JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.2

ECCS - Shutdown

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.5.2 - ECCS - SHUTDOWN

ADMINISTRATIVE CHANGES

A1 In the conversion of the James A. FitzPatrick Nuclear Power Plant (JAFNPP) Current Technical Specification (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted which do not result in technical changes. Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the conventions in NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4," Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).

A2 CTS 3.5.F does not directly address the OPERABILITY status of LPCI during alignment and operation for decay heat removal. A Note has been added to CTS 4.5.F.5 (Note to ITS SR 3.5.2.4) which states that one LPCI subsystems may be considered OPERABLE during alignment and operation for decay heat removal in MODE 3 with reactor steam dome pressure less than the RHR permissive pressure, if capable of being manually realigned and not otherwise inoperable. This allowance is consistent with the CTS 4.5.F Bases description. The Bases states that a LPCI subsystem operating in the shutdown cooling mode of RHR is considered operable for the ECCS function if it can be realigned manually (either remote or local) to the LPCI mode and is not otherwise inoperable. This allowance was approved in Licensing Amendment 168 which clarified and defined the ECCS requirements for when the plant is in the cold condition. Therefore, this change does not present any technical change from the current requirements, only a repositioning of clarifying information from the Bases to an SR Note. As such, the change is considered administrative.

A3 CTS 3.5.F.1 requires two low pressure Emergency Core Cooling subsystems to be Operable when work is being performed with the potential for draining the vessel. CTS 3.5.F.2 requires one low pressure Emergency Core Cooling subsystem to be Operable when no work is being performed with the potential for draining the reactor vessel. ITS 3.5.2 is identical although the format of presentation of these requirements are different. ITS LCO 3.5.2 requires two low pressure ECCS injection/spray subsystems to be Operable. It does not distinguish whether work is being performed with the potential for draining the reactor vessel (OPDRVs). If no OPDRVs are occurring and only one ECCS injection/spray subsystem is Operable, the Specification is met since ITS ACTION B allows continuous operation in this condition. Since this change does not change any existing requirements this change is considered administrative.

ADMINISTRATIVE CHANGES

A4 The requirement in CTS 3.5.F.4 to establish Secondary Containment Integrity has been changed to ITS 3.5.2 Required Action D.1 (Initiate action to restore secondary containment to OPERABLE status), ITS 3.5.2 Required Action D.2 (Initiate action to restore one standby gas treatment subsystem to OPERABLE status) and ITS 3.5.2 Required Action D.3 (Initiate action to restore isolation capability in each required secondary containment penetration flow path not isolated). The CTS definition of Secondary Containment Integrity has been deleted as discussed in the Discussion of Changes for ITS Chapter 1.0. These three proposed Required Actions will ensure all aspects of secondary containment integrity are maintained. This change is considered administrative since it simply represents a change in presentation. Any changes to the Secondary Containment integrity requirements are discussed in ITS 3.6.4.1 (Secondary Containment), ITS 3.6.4.2 (Secondary Containment Isolation Valves) and ITS 3.6.4.3 (Standby Gas Treatment System). Changes to the Completion Time requirements in CTS 3.5.F.4 is discussed in M1 below, therefore, this change is considered administrative.

A5 CTS 3.5.G.1 requires the associated ECCS pump (e.g., LPCI and CS) to be declared inoperable for the purposes of satisfying Specifications 3.5.A, 3.5.C and 3.5.E, when the associated pump discharge piping cannot be maintained in a filled condition. This explicit cross reference is not required in ITS 3.5.2. The Operability requirements in CTS 3.5.G and 4.5.G are directly incorporated in the required surveillances of ITS 3.5.2 (SR 3.5.2.3). ITS SR 3.0.1 states that SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance shall be a failure to meet the LCO. Therefore incorporating the requirement to verify pump discharge piping is in the filled condition within the SRs associated with ECCS-Shutdown ensures the associated ECCS pump is declared inoperable when the surveillance is not met. Since there are no changes to any technical requirements, this change is considered administrative. This change is consistent with NUREG-1433, Revision 1.

A6 CTS 4.5.G.1 requires the discharge piping of the required ECCS subsystem to be vented every month prior to the testing of the LPCI subsystem and core spray subsystems. This explicit requirement to perform this surveillance prior to the testing of the LPCI subsystem and core spray subsystems has been deleted. The requirement to perform this surveillance every 31 days (ITS SR 3.5.2.3) is sufficient to ensure the discharge piping is full whenever the system is required to be Operable. This change is necessary since the ECCS subsystems flow rate Surveillances (e.g., CTS 4.5.A.1.b) are no longer tested every month.

ADMINISTRATIVE CHANGES

A6 (continued)

The Frequency of these Surveillances have been changed to "In accordance with the Inservice Testing Program" in recently approved Technical Specification Licensing Amendment 241. CTS 4.5.G.1 should have been modified during the process of the change. This will make the Surveillance consistent with other parts of the CTS and is therefore considered to be an administrative since the current Surveillance Frequency is every 31 days. This change is consistent with NUREG-1433, Revision 1.

A7 CTS Table 4.2-2 Note 7 requires the performance of a simulated automatic actuation test to be performed on the low pressure Emergency Core Cooling Systems. A Note has been added to the requirement (Note to ITS SR 3.5.2.6) that excludes vessel injection/spray during the Surveillance. The Bases indicates that this test must include actuation of all automatic valves to their required positions. Since all active components are testable and full flow can be demonstrated by recirculation through the test line, coolant injection into the RPV is not required during the Surveillance. This Note, therefore, is explicit recognition that proposed SR 3.5.2.6 can be satisfied by a series of overlapping tests. Since surveillance testing of the Core Spray and Low Pressure Coolant Injection Systems do not presently require actual injection, and is currently satisfied by a series of overlapping tests, the addition of the Note excluding vessel injection/spray is an administrative change.

A8 CTS 4.5.G.2 requires that "following any period where these subsystems or systems have not been maintained in a filled condition; the discharge piping shall be verified filled with water from the pump discharge valve to the injection valve prior to declaring the subsystem or system operable". In the ITS presentation this type of requirement is handled generically by SR 3.0.1. SR 3.0.1 states in part that "failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be a failure to meet the LCO" and that "Surveillances do not have to be performed on inoperable equipment or variables outside specified limits." The Bases for SR 3.0.1 clarifies these requirements by stating "Upon completion of maintenance, appropriate post maintenance testing is required to declare equipment OPERABLE. This includes ensuring applicable Surveillances are not failed and their most recent performance is in accordance with SR 3.0.2." Thus, anytime where these subsystem or systems had not been maintained in a filled condition SR 3.0.1 would require that the subsystems or systems be verified filled prior to declaring the

ADMINISTRATIVE CHANGES

A8 (continued)

subsystems or systems operable. Therefore, this change is not a technical change and is considered administrative. The change is consistent with NUREG-1433, Revision 1.

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 CTS 3.5.F.4 requires the Secondary Containment Integrity to be established within 8 hours if any of the other actions in CTS 3.5.F.4 are not met (e.g., suspend OPDRVs, restore at least one ECCS low pressure injection/spray subsystem to Operable status). ITS 3.5.2 Required Action D.1, D.2 and D.3 (see A4) requires action to be initiated immediately to restore secondary containment to Operable status, restore one standby gas treatment subsystem to Operable status, and to restore isolation capability in each required secondary containment penetration flow path not isolated, respectively. Secondary Containment operability requirements are not required to be met in MODES 4 or 5 unless certain operations are in progress (during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, and during OPDRVs). Therefore, the current 8 hour restoration time may not be sufficient since maintenance may be in progress and the required equipment (e.g., secondary containment isolation valves) may not be in place to perform the required Function. Additional time may be necessary to restore the secondary containment function.

The default of the current actions are to enter CTS 3.0.C and the plant is only required to be in a COLD SHUTDOWN condition. In this situation, the CTS do not provide direction as to the appropriate action to take if the secondary containment cannot be restored to Operable status. As a result, the ITS provide Actions (ITS 3.5.2 Required Actions D.1, D.2 and D.3) to immediately initiate action and continue attempts to restore the secondary containment. This change ensures that actions are taken to restore the secondary containment in a timely manner while continuing to provide direction if not restored. This change is considered to be acceptable since ITS 3.5.2 Required Action D.1, D.2 and D.3 do no preclude, but continue, to require action to restore secondary containment which will help reduce any potential fission product release to the containment if an inadvertent draindown event were to occur while OPDRVS are in progress (and can not be stopped) or if two required ECCS subsystems were inoperable. This change is considered more restrictive since it will require immediate action to restore the secondary

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 (continued)

containment to Operable status, and will continue to require this action until it is completed.

M2 CTS 4.5.F.4 permits both Core Spray (CS) subsystems to be considered operable in MODES 4 and 5 when the subsystems are taking a suction from the CSTs. The Note to ITS SR 3.5.2.2.b allows only one CS subsystem to be considered operable when taking a suction from the CSTs during operations with the potential for draining the vessel (OPDRVs). During OPDRVs, the volume in the CST may not provide adequate makeup if the RPV was completely drained. This Note ensures that the other required ECCS subsystem is aligned to another source of makeup water to be considered OPERABLE. As such, the addition of the Note represents an additional restriction on plant operation. This change is consistent with NUREG-1433, Revision 1.

M3 CTS 3.5.F.3 provides an exception to the ECCS low pressure applicability requirements in CTS 3.5.F.1 and 3.5.F.2 whenever the reactor vessel head is removed, the cavity is flooded, the spent fuel gates are removed and water level above the fuel is in accordance with CTS 3.10.C. CTS 3.10.C requires the level to be 33 feet above the bottom of the spent fuel storage pool. The corresponding Applicability of ITS 3.5.2 is MODE 5, except with the spent fuel storage gate removed and the reactor vessel water level $\geq$ 22 ft 2 inches above the top of the reactor vessel flange. This corresponds to an increase of over 4 ft from the CTS requirement. Therefore, the change represents an additional restriction on plant operation necessary to ensure sufficient coolant inventory is available to allow operator action to terminate the inventory loss prior to fuel recovery in case of an inadvertent reactor vessel draindown.

M4 CTS 3.5.F.4 requires the suspension of all operations with the potential for draining the vessel (OPDRV) when the requirements of CTS 3.5.F.1, 3.5.F.2 or 3.5.F.3 are not satisfied. However, a completion time is not specified. ITS 3.5.2 Required Action C.1 is explicit and requires to initiate action to suspend OPDRVs immediately. The completion time of the CTS action may be interpreted along with another requirement in CTS 3.5.F.4 (to restore one ECCS subsystem to Operable status within 4 hours) to suspend the OPDRVs within 4 hours. This was not the intent since with both of the required ECCS injection/spray subsystems inoperable, all coolant inventory makeup capability may be unavailable. Therefore, it is prudent that actions must immediately be initiated to suspend OPDRVs to minimize the probability of a vessel draindown and the subsequent potential for fission product release.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 The requirement in CTS 4.5.F.2 to perform an operability test on the required Core Spray and/or LPCI motor operated valves in accordance with the Inservice Testing Program (IST) is proposed to be relocated to the IST Program. The IST Program lists all valves required to be tested in accordance with ASME XI. In addition, ITS 5.5.7 requires the IST Program to be established, implemented and maintained. These controls are adequate to ensure the required tests are performed at the appropriate frequencies. Therefore, these tests do not need to be repeated in the Technical Specifications to provide adequate protection of the public health and safety. Changes to the IST Program will be controlled by the provisions of 10 CFR 50.59.

LA2 CTS 4.5.G.1 and CTS 4.5.G.2 present technical details of the method to be employed to assure that the Core Spray and LPCI discharge pump discharge lines are full of water (shall be vented from the high point of the system and water flow observed) (proposed ITS SR 3.5.2.3). Details pertaining to how this Surveillance is performed are proposed to be relocated to the Bases. These details are not necessary to ensure the Operability of the ECCS subsystems. The requirements of ITS 3.5.2, ECCS - Shutdown, and the associated SR 3.5.2.3 are adequate to ensure the ECCS subsystems remain Operable. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the Bases Control Program described in Chapter 5 of the Technical Specifications.

LB1 The operability of the ECCS "keep full" level switch instrumentation in CTS 4.5.G.4 is not directly related to the respective system Operability and are proposed to be relocated to the Technical Requirements Manual (TRM). NUREG-1433 does not specify indication-only equipment to be Operable to support Operability of a system or component. The availability of indications, monitoring instruments, and alarms are controlled by plant operating procedures and policies. These procedures also control compensatory actions (such as system venting) if the instrument is inoperable. Therefore, these details are not required to be in the ITS to provide adequate protection of public health and safety. At ITS implementation, the relocated requirements will be incorporated by reference into the UFSAR. Changes to the relocated requirements in the TRM will be controlled by the provisions of 10 CFR 50.59.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CTS 3.5.F.1 requires that a minimum of two low pressure ECCS subsystems to be Operable whenever work is being performed with the potential for draining the reactor vessel (OPDRVs). CTS 3.5.F.4 requires immediate suspension of OPDRVs when the requirements of CTS 3.5.F.1 are not met. ITS 3.5.2 ACTION A will allow 4 hours to restore one required ECCS injection/spray subsystem to OPERABLE status. In this Condition, the remaining OPERABLE subsystem can provide sufficient vessel flooding capability to recover from an inadvertent vessel draindown. This Completion Time for restoring the required low pressure ECCS injection/spray subsystem to OPERABLE status is based on the low probability of a vessel draindown event occurring during this short time period. This change is consistent with NUREG-1433, Revision 1.

L2 CTS 4.5.F.3 and 4.5.F.4 require the suppression pool water level and Condensate Storage Tank (CST) level, respectively to be verified to be within the specified limits once per 8 hours. ITS 3.5.2 will require these verifications every 12 hours (SR 3.5.2.1 and SR 3.5.2.2, respectively). This change extends these surveillances from 8 hours to 12 hours and therefore is less restrictive. The 12 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal suppression pool or CST water level conditions and an operating experience which indicates that these Surveillances normally pass the associated acceptance criteria.

L3 CTS 3.5.F.4 requires the suspension of Core Alterations when the requirements of CTS 3.5.F.1, 3.5.F.2 or 3.5.F.3 are not met. ITS 3.5.2 does not retain any ECCS operability requirements during Core Alterations. Refueling LCOs in ITS Section 3.9 (Refueling Operations) provide requirements to ensure safe operation during Core Alterations (and during other refueling operations) including required water level above the RPV flange (ITS 3.9.6). The low pressure ECCS function provides protection for loss of vessel inventory events. ITS 3.5.2 ACTIONS require either restoring the required number of ECCS subsystems within 4 hours (ITS 3.5.2 Required Action C.2) or establishing Secondary Containment Integrity (ITS 3.5.2 Required Actions D.1, D.2, and D.3) if all ECCS subsystems become unavailable. These actions minimize the potential fission product release in the event of an inadvertent vessel draindown. In addition, if all ECCS subsystems become unavailable, action must be immediately initiated to suspend OPDRVs (ITS 3.5.2 Required Action C.1). This action minimizes the potential for the occurrence of an inadvertent draindown event. Other refueling operations (e.g., CORE ALTERATIONS), however, do not initiate

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 (continued)

inadvertent vessel draindown events nor do they hamper the response of the ECCS. Therefore, it is not necessary to suspend refueling operations under these conditions.

L4 CTS Table 4.2-2 Note 7 requires the performance of a simulated actuation test to be performed every 24 months. The phrase "actual or," in reference to the automatic initiation signal, has been added to the Surveillance Requirements for verifying that each required ECCS injection/spray subsystem actuates on an automatic initiation signal. This allows satisfactory automatic system initiations to be used to fulfill the Surveillance Requirements. Operability is adequately demonstrated in either case since the ECCS subsystem itself can not discriminate between "actual" or "simulated" signals.

L5 The flow rate specified in CTS 4.5.F.1 of 8,910 gpm for the Low Pressure Injection (LPCI) System has been decreased to 7700 gpm. This proposed value is consistent with the value used in the plant specific LOCA analysis reflected in NEDC-31317P (James A. FitzPatrick Nuclear Power Plant SAFER/GESTR-LOCA Loss of Coolant Accident Analysis). The SAFER/GESTR-LOCA analysis for JAFNPP was performed with NRC requirements and demonstrates conformance with the ECCS acceptance criteria of 10 CFR 50.46 and 10 CFR 50, Appendix K. A sufficient number of plant-specific break sizes were evaluated to establish the behavior of both the nominal and Appendix K PCT as function of break size. Different single failures were also investigated in order to clearly identify the worst cases. The JAFNPP specific analysis was performed with a conservatively high Peak Linear Heat Generation Rate and a conservatively low Minimum Critical Power Ratio (MCPR). The Licensing Basis peak cladding temperature (PCT) for JAFNPP is 1620°F, which is well below the PCT limit of 2200°F. The Upper Bound PCT is 1600°F. The calculated Upper Bound PCT for the analysis is 1510°F. With the explicit verification that the Licensing Basis PCT for JAFNPP is greater than the Upper Bound (95th percentile) PCT, the level of safety and conservatism of this analysis meets the NRC approved criteria. The most limiting event is a double-ended guillotine break of the Reactor Water Recirculation System suction line. This is a larger opening than any opening associated with an inadvertent draindown of the reactor vessel. The long term cooling analysis (NEDO-20566A, General Electric Company Analytical Model for Loss-of-Coolant Analysis in Accordance with 10 CFR50 Appendix K, September 1986) was reviewed and it has been confirmed that the assumptions of this analysis are bounded by the proposed flow rate with only one LPCI pump.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L5 (continued)

Therefore, the proposed ITS change to require the SAFER/GESTAR flow rate during MODE 4 and 5 operations, is adequate since the operation of only one ECCS low pressure injection/spray subsystem (pump) at the prescribed flow rates are sufficient to mitigate a vessel draindown event.

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.2

ECCS - Shutdown

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.5.2 - ECCS - SHUTDOWN

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

edit | The Licensee has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. 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?

   The proposed change permits operations with the potential of draining the vessel (OPDRVs) to be performed with only one of two required low pressure ECCS injection/spray subsystems operable for a limited time period of 4 hours. The ECCS systems are designed to mitigate the consequences of accidents during operations or a draindown event during reactor shutdown operations. An inoperable ECCS subsystem will not significantly increase the probability of an OPDRV or lead to a draindown event and will not increase the probability of an accident previously evaluated since the ECCS is not considered to initiate an accident. In most cases the inoperability will involve a failure of the pump to automatically start, failure of actuation instrumentation, or a failure of a valve to automatically position itself to the correct position for injection. These types of inoperabilities will not increase the probability of an OPDRV or lead to a draindown event. If the inoperability involves a mispositioned valve such that a draindown path is open, plant operating procedures would not allow the OPDRVs to continue. The proposed new Action will permit up to 4 hours to restore one of the required ECCS injection/spray subsystems to Operable status prior to suspending OPDRVs. This would result in only one ECCS injection/spray subsystem being Operable for the 4 hour period. One such subsystem is capable of maintaining reactor vessel level should a reactor draindown event occur. However, a single failure may preclude the ability to restore reactor vessel level during such an event. The 4 hours is acceptable based on the ability of the remaining operable subsystem to maintain reactor vessel water level, and the low probability of a reactor draindown event occurring during the 4 hour time period. Since one ECCS injection/spray subsystem will remain Operable, the change does not involve a significant increase in the consequences of an accident previously evaluated.

L1 CHANGE

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

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

   The possibility of a new or different kind of accident from any accident previously evaluated is not created because the proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant.

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

   The proposed change permits up to 4 hours with one of the two required low pressure ECCS injection/spray subsystems to be operable while OPDRVs are being performed. The ECCS systems are designed to mitigate the consequences of accidents or a draindown event during shutdown operations. An inoperable ECCS subsystem will not significantly increase the probability of an OPDRV or lead to a draindown event. In most cases the inoperability will involve a failure of the pump to automatically start, failure of actuation instrumentation, or a failure of a valve to automatically position itself to the correct position for injection. These types of inoperabilities will not increase the probability of an OPDRV or lead to a draindown event. If the inoperability involves a valve to be mispositioned such that a draindown path is open, plant operating procedures would not allow the OPDRVs to continue. The proposed new Action will permit up to 4 hours to restore one of the required ECCS injection/spray subsystems to Operable status prior to suspending OPDRVs. This would result in only one ECCS injection/spray subsystem being Operable for the 4 hour period. One such subsystem is capable of maintaining reactor vessel level should a reactor draindown event occur. However, a single failure may preclude the ability to restore reactor vessel level during such an event. The 4 hours is acceptable based on the ability of the remaining subsystem to maintain reactor vessel water level, and the low probability of a reactor draindown event occurring during the 4 hour time period. Since the one subsystem is still capable of responding to a reactor draindown event, the change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.5.2 - ECCS - SHUTDOWN

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

edit | The Licensee has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. 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?

   The Frequency of once each shift in CTS 4.5.F.3 and 4.5.F.4 has been changed to once every 12 hours in accordance with NUREG-1433 (ITS SR 3.5.2.1). The 12 hour Frequency is adequate in view of other indicators available in the control room, including alarms, to alert the operators to an abnormal suppression pool or CST water level condition. The suppression pool or condensate storage tank levels are not assumed to be an initiator of any previously analyzed accident. Therefore, this change does not significantly increase the probability of an accident previously evaluated. In addition, the proposed surveillance frequency is considered adequate to ensure the levels are maintained within the limit. Therefore, this change will not involve a significant increase in the 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 the manner in which these SSC are operated, maintained, modified, tested, or inspected. Therefore, this change 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?

   The change provides an additional 4 hours between surveillances. The proposed Frequency is acceptable based on the small probability of an event requiring suppression pool or condensate storage tank level to be within limits, since there are additional instrumentation and alarms to alert the operators if these parameters were to exceed its limit, and operating experience which indicates that these Surveillances normally pass the associated acceptance criteria. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.5.2 - ECCS - SHUTDOWN

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

edit | The Licensee has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. 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?

   The proposed change deletes the requirement to suspend Core Alterations when the requirements of CTS 3.5.F (e.g., less than the required low pressure Emergency Core Cooling Systems are Operable) are not met. The purpose of maintaining ECCS Operable during Core Alterations is to provide makeup water to the reactor pressure vessel in order to mitigate the consequences of a reactor vessel draindown event. The actions associated with not meeting the requirements of CTS 3.5.F are not considered in the initiation of any previously analyzed accident. As such, the change does not increase the probability of any accident previously evaluated. Maintaining the low pressure ECCS Operable and aligned to an Operable source of makeup water ensures the capability to mitigate a reactor vessel draindown event is available. This change is acceptable since the requirement for suspension of refueling operations other than OPDRVs does not impact the initiation or mitigation of inadvertent vessel draindown events and the directions for suspending these activities are adequately addressed in the refueling Technical Specifications (ITS Section 3.9). In addition, actions controlling suspension of OPDRVs are not impacted by this change. Technical Specification Actions will require suspension of all OPDRVs to minimize the possibility of an inadvertent draindown event and limit the time period that low pressure ECCS subsystems may be inoperable. As a result, the consequences of an event occurring with the proposed change are the same as the consequences of an event occurring with the current requirements. Therefore, the change does not involve a significant increase in the consequences of any accident previously evaluated.

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

   The proposed change does not require a physical modification to the plant and the proposed change continues to provide assurance that the core will remain submerged in the event of an inadvertent vessel

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

2. (continued)

draindown. Therefore, it can not create the possibility of a new or different kind of accident.

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

The initiation, response, and effectiveness of low pressure ECCS do not depend upon, nor are the low pressure ECCS impacted by, refueling operations other than OPDRVs. Further, the necessity for suspending these activities, and thereby maintaining the margin of safety, is appropriately addressed, initiated, and preserved by the LCOs and Actions in ITS Section 3.9 (Refueling Operations). In addition, actions controlling suspension of OPDRVs are not impacted by this change. Technical Specification Actions will require suspension of all OPDRVs to minimize the possibility of an inadvertent draindown event and limit the time period that low pressure ECCS subsystems may be inoperable. In addition, Technical Specifications limit the time period that all ECCS subsystems may be inoperable in this condition. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.5.2 - ECCS - SHUTDOWN

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

edit | The Licensee has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. 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?

   The phrase "actual or," in reference to the automatic initiation signal, has been added to the system functional test surveillance test description. This does not impose a requirement to create an "actual" signal, nor does it eliminate any restriction on producing an "actual" signal. This change will allow the plant to take credit for spurious or real actuations as long as the surveillance requirements are satisfied. While creating an "actual" signal could increase the probability of an event, existing procedures and 10 CFR 50.59 control of revisions to them, dictate the acceptability of generating this signal. The proposed change does not affect the procedures governing plant operations and therefore the probability of creating these signals; it simply would allow such a signal to be credited when evaluating the acceptance criteria for the system functional test requirements. Therefore, the change does not involve a significant increase in the probability of an accident previously evaluated. Since the method of initiation will not affect the acceptance criteria of the system functional test, the change does not involve a significant increase in the 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 possibility of a new or different kind of accident from any accident previously evaluated is not created because the proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. The change merely allows the plant to take credit for spurious or real actuation as long as the actuation satisfies the surveillance requirement.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.5.2 - ECCS - SHUTDOWN

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

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

Use of an actual signal instead of the existing requirement, which limits use to a simulated signal, will not affect the performance or acceptance criteria of the surveillance test. Operability is adequately demonstrated in either case since the system itself cannot discriminate between "actual" or "simulated" signals. Therefore, the change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.5.2 - ECCS - SHUTDOWN

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L5 CHANGE

edit | The Licensee has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. 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?

edit | The flow rate specified in CTS 4.5.F.1 of 8,910 gpm for the Low Pressure Injection (LPCI) System has been decreased to 7700 gpm. The ECCS flow rates are not assumed in the initiation of a design bases event. Therefore, this change does not increase the probability of an accident previously evaluated. The proposed value is consistent with the value used in the plant specific LOCA analysis reflected in NEDC-31317P (James A. FitzPatrick Nuclear Power Plant SAFER/GESTR-LOCA Loss of Coolant Accident Analysis). The SAFER/GESTR-LOCA analysis for JAFNPP was performed with NRC requirements and demonstrates conformance with the ECCS acceptance criteria of 10 CFR 50.46 and 10 CFR 50, Appendix K. A sufficient number of plant-specific break sizes were evaluated to establish the behavior of both the nominal and Appendix K PCT as function of break size. Different single failures were also investigated in order to clearly identify the worst cases. The JAFNPP specific analysis was performed with a conservatively high Peak Linear Heat Generation Rate and a conservatively low Minimum Critical Power Ratio (MCPR). The Licensing Basis peak cladding temperature (PCT) for JAFNPP is 1620°F, which is well below the PCT limit of 2200°F. The Upper Bound PCT limit is 1600°F. The calculated Upper Bound PCT for the analysis is 1510°F. With the explicit verification that the Licensing Basis PCT for JAFNPP is greater than the Upper Bound (95th percentile) PCT, the level of safety and conservatism of this analysis meets the NRC approved criteria. The most limiting event is a double-ended guillotine break of the Reactor Water Recirculation System suction line. This is a larger opening than any opening associated with an inadvertent draindown of the reactor vessel. The long term cooling analysis (NEDO-20566A, General Electric Company Analytical Model for Loss-of-Coolant Analysis Model for Loss-of-Coolant Analysis in Accordance with 10 CFR 50, Appendix K, September 1986) was reviewed and it has been confirmed that the assumptions of this analysis are satisfied at the proposed flow rate with only one LPCI pump. Therefore, the proposed TS change to require the SAFER/GESTAR flow rates during MODE 4 and 5 operations, is adequate since the operation of

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L5 CHANGE

1. (continued)

only one ECCS low pressure injection/spray subsystem (pump) at the prescribed flow rates are sufficient to mitigate the consequences of a vessel draindown event. The consequences of an inadvertent draindown event will be bounded by existing analysis. Therefore, this change will 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 the manner in which these SSC are operated, maintained, modified, tested, or inspected. The proposed change still ensures the ECCS components will be adequately maintained Operable. Therefore, this change 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?

edit

The flow rate specified in CTS 4.5.A.3 (8,910 gpm) for the Low Pressure Injection (LPCI) System has been decreased to 7700 gpm. The proposed value is consistent with the value used in the plant specific LOCA analysis reflected in NEDC-31317P (James A. FitzPatrick Nuclear Power Plant SAFER/GESTR-LOCA Loss of Coolant Accident Analysis). The SAFER/GESTR-LOCA analysis for JAFNPP was performed with NRC requirements and demonstrates conformance with the ECCS acceptance criteria of 10 CFR 50.46 and Appendix K. A sufficient number of plant-specific break sizes were evaluated to establish the behavior of both the nominal and Appendix K PCT as function of break size. Different single failures were also investigated in order to clearly identify the worst cases. The JAFNPP specific analysis was performed with a conservatively high Peak Linear Heat Generation Rate and a conservatively low Minimum Critical Power Ratio (MCPR). In addition, many of the emergency core cooling system (ECCS) parameters were conservatively established relative to actual measured ECCS performance. The Licensing Basis PCT for JAFNPP is 1620°F, which is well below the PCT limit of 2200°F. The Upper Bound PCT limit is

L5 CHANGE

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

3. (continued)

1600°F. The calculated Upper Bound PCT for the analysis is 1510°F. With the explicit verification that the Licensing Basis PCT for JAFNPP is greater than the Upper Bound (95th percentile) PCT, the level of safety and conservatism of this analysis meets the NRC approved criteria. The most limiting event is a double-ended guillotine break of the Reactor Water Recirculation System suction line. This is a larger opening than any opening associated with an inadvertent draindown of the reactor vessel. The long term cooling analysis (NEDO-20566A, General Electric Company Analytical Model for Loss-of-Coolant Analysis in Accordance with 10 CFR50 Appendix K, September 1986) was reviewed and it has been confirmed that the assumptions of this analysis are satisfied at the proposed flow rate with only one LPCI pump. Therefore, the proposed TS change to require the SAFER/GESTAR flow rates during MODE 4 and 5 operations, is adequate since the operation of only one ECCS low pressure injection/spray subsystem (pump) at the prescribed flow rates are sufficient to mitigate the consequences of a vessel draindown event. Therefore, this change does not involve a significant reduction in any margin of safety.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.2

ECCS - Shutdown

MARKUP OF NUREG-1433, REVISION 1 SPECIFICATION

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.2 ECCS—Shutdown

LCO 3.5.2 Two low pressure ECCS injection/spray subsystems shall be OPERABLE.

[3.5.F.1] [3.5.F.2] [3.5.F.3]

APPLICABILITY: MODE 4,
MODE 5, except with the spent fuel storage pool gates removed and water level ≥ (23 ft) over the top of the reactor pressure vessel flange.

[3.5.F.1] [3.5.F.2] [3.5.F.3] [M3]

(X1) 22 ft 2 inches

low pressure — PA2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
[L1] A. One required ECCS injection/spray subsystem inoperable.	A.1 Restore required ECCS injection/spray subsystem to OPERABLE status.	4 hours
[3.5.F.4] B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action to suspend operations with a potential for draining the reactor vessel (OPDRVs).	Immediately
[3.5.F.4] C. Two required ECCS injection/spray subsystems inoperable.	C.1 Initiate action to suspend OPDRVs. AND C.2 Restore one ECCS injection/spray subsystem to OPERABLE status.	Immediately 4 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action C.2 and associated Completion Time not met.	D.1 Initiate action to restore [secondary] containment to OPERABLE status.	Immediately
	AND	
	D.2 Initiate action to restore one standby gas treatment subsystem to OPERABLE status.	Immediately
	AND	
	D.3 Initiate action to restore isolation capability in each required [secondary] containment penetration flow path not isolated.	Immediately

[3.5.F.4]

[M1]

PA1

PA1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.2.1	Verify, for each required low pressure coolant injection (LPCI) subsystem, the suppression pool water level is ≥ [12 ft 2 inches].	12 hours

[4.5.F.3]

10.33 ft

DB11

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.2	Verify, for each required core spray (CS) subsystem, the:	12 hours
[4.5.F.3]	a. Suppression pool water level is ≥ ~~12 ft 2 inches~~ 10.33 ft; or	DB2
[M2]	b. ----------NOTE---------- Only one required CS subsystem may take credit for this option during OPDRVs. ----------	
[4.5.F.4]	The water level in each condensate storage tank ~~water level~~ is ≥ ~~12 ft~~ 324 inches	DB2
SR 3.5.2.3 [3.5.G] [4.5.G.1] [4.5.6.2]	Verify, for each required ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.	31 days
SR 3.5.2.4 [A2]	----------NOTE---------- One LPCI subsystem may be considered OPERABLE during alignment and operation for decay heat removal if capable of being manually realigned and not otherwise inoperable. ----------	
[4.5.F.5]	Verify each required ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE					FREQUENCY
SR 3.5.2.5	Verify each required ECCS pump develops the specified flow rate against a system head corresponding to the specified reactor pressure.				In accordance with the Inservice Testing Program or 92 days
	SYSTEM	FLOW RATE	NO. OF PUMPS	SYSTEM HEAD CORRESPONDING TO A REACTOR PRESSURE OF	
	CS	≥ 4265 gpm	2	≥ 113 psig	
	LPCI	≥ 7700 gpm	1	≥ 20 psig	
SR 3.5.2.6	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.				24 months

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.2

ECCS - Shutdown

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.5.2 - ECCS - SHUTDOWN

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 The brackets from the Frequency in SR 3.5.2.5 have been removed and the Frequency "In accordance with the Inservice Testing Program" retained in accordance with CTS 4.5.F.1.

CLB2 The brackets from the Frequency in SR 3.5.2.6 have been removed and the Frequency extended from 18 to 24 months consistent with CTS Table 4.2-2 Note 7.

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

PA1 The brackets have been removed and the proper plant specific nomenclature has been provided.

PA2 Editorial changes have been made for enhanced clarity or to be consistent with the wording of the Specification or other places in the Bases.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The brackets have been removed and the proper plant specific value has been provided consistent with CTS 4.5.F.3.

DB2 The brackets have been removed and the proper plant specific values have been provided consistent with CTS 4.5.F.3 and 4.5.F.4.

DB3 The brackets have been removed and the proper plant specific values/information have been provided.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 The brackets have been removed and the proper plant specific value has been provided.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.2

ECCS - Shutdown

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

B 3.5.2 ECCS—Shutdown

BASES

BACKGROUND

A description of the Core Spray (CS) System and the low pressure coolant injection (LPCI) mode of the Residual Heat Removal (RHR) System is provided in the Bases for LCO 3.5.1, "ECCS—Operating."

APPLICABLE SAFETY ANALYSES

The ECCS performance is evaluated for the entire spectrum of break sizes for a postulated loss of coolant accident (LOCA). The long term cooling analysis following a design basis LOCA (Ref. 1) demonstrates that only one low pressure ECCS injection/spray subsystem is required, post LOCA, to maintain adequate reactor vessel water level in the event of an inadvertent vessel draindown. It is reasonable to assume, based on engineering judgement, that while in MODES 4 and 5, one low pressure ECCS injection/spray subsystem can maintain adequate reactor vessel water level. To provide redundancy, a minimum of two low pressure ECCS injection/spray subsystems are required to be OPERABLE in MODES 4 and 5.

The low pressure ECCS subsystems satisfy Criterion 3 of the NRC Policy Statement. (10 CFR 50.36(c)(2)(ii) (Ref. 2)) (X1)

LCO

Two low pressure ECCS injection/spray subsystems are required to be OPERABLE. The low pressure ECCS injection/spray subsystems consist of two CS subsystems and two LPCI subsystems. Each CS subsystem consists of one motor driven pump, piping, and valves to transfer water from the suppression pool or condensate storage tank (CST) to the reactor pressure vessel (RPV). Each LPCI subsystem consists of one motor driven pump, piping, and valves to transfer water from the suppression pool to the RPV. Only a single LPCI pump is required per subsystem because of the larger injection capacity in relation to a CS subsystem. In MODES 4 and 5, the RHR System cross tie valves are not required to be closed.

(DB1) (from both) (S) (DB1) (S) (The CST suction source consists of two CSTs connected in parallel,) (DB1) (DB2) (are)

(continued)

BASES

LCO (continued)

One LPCI subsystem may be aligned for decay heat removal and considered OPERABLE for the PCCS function, if it can be manually realigned (remote or local) to the LPCI mode and is not otherwise inoperable. Because of low pressure and low temperature conditions in MODES 4 and 5, sufficient time will be available to manually align and initiate LPCI subsystem operation to provide core cooling prior to postulated fuel uncovery.

APPLICABILITY

OPERABILITY of the low pressure ECCS injection/spray subsystems is required in MODES 4 and 5 to ensure adequate coolant inventory and sufficient heat removal capability for the irradiated fuel in the core in case of an inadvertent draindown of the vessel. Requirements for ECCS OPERABILITY during MODES 1, 2, and 3 are discussed in the Applicability section of the Bases for LCO 3.5.1. ECCS subsystems are not required to be OPERABLE during MODE 5 with the spent fuel storage pool gates removed and the water level maintained at ≥ 22 ft above the RPV flange. This provides sufficient coolant inventory to allow operator action to terminate the inventory loss prior to fuel uncovery in case of an inadvertent draindown.

The Automatic Depressurization System is not required to be OPERABLE during MODES 4 and 5 because the RPV pressure is ≤ 150 psig, and the CS System and the LPCI subsystems can provide core cooling without any depressurization of the primary system.

The High Pressure Coolant Injection System is not required to be OPERABLE during MODES 4 and 5 since the low pressure ECCS injection/spray subsystems can provide sufficient flow to the vessel.

ACTIONS

A.1 and B.1

If any one required low pressure ECCS injection/spray subsystem is inoperable, the inoperable subsystem must be restored to OPERABLE status in 4 hours. In this condition, the remaining OPERABLE subsystem can provide sufficient vessel flooding capability to recover from an inadvertent vessel draindown. However, overall system reliability is

(continued)

BASES

ACTIONS

A.1 and B.1 (continued)

reduced because a single failure in the remaining OPERABLE subsystem concurrent with a vessel draindown could result in the ECCS not being able to perform its intended function. The 4 hour Completion Time for restoring the required low pressure ECCS injection/spray subsystem to OPERABLE status is based on engineering judgment that considered the remaining available subsystem and the low probability of a vessel draindown event.

With the inoperable subsystem not restored to OPERABLE status in the required Completion Time, action must be immediately initiated to suspend operations with a potential for draining the reactor vessel (OPDRVs) to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

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

With both of the required ECCS injection/spray subsystems inoperable, all coolant inventory makeup capability may be unavailable. Therefore, actions must immediately be initiated to suspend OPDRVs to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until OPDRVs are suspended. One ECCS injection/spray subsystem must also be restored to OPERABLE status within 4 hours.

If at least one low pressure ECCS injection/spray subsystem is not restored to OPERABLE status within the 4 hour Completion Time, additional actions are required to minimize any potential fission product release to the environment. This includes ensuring secondary containment is OPERABLE; one standby gas treatment subsystem is OPERABLE; and secondary containment isolation capability (i.e., one isolation valve and associated instrumentation are OPERABLE or other acceptable administrative controls to assure isolation capability) in each associated penetration flow path not isolated that is assumed to be isolated to mitigate radioactivity releases. OPERABILITY may be verified by an administrative check, or by examining logs or other information, to determine whether the components are out of service for maintenance or other reasons. It is not

(continued)

BASES

ACTIONS C.1, C.2, D.1, D.2, and D.3 (continued)

necessary to perform the Surveillances needed to demonstrate the OPERABILITY of the components. If, however, any required component is inoperable, then it must be restored to OPERABLE status. In this case, the Surveillance may need to be performed to restore the component to OPERABLE status. Actions must continue until all required components are OPERABLE.

move to previous Page

The 4 hour Completion Time to restore at least one low pressure ECCS injection/spray subsystem to OPERABLE status ensures that prompt action will be taken to provide the required cooling capacity or to initiate actions to place the plant in a condition that minimizes any potential fission product release to the environment.

PA1

SURVEILLANCE REQUIREMENTS SR 3.5.2.1 and SR 3.5.2.2

10.33 ft

The minimum water level of [12 ft 2 inches] required for the suppression pool is periodically verified to ensure that the suppression pool will provide adequate net positive suction head (NPSH) for the CS System and LPCI subsystem pumps, recirculation volume, and vortex prevention. With the suppression pool water level less than the required limit, all ECCS injection/spray subsystems are inoperable unless they are aligned to an OPERABLE CST.

DBZ unless otherwise noted

10.33 ft

both

S

When suppression pool level is < [12 ft 2 inches], the CS System is considered OPERABLE only if it can take suction from the CST, and the CST water level is sufficient to provide the required NPSH for the CS pump. Therefore, a verification that either the suppression pool water level is ≥ [12 ft 2 inches] or that CS is aligned to take suction from the CST, and the CST contains ≥ [150,000] gallons of water, equivalent to [12 ft], ensures that the CS System can supply at least [50,000] gallons of makeup water to the RPV. The CS suction is uncovered at the [100,000] gallon level. However, as noted, only one required CS subsystem may take credit for the CST option during OPDRVs. During OPDRVs, the volume in the CST may not provide adequate makeup if the RPV were completely drained. Therefore, only one CS subsystem is allowed to use the CST. This ensures the other required ECCS subsystem has adequate makeup volume.

10.33 ft

both

S

324 inches (27 ft)

S

35,000 (two tanks)

258,000 (two tanks)

An excess amount of water remains as a supplementary volume and to ensure adequate CS pump NPSH.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.2.1 and SR 3.5.2.2 (continued)

The 12 hour Frequency of these SRs was developed considering operating experience related to suppression pool water level and CST water level variations and instrument drift during the applicable MODES. Furthermore, the 12 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal suppression pool or CST water level condition.

SR 3.5.2.3, SR 3.5.2.5, and SR 3.5.2.6

The Bases provided for SR 3.5.1.1, SR 3.5.1.7, and SR 3.5.1.10 are applicable to SR 3.5.2.3, SR 3.5.2.5, and SR 3.5.2.6, respectively.

SR 3.5.2.4

Verifying the correct alignment for manual, power operated, and automatic valves in the ECCS flow paths provides assurance that the proper flow paths will exist for ECCS operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve that receives an initiation signal is allowed to be in a nonaccident position provided the valve will automatically reposition in the proper stroke time. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of potentially being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves. The 31 day Frequency is appropriate because the valves are operated under procedural control and the probability of their being mispositioned during this time period is low.

In MODES 4 and 5, the RHR System may be required to operate in the shutdown cooling mode to remove decay heat and sensible heat from the reactor. Therefore, RHR valves that are required for LPCI subsystem operation may be aligned for decay heat removal. Therefore, this SR is modified by a Note that allows one LPCI subsystem of the RHR System to be considered OPERABLE

PA!

PA!

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.2.4 (continued) Capable of being

for the ECCS function if all the required valves in the LPCI flow path can be manually realigned (remote or local) to allow injection into the RPV, and the system is not otherwise inoperable. This will ensure adequate core cooling if an inadvertent RPV draindown should occur.

during alignment and operation for shutdown cooling

the LPCI mode and

PA1

REFERENCES

1. UFSAR, Section 6.3.2. PA2 6.5.3 DB3

2. 10 CFR 50.36(c)(2)(ii) X1

PA1

Alignment and operation for decay heat removal includes when the system is being realigned from or to the RHR shutdown cooling mode. Because of the low pressure and low temperature conditions in MODE 4 and 5 sufficient time will be available to manually align and initiate LPCI subsystem operation to provide core cooling prior to postulated fuel uncovery.

PA1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.2

ECCS - Shutdown

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1, BASES

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.5.2 - ECCS - SHUTDOWN

RETENTION OF EXISTING REQUIREMENT (CLB)

None

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

PA1 Editorial changes have been made for enhanced clarity or to be consistent with the wording of the Specification or other places in the Bases.

PA2 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The JAFNPP design includes two Condensate Storage Tanks (CSTs) which are both required to be available for the associated CS subsystem to be considered Operable. The proposed level will ensure sufficient water volume is available.

DB2 Changes have been made (additions, deletions and/or changes to the NUREG) to reflect the plant specific design.

DB3 The brackets have been removed and the proper plant specific references included.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 NUREG-1433, Revision 1, Bases reference to "the NRC Policy Statement" has been replaced with 10 CFR 50.36(c)(2)(ii), in accordance with 60 FR 36953 effective August 18, 1995.

X2 The brackets have been removed and the proper plant specific value has been provided.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.2

ECCS - Shutdown

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.2 ECCS – Shutdown

LCO 3.5.2 Two low pressure ECCS injection/spray subsystems shall be OPERABLE.

APPLICABILITY: MODE 4,
MODE 5, except with the spent fuel storage pool gates removed and water level ≥ 22 ft 2 inches over the top of the reactor pressure vessel flange.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required low pressure ECCS injection/spray subsystem inoperable.	A.1 Restore required ECCS injection/spray subsystem to OPERABLE status.	4 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action to suspend operations with a potential for draining the reactor vessel (OPDRVs).	Immediately
C. Two required ECCS injection/spray subsystems inoperable.	C.1 Initiate action to suspend OPDRVs. AND C.2 Restore one ECCS injection/spray subsystem to OPERABLE status.	Immediately 4 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action C.2 and associated Completion Time not met.	D.1 Initiate action to restore secondary containment to OPERABLE status.	Immediately
	AND	
	D.2 Initiate action to restore one standby gas treatment subsystem to OPERABLE status.	Immediately
	AND	
	D.3 Initiate action to restore isolation capability in each required secondary containment penetration flow path not isolated.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.2.1	Verify, for each required low pressure coolant injection (LPCI) subsystem, the suppression pool water level is ≥ 10.33 ft.	12 hours

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.5.2.2	Verify, for each required core spray (CS) subsystem, the: a. Suppression pool water level is ≥ 10.33 ft; or b. ----------NOTE---------- Only one required CS subsystem may take credit for this option during OPDRVs. ---------- The water level in each condensate storage tank is ≥ 324 inches.	12 hours
SR 3.5.2.3	Verify, for each required ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.	31 days
SR 3.5.2.4	----------NOTE---------- One LPCI subsystem may be considered OPERABLE during alignment and operation for decay heat removal if capable of being manually realigned and not otherwise inoperable. ---------- Verify each required ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.5.2.5	Verify each required ECCS pump develops the specified flow rate against a system head corresponding to the specified reactor pressure above primary containment pressure. SYSTEM HEAD CORRESPONDING TO A REACTOR PRESSURE ABOVE PRIMARY CONTAINMENT PRESSURE OF SYSTEM: CS — FLOW RATE: ≥ 4265 gpm — NO. OF PUMPS: 1 — ≥ 113 psi SYSTEM: LPCI — FLOW RATE: ≥ 7700 gpm — NO. OF PUMPS: 1 — ≥ 20 psi	In accordance with the Inservice Testing Program
SR 3.5.2.6	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.	24 months

B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

B 3.5.2 ECCS – Shutdown

BASES

BACKGROUND

A description of the Core Spray (CS) System and the low pressure coolant injection (LPCI) mode of the Residual Heat Removal (RHR) System is provided in the Bases for LCO 3.5.1, "ECCS – Operating."

APPLICABLE SAFETY ANALYSES

The ECCS performance is evaluated for the entire spectrum of break sizes for a postulated loss of coolant accident (LOCA). The long term cooling analysis following a Design Basis LOCA (Ref. 1) demonstrates that only one low pressure ECCS injection/spray subsystem is required, post LOCA, to maintain adequate reactor vessel water level in the event of an inadvertent vessel draindown. It is reasonable to assume, based on engineering judgement, that while in MODES 4 and 5, one low pressure ECCS injection/spray subsystem can maintain adequate reactor vessel water level. To provide redundancy, a minimum of two low pressure ECCS injection/spray subsystems are required to be OPERABLE in MODES 4 and 5.

The low pressure ECCS subsystems satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 2).

LCO

Two low pressure ECCS injection/spray subsystems are required to be OPERABLE. The low pressure ECCS injection/spray subsystems consist of two CS subsystems and two LPCI subsystems. Each CS subsystem consists of one motor driven pump, piping, and valves to transfer water from the suppression pool or from both condensate storage tanks (CSTs) to the reactor pressure vessel (RPV). The CST suction source consists of two CSTs connected in parallel. Each LPCI subsystem consists of one motor driven pump, piping, and valves to transfer water from the suppression pool to the RPV. Only a single LPCI pump is required per subsystem because of the larger injection capacity in relation to a CS subsystem. In MODES 4 and 5, the RHR System cross tie valves are not required to be closed.

(continued)

BASES

LCO (continued)

One LPCI subsystem may be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned (remote or local) to the LPCI mode and is not otherwise inoperable. Alignment and operation for decay heat removal includes when the system is realigned from or to the RHR shutdown cooling mode. Because of low pressure and low temperature conditions in MODES 4 and 5, sufficient time will be available to manually align and initiate LPCI subsystem operation to provide core cooling prior to postulated fuel uncovery.

APPLICABILITY

OPERABILITY of the low pressure ECCS injection/spray subsystems is required in MODES 4 and 5 to ensure adequate coolant inventory and sufficient heat removal capability for the irradiated fuel in the core in case of an inadvertent draindown of the vessel. Requirements for ECCS OPERABILITY during MODES 1, 2, and 3 are discussed in the Applicability section of the Bases for LCO 3.5.1. ECCS subsystems are not required to be OPERABLE during MODE 5 with the spent fuel storage pool gates removed and the water level maintained at $\geq$ 22 feet 2 inches above the RPV flange. This provides sufficient coolant inventory to allow operator action to terminate the inventory loss prior to fuel uncovery in case of an inadvertent draindown.

The Automatic Depressurization System is not required to be OPERABLE during MODES 4 and 5 because the RPV pressure is $\leq$ 150 psig, and the CS System and the LPCI subsystems can provide core cooling without any depressurization of the primary system.

The High Pressure Coolant Injection System is not required to be OPERABLE during MODES 4 and 5 since the low pressure ECCS injection/spray subsystems can provide sufficient flow to the vessel.

ACTIONS

A.1 and B.1

If any one required low pressure ECCS injection/spray subsystem is inoperable, the inoperable subsystem must be restored to OPERABLE status in 4 hours. In this condition,

(continued)

BASES

ACTIONS

A.1 and B.1 (continued)

the remaining OPERABLE subsystem can provide sufficient vessel flooding capability to recover from an inadvertent vessel draindown. However, overall system reliability is reduced because a single active component failure in the remaining OPERABLE subsystem concurrent with a vessel draindown could result in the ECCS not being able to perform its intended function. The 4 hour Completion Time for restoring the required low pressure ECCS injection/spray subsystem to OPERABLE status is based on engineering judgment that considered the remaining available subsystem and the low probability of a vessel draindown event.

With the inoperable subsystem not restored to OPERABLE status in the required Completion Time, action must be immediately initiated to suspend operations with a potential for draining the reactor vessel (OPDRVs) to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

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

With both of the required ECCS injection/spray subsystems inoperable, all coolant inventory makeup capability may be unavailable. Therefore, actions must immediately be initiated to suspend OPDRVs to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until OPDRVs are suspended. One ECCS injection/spray subsystem must also be restored to OPERABLE status within 4 hours. The 4 hour Completion Time to restore at least one low pressure ECCS injection/spray subsystem to OPERABLE status ensures that prompt action will be taken to provide the required cooling capacity or to initiate actions to place the plant in a condition that minimizes any potential fission product release to the environment.

If at least one low pressure ECCS injection/spray subsystem is not restored to OPERABLE status within the 4 hour Completion Time, additional actions are required to minimize any potential fission product release to the environment. This includes ensuring secondary containment is OPERABLE; one standby gas treatment subsystem is OPERABLE; and

(continued)

BASES

ACTIONS

C.1, C.2, D.1, D.2, and D.3 (continued)

secondary containment isolation capability is available in each associated penetration flow path not isolated that is assumed to be isolated to mitigate radioactivity releases (i.e., at least one secondary containment isolation valve and associated instrumentation are OPERABLE or acceptable administrative controls assure isolation capability. These administrative controls consist of stationing a dedicated operator who is in continuous communication with the control room, at the controls of the isolation device. In this way, the penetration can be rapidly isolated when a need for secondary containment isolation is indicated). OPERABILITY may be verified by an administrative check, or by examining logs or other information, to determine whether the components are out of service for maintenance or other reasons. It is not necessary to perform the Surveillances needed to demonstrate the OPERABILITY of the components. If, however, any required component is inoperable, then it must be restored to OPERABLE status. In this case, the Surveillance may need to be performed to restore the component to OPERABLE status. Actions must continue until all required components are OPERABLE.

SURVEILLANCE REQUIREMENTS

SR 3.5.2.1 and SR 3.5.2.2

The minimum water level of 10.33 ft required for the suppression pool is periodically verified to ensure that the suppression pool will provide adequate net positive suction head (NPSH) for the CS System and LPCI subsystem pumps, recirculation volume, and vortex prevention. With the suppression pool water level less than the required limit, all ECCS injection/spray subsystems are inoperable unless they are aligned to an OPERABLE CST.

When suppression pool level is < 10.33 ft, the CS System is considered OPERABLE only if it can take suction from both CSTs, and the CST water level is sufficient to provide the required NPSH for the CS pump. Therefore, a verification that either the suppression pool water level is ≥ 10.33 ft or that CS is aligned to take suction from both CSTs and the CSTs contain ≥ 354,000 gallons (two tanks) of water.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.2.1 and SR 3.5.2.2 (continued)

equivalent to 324 inches (27 ft), ensures that the CS System can supply at least 50,000 gallons of makeup water to the RPV. An excess amount of water remains as a supplementary volume and to ensure adequate CS pump NPSH. The CS suction is uncovered at the 258,000 gallon level (two tanks). However, as noted, only one required CS subsystem may take credit for the CST option during OPDRVs. During OPDRVs, the volume in the CSTs may not provide adequate makeup if the RPV were completely drained. Therefore, only one CS subsystem is allowed to use the CSTs. This ensures the other required ECCS subsystem has adequate makeup volume.

The 12 hour Frequency of these SRs was developed considering operating experience related to suppression pool water level and CST water level variations and instrument drift during the applicable MODES. Furthermore, the 12 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal suppression pool or CST water level condition.

SR 3.5.2.3, SR 3.5.2.5, and SR 3.5.2.6

The Bases provided for SR 3.5.1.1, SR 3.5.1.7, and SR 3.5.1.10 are applicable to SR 3.5.2.3, SR 3.5.2.5, and SR 3.5.2.6, respectively.

SR 3.5.2.4

Verifying the correct alignment for manual, power operated, and automatic valves in the ECCS flow paths provides assurance that the proper flow paths will exist for ECCS operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve that receives an initiation signal is allowed to be in a nonaccident position provided the valve will automatically reposition in the proper stroke time. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.2.4 (continued)

potentially being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves. The 31 day Frequency is appropriate because the valves are operated under procedural control and the probability of their being mispositioned during this time period is low.

In MODES 4 and 5, the RHR System may be required to operate in the shutdown cooling mode to remove decay heat and sensible heat from the reactor. Therefore, this SR is modified by a Note that allows one LPCI subsystem to be considered OPERABLE during alignment and operation for shutdown cooling if capable of being manually realigned (remote or local) to the LPCI mode and not otherwise inoperable. Alignment and operation for decay heat removal includes when the system is being realigned from or to the RHR shutdown cooling mode. Because of the low pressure and low temperature conditions in MODE 4 and 5 sufficient time will be available to manually align and initiate LPCI subsystem operation to provide core cooling prior to postulated fuel uncovery. This will ensure adequate core cooling if an inadvertent RPV draindown should occur.

REFERENCES

1. UFSAR, Section 6.5.3.

2. 10 CFR 50.36(c)(2)(ii).

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.3

RCIC System

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

DISCUSSION OF CHANGES (DOCs) TO THE CTS

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

MARKUP OF NUREG-1433, REVISION 1, SPECIFICATION

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1
MARKUP OF NUREG-1433, REVISION 1, BASES

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1, BASES

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.3

RCIC System

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

Specification 3.5.3 (A1)

~~3.5 (Cont'd)~~

[3.5.3] ~~E.~~ Reactor Core Isolation Cooling (RCIC) System

[LCO 3.5.3] ~~1.~~ The RCIC System shall be operable whenever there is irradiated fuel in the reactor vessel and the reactor pressure is greater than 150 psig and reactor coolant temperature is greater than 212°F, except from the time that the RCIC System is made or found to be inoperable for any reason, continued reactor power operation is permissible during the succeeding 7 days unless the system is made operable earlier, provided that during these 7 days the HPCI System is operable.

[Applicability] [ACTION A]

(M1) MODE 3 in 12 hours (14) (L1)

[ACTION B] ~~2.~~ If the requirements of 3.5.E cannot be met, the reactor shall be placed in the cold condition and pressure less than 150 psig within 24 hours. (36) (L2)

(L5) ~~3.~~ Low power physics testing and reactor operator training shall be permitted with inoperable components as specified in 3.5.E.2 above, provided that reactor coolant temperature is ≤212°F. (A5)

~~4.5 (Cont'd)~~

[3.5.3] ~~F.~~ Reactor Core Isolation Cooling (RCIC) System

[SR 3.5.3.4 NOTE] [SR 3.5.3.5 NOTE] [SR 3.5.3.6 NOTE 1]

1. RCIC System testing shall be performed as follows provided a reactor steam supply is available. If steam is not available at the time the surveillance test is scheduled to be performed, the test shall be performed within ~~ten days~~ 12 hours of continuous operation from the time steam becomes available. (M2)

~~Item~~ Surveillance	Frequency
[SR 3.5.3.6] a. ~~Simulated Automatic~~ Actuation (and Restart*) Test (LA1) (13)	Once per 24 Months (ADD SR 3.5.3.6 NOTE 2) (A3)
[SR 3.5.3.2] b. Verify that each valve (manual, power operated or automatic) in the system flowpath that is not locked, sealed or otherwise secured in position, is in the correct position.	Once per 31 Days
[SR 3.5.3.3] c. Motor Operated Valve Operability (M5)	Once per 92 Days

* Automatic restart on a low water level signal which is subsequent to a high water level trip. (LA1)

ADD 3.5.3-BS1

AMD #267

Specification 3.5.3

A1

JAFNPP

3.5 (cont'd)

4.5 (cont'd)

With reactor pressure ≥ 970 psig and ≤ 1040 psig

M3

With reactor pressure ≤ 165 psig, every 24 months

[SR 3.5.3.4]

[SR 3.5.3.5]

Item	SURVEILLANCE	Frequency
d.	Flow Rate Test - The RCIC pump shall deliver at least 400 gpm against a system head corresponding to a reactor vessel pressure of 1195 psig to 150 psig.	Once per 92 Days
e.	Testable Check Valves	Tested for operability any time the reactor is in the cold condition exceeding 48 hours, if operability tests have not been performed during the preceding 92 days.
f.	Logic System Functional Test	Once per 24 Months

[SR 3.5.3.4]

L.A4

See ITS! 3.3.5.2

[SR 3.5.3.5]

RAI 3.5.3-BS1

RAI 3.5.3-1 (revised)

RAI 3.5.3-BS1

[Required Action A.1]

2. When it is determined that the RCIC System is inoperable at a time when it is required to be operable, the HPCI System shall be verified to be operable immediately and daily thereafter.

L4

TSTF-301

Specification 3.5.3.

3.5 (cont'd)

G. Maintenance of Filled Discharge Pipe

SR 3.5.3.1 Whenever core spray subsystems, LPCI subsystems, HPCI or RCIC are required to be operable, the discharge piping from the pump discharge of these systems to the last block valve shall be filled.

1. From and after the time that the pump discharge piping of the HPCI, RCIC, LPCI, or Core Spray Systems cannot be maintained in a filled

ACTION A — A.2

See ITS 3.5.1 3.5.2

4.5 (cont'd)

G. Maintenance of Filled Discharge Pipe

SR 3.5.3.1 The following surveillance requirements shall be adhered to, in order to assure that the discharge piping of the core spray subsystem, LPCI subsystem, HPCI, and RCIC are filled:

1. Every month prior to the testing of the LPCI subsystem and core spray subsystem, the discharge piping of these systems shall be vented from the high point, and water flow observed.

See ITS 3.5.1 3.5.2

A.1

See ITS: 3.5.1, 3.5.2

Specifcation 3.5.3

JAFNPP

3.5 (cont'd)

[ACTION A] condition, that pump shall be considered inoperable for purposes of satisfying Specifications 3.5.A, 3.5.C, and 3.5.E.

A2

see ITS: 3.5.1 3.5.2

4.5 (cont'd)

see ITS 3.5.1 3.5.2

2. Following any period where the LPCI subsystems or core spray subsystems have not been maintained in a filled condition; the discharge piping of the affected subsystem shall be vented from the high point of the system and water flow observed.

[SR 3.5.3.1]

3. Whenever the HPCI or RCIC System is lined up to take suction from the condensate storage tank, the discharge piping of the HPCI or RCIC shall be vented from the high point of the system, and water flow observed on a monthly basis.

M4

LA2

4. The level switches located on the Core Spray and RHR System discharge piping high points which monitor these lines to ensure they are full shall be functionally tested each month.

see ITS: 3.5.1 3.5.2

A1

H. Average Planar Linear Heat Generation Rate (APLHGR)

During power operation, the APLHGR for each type of fuel as a function of axial location and average planar exposure shall be within limits based on applicable APLHGR limit values which have been approved for the respective fuel and lattice types. These values are specified in the Core Operating Limits Report. If at anytime during reactor power operation greater than 25% of rated power it is determined that the limiting value for APLHGR is being exceeded, action shall then be initiated within 15 minutes to restore operation to within the prescribed limits. If the APLHGR is not returned to within the prescribed limits within two (2) hours, the reactor power shall be reduced to less than 25% of rated power within the next four hours, or until the APLHGR is returned to within the prescribed limits.

H. Average Planar Linear Heat Generation Rate (APLHGR)

The APLHGR for each type of fuel as a function of average planar exposure shall be determined daily during reactor operation at ≥25% rated thermal power.

see ITS: 3.2.1

Page 4 of 4

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.3

RCIC System

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.5.3 - RCIC SYSTEM

ADMINISTRATIVE CHANGES

A1 In the conversion of the James A. FitzPatrick Nuclear Power Plant (JAFNPP) Current Technical Specification (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted which do not result in technical changes. Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the conventions in NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4," Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).

A2 CTS 3.5.G.1 requires the RCIC pump to be considered inoperable when the associated pump discharge piping cannot be maintained in a filled condition. This will require entry into CTS 3.5.E where 7 days (L1) is allowed to restore the RCIC System to Operable status. In the ITS, the requirement that the RCIC discharge piping must be filled is reflected in SR 3.5.3.1. Therefore, since this SR is directly related to the operability requirements of the RCIC System, this cross reference can be deleted and this change considered administrative. This change is consistent with NUREG-1433, Revision 1.

AMEND #267 RAI 3.5.3 - BSI

A3 CTS 4.5.E.1.a (ITS SR 3.5.3.6) is modified by Note 2 that excludes vessel injection/spray during the Surveillance. The Bases indicates that this test must include actuation of all automatic valves to their required positions. Since all active components are testable and full flow can be demonstrated by recirculation through the test line, coolant injection into the RPV is not required during the Surveillance. This Note, therefore, is explicit recognition that ITS SR 3.5.3.6 can be satisfied by a series of overlapping tests. Since surveillance testing of RCIC (CTS 4.5.E.1.a) does not presently require actual injection, and is currently satisfied by a series of overlapping tests, the addition of the Note excluding vessel injection/spray is an administrative change.

A4 Not used.

ADMINISTRATIVE CHANGES

A5 CTS 3.5.E.3 does not require the Reactor Core Isolation Cooling (RCIC) System to be Operable during low power physics testing and during reactor operator training provided the reactor coolant temperature is ≤ 212°F. This explicit requirement is not retained in the ITS. CTS 3.5.E.1 does not require the RCIC System to be Operable when the reactor coolant temperature is ≤ 212°F. Therefore, since there are no Operability requirements for the RCIC System during the conditions of CTS 3.5.E.3, the allowances provided are meaningless and therefore this deletion is considered administrative. This change is consistent with NUREG-1433, Revision 1.

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 CTS 3.5.E.2 requires the reactor to be placed in the cold condition and pressure less than 150 psig within 24 hours when CTS 3.5.E cannot be met. This requirement is proposed to be replaced by ITS 3.5.3 Required Actions B.1 and B.2 which require the plant be in MODE 3 within 12 hours and to reduce reactor steam dome pressure to ≤ 150 psig within 36 hours (see L2) under the same condition. Based on operating experience, this Completion Time limit still allows for an orderly transition to MODE 3 without challenging plant systems. This change is more restrictive because it provides an additional requirement to place the plant in MODE 3 in 12 hours prior to requiring reactor steam dome pressure to be ≤ 150 psig.

RAI 3.5.3 - BSI

M2 CTS 4.5.E.1 requirement, to permit up to 10 days of continuous operation from the time steam becomes available until RCIC Surveillances need to be performed, is being changed. The Note to ITS SR 3.5.3.4 and SR 3.5.3.5 and Note 1 of SR 3.5.3.6 allow only 12 hours from the time reactor steam pressure and flow are adequate to perform the test. The 12 hours allows sufficient time to achieve stable conditions for testing and provides a reasonable time to complete the SR without impacting plant operation. Reducing the allowable time to perform the test, from 10 days to 12 hours, imposes additional operational limitations. This change will require that the actual surveillances be performed sooner in the plant startup, and thereby demonstrate RCIC Operability sooner than current requirements dictate. Therefore, this change is considered more restrictive but necessary to ensure Operability within a reasonable time period when the equipment is required to be Operable.

TECHNICAL CHANGES - MORE RESTRICTIVE

M3 The CTS 4.5.E.1.d requirement, that RCIC deliver at least 400 gpm against a system head corresponding to a reactor vessel pressure of 1,195 psig to 150 psig, is being divided into two separate Surveillance Requirements SR 3.5.3.4 and SR 3.5.3.5. ITS SR 3.5.3.4, will require demonstration of the RCIC pump capability at the high reactor vessel pressure each 92 days, with reactor pressure ≥ 970 psig and ≤ 1040 psig. Reactor pressures of ≥ 970 psig and ≤ 1040 psig represents a nominal value at rated conditions within the CTS required band for testing. This pressure range represents conditions of lower driving pressure for the RCIC turbine and thus, a more restrictive condition under which to provide the required flow. ITS SR 3.5.3.5 will require demonstration of the RCIC pump capability at the low reactor vessel pressure every 24 months with reactor pressure ≤ 165 psig. Reactor pressure of ≤ 165 psig is near the lower limit (i.e., ≥ 150 psig) of operability/capability of the RCIC turbine, yet provides a 15 psig range above the lower limit in which to conduct the test. CTS required that the RCIC test confirm the capability of the pump at 150 psig. As a practical consideration, the test is performed when sufficient pressure is available at near 150 psig. To require the test at ≤ 150 psig would be to require a test of the capability of the pump outside the required operability range. This change will ensure the RCIC System is tested at both the high and low pressures at the proposed Frequencies and is therefore considered more restrictive on plant operation but necessary to ensure RCIC remains Operable over its full operating range.

RAI 3.5.3-1 RAI 3.5.3 - BSI

M4 CTS 4.5.G.3 requires the RCIC System discharge piping to be vented from the high point of the system whenever RCIC is lined up to take suction from the condensate storage tank (CST). In ITS SR 3.5.3.1, this requirement must be met whenever RCIC is required to be Operable, not just when RCIC is lined up to take suction from the CST. This change is considered more restrictive on plant operation but necessary to help prevent a water hammer following an initiation signal.

M5 CTS 4.5.E.1.c requires the RCIC motor operated valves to be tested for Operability. ITS 3.5.1 is more explicit on the actual testing requirements. ITS SR 3.5.3.3 will require the RCIC System motor operated valves to be cycled fully closed and fully opened. These proposed testing requirements are more explicit than the current requirements and therefore considered more restrictive. These requirements will continue to help ensure the RCIC operates as designed for those events where the normal feedwater system is not available.

RAI 3.5.3 - BSI

M6 Not Used.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

RAI 3.5.3 - BSI

LA1 The details of CTS 4.5.E.1.a footnote *, that states "automatic restart on a low water level signal which is subsequent to a high water level signal", are proposed to be relocated to the Bases. The Bases for SR 3.5.3.6 states in part that "this test also ensures the RCIC System will automatically restart on an RPV low water level (Level 2) signal received subsequent to an RPV high water level (Level 8) trip." The requirement in ITS SR 3.5.3.6 is adequate to ensure the RCIC automatic actuation capability is verified to ensure Operability. As such, these details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the Technical Specifications.

LA2 The details in CTS 4.5.G.3 which describe the method to be employed to assure that the RCIC discharge piping is full of water (shall be vented from the high point of the system and water flow observed) are proposed to be relocated to the Bases. These details are not necessary to ensure the Operability of the RCIC System. The requirements of LCO 3.5.3 (RCIC System) that the RCIC System must be Operable and the associated Surveillances are adequate to ensure the RCIC System remains Operable. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the Bases Control Program described in Chapter 5 of the Technical Specifications.

AMEND #267

LA3 Not used.

RAI 3.5.3 - BSI

LA4 CTS 4.5.E.1.e requires testable check valve testing for the RCIC System any time the reactor is in the cold shutdown condition exceeding 48 hours if operability tests have not been performed during the preceding 92 days. This requirement is proposed to be relocated to the IST Program. The IST Program lists all valves required to be tested in accordance with ASME Section XI. In addition, ITS 5.5.7 requires the IST Program to be conducted. These controls are adequate to ensure the required tests are performed at the appropriate frequencies. Therefore, these tests do not need to be repeated in the Technical Specifications to provide adequate protection of the public health and safety. Changes to the IST Program will be controlled by the provisions of 10 CFR 50.59.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CTS 3.5.E.1 allows continued operation for a maximum of 7 days after RCIC is determined to be inoperable. ITS 3.5.3 Required Action A.2 allows continued operation for a maximum of 14 days under the same conditions. As in the existing Specification, the 14 day Completion Time for restoring RCIC is contingent upon the Operability of HPCI. The 14 day completion time is based on a reliability study that evaluated the impact on ECCS availability (Memorandum from R.L. Baer (NRC) to V. Stello, JR. (NRC), "Recommended Interim Revisions to LCOs for ECCS Components," December 1, 1975). The main factor contributing to the acceptability of allowing continued operation for 14 days with RCIC inoperable is the similar functions of HPCI and RCIC, and that the HPCI is capable of performing the RCIC function, at a substantially higher capacity.

edit

L2 CTS 3.5.E.2 requires the reactor be in the cold condition and reactor pressure be reduced to less than 150 psig within 24 hours when CTS 3.5.E cannot be met. ITS 3.5.3 Required Actions B.1 and B.2 requires the plant to be in MODE 3 within 12 hours (M1) and to reduce reactor steam dome pressure to $\leq$ 150 psig within 36 hours under the same conditions. This change is less restrictive since the time to reduce pressure has been extend from 24 hours to 36 hours. This change is acceptable since the compensatory action added in accordance with M1 and this extended time to be $\leq$ 150 psig will ensure a more continuous reduction in power and reactor coolant pressure within the specified maximum cooldown rate and within the capabilities of the plant. The additional time to complete these ACTIONS reduces the potential for a plant event that could challenge plant safety systems.

RAI 3.5.3 - BSI

L3 CTS 4.5.E.1.a stipulates a simulated automatic actuation test shall be performed. The phrase "actual or," in reference to the automatic initiation signal, has been added to CTS 4.5.E.1.a (ITS SR 3.5.3.6) for verifying that each RCIC subsystem actuates on an automatic initiation signal. This allows satisfactory automatic system initiations to be used to fulfill the Surveillance Requirements. Operability is adequately demonstrated in either case since the RCIC System itself can not discriminate between "actual" or "simulated" signals.

TSTF-301

L4 CTS 4.5.E.2 requires the verification that the HPCI System is Operable immediately and daily thereafter when RCIC is determined to be inoperable. ITS 3.5.3 Required Action A.1 requires immediate verification by administrative means that the HPIC System is Operable, but the explicit requirement for periodic continuing verification has been deleted. These verifications are an implicit part of using

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 (continued)

Technical Specifications and determining the appropriate Conditions to enter and Actions to take in the event of inoperability of Technical Specification equipment. In addition, plant and equipment status is continuously monitored by control room personnel. The results of this monitoring process are documented in records/logs maintained by control room personnel. The continuous monitoring process includes re-evaluating the status of compliance with Technical Specification requirements when Technical Specification equipment becomes inoperable using the control room records/logs as aids. Therefore, the explicit requirement to periodically verify the Operability of HPCI when RCIC is inoperable is considered to be unnecessary for ensuring compliance with the applicable Technical Specification actions.

TSTF-301

L5 CTS 3.5.E.2 requires reactor pressure to be reduced to less than 150 psig. ITS 3.5.3 Required Action B.2 will require reactor pressure be reduced to $\leq$ 150 psig. This change is slightly less restrictive since a reduction in reactor steam dome pressure to only 150 psig will be considered as satisfying the requirement, whereas in the CTS reactor steam dome pressure must be reduced to < 150 psig. This change is acceptable since it places the plant outside of the current and proposed Applicability of the RCIC System in CTS 3.5.E.1 (ITS 3.5.3 Applicability). This change is consistent with NUREG-1433, Revision 1.

RAI 3.5.3-1, Revised response

L6 The CTS 4.5.E.1.d specification that required RCIC flow be demonstrated "against a system head corresponding to a reactor vessel pressure of 1195 to 150 psig" is changed to a demonstration of required RCIC flow "against a system head corresponding to reactor pressure", consistent with NUREG-1433, Revision 1 requirements. The CTS 4.5.E.1.d specification is represented in ITS as two surveillances (see DOC M3), ITS SR 3.5.3.5 performed at a reactor pressure of $\leq$ 165 psig, and ITS SR 3.5.3.4 performed with reactor pressure $\geq$ 970 and $\leq$ 1040 psig. Adopting NUREG wording for ITS SR 3.5.3.5 results in testing requirements analogous to the CTS specification and current testing practice at the low pressure end of the HPCI operability band. Adopting NUREG wording for ITS SR 3.5.3.4 constitutes a less restrictive change.

The RCIC system is designed to provide its rated flow over a reactor pressure range of 150 psig to a maximum pressure based on the lowest SRV safety setpoint. The CTS range of 1195 to 150 psig corresponds to the entire range of operability for RCIC and is intended to demonstrate RCIC operability throughout this range. As noted in DOC M3, however, the CTS does not specify a reactor pressure range for test performance.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L6 (continued)

RAI 3.5.3-1, Revised response

In practice, the test is performed at the low end of the range (i.e., ~150 psig) after start-up, and within the normal reactor operating pressure range (970 to 1040 psig) on a periodic basis. CTS testing at the low end of the range demonstrates flow against a discharge head based upon a differential above reactor pressure, consistent with the proposed ITS SR 3.5.3.5. CTS testing in the normal reactor operating pressure range, however, demonstrates flow against a system head derived from the "reactor vessel pressure of 1195" CTS value, not "against a system head corresponding to reactor pressure" as proposed by ITS SR 3.5.3.4.

In actual operation, RCIC system inlet steam pressure and RCIC pump discharge pressure correspond to reactor pressure with allowance for line losses. Requiring that RCIC demonstrate minimum system design flow "against a system head corresponding to a reactor vessel pressure of 1195" with actual reactor steam dome pressure in the normal operating range is overly conservative, since the condition represents less driving steam pressure for the RCIC turbine than would be available if a discharge pressure corresponding to 1195 psig reactor pressure were actually required. RCIC is required to exceed its design operating requirements to satisfy such test conditions. The NUREG-1433, Revision 1 requirement specifying a reactor pressure range for performing the test and requiring demonstration of flow rate "against a system head corresponding to reactor pressure" constitutes a more accurate and appropriate demonstration of RCIC operability than the CTS in that the NUREG requirements more accurately reflect actual RCIC operating conditions. Since adoption of the NUREG requirements for ITS SR 3.5.3.4 removes a degree of overly restrictive conservatism, the change is considered less restrictive.

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.3

RCIC System

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.5.3 - RCIC SYSTEM

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

edit The Licensee has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. 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 proposes to increase the allowed outage time when the RCIC System is inoperable. Extending the allowed outage time for the RCIC System from 7 days to 14 days will not increase the possibility of an accident since the RCIC System is not assumed in the initiation of any accident. The RCIC System also is not credited in the mitigation of DBAs and transients. The consequences of accidents will be unaffected because the HPCI System will be actuated on low reactor level for events at high pressure (provides the same function as the RCIC System with greater flow; therefore, the requirement to verify by administrative means that HPCI is Operable when RCIC is inoperable is provided). The consequences of an event occurring during the proposed 14 day period are the same as the consequences of an event occurring for the current 7 day period. This change will not alter assumptions relative to the mitigation of an accident or transient event. This change will not alter the operation of process variables, structures, systems, or components as described in the safety analysis. Therefore, this change will 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 extends the allowed outage time for the RCIC System from 7 days to 14 days. The Completion Time of 14 days is contingent on the HPCI System being Operable. No new accident will be created because the HPCI System is designed to maintain level in the RPV at high pressures. The proposed change also does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a new mode of operation. The change still ensures a high pressure coolant injection system is available (the HPCI System). Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.5.3 - RCIC SYSTEM

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

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

This change proposes to increase the allowed outage time of the RCIC System from 7 days to 14 days. The HPCI System is required to be Operable during the time RCIC is inoperable. A margin of safety will not be significantly reduced because the RCIC system is not credited in any DBAs or transients. The 14 day completion time is based on a reliability study that evaluated the impact on ECCS availability (Memorandum from R.L. Baer (NRC) to V. Stello, JR. (NRC), "Recommended Interim Revisions to LCOs for ECCS Components," December 1, 1975). The main factor contributing to the acceptability of allowing continued operation for 14 days with RCIC inoperable is the similar functions of HPCI and RCIC, and that the HPCI is capable of performing the RCIC function, at a substantially higher capacity. The safety analysis is unaffected because the current analysis assumptions will be maintained. In addition, the probability of an event occurring during this extended period requiring the RCIC System to operate is low. As such, no question of safety exists. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.5.3 - RCIC SYSTEM

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

edit The Licensee has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. 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 time for the plant to reduce pressure from 24 hours to 36 hours when the RCIC System is inoperable. Extending the time to reduce pressure does not increase the probability of accidents since the time frame allowed to shutdown when the RCIC System is inoperable is not assumed in the initiation of any analyzed event. This change will not allow continuous operation with the RCIC System inoperable. Additionally, the consequences of accidents will be unaffected because the consequences of an event occurring while the plant is being shutdown during the extra 12 hours are the same as the consequences of an event occurring for the current 24 hours. In addition, RCIC is not credited in the safety analysis. Therefore, this change will 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 the manner in which these SSC are operated, maintained, modified, tested, or inspected. The change increases the time allowed for the plant to reduce pressure below 150 psig from 24 hours to 36 hours. Therefore, this change 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 allows an extra 12 hours to decrease pressure when the RCIC System is inoperable. The extra time allows more time for an orderly shutdown, cooldown, and the resulting decrease in pressure through the transient of a shutdown. The margin of safety is not decreased because the additional time allowed to reduce pressure, and the additional restriction to be in MODE 3 in 12 hours (M1) results in a more orderly

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

3. (continued)

cooldown. Also, no reduction in the margin of safety is involved since the change in completion times do not affect any safety analysis assumptions. The 36 hour completion time is reasonable since it is based on operating experience to reach the resultant plant conditions. The safety analysis is unaffected because the current analysis assumptions are still being maintained. As such, no question of safety exists. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.5.3 - RCIC SYSTEM

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

edit The Licensee has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. 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?

   The phrase "actual or," in reference to the automatic initiation signal, has been added to the system functional test surveillance test description. This does not impose a requirement to create an "actual" signal, nor does it eliminate any restriction on producing an "actual" signal. While creating an "actual" signal could increase the probability of an event, existing procedures and 10 CFR 50.59 control of revisions to them, dictate the acceptability of generating this signal. The proposed change does not affect the procedures governing plant operations and therefore the probability of creating these signals; it simply would allow such a signal to be credited when evaluating the acceptance criteria for the system functional test requirements. Therefore, the change does not involve a significant increase in the probability of an accident previously evaluated. Since the method of initiation will not affect the acceptance criteria of the system functional test, the change does not involve a significant increase in the 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 possibility of a new or different kind of accident from any accident previously evaluated is not created because the proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant.

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

   Use of an actual signal instead of the existing requirement, which limits use to a simulated signal, will not affect the performance or acceptance criteria of the surveillance test. Operability is adequately demonstrated in either case since the system itself cannot discriminate between "actual" or "simulated" signals. Therefore, the change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.5.3 - RCIC SYSTEM

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

edit The Licensee has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. 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?

TSTF-301 The proposed change does not increase the probability or consequences of an accident because it does not involve any change to the plant's physical systems, structures, or components (SSC), or the manner of operating, maintaining, modifying, testing, or inspecting these SSC. This proposed change deletes the explicit requirement to periodically verify the Operability of HPCI when RCIC is found to be inoperable. This change will not allow continuous operation when components are inoperable or parameter limits are not met. These verifications are not considered in the initiation of any previously analyzed accident. Therefore, this change does not significantly increase the probability of such accidents. These verifications are an implicit part of using Technical Specifications and determining the appropriate Conditions to enter and Actions to take in the event of inoperability of Technical Specification equipment. In addition, plant and equipment status is continuously monitored by control room personnel. The results of this monitoring process are documented in records/logs maintained by control room personnel. The continuous monitoring process includes re-evaluating the status of compliance with Technical Specification requirements when Technical Specification equipment becomes inoperable using the control room records/logs as aids. Therefore, the explicit requirement to periodically verify the Operability of HPCI when RCIC is found to be inoperable is considered to be unnecessary for ensuring compliance with the applicable Technical Specification actions. Therefore, this change does not significantly increase the consequences of any previously analyzed accident. TSTF-301

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.5.3 - RCIC SYSTEM

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

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

TSTF-301

This proposed change deletes the explicit requirement to periodically verify the Operability of HPCI system when RCIC is found to be inoperable, but does not change the practice of continuously monitoring plant and equipment status. The change will not physically alter the plant (no new or different types of equipment will be installed). The changes in methods governing normal plant operations are consistent with the current safety analysis assumptions. Therefore, this change does not create the possibility of a new or different kind of accident from any previously analyzed accident.

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

TSTF-301

This proposed change deletes the explicit requirement to periodically verify the Operability of HPCI system when RCIC is found to be inoperable, but does not change the practice of continuously monitoring plant and equipment status. These verifications of the status of equipment Operability are an implicit part of using Technical Specifications and determining the appropriate Conditions to enter and Actions to take in the event of inoperability of Technical Specification equipment. Plant and equipment status is continuously monitored by control room personnel. The results of this monitoring process are documented in records/logs maintained by control room personnel. The continuous monitoring process includes re-evaluating the status of compliance with Technical Specification requirements when Technical Specification equipment becomes inoperable using the control room records/logs as aids. Therefore, the explicit requirement to periodically verify the Operability of the HPCI when RCIC is found to be inoperable is considered to be unnecessary for ensuring compliance with the applicable Technical Specification actions. The status of plant and equipment will continue to be monitored to assure appropriate actions are taken in the event of equipment inoperabilities. Therefore, this change does not involve a significant reduction in the margin of safety.

TSTF-301

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.5.3 - RCIC SYSTEM

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L5 CHANGE

edit The Licensee has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. 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?

   The proposed change modifies the default action to reduce reactor steam dome pressure from < 150 psig to þ 150 psig. This change is acceptable since it places the plant outside of the current and proposed Applicability of the RCIC System in CTS 3.5.E.1 (ITS 3.5.3 Applicability). Operating the plant at a reactor steam dome pressure of 150 psig will not increase the potential for an accident to occur. Therefore, the proposed change does not involve a significant increase in the probability of an accident previously evaluated. The low pressure ECCS subsystems are capable of supplying water to the reactor vessel at reactor steam dome pressures in excess of 150 psig. The consequences of an accident occurring at 150 psig will be bounded by the safety analysis. Therefore, the proposed change does not involve a significant increase in the 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?

   This change will not physically alter the plant (no new or different types of equipment will be installed). The changes in methods governing normal plant operation are consistent with the current safety analysis assumptions. Therefore, this change 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?

   The proposed change modifies the default action to reduce reactor steam dome pressure from < 150 psig to þ 150 psig. This change is acceptable since it places the plant outside of the current and proposed Applicability of the RCIC System in CTS 3.5.E.1 (ITS 3.5.3 Applicability). Operating the plant at a reactor steam dome pressure of 150 psig will not increase the potential for an accident to occur. The

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L5 CHANGE

3. (continued)

low pressure ECCS subsystems are capable of supplying water to the reactor vessel at reactor steam dome pressures in excess of 150 psig. The consequences of an accident occurring at 150 psig will be bounded by the safety analysis. Therefore, this change will not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.5.3 - RCIC SYSTEM

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L6 CHANGE

The Licensee has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. 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?

   The proposed change modifies surveillance criteria for demonstrating Reactor Core Isolation Cooling (RCIC) flow at normal reactor operating pressure from "against a system head corresponding to a reactor vessel pressure of 1195... psig" to "against a system had corresponding to reactor pressure". The purpose of the surveillance is to demonstrate RCIC operability. The change, which removes a degree of excess conservatism from the current surveillance criteria, adopts NUREG-1433, Revision 1 criteria and constitutes an acceptable method of demonstrating RCIC operability. RCIC operability is satisfactorily demonstrated by either the CTS criteria or the proposed ITS criteria.

   The proposed change does not result in a change in probability of an accident previously evaluated because SR test conditions or test acceptance criteria are not conditions that change any assumptions with regard to accident initiation sequences. The proposed change does not result in a change in the consequences of an accident previously evaluated because acceptance criteria verify system performance within design parameters consistent with those assumed in pertinent analyses. Therefore the proposed change involves no change 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 involves no physical alteration of Structures, Systems, or Components (i.e.,no new type of equipment installed). Proposed changes in test conditions and acceptance criteria are consistent with pertinent analyses. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

RAI 3.5.3-1, Revised response

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.5.3 - RCIC SYSTEM

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

RAI 3.5.3-1, Revised response

L6 CHANGE

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

The proposed change only involves test conditions and acceptance criteria. System performance requirements continue to meet or exceed those assumed in pertinent analyses. Neither RCIC system operability nor the ability of the RCIC system to perform its mitigation function is affected by the change. Therefore, the change does not involve a significant reduction in a margin of safety.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.3

RCIC System

MARKUP OF NUREG-1433, REVISION 1 SPECIFICATION

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.3 RCIC System

[3.5.E.1] LCO 3.5.3 The RCIC System shall be OPERABLE.

[3.5.E.1] APPLICABILITY: MODE 1,
MODES 2 and 3 with reactor steam dome pressure > [150] psig. (DB1)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. RCIC System inoperable. [4.5.E.2] [L4] [3.5.G.1] [A2] [3.5.E.1] [L1]	A.1	Verify by administrative means High Pressure Coolant Injection System is OPERABLE.	~~1 hour~~ Immediately (TA1) TSTF-301, Rev
	AND		
	A.2	Restore RCIC System to OPERABLE status.	14 days
B. [3.5.E.2] [L2] [M1] Required Action and associated Completion Time not met.	B.1	Be in MODE 3.	12 hours
	AND		
	B.2	Reduce reactor steam dome pressure to ≤ [150] psig.	36 hours (DB1)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.3.1	Verify the RCIC System piping is filled with water from the pump discharge valve to the injection valve.	31 days
SR 3.5.3.2	Verify each RCIC System manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.5.3.3	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify, with reactor pressure ≤ 1020 psig and ≥ 920 psig, the RCIC pump can develop a flow rate ≥ 400 gpm against a system head corresponding to reactor pressure.	92 days
SR 3.5.3.4	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify, with reactor pressure ≤ 165 psig, the RCIC pump can develop a flow rate ≥ 400 gpm against a system head corresponding to reactor pressure.	24 months

(continued)

RAI 3.5.3-B5 1

INSERT SR3-A

SR 3.5.3.3	Cycle each RCIC System motor operated valve fully closed and fully open.	92 days

Insert Page 3.5-12

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.5.3.6 ----------NOTE---------- 2. Vessel injection may be excluded. ---------- Verify the RCIC System actuates on an actual or simulated automatic initiation signal.	24 months

[4.5.E 1.a]

RAI 3.5.3-8 S1

CLB2 CLB4 CLB3

1. Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test.

CLB4

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.3

RCIC System

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.5.3 - RCIC SYSTEM

RAI 3.5.3-BS1

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 Not Used.

CLB2 SR 3.5.3.3 has been added to retain the existing requirement for testing each motor operated valve. This requirement is consistent with CTS 4.5.E.1.c. This SR is normally included in the Inservice Testing Program but since the RCIC System is not included in this Program at JAFNPP, the Surveillance must remain in the ITS. The following SRs have been renumbered as required.

RAI 3.5.3 - BS1

CLB3 The brackets have been removed and the proper plant specific Frequency has been provided. The Frequency specified in SR 3.5.3.6 of 24 months is consistent with the current requirements in CTS 4.5.E.1.a.

CLB4 A Note has been added to the actual or simulated automatic initiation test in ITS SR 3.5.3.6 (ISTS SR 3.5.3.5) to allow RCIC testing to be delayed until 12 hours after reactor steam dome pressure and flow are adequate. This Note is consistent with the allowances specified in CTS 4.5.E and modified by M3. This modification is necessary to properly test the RCIC pump. The subsequent Note of SR 3.5.3.6 has been renumbered.

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The brackets have been removed and the proper plant specific value has been provided. The pressure of 150 psig is consistent with the existing requirements in CTS 3.5.E.1 and 3.5.E.2.

RAI 3.5.3-BS1

DB2 The brackets have been removed and the proper plant specific value/information has been provided. The 400 gpm flow rate and test pressures specified in ITS SR 3.5.3.4 and 3.5.3.5 are consistent with the current requirements in CTS 4.5.E.1.d.

DB3 The brackets have been removed and the proper plant specific values have been provided. The range of pressures specified in SR 3.5.3.4 (between 970 psig to 1040 psig) are nominal values at rated conditions. The selected pressure condition of $\leq$ 165 psig in SR 3.5.3.5 is very close to the lower range where RCIC is required to be Operable, however, at the same time allows some flexibility to establish the condition.

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.5.3 - RCIC SYSTEM

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TSTF-301, R0

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 301, Revision 0, have been incorporated into the revised Improved Technical Specifications.

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 The brackets have been removed and the proper plant specific Frequency provided consistent with the current fuel cycle.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.3

RCIC System

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

B 3.5.3 RCIC System

BASES

BACKGROUND

The RCIC System is not part of the ECCS; however, the RCIC System is included with the ECCS section because of their similar functions.

The RCIC System is designed to operate either automatically or manually following reactor pressure vessel (RPV) isolation accompanied by a loss of coolant flow from the feedwater system to provide adequate core cooling and control of the RPV water level. Under these conditions, the High Pressure Coolant Injection (HPCI) and RCIC systems perform similar functions. The RCIC System design requirements ensure that the criteria of Reference 1 are satisfied.

The RCIC System (Ref. 2) consists of a steam driven turbine pump unit, piping, and valves to provide steam to the turbine, as well as piping and valves to transfer water from the suction source to the core via the feedwater system line, where the coolant is distributed within the RPV through the feedwater sparger. Suction piping is provided from the condensate storage tank (CST) and the suppression pool. Pump suction is normally aligned to the CST to minimize injection of suppression pool water into the RPV. However, if the CST water supply is low or the suppression pool level is high, an automatic transfer to the suppression pool water source ensures a water supply for continuous operation of the RCIC System. The steam supply to the turbine is piped from a main steam line upstream of the associated inboard main steam line isolation valve.

The RCIC System is designed to provide core cooling for a wide range of reactor pressures 150 psig to 1195 psig. Upon receipt of an initiation signal, the RCIC turbine accelerates to a specified speed. As the RCIC flow increases, the turbine control valve is automatically adjusted to maintain design flow. Exhaust steam from the RCIC turbine is discharged to the suppression pool. A full flow test line is provided to route water from the CST to allow testing of the RCIC System during normal operation without injecting water into the RPV.

(continued)

BASES

BACKGROUND (continued)

The RCIC pump is provided with a minimum flow bypass line, which discharges to the suppression pool. The valve in this line automatically opens to prevent pump damage due to overheating when other discharge line valves are closed. To ensure rapid delivery of water to the RPV and to minimize water hammer effects, the RCIC System discharge piping is kept full of water. The RCIC System is normally aligned to the CST. The height of water in the CST is sufficient to maintain the piping full of water up to the first isolation valve. The relative height of the feedwater line connection for RCIC is such that the water in the feedwater lines keeps the remaining portion of the RCIC discharge line full of water. Therefore, RCIC does not require a "keep full" system.

APPLICABLE SAFETY ANALYSES

The function of the RCIC System is to respond to transient events by providing makeup coolant to the reactor. The RCIC System is not an Engineered Safety Feature System and no credit is taken in the safety analyses for RCIC System operation. Based on its contribution to the reduction of overall plant risk, however, the system is included in the Technical Specifications, as required by the NRC Policy Statement.

LCO

The OPERABILITY of the RCIC System provides adequate core cooling such that actuation of any of the low pressure ECCS subsystems is not required in the event of RPV isolation accompanied by a loss of feedwater flow. The RCIC System has sufficient capacity for maintaining RPV inventory during an isolation event.

APPLICABILITY

The RCIC System is required to be OPERABLE during MODE 1, and MODES 2 and 3 with reactor steam dome pressure > 150 psig, since RCIC is the primary non-ECCS water source for core cooling when the reactor is isolated and pressurized. In MODES 2 and 3 with reactor steam dome pressure ≤ 150 psig, and in MODES 4 and 5, RCIC is not required to be OPERABLE since the low pressure ECCS injection/spray subsystems can provide sufficient flow to the RPV.

(continued)

BASES (continued)

ACTIONS

A.1 and A.2

If the RCIC System is inoperable during MODE 1, or MODE 2 or 3 with reactor steam dome pressure > [1150] psig, and the HPCI System is verified to be OPERABLE, the RCIC System must be restored to OPERABLE status within 14 days. In this Condition, loss of the RCIC System will not affect the overall plant capability to provide makeup inventory at high reactor pressure since the HPCI System is the only high pressure system assumed to function during a loss of coolant accident (LOCA). OPERABILITY of HPCI is therefore verified ~~within 1 hour~~ when the RCIC System is inoperable. This may be performed as an administrative check, by examining logs or other information, to determine if HPCI is out of service for maintenance or other reasons. It does not mean it is necessary to perform the Surveillances needed to demonstrate the OPERABILITY of the HPCI System. If the OPERABILITY of the HPCI System cannot be verified, however, Condition B must be immediately entered. For transients and certain abnormal events with no LOCA, RCIC (as opposed to HPCI) is the preferred source of makeup coolant because of its relatively small capacity, which allows easier control of the RPV water level. Therefore, a limited time is allowed to restore the inoperable RCIC to OPERABLE status.

The 14 day Completion Time is ~~based on~~ a reliability study (Ref. [5]) that evaluated the impact on ECCS availability, assuming various components and subsystems were taken out of service. The results were used to calculate the average availability of ECCS equipment needed to mitigate the consequences of a LOCA as a function of allowed outage times (AOTs). Because of similar functions of HPCI and RCIC, the AOTs (i.e., Completion Times) determined for HPCI are also applied to RCIC.

B.1 and B.2

If the RCIC System cannot be restored to OPERABLE status within the associated Completion Time, or if the HPCI System is simultaneously inoperable, the plant must be brought to a condition in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and reactor steam dome pressure reduced to ≤ [1150] psig within 36 hours. The allowed Completion Times

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

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 3.5.3.1

The flow path piping has the potential to develop voids and pockets of entrained air. Maintaining the pump discharge line of the RCIC System full of water ensures that the system will perform properly, injecting its full capacity into the Reactor Coolant System upon demand. This will also prevent a water hammer following an initiation signal. One acceptable method of ensuring the line is full is to vent at the high points. The 31 day Frequency is based on the gradual nature of void buildup in the RCIC piping, the procedural controls governing system operation, and operating experience.

PA2

and observe water flow through the vent

SR 3.5.3.2

Verifying the correct alignment for manual, power operated, and automatic valves in the RCIC flow path provides assurance that the proper flow path will exist for RCIC operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve that receives an initiation signal is allowed to be in a nonaccident position provided the valve will automatically reposition in the proper stroke time. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of potentially being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves. For the RCIC System, this SR also includes the steam flow path for the turbine and the flow controller position.

The 31 day Frequency of this SR was derived from the Inservice Testing Program requirements for performing valve testing at least once every 92 days. The Frequency of

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.3.2 (continued)

31 days is further justified because the valves are operated under procedural control and because improper valve position would affect only the RCIC System. This Frequency has been shown to be acceptable through operating experience.

SR 3.5.3.4 and SR 3.5.3.5

The RCIC pump flow rates ensure that the system can maintain reactor coolant inventory during pressurized conditions with the RPV isolated. The flow tests for the RCIC System are performed at two different pressure ranges such that system capability to provide rated flow is tested both at the higher and lower operating ranges of the system. Additionally, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the RCIC System diverts steam flow. Reactor steam pressure must be ≥ 920 psig to perform SR 3.5.3.4 and ≤ 1150 psig to perform SR 3.5.3.5. Adequate steam flow is represented by at least one turbine bypass valve open, or total steam flow ≥ 10^6 lb/hr. Therefore, sufficient time is allowed after adequate pressure and flow are achieved to perform these SRs. Reactor startup is allowed prior to performing the low pressure Surveillance because the reactor pressure is low and the time allowed to satisfactorily perform the Surveillance is short. The reactor pressure is allowed to be increased to normal operating pressure since it is assumed that the low pressure Surveillance has been satisfactorily completed and there is no indication or reason to believe that RCIC is inoperable. Therefore, these SRs are modified by Notes that state the Surveillances are not required to be performed until 12 hours after the reactor steam pressure and flow are adequate to perform the test.

A 92 day Frequency for SR 3.5.3.5 is consistent with the Inservice Testing Program requirements. The 24 month Frequency for SR 3.5.3.4 is based on the need to perform the Surveillance under conditions that apply just prior to or during a startup from a plant outage. Operating experience has shown that these components usually pass the SR when performed at the 24 month Frequency, which is based on the

(continued)

INSERT SR3-A

RAI 3.5.3-BSI

SR 3.5.3.3 CLB2

During RCIC System operation, the RCIC System motor operated valves must reposition to ensure the RCIC System design function can be met. Cycling each motor operated valve through its range of motion (closed and open) ensures the valve will function when necessary. The functional tests ensure that the motor operated valves are capable of cycling open and closed within the required limits of operation. The Frequency of this SR is 92 days consistent with the requirements of the Inservice Testing Program.

PA2

INSERT SR3-B

The required system head should overcome the RPV pressure and associated discharge line losses. Adequate reactor steam pressure must be available to perform these tests.

PA2

INSERT SR3-C

The 12 hours allowed for performing the flow test after the required pressure and flow are reached is sufficient to achieve stable conditions for testing and provides reasonable time to complete the SR.

Insert Page B 3.5-27

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.3.5 and SR 3.5.3.6 (continued)

refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.5.3.6

The RCIC System is required to actuate automatically in order to verify its design function satisfactorily. This Surveillance verifies that, with a required system initiation signal (actual or simulated), the automatic initiation logic of the RCIC System will cause the system to operate as designed, including actuation of the system throughout its emergency operating sequence; that is, automatic pump startup and actuation of all automatic valves to their required positions. This test also ensures the RCIC System will automatically restart on an RPV low water level (Level 2) signal received subsequent to an RPV high water level (Level 8) trip and that the suction is automatically transferred from the CST to the suppression pool. The LOGIC SYSTEM FUNCTIONAL TEST performed in LCO 3.3.5.2 overlaps this Surveillance to provide complete testing of the assumed safety function.

The 18 month Frequency is based on the need to perform the Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR is modified by a Note that excludes vessel injection during the Surveillance. Since all active components are testable and full flow can be demonstrated by recirculation through the test line, coolant injection into the RPV is not required during the Surveillance.

Insert SR 3.5.3.6

(continued)

RAI 3.5.3-85

CLB3

INSERT SR 3.5.3.6

This SR is modified by Note 1 that says the Surveillance is not required to be performed until 12 hours after the reactor steam pressure and flow are adequate to perform the test. The time allowed for this test after required pressure and flow are reached is sufficient to achieve stable conditions for testing and provides a reasonable time to complete the SR. Adequate reactor pressure must be available to perform this test. Additionally, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the RCIC System diverts steam flow. Thus, sufficient time is allowed after adequate pressure and flow are achieved to perform this test. Adequate reactor steam pressure is > 150 psig. Adequate steam flow is represented by at least one turbine bypass valve open. Reactor startup is allowed prior to performing this test because the reactor pressure is low and the time allowed to satisfactorily perform the test is short.

BASES (continued)

REFERENCES

1. ~~10 CFR 50, Appendix A, GDC 33~~ UFSAR, Section 16.6

2. UFSAR, Section ~~[7.5.6]~~ 4.7

3. 10 CFR 50.36(c)(2)(ii)

4. Memorandum from R.L. Baer (NRC) to V. Stello, Jr. (NRC), "Recommended Interim Revisions to LCOs for ECCS Components," December 1, 1975.

5. ASME, Boiler and Pressure Vessel Code, Section XI, 1980.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.3

RCIC System

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1, BASES

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.5.3 - RCIC SYSTEM

RAI 3.5.3-BS1

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 Not Used.

CLB2 SR 3.5.3.3 has been added to retain the existing requirement for testing each motor operated valve. This SR is normally included in the Inservice Testing Program, but since the RCIC System is not included in this Program at JAFNPP, the Surveillance must remain in the ITS. The Bases has been modified and the following SRs have been renumbered as required.

RAI 3.5.3-BS1

CLB3 The 18 month Frequency has been changed to 24 months consistent with the current fuel cycle. This Frequency specified in SR 3.5.3.6 of 24 months is consistent with the current requirements in CTS 4.5.E.1.a. The Bases have been revised to reflect the plant specific design and justification.

CLB4 A Note has been added to the actual or simulated automatic initiation test in ITS SR 3.5.3.6 (ISTS SR 3.5.3.5) to allow HPCI testing to be delayed until 12 hours after reactor steam dome pressure and flow are adequate. This Note is consistent with the allowances specified in CTS 4.5.E and modified by M2. This modification is necessary to properly test the RCIC pump. The subsequent Note of SR 3.5.3.6 has been renumbered. The Bases has been modified as required to reflect this modification.

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

PA1 Editorial changes have been made to correct typographical error.

PA2 Editorial changes have been made for enhanced clarity with no change in intent.

PA3 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature.

PA4 The quotations used in the Bases References have been removed. The Writer's Guide does not require the use of quotations.

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.5.3 - RCIC SYSTEM

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific design.

DB2 The brackets have been removed and the proper plant specific design values/information have been provided.

DB3 The brackets have been removed and the proper plant specific value has been provided. The pressure of 150 psig is consistent with the existing requirements in CTS 3.5.E.1 and 3.5.E.2.

DB4 JAFNPP was designed and under construction prior to the promulgation of Appendix A to 10 CFR 50 - General Design Criteria for Nuclear Power Plant. The JAFNPP Construction Permit was issued on May 20, 1970. The proposed General Design Criteria (GDC) were published in the Federal Register on July 11, 1967 (32 FR 10213) and became effective on February 20, 1971 (32 DR 3256). UFSAR Section 16.6 - Conformance to AEC Design Criteria, describes the JAFNPP current licensing basis with regard to the GDC. ISTS statements concerning the GDC are modified in the ITS to reference UFSAR Section 16.6.

DB5 The brackets have been removed and the proper plant specific Reference has been provided.

DB6 The brackets have been removed and the proper plant specific values/ information have been provided. The range of pressures specified in SR 3.5.3.4 (between 970 psig to 1040 psig) are nominal values at rated conditions and therefore are appropriate for this test. The selected pressure condition of < 165 psig in SR 3.5.3.5 is very close to the lower range where RCIC is required to be Operable, however, at the same time allows some flexibility to establish the condition. The Bases has been modified as required to reflect these changes to the Specification.

RAI 3.5.3-BS 1

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 301, Revision 0, have been incorporated into the revised Improved Technical Specifications.

TSTF-301, R0

TA2 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 367, Revision 0, have been incorporated into the revised Improved Technical Specifications.

TSTF-367, R0

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.5.3 - RCIC SYSTEM

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 NUREG-1433, Revision 1, Bases reference to "the NRC Policy Statement" has been replaced with 10 CFR 50.36(c)(2)(ii), in accordance with 60 FR 36953 effective August 18, 1995. Subsequent References have been renumbered, as applicable.

X2 The 18 month Frequency has been changed to 24 months consistent with the current fuel cycle.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.5.3

RCIC System

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.3 RCIC System

LCO 3.5.3 The RCIC System shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3 with reactor steam dome pressure > 150 psig.

ACTIONS

TSTF-301

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. RCIC System inoperable.	A.1	Verify by administrative means High Pressure Coolant Injection System is OPERABLE.	Immediately
	AND		
	A.2	Restore RCIC System to OPERABLE status.	14 days
B. Required Action and associated Completion Time not met.	B.1	Be in MODE 3.	12 hours
	AND		
	B.2	Reduce reactor steam dome pressure to ≤ 150 psig.	36 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.5.3.1	Verify the RCIC System piping is filled with water from the pump discharge valve to the injection valve.	31 days
SR 3.5.3.2	Verify each RCIC System manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.5.3.3	Cycle each RCIC System motor operated valve fully closed and fully open.	92 days
SR 3.5.3.4	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify, with reactor pressure ≤ 1040 psig and ≥ 970 psig, the RCIC pump can develop a flow rate ≥ 400 gpm against a system head corresponding to reactor pressure.	92 days
SR 3.5.3.5	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify, with reactor pressure ≤ 165 psig, the RCIC pump can develop a flow rate ≥ 400 gpm against a system head corresponding to reactor pressure.	24 months

RAI 3.5.3-BS1

RAI 3.5.3-1

RAI 3.5.3-BS1

RAI 3.5.3-1

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.3.6	----------NOTES---------- 1. Not required to be performed until 12 hours after reactor steam dome pressure and flow are adequate to perform the test. 2. Vessel injection may be excluded. ----------	
	Verify the RCIC System actuates on an actual or simulated automatic initiation signal.	24 months

RAI 3.5.3-BSI

B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

B 3.5.3 RCIC System

BASES

BACKGROUND

The RCIC System is not part of the ECCS; however, the RCIC System is included with the ECCS section because of their similar functions.

The RCIC System is designed to operate either automatically or manually following reactor pressure vessel (RPV) isolation accompanied by a loss of coolant flow from the feedwater system to provide adequate core cooling and control of the RPV water level. Under these conditions, the High Pressure Coolant Injection (HPCI) and RCIC systems perform similar functions. The RCIC System design requirements ensure that the criteria of Reference 1 are satisfied.

The RCIC System (Ref. 2) consists of a steam driven turbine pump unit, piping and valves to provide steam to the turbine, as well as piping and valves to transfer water from the suction source to the core via the feedwater system line, where the coolant is distributed within the RPV through the feedwater sparger. Suction piping is provided from the condensate storage tanks (CSTs) and the suppression pool. Pump suction is normally aligned to the CSTs to minimize injection of suppression pool water into the RPV. However, if the CST water supply is low, an automatic transfer to the suppression pool water source ensures a water supply for continuous operation of the RCIC System. The steam supply to the turbine is piped from the "B" main steam line upstream of the associated inboard main steam line isolation valve.

The RCIC System is designed to provide core cooling for a wide range of reactor pressures (150 psig to 1195 psig). Upon receipt of an initiation signal, the RCIC turbine accelerates to a specified speed. As the RCIC flow increases, the turbine control valve is automatically adjusted to maintain design flow. Exhaust steam from the RCIC turbine is discharged to the suppression pool. A full flow test line is provided to route water to the CSTs to allow testing of the RCIC System during normal operation without injecting water into the RPV.

(continued)

BASES

BACKGROUND (continued)

The RCIC pump is provided with a minimum flow bypass line, which discharges to the suppression pool. The valve in this line automatically opens to prevent pump damage due to overheating when other discharge line valves are closed. To ensure rapid delivery of water to the RPV and to minimize water hammer effects, the RCIC System discharge piping is kept full of water. The RCIC System is normally aligned to the CSTs. The height of water in the CSTs is sufficient to maintain the piping full of water up to the first isolation valve. The relative height of the feedwater line connection for RCIC is such that the water in the feedwater lines keeps the remaining portion of the RCIC discharge line full of water. Therefore, RCIC does not require a "keep full" system.

TSTF-367

APPLICABLE SAFETY ANALYSES

The function of the RCIC System is to respond to transient events by providing makeup coolant to the reactor. The RCIC System is not an Engineered Safeguard System and no credit is taken in the safety analyses for RCIC System operation. The RCIC System satisfies Criterion 4 of 10 CFR 50.36(c)(2)(ii) (Ref. 3).

LCO

The OPERABILITY of the RCIC System provides adequate core cooling such that actuation of any of the low pressure ECCS subsystems is not required in the event of RPV isolation accompanied by a loss of feedwater flow. The RCIC System has sufficient capacity for maintaining RPV inventory during an isolation event.

APPLICABILITY

The RCIC System is required to be OPERABLE during MODE 1, and MODES 2 and 3 with reactor steam dome pressure > 150 psig, since RCIC is the primary non-ECCS water source for core cooling when the reactor is isolated and pressurized. In MODES 2 and 3 with reactor steam dome pressure ≤ 150 psig, and in MODES 4 and 5, RCIC is not required to be OPERABLE since the low pressure ECCS injection/spray subsystems can provide sufficient flow to the RPV.

(continued)

BASES (continued)

ACTIONS

A.1 and A.2

If the RCIC System is inoperable during MODE 1, or MODE 2 or 3 with reactor steam dome pressure > 150 psig, and the HPCI System is verified to be OPERABLE, the RCIC System must be restored to OPERABLE status within 14 days. In this Condition, loss of the RCIC System will not affect the overall plant capability to provide makeup inventory at high reactor pressure since the HPCI System is the only high pressure system assumed to function during a loss of coolant accident (LOCA). OPERABILITY of HPCI is therefore verified within 1 hour when the RCIC System is inoperable. This may be performed as an administrative check, by examining logs or other information, to determine if HPCI is out of service for maintenance or other reasons. It does not mean it is necessary to perform the Surveillances needed to demonstrate the OPERABILITY of the HPCI System. If the OPERABILITY of the HPCI System cannot be verified, however, Condition B must be immediately entered. For transients and certain abnormal events with no LOCA, RCIC (as opposed to HPCI) is the preferred source of makeup coolant because of its relatively small capacity, which allows easier control of the RPV water level. Therefore, a limited time is allowed to restore the inoperable RCIC to OPERABLE status.

The 14 day Completion Time is consistent with the recommendations in a reliability study (Ref. 4) that evaluated the impact on ECCS availability, assuming various components and subsystems were taken out of service. The results were used to calculate the average availability of ECCS equipment needed to mitigate the consequences of a LOCA as a function of allowed outage times (AOTs). Because of similar functions of HPCI and RCIC, the AOTs (i.e., Completion Times) determined for HPCI are also applied to RCIC.

B.1 and B.2

If the RCIC System cannot be restored to OPERABLE status within the associated Completion Time, or if the HPCI System is simultaneously inoperable, the plant must be brought to a condition in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and reactor steam dome pressure reduced to ≤ 150 psig within 36 hours. The allowed Completion Times

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

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 3.5.3.1

The flow path piping has the potential to develop voids and pockets of entrained air. Maintaining the pump discharge line of the RCIC System full of water ensures that the system will perform properly, injecting its full capacity into the Reactor Coolant System upon demand. This will also prevent a water hammer following an initiation signal. One acceptable method of ensuring the line is full is to vent at the high points and observe water flow through the vent. The 31 day Frequency is based on the gradual nature of void buildup in the RCIC piping, the procedural controls governing system operation, and operating experience.

SR 3.5.3.2

Verifying the correct alignment for manual, power operated, and automatic valves in the RCIC flow path provides assurance that the proper flow path will exist for RCIC operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve that receives an initiation signal is allowed to be in a nonaccident position provided the valve will automatically reposition in the proper stroke time. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of potentially being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves. For the RCIC System, this SR also includes the steam flow path for the turbine and the flow controller position.

The 31 day Frequency of this SR was derived from the Inservice Testing Program requirements for performing valve testing at least once every 92 days. The Frequency of

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.3.2 (continued)

31 days is further justified because the valves are operated under procedural control and because improper valve position would affect only the RCIC System. This Frequency has been shown to be acceptable through operating experience.

SR 3.5.3.3

During RCIC System operation, the RCIC System motor operated valves must reposition to ensure the RCIC System design function can be met. Cycling each motor specified valve through its range of motion (closed and open) ensures the valve will function when necessary. The functional tests ensure that the motor operated valves are capable of cycling open and closed within the required limits of operation. The Frequency of this SR is 92 days consistent with the requirements of the Inservice Testing Program.

RAI 3.5.3-BSI

SR 3.5.3.4 and SR 3.5.3.5

The RCIC pump flow rates ensure that the system can maintain reactor coolant inventory during pressurized conditions with the RPV isolated. The flow tests for the RCIC System are performed at two different pressure ranges such that system capability to provide rated flow against a system head corresponding to reactor pressure is tested both at the higher and lower operating ranges of the system. The required system head should overcome the RPV pressure and associated discharge line losses. Adequate reactor steam pressure must be available to perform these tests. Additionally, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the RCIC System diverts steam flow. Therefore, sufficient time is allowed after adequate pressure and flow are achieved to perform these SRs. Adequate reactor steam pressure must be ≥ 970 psig to perform SR 3.5.3.4 and ≤ 165 psig to perform SR 3.5.3.5. Adequate steam flow is represented by at least one turbine bypass valve open, or main turbine generator load is greater than 100 MWe. Reactor startup is allowed prior to performing the low pressure Surveillance because the reactor pressure is low and the time allowed to satisfactorily perform the Surveillance is short. The reactor pressure is

RAI 3.5.3-BSI

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.3.4 and SR 3.5.3.5 (continued)

allowed to be increased to normal operating pressure since it is assumed that the low pressure Surveillance has been satisfactorily completed and there is no indication or reason to believe that RCIC is inoperable.

These SRs are modified by Notes that state the Surveillances are not required to be performed until 12 hours after the reactor steam pressure and flow are adequate to perform the test. The 12 hours allowed for performing the flow test after the required pressure and flow are reached is sufficient to achieve stable conditions for testing and provides reasonable time to complete the SR.

A 92 day Frequency for SR 3.5.3.4 is consistent with the Inservice Testing Program requirements. The 24 month Frequency for SR 3.5.3.5 is based on the need to perform the Surveillance under conditions that apply during a startup from a plant outage. Operating experience has shown that these components usually pass the SR when performed at the 24 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

RAI 3.5.3-851

SR 3.5.3.6

The RCIC System is required to actuate automatically in order to verify its design function satisfactorily. This Surveillance verifies that, with a required system initiation signal (actual or simulated), the automatic initiation logic of the RCIC System will cause the system to operate as designed, including actuation of the systemthroughout its emergency operating sequence; that is, automatic pump startup and actuation of all automatic valves to their required positions. This test also ensures the RCIC System will automatically restart on an RPV low water level (Level 2) signal received subsequent to an RPV high water level (Level 8) signal (Level 8 signal closes RCIC steam inlet valve, and subsequent Level 2 signal will re-open valve) and that the suction is automatically transferred from the CST to the suppression pool. The LOGIC SYSTEM FUNCTIONAL TEST performed in LCO 3.3.5.2 overlaps this Surveillance to provide complete testing of the assumed design function.

(continued)

BASES

ADM 3.5.3-(S1)

SURVEILLANCE

SR 3.5.3.6 (continued)

The 24 month Frequency is based on the need to perform the Surveillance under the conditions that apply during a startup from a plant outage. Operating experience has shown that these components usually pass the SR when performed at the 24 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR is modified by Note 1 that says the Surveillance is not required to be performed until 12 hours after the reactor steam pressure and flow are adequate to perform the test. The time allowed for this test after required pressure and flow are reached is sufficient to achieve stable conditions for testing and provides a reasonable time to complete the SR. Adequate reactor pressure must be available to perform this test. Additionally, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the RCIC System diverts steam flow. Thus, sufficient time is allowed after adequate pressure and flow are achieved to perform this test. Adequate reactor steam pressure is > 150 psig. Adequate steam flow is represented by at least one turbine bypass valve open. Reactor startup is allowed prior to performing this test because the reactor pressure is low and the time allowed to satisfactorily perform the test is short.

This SR is modified by Note 2 that excludes vessel injection during the Surveillance. Since all active components are testable and full flow can be demonstrated by recirculation through the test line, coolant injection into the RPV is not required during the Surveillance.

REFERENCES

1. UFSAR, Section 16.6.

2. UFSAR, Section 4.7.

3. 10 CFR 50.36(c)(2)(ii).

4. Memorandum from R.L. Baer (NRC) to V. Stello, Jr. (NRC), Recommended Interim Revisions to LCOs for ECCS Components, December 1, 1975.

(continued)

BASES

REFERENCES (continued)

5. ASME, Boiler and Pressure Vessel Code, Section XI, 1980.

MODIFIED RAI RESPONSES FOR ITS SECTION 3.5

REVISED RAI 3.5.3-1 Response

RAI 3.5.3-1 CTS 4.5.E.1.d, Flow Rate Test
DOC M3
ITS SR 3.5.3.5, SR 3.5.3.6
JFD DB3

The licensee proposed to divide the current requirement of CTS 4.5.E.1.d, "that RCIC delivers at least 400 gpm against a system head corresponding to a reactor vessel pressure of 1195 psig to 150 psig," into two separate Surveillance Requirements: SR 3.5.3.5 and SR 3.5.3.6. The JFD states that the brackets have been removed and the proper plant specific values have been provided. However, these values are altered from those in CTS. The JFD further states that these are "nominal values at rated conditions ... very close to the lower range where RCIC is required to be operable ... at the same time allows some flexibility to establish the condition."

Comment: The justification provided in DOC M3 and JFD DB3 do not support how these pressure ranges were derived and why these values are considered acceptable. Provide additional technical justifications for the derivation and acceptability of these values. Otherwise, this item will be treated as a beyond scope issue.

Licensee Response:

Original response:

(Copy of 7-31-00 Response)
3.5.3 DOC M3 will be revised to more explicitly address how the stated pressure ranges were derived and why these values are acceptable. It was also noted that ITS SRs 3.5.3.5 & 6 proposed wording included a reference to "... of 1195 psig" and "... of 150 psig" that will be deleted in the revised submittal.

(Note:This RAI issue and resolution is also applicable to 3.5.1, HPCI testing: DOC M2 and SRs 3.5.1.8 & 9. These changes will also be made during the incorporation of RAI 3.5.3-1 reply.)

Revise response:

3.5.3 DOC M3 will be revised to more explicitly address how the stated pressure ranges were derived and why these values are acceptable. It was also noted that ITS SRs 3.5.3.5 & 6 proposed wording included a reference to "... of 1195 psig" and "... of 150 psig" that will be deleted in the revised submittal.

The licensee also acknowledges that the change associated with proposed ITS SR 3.5.3.4 includes an acceptable but less restrictive change in surveillance requirements in that required flow is demonstrated against a head corresponding to reactor pressure instead of against a head corresponding to a reactor pressure of 1195 psig. An L DOC will be prepared to address this less restrictive change.

(Note:This RAI issue and resolution is also applicable to 3.5.1, HPCI testing: DOC M2 and SRs 3.5.1.8 & 9. These changes will also be made during the incorporation of RAI 3.5.3-1 reply.)