 3.3.F.2. This is an administrative change with no impact on safety because it maintains the existing CTS requirement. Rev 1/9

MORE RESTRICTIVE

M.1 CTS 3.3.F.1 requires 3 service water pumps on the essential SWS header because 2 pumps are required in the accident analysis; CTS 3.3.F.1 requires 2 service water pumps on the nonessential SWS header because 1 pump is required in the accident analysis. If one or more pumps on either or both headers are inoperable, CTS 3.3.F.2 allows 12 hours for restoration. Note that CTS 3.3.F.2 permits the same Allowable Out of Service Times (AOTs) for a loss of function or a loss of redundancy on the essential and/or nonessential service water headers.

ITS LCO 3.7.9, Required Actions A.1 (for the essential SW header) and B.1 (for the nonessential header), revise CTS 3.3.F.2 to differentiate between a loss of function and a loss of redundancy on the essential and/or nonessential service water headers when a SW pump is inoperable. ITS LCO 3.7.9, Required Actions A.1 and B.1, establish an AOT of 72 hours (See ITS 3.7.9, DOC L.1) when one inoperable essential and/or nonessential SW pump causes a loss of SW redundancy on the essential and/or nonessential service water headers but both the essential and nonessential SW function are maintained (i.e., at least two essential and one nonessential SW pumps are Operable). If there is a loss of minimum required essential and/or nonessential SW function, ITS LCO 3.7.9, Required Actions E.1 and E.2, requires that the plant is promptly placed in a Mode in which the LCO does not apply. This is a more restrictive change because CTS 3.3.F.2 would allow operation with a loss of minimum required essential and/or nonessential SW function to

ITS 3.8.2 -- Rev 1a
Update to IP3 ITS Conversion Package

NYPA REPLY TO NRC RAI
REGARDING REVISION 1a OF PROPOSED ITS

ITS LCO: **3.8.2 AC Sources - Shutdown**

NRC RAI No: **3.8.2--04**

RAI STATEMENT:

--Bases Page B3.8-40 - Insert B3.8-40-01.

What the insert means, what its intended purpose is, and why this insert is considered more appropriate than the SR 3.8.2.1 Bases material proposed for deletion.
Comment: The licensee is requested to provide a discussion of the above staff's concern.

NYPA RESPONSE:

NYPA revised the ITS to remove Insert B3.8-40-01 and restore the discussion in NUREG-1431.

The discussion from NUREG-1431 was modified as described below to address IP3 site specific design differences.

ITS SR 3.8.1.9, which is the equivalent of STS SR 3.8.1.13, was removed from Note 1 because at IP3, the DG protective trips are bypassed only on the SI start signal, not on the LOP start signal. In Modes 5 and 6, there would be no SI-start signal, and this SR does not need to be met for ITS 3.8.2.

ITS SR 3.8.1.8, which does not have an equivalent in STS, was also removed from Note 1, because the note in ITS 3.8.1 for this SR explains that it is only required if the Unit Auxiliary Transformer (UAT) is supplying 6.9 kV bus 2 or 3. In Modes 5 and 6, the UAT would not be in service, therefore this SR does not need to be met for ITS 3.8.2.

A new Note 2 was added regarding the reference to ITS 3.8.1.12, which is the equivalent of STS SR 3.8.1.19. This SR includes testing with an actual or simulated ESF actuation signal. The Note is needed to explain that, for purposes of ITS 3.8.2 (Modes 5 and 6), portions of the surveillance involving the ESF signal are not applicable.

Changes related to the above items were also made to the Bases.

R1.a

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.2.1	------------------NOTES-------------------- 1. The following SRs are required to be met but are not required to be performed: SR 3.8.1.3, SR 3.8.1.10, SR 3.8.1.11, and SR 3.8.1.12. 2. Portions of SR 3.8.1.12 regarding an actual or simulated ESF actuation signal are not required to be met. --- For AC sources required to be OPERABLE, the SRs of Specification 3.8.1," AC Sources-Operating," except SR 3.8.1.8, SR 3.8.1.9, and SR 3.8.1.13, are applicable.	In accordance with applicable SRs

R.1/9

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1

SR 3.8.2.1 requires the SRs from LCO 3.8.1 that are necessary for ensuring the OPERABILITY of the AC sources in other than MODES 1, 2, 3, and 4. SR 3.8.1.8 is not required to be met since only one offsite circuit is required to be OPERABLE. SR 3.8.1.13 is excepted because starting independence is not required with the DG(s) that is not required to be operable.

R.1/9

This SR is modified by two Notes. The reason for the first Note is to preclude requiring the OPERABLE DG(s) from being paralleled with the offsite power network or otherwise rendered inoperable during performance of SRs, and to preclude deenergizing a required 480 V ESF bus or disconnecting a required offsite circuit during performance of SRs. With limited AC sources available, a single event could compromise both the required circuit and the DG. It is the intent that these SRs must still be capable of being met, but actual performance is not required during periods when the DG and offsite circuit is required to be OPERABLE. Refer to the corresponding Bases for LCO 3.8.1 for a discussion of each SR.

The reason for the second Note is that SR 3.8.1.12 includes testing with an actual or simulated ESF actuation signal. ESF actuation is not required in MODES 5 and 6 so that this portion of the surveillance is not required to be met.

R.1/9

REFERENCES None.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.2.1	NOTES ~~NOTE~~ 1. The following SRs ~~are not required to be performed: SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, SR 3.8.1.13 through SR 3.8.1.16, [SR 3.8.1.18,] and SR 3.8.1.19~~. For AC sources required to be OPERABLE, the SRs of Specification 3.8.1, "AC Sources—Operating," except SR 3.8.1.8, SR 3.8.1.17 9, and SR 3.8.1.20 13, are applicable.	In accordance with applicable SRs

<DOC L.2>

Insert: 3.8-20-01

<DOC M 2>

PA.1

DB.1

R.19

NUREG-1431 Markup Inserts
ITS SECTION 3.8.2 - AC Sources - Shutdown

INSERT 3.8-20-01:

are required to be met but are not required to be performed:

<Doc L.2>

SR 3.8.1.3;
~~SR 3.8.1.8;~~
~~SR 3.8.1.9;~~
SR 3.8.1.10;
SR 3.8.1.11;
SR 3.8.1.12;
and
~~SR 3.8.1.13.~~

R.1a

2. Portions of SR 3.8.1.12 regarding an actual or simulated ESF actuation signal are not required to be met

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1

7

SR 3.8.2.1 requires the SRs from LCO 3.8.1 that are necessary for ensuring the OPERABILITY of the AC sources in other than MODES 1, 2, 3, and 4. SR 3.8.1.8 is not required to be met since only one offsite circuit is required to be OPERABLE. ~~SR 3.8.1.17 is not required to be met because the required OPERABLE DG(s) is not required to undergo periods of being synchronized to the offsite circuit.~~ SR 3.8.1.20 is excepted because starting independence is not required with the DG(s) that is not required to be operable. 13 R.1

two Notes first

This SR is modified by a ~~Note~~. The reason for the Note is to preclude requiring the OPERABLE DG(s) from being paralleled with the offsite power network or otherwise rendered inoperable during performance of SRs, and to preclude deenergizing a required ~~4160~~ V ESF bus or disconnecting a required offsite circuit during performance of SRs. With limited AC sources available, a single event could compromise both the required circuit and the DG. It is the intent that these SRs must still be capable of being met, but actual performance is not required during periods when the DG and offsite circuit is required to be OPERABLE. Refer to the corresponding Bases for LCO 3.8.1 for a discussion of each SR. # R.1a

480

REFERENCES None.

R.1a

The reason for the second Note is that SR 3.8.1.12 includes testing with an actual or simulated ESF actuation signal. ESF actuation is not required in MODES 5 and 6 so that this portion of the surveillance is not required to be met.

LESS RESTRICTIVE

L.1 CTS 3.7.F specifies that AC electrical power sources and distribution must be operable under all conditions including cold shutdown. ITS LCO 3.8.2 specifies that the AC electrical power sources and distribution must be operable in Modes 5 and 6 and during movement of irradiated fuel assemblies. The ITS definition of Mode applies only when fuel is in the reactor vessel; therefore, ITS 3.8.2 eliminates Technical Specification requirements for when there is no fuel in the reactor vessel unless irradiated fuel assemblies are being moved. This change is acceptable because the ITS LCO 3.8.2 Applicability ensures that: the unit can be maintained in the shutdown or refueling condition for extended periods; sufficient instrumentation and control capability is available for monitoring and maintaining the unit status; and, adequate AC electrical power is provided to mitigate events postulated during shutdown, such as a fuel handling accident. In general, when the plant is shut down, ITS LCO 3.8.2 requirements ensure that the unit has the capability to mitigate the consequences of postulated accidents. Therefore, this change has no significant adverse impact on safety.

L.2 CTS 4.6.A includes requirements for periodic testing and surveillance of the AC power sources, specifically the diesel generators, and these requirements are applicable in all Modes. ITS SR 3.8.2.1 modifies this requirement by excepting certain surveillances for Modes 5 and 6 and by identifying other surveillances that are required to be met but are not required to be performed. ITS SR 3.8.1.8 is not applicable for 3.8:2 as explained by NOTE 2 for SR 3.8.1.8 (e.g., the Unit Auixiliary Transformer is not supplying 6.9 kV buses 2 or 3.) ITS SR 3.8.1.9 is not applicable because the DG automatic trips are only bypassed on an ESF signal, not on a loss of voltge signal. ITS SR 3.8.1.13 is not applicable because simultaneous operation of all three DGs is not required in these MODEs. Also, ITS SR 3.8.2.1 includes the allowance that, although the remaining ITS 3.8.1 SRs must be met, certain SRs need not be performed. ITS SR 3.8.2.1 does not require performance of the following SRs: SR 3.8.1.3; SR 3.8.1.10; SR 3.8.1.11; and SR 3.8.1.12. Further, portions of SR 3.8.1.12 regarding an actual or simulated ESF signal are not required to be met because an ESF actuation is not required in Modes 5 and 6. These changes are needed because they eliminate performing an SR that would require an Operable DG(s) being paralleled with the offsite power network or otherwise rendered inoperable during performance of SRs, and eliminate de-energizing a

R.9

ITS 3.9.3 -- Rev 1a

Update to IP3 ITS Conversion Package

3.9 REFUELING OPERATIONS

3.9.3 Containment Penetrations

added

LCO 3.9.3 The containment penetrations shall be in the following status:

a. The equipment hatch closed and held in place by at least four bolts or the equipment hatch opening is closed using an equipment hatch closure plate that may include a closed personnel access door;

b. One door in each air lock closed;

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere either:

1. closed by a manual or automatic isolation valve, a blind flange, or equivalent, or

2. capable of being closed by OPERABLE Containment Purge and Pressure Relief Isolation System. R.19

--------------------------NOTE--------------------------
LCO 3.9.3.d and LCO 3.9.3.e are not required to be met if the reactor has been subcritical for ≥ 550 hours.
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d. The Containment Purge System flow path shall be either:

1. closed by a manual or automatic isolation valve, a blind flange, or equivalent, or

2. aligned to discharge through the HEPA filters and charcoal adsorbers.

e. The Containment Pressure Relief Line shall be closed by a manual or automatic isolation valve, a blind flange, or equivalent.

APPLICABILITY: During CORE ALTERATIONS.
During movement of irradiated fuel assemblies within containment.

ITS 5.5.1 -- Rev 1a
ITS 5.5.13--Rev 1a
Update to IP3 ITS Conversion Package

5.0 ADMINISTRATIVE CONTROLS

5.5 Programs and Manuals

The following programs shall be established, implemented, and maintained.

5.5.1 Offsite Dose Calculation Manual (ODCM)

a. The ODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental monitoring program; and

b. The ODCM shall also contain the radioactive effluent controls and radiological environmental monitoring activities, and descriptions of the information that should be included in the Annual Radiological Environmental Operating, and Radioactive Effluent Release Reports required by Specification 5.6.2 and Specification 5.6.3.

c. Licensee initiated changes to the ODCM:

1. Shall be documented and records of reviews performed shall be retained. This documentation shall contain:

   (a) Sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s), and

   (b) A determination that the change(s) maintain the levels of radioactive effluent control required by 10 CFR 20.1302, 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;

2. Shall become effective after the approval of the plant manager; and

3. Shall be submitted to the NRC in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report

R.1/9

(continued)

5.0 ADMINISTRATIVE CONTROLS

<CTS> 5.5 Programs and Manuals

The following programs shall be established, implemented, and maintained.

5.5.1 Offsite Dose Calculation Manual (ODCM)

<1.22> a. The ODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental monitoring program; and

<1.22> b. The ODCM shall also contain the radioactive effluent controls and radiological environmental monitoring activities, and descriptions of the information that should be included in the Annual Radiological Environmental Operating, and Radioactive Effluent Release Reports required by Specification [5.6.2] and Specification [5.6.3].

<ETS 4.6.2> c. Licensee initiated changes to the ODCM:

<ETS 4.6.2.1> 1. ~~a.~~ Shall be documented and records of reviews performed shall be retained. This documentation shall contain:

<ETS 4.6.2.1.a> (a) ~~1.~~ sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s), and

<ETS 4.6.2.1.b> (b) ~~2.~~ a determination that the change(s) maintain the levels of radioactive effluent control required by 10 CFR 20.1302, 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;

<ETS 4.6.2.2> 2. ~~b.~~ Shall become effective after the approval of the ~~[Plant Superintendent]~~ plant manager; and T.1

<ETS 4.6.2.3> 3. ~~c.~~ Shall be submitted to the NRC in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report in which any change in the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the

(continued)

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5.5 Programs and Manuals

5.5.12 Diesel Fuel Oil Testing Program (continued)

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Diesel Fuel Oil Testing Program testing frequencies.

5.5.13 Technical Specifications (TS) Bases Control Program

This program provides a means for processing changes to the Bases of these Technical Specifications.

a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.

b. Licensees may make changes to Bases without prior NRC approval provided the changes do not involve either of the following:

1. a change in the TS incorporated in the license; or

2. a change to the updated FSAR or Bases that requires NRC approval pursuant to 10 CFR 50.59.

R.19

c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the FSAR.

d. Proposed changes that do not meet the criteria of Specification 5.5.13.b above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).

5.5.14 Safety Function Determination Program (SFDP)

This program ensures loss of safety function is detected and appropriate actions taken. Upon entry into LCO 3.0.6, an evaluation shall be made to determine if loss of safety function exists. Additionally, other appropriate actions may be taken as a result of the support system inoperability and corresponding exception to entering supported system Condition and Required Actions. This program implements the requirements of LCO 3.0.6. The SFDP shall contain the following:

(continued)

5.5 Programs and Manuals

5.5.13 Diesel Fuel Oil Testing Program (continued)

2. a flash point and kinematic viscosity within limits for ASTM 2D fuel oil, and

3. a clear and bright appearance with proper color;

SEE ITS 5.5.12

b. Other properties for ASTM 2D fuel oil are within limits within 31 days following sampling and addition to storage tanks; and

c. Total particulate concentration of the fuel oil is ≤ 10 mg/l when tested every 31 days in accordance with ASTM D-2276, Method A-2 or A-3.

<DOC H.1> 5.5.~~14~~ 13 Technical Specifications (TS) Bases Control Program

This program provides a means for processing changes to the Bases of these Technical Specifications.

a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.

b. Licensees may make changes to Bases without prior NRC approval provided the changes do not involve either of the following:

1. a change in the TS incorporated in the license; or

2. a change to the updated FSAR or Bases that involves an unreviewed safety question as defined in 10 CFR 50.59.

c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the FSAR.

d. Proposed changes that do not meet the criteria of Specification 5.5.14b 13.b above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).

requires NRC approval pursuant to 10 CFR 50.59

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(continued)