SUMMARY OF CHANGES TO ITS SECTION 3.9

SUMMARY OF CHANGES TO ITS SECTION 3.9 - REVISION D

Source of Change	Summary of Change	Affected Pages
NRC-ED-3	An editorial change has been made to the SR 3.9.2.2 Bases whereby a reference to SR 3.9.2.1 has been changed to SR 3.9.2.2. Consistent with this change Bases JFD TA2 has been developed.	**Section 3.9.2** ITS Bases mark-up, pp B 3.9-8 Bases JFD TA2 (Bases JFDs p 1 of 2) Retyped ITS Bases p B 3.9-9
BWROG-ED-4	A Change is proposed to SR 3.9.4.1 Bases which clarifies what need not be tested to satisfy this SR.	**Section 3.9.2** ITS Bases mark-up, pp B 3.9-14, Insert Page B 3.9-14 Bases JFD TP1 (Bases JFDs p 1 of 1) Retyped ITS Bases p B 3.9-16
TSTF-205, Rev. 3	A change is proposed to SR 3.9.2.2 Bases to provide clarification of what constitutes a successful channel functional test of the required contact(s) of a channel relay. Consistent with this change to the Bases of SR 3.9.2.2, JFD TA1 has been developed.	**Section 3.9.2** ITS Bases mark-up, pp B 3.9-7, Insert Page B 3.9-7 JFD TA1 (JFDs p 1 of 2) Retyped ITS Bases pp B 3.9-8, B 3.9-9

SUMMARY OF CHANGES TO ITS SECTION 3.9 - REVISION D

Source of Change	Summary of Change	Affected Pages
TSTF-225, Rev. 1	A proposed change was previously made to the Required Actions of LCO 3.9.1. Additional Required Actions were added as an alternative to suspending fuel movement in the reactor pressure vessel when the refueling interlocks were inoperable. The proposed alternative was to block control rod withdrawal immediately (proposed Required Action A.2.1) and to perform an additional verification that all of the control rods required to be inserted were fully inserted (proposed Required Action A.2.2). The concept of "required" as used in the previous sentence was previously reflected in Required Action A.2.2 as "Verify all control rods are fully inserted in core cells containing one or more fuel assemblies." The NRC expressed concern with the aspect of the change associated with Required Action A.2.2 regarding "...in core cells containing one or more fuel assemblies." The Staff's concern centered around the issue that the allowance provided by the previously quoted phrase created the potential for a fuel movement error in cells which were not protected by inserted control rods (i.e., a fuel cell that previously had no fuel in it). As a consequence of the Staff's concern, Required Action A.2.2 was revised to delete the above quoted phrase. Consistent with the revision to Required Action A.2.2, DOC L2 , NSH L2 , JFD TA1 for the ITS, Bases Actions and JFD TA1 for the Bases were also revised.	**Section 3.9.1** DOC L2 (DOC p 3 of 4) NHSC L2 CHANGE (NHSCs pp 3, 4 of 5) ITS mark-up, p Insert Page 3.9-1 JFD TA1 (JFDs p 1 of 2) ITS Bases mark-up, p Insert Page B 3.9-3 Bases JFD TA1 (Bases JFDs p 2 of 3) Retyped ITS p 3.9-1 Retyped ITS Bases p B 3.9-4
RAI 3.9.1-01	Changes were previously proposed to the LCO and Applicability of ITS 3.9.1 based on a TSTF change package that was still under review by the Staff. The NRC requested that the Authority provide the requested justification to allow review and approval of the JAF ITS without prior approval of the TSTF by the Staff. Accordingly, JFD TP1 was revised for the ITS and Bases to contain appropriate justification for the proposed changes.	**Section 3.9.1** JFD TP1 (JFDs p 2 of 2) Bases JFD TP1 (Bases JFDs p 2 of 3)

ITS CONVERSION PACKAGE

SECTION 3.9 - REFUELING OPERATIONS

JAFNPP
IMPROVED TECHNICAL SPECIFICATION (ITS)

CONVERSION PACKAGE

Section 3.9 - REFUELING OPERATIONS

Table of Contents

The markup package for each Specification contains the following:

Markup of the current Technical Specifications (CTS);
Discussion of changes (DOCs) to the CTS;
No significant hazards consideration (NSHC) for each less restrictive change (Lx) to the CTS;
Markup of the corresponding NUREG-1433 Specification;
Justification of differences (JFDs) from the NUREG;
Markup of NUREG-1433 Bases;
Justification for differences (JFDs) from NUREG-1433 Bases; and
Retyped proposed Improved Technical Specifications (ITS) and Bases.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.1

Refueling Equipment Interlocks

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: 3.9.1

Refueling Equipment Interlocks

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

Specification 3.9.1

A1

3.10 LIMITING CONDITIONS FOR OPERATION

3.10 CORE ALTERATIONS

Applicability:

Applies to fuel handling and core reactivity limitations.

Objective:

To assure that core reactivity is within the capability of the control rods and to prevent criticality during refueling.

Specification:

See: ITS 3.9.2

3.9.1

LCO 3.9.1

A. Refueling Interlocks

Equipment

A2

Applicability: During in-vessel fuel movement with equipment associated with interlocks when the reactor mode switch is in the refuel position

L2

1. The Reactor Mode Switch shall be locked in the Refuel position during core alterations and the refueling interlocks shall be operable except as permitted by Specifications 3.10.A.5, 3.10.A.6, 3.10.A.7 and 3.10.D.

L2

A3

See ITS: 3.9.3

2. Fuel shall not be loaded into the reactor core unless all control rods are fully inserted except as permitted by Specification 3.10.A.7.

See ITS: 3.10.6

equipment

A2

add proposed ACTION A

L2

4.10 SURVEILLANCE REQUIREMENTS

4.10 CORE ALTERATIONS

Applicability:

Applies to the periodic testing of those interlocks and instruments used during refueling and core alterations.

Objective:

To verify the operability of instrumentation and interlocks used in refueling and core alterations.

Specification:

3.9.1

Equipment

A. Refueling Interlocks

L3

A2

1. Prior to any fuel handling, with the head off the reactor vessel, the refueling interlocks shall be functionally tested. They shall also be tested at weekly intervals thereafter until no longer required and following any repair work associated with the interlocks.

equipment

SR 3.9.1.1

L1

2. Whenever the reactor mode switch is in the Refuel position and refueling interlocks are bypassed, one licensed operator and a member of the reactor analyst department shall verify that the control cell contains no fuel before the corresponding control rod is withdrawn.

See ITS: 3.10.6

add SR 3.9.1.1 List of Refueling Interlocks

M1

Page 1 of 2

Specification 3.9.1

A1

3.10 (cont'd)

3. The fuel grapple hoist load switch shall be set at less than or equal to 650 lbs.

LA1

4. If the frame-mounted auxiliary hoist, the monorail-mounted auxiliary hoist, or the service platform hoist is to be used for handling fuel with the head off the reactor vessel, the hoist load switch on the hoist to be used shall be set at less than or equal to 400 lbs.

A4

5. Any number of control rods may be withdrawn or removed from the reactor core provided:

   a. The reactor mode switch is locked in the "Refuel" position; and

   b. The fuel assemblies situated in the control cell of the control rod to be withdrawn have been removed; and

   c. Refueling interlocks associated with all control cells containing fuel are operable. Refueling interlocks associated with a specific control rod may be bypassed after the fuel assemblies in the control cell have been removed; and

   d. Fuel on-loading operations shall be suspended until Specification 3.10.A.2 is satisfied.

See ITS: 3.10.6

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IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.1

Refueling Equipment Interlocks

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.9.1 - REFUELING EQUIPMENT INTERLOCKS

ADMINISTRATIVE CHANGES

A1 In the conversion of the James A. FitzPatrick Nuclear Power Plant (JAFNPP) Current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted which do not result in technical changes. 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 3.10.A.1, Refueling Interlocks, identifies requirements for performing Core Alterations. These requirements include locking the reactor mode switch in the "Refuel" position and having the refueling interlocks Operable. However, there are two different types of core alterations (see proposed Definition for Core Alteration): movement of fuel in the reactor vessel and movement of control rods. The analysis for each of the two types of core alterations depend on different refueling interlocks for the prevention of inadvertent criticality. Therefore, CTS is proposed to be broken into two parts: ITS 3.9.1, "Refueling Equipment Interlocks" which covers in-vessel fuel movement only, with the reactor mode switch in refuel; and, ITS 3.9.2, "Refuel Position One-Rod-Out Interlock" which covers control rod withdrawal during MODE 5. Since this change simply adopts the presentation format of NUREG-1433, Revision 1, this change is considered administrative.

A3 CTS 3.10.A.1 is Applicable "during Core Alterations" but then modifies this with the statement "except as specified in 3.10.A.5, 3.10.A.6, 3.10.A.7 and 3.10.D below." In ITS 3.9.1, this cross reference to other Specifications is not included in the Applicability statement. The CTS exception to the Applicability statement is a cross reference to existing Specifications governing the withdrawal or removal of control rods, and spiral off-load and on-load operations. The structure and format of NUREG-1433 is such that compliance with the Specifications does not require the use of cross references. Therefore, statements that cross reference Specifications are deleted and this change is considered administrative.

A4 CTS 3.10.A.4 requires the hoist load switch on the service platform hoist to be set at less than or equal to 400 lbs whenever it is to be used for handling fuel. This requirement is not incorporated in the ITS, since the service platform is no longer utilized at JAFNPP. In fact the service platform has been removed from the plant and any discussion of the service platform, or associated hoist has been eliminated from UFSAR, Section 7.6 which discusses the refueling interlocks. Since the current requirement prescribes requirements for

ADMINISTRATIVE CHANGES

A4 (continued)

equipment that no longer exists, this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 CTS 4.10.A.1 requires testing of refueling interlocks. In ITS 3.9.1, each actual refueling equipment interlock is listed in the Surveillance Requirement (ITS SR 3.9.1.1). The listed refueling equipment interlocks in ITS SR 3.9.1.1 are installed at JAFNPP and considered to be the refueling interlocks addressed in CTS 4.10.A.1 (with the exception of the one-rod-out interlock which is addressed in ITS 3.9.2). Since the proposed Surveillance is explicit on the required refueling interlocks, this change is considered more restrictive.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 The actual hoist loaded setpoints in CTS 3.10.A.3 are proposed to be relocated to the Technical Requirements Manual (TRM). The actual setpoints are not explicitly assumed in any design basis accident or transient, only the interlock itself is assumed to function. Testing of the interlock is provided by a specific Surveillance Requirement (SR 3.9.1.1) and is an integral part of the Operability of the interlocks. As such, the requirements of ITS 3.9.1 and ITS SR 3.9.1.1 are adequate to ensure that the interlocks are maintained Operable. Therefore, these setpoints are not required to be in the ITS to provide adequate protection of the public health and safety and are proposed to be relocated to the TRM. At ITS Implementation, the TRM will be incorporated into the UFSAR by reference. 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 4.10.A.1 provides post maintenance testing requirements for refueling equipment interlocks. A functional test is required following any repair work associated with the interlock. This specific requirement is not retained in ITS 3.9.1. Any time the Operability of a system or component has been affected by repair, maintenance or replacement of a component, post maintenance testing is required to demonstrate Operability of the system or component. After restoration

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 (continued)

of a component that caused a required SR to be failed, ITS SR 3.0.1 requires the appropriate SRs (in this case, ITS SR 3.9.1.1) to be performed to demonstrate Operability of the affected components. Therefore, explicit post maintenance Surveillance Requirements in CTS 4.10.A.1 are not required and are proposed to be deleted from the Technical Specifications.

L2 CTS 3.10.A.1, Refueling Interlocks, identifies the requirements applicable "during Core Alterations". However, there are two types of Core Alterations (see proposed Definition of Core Alteration in ITS Section 1.0): movement of fuel in the reactor vessel and movement of control rods. Each of the two types of core alterations depend on different refueling interlocks for the prevention of an inadvertent criticality. Therefore, CTS 3.10.A.1 is being divided into two parts: ITS 3.9.1, "Refueling Equipment Interlocks", which covers in-vessel fuel movement only; and, ITS 3.9.2, "Refuel Position One-Rod-Out Interlock", which covers control rod withdrawal. Whereas CTS 3.10.A.1 governs all of the refueling interlocks and is applicable "during Core Alterations", ITS 3.9.1 is applicable "during in-vessel fuel movement with equipment associated with the interlocks when the reactor mode switch is in the refuel position". The proposed change in the Applicability requires that the refueling equipment interlocks be Operable only during those situations when the interlocks are assumed to operate to prevent inadvertent criticality, i.e., in-vessel fuel movement with equipment associated with the interlocks when the reactor mode switch is in the refuel position. This change is less restrictive because it will allow the refueling equipment interlocks to be inoperable in conditions identical to conditions where the CTS would require these interlocks to be Operable. However, the proposed Applicability will require these interlocks to be Operable in all cases where they may be required to prevent inadvertent criticality. Along with this change, a new default ACTION has been added for the condition when one or more required refueling equipment interlocks are inoperable. Two options are provided. ITS 3.9.1 Required Action A.1 requires the immediate suspension of in-vessel fuel movement with equipment associated with the inoperable interlocks. This Required Action clearly identifies that prompt action is necessary to immediately exit from the Applicability of this Specification. Alternatively, ITS 3.9.1 Required Action A.2 requires the immediate insertion of a control rod withdrawal block and the immediate verification that all control rods are fully inserted. This will help ensure the assumptions of the refueling accident are met during

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TECHNICAL SPECIFICATIONS - LESS RESTRICTIVE (SPECIFIC)

L2 (continued)

in-vessel fuel movements with equipment associated with the interlocks when the reactor mode switch is in the refuel position.

L3 CTS 4.10.A.1 requires the refueling interlocks to be functionally tested prior to any fuel handling with the head off and at a weekly interval thereafter. ITS SR 3.9.1.1 requires the functional test to be performed once every 7 days. The normal periodic surveillance frequency (once per 7 days in CTS 4.10.A.1 and ITS SR 3.9.1.1) for the component tests provides adequate assurance of OPERABILITY.

The requirement to perform the Surveillance Requirement "Prior to any fuel handling with the head off the reactor vessel" is deleted. If the Surveillance is not performed within the normal surveillance interval, in-vessel fuel movement with the equipment associated with the affected refueling interlock may not be performed since ITS SR 3.0.1 requires a Surveillance be met within the specified Frequency while in the applicable MODES or other specified conditions. ITS SR 3.0.1 also states that failure to meet the Surveillance constitutes failure to meet the LCO, which would then require the ACTIONS of the LCO to be taken.

If ITS SR 3.9.1.1 is not performed within the specified Frequency of 7 days prior to entering the specified condition, this would result in the LCO not being met. The ACTIONS for this LCO would then require immediate action to be taken to exit the APPLICABILITY of the LCO. This effectively ensures that the Applicability of the LCO is not entered with the Surveillance not current. The normal periodic Surveillance Frequency ensures the requirements are adequately checked prior to and during in-vessel fuel movement with the equipment associated the refueling interlocks.

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.1

Refueling Equipment Interlocks

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.9.1 - REFUELING EQUIPMENT INTERLOCKS

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

New York Power Authority 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 explicit post maintenance testing requirement in CTS 4.10.A.1 has been deleted. This requirement was specified in the Technical Specifications to ensure the Operability of the refueling equipment interlocks was positively verified following repair. The proposed deletion of this explicit requirement is considered administrative since ITS SR 3.0.1 requires the appropriate SRs to be performed to demonstrate Operability after restoration of a component that caused the SR to be failed (e.g., after maintenance, modification). In this case, ITS SR 3.0.1 would require ITS SR 3.9.1.1 to be performed, which requires a Channel Functional Test on the affected refueling equipment interlocks be performed. As a result, the accident consequences and probability are unaffected by this change. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The 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 continues to ensure the operability of components required to prevent an inadvertent criticality. It merely eliminates an unnecessary restatement of an existing requirement.

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

   The proposed deletion of the explicit requirement to perform a functional test on the refueling equipment interlocks following any repair work does not reduce the margin of safety. The change is considered administrative since ITS SR 3.0.1 requires the appropriate

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

3. (continued)

SRs to be performed to demonstrate Operability after restoration of a component that caused the SR to be failed (e.g., after maintenance, modification). In this case, ITS SR 3.0.1 would require ITS SR 3.9.1.1 to be performed, which requires a Channel Functional Test of the refueling equipment interlocks be performed. As a result, the existing requirement to perform a functional test on the refueling equipment interlocks following repair is maintained. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.9.1 - REFUELING EQUIPMENT INTERLOCKS

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

New York Power Authority 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 divides CTS 3.10.A.1 into two parts: Specification 3.9.1, "Refueling Equipment Interlocks," which covers in-vessel movement only; and, Specification 3.9.2, "Refuel Position One-Rod-Out Interlock," which covers control rod withdrawal. Whereas CTS 3.10.A.1 governs all of the refueling interlocks and is applicable "during Core Alterations," proposed Specification 3.9.1 is applicable "during in-vessel fuel movement with equipment associated with the interlocks when the reactor mode switch is in the refuel position."

   The proposed change in the Applicability requires that the refueling equipment interlocks be Operable only during those situations when the interlocks are assumed to operate to prevent inadvertent criticality, i.e., in-vessel fuel movement with equipment associated with the interlocks when the reactor mode switch is in the refuel position. The change still requires these interlocks to be Operable in all cases where the safety analyses assume them to function in order to prevent inadvertent criticality. However, the proposed actions will allow the interlock(s) to be inoperable and allow in-vessel fuel movement if a control rod block is inserted and if all control rods are fully inserted. These actions help to ensure in-vessel fuel movement will not occur with a control rod withdrawn in a core cell containing one or more fuel assemblies which is the function of the refueling equipment interlocks. These restrictions will help prevent the core from achieving criticality during refueling. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed change does not involve any physical changes to plant systems, structures, or components (SSC), or the manner in which these SSC are operated, maintained, modified, tested, or inspected. The

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

2. (continued)

TSTF-225

change continues to require the operability of the refueling equipment interlocks during in-vessel fuel movement with equipment associated with the interlocks when the reactor mode switch is in the refuel position and all required refueling interlocks are Operable. Therefore, the refueling interlocks will still be required to be Operable in all cases where the safety analyses assume them to function in order to prevent inadvertent criticality. With the refueling equipment interlock(s) inoperable, the proposed actions will allow in-vessel fuel movement if a control rod block is inserted and if all control rods are fully inserted. These actions will also prevent an inadvertent criticality. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

TSTF-225

The proposed change in the Applicability requires that the refueling equipment interlocks be Operable only during those situations when the interlocks are assumed to operate to prevent inadvertent criticality, i.e., in-vessel fuel movement with equipment associated with the interlocks when the reactor mode switch is in the refuel position. The proposed change still requires these interlocks to be Operable in all cases where the safety analyses assume them to function in order to prevent inadvertent criticality. The proposed actions will allow the interlock(s) to be inoperable and allow in-vessel fuel movement if a control rod block is inserted and if all control rods are fully inserted. These actions help to ensure in-vessel fuel movement will not occur with a control rod withdrawn, which is the function of the refueling equipment interlock. These restrictions will help prevent the core from achieving criticality during refueling. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.9.1 - REFUELING EQUIPMENT INTERLOCKS

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

New York Power Authority 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 removes an unnecessary additional performance of a Surveillance which has been performed within its normally required Frequency. Not performing the Surveillance will not affect any equipment which is assumed as an initiator of any analyzed event. Furthermore, since the Surveillance continues to be performed on its normal Frequency, there is no impact on the capability of the system to perform its required safety function. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

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

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

   The proposed change does not involve a significant reduction in a margin of safety since the normal periodic Frequency is adequate for assuring the LCO requirements are maintained. Additionally, the ACTION requirement of proposed ITS 3.9.1, which requires immediate suspension of in-vessel fuel movement with equipment associated with inoperable refueling equipment interlocks, and the requirements of SR 3.0.1 effectively preclude starting of in-vessel fuel movement unless LCO requirements are met (in this case, Surveillance Requirements satisfied within the normal periodic Frequency prior to starting the activity).

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IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.1

Refueling Equipment Interlocks

MARKUP OF NUREG-1433, REVISION 1 SPECIFICATION

3.9 REFUELING OPERATIONS

3.9.1 Refueling Equipment Interlocks

associated with the reactor mode switch in the refuel position

TP1

[3.10.A.1] LCO 3.9.1 The refueling equipment interlocks shall be OPERABLE.

[3.10.A.1] APPLICABILITY: During in-vessel fuel movement with equipment associated with the interlocks.

when the reactor mode switch is in the refuel position

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required refueling equipment interlocks inoperable.	A.1 Suspend in-vessel fuel movement with equipment associated with the inoperable interlock(s).	Immediately

[L2]

Insert Action A

TA1

[L2]

INSERT ACTION A

OR

A.2.1	Insert a control rod withdrawal block.	Immediately

AND

A.2.2	Verify all control rods are fully inserted.	Immediately

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SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.1.1	Perform CHANNEL FUNCTIONAL TEST on each of the following required refueling equipment interlock inputs: a. All-rods-in, b. Refuel platform position, c. Refuel platform fuel grapple, fuel loaded, d. Refuel platform fuel grapple fully ~~retracted position~~, e. Refuel platform frame mounted hoist, fuel loaded, f. Refuel platform ~~monorail~~ mounted hoist, fuel loaded, and g. ~~Service platform hoist, fuel loaded~~	7 days

[4.10.A.1][M1]

not up

trolley

DB1

DB2

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.1

Refueling Equipment Interlocks

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.9.1 - REFUELING EQUIPMENT INTERLOCKS

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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 refueling interlocks have been provided.

DB2 The service platform and associated hoist has been removed from the plant, therefore this requirement is not applicable and has been deleted.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 225, Revision 0, have been incorporated into the revised Improved Technical Specifications.

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The incorporation of TSTF-225, Rev 0, has been modified to delete reference to "in core cells containing one or more fuel assemblies" in Required Action A.2.2. This is consistent with NRC concerns with in-vessel fuel movements with inoperable refueling interlocks.

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.9.1 - REFUELING EQUIPMENT INTERLOCKS

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

TP1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 232, Revision 0, have been incorporated into the revised Improved Technical Specifications.

The LCO and Applicability for ITS 3.9.1 (as modified by TSTF-232) is addressed in DOC L2. Furthermore, the justification provided in TSTF-232 applies to JAFNPP and appropriate portions are repeated below:

> The current wording of ITS LCO 3.9.1 and the associated Applicability could imply that all refueling equipment interlocks are required at all times during in-vessel fuel movement. The intent of this LCO was to require the refueling interlocks when the reactor mode switch is in REFUEL, consistent with the Applicability of ITS LCO 3.9.2. When the reactor mode switch is in SHUTDOWN, a control rod block (required by ITS LCO 3.3.2.1, Function 3) will ensure that no rod withdrawals can occur simultaneously with in-vessel fuel movements. Thus, refueling with the reactor mode switch in the SHUTDOWN position is not precluded; ITS Table 1.1-1 allows the reactor mode switch to be in the SHUTDOWN position during the refueling mode (MODE 5). Therefore, to avoid confusion, the LCO is proposed to be modified to specifically state that the refueling interlocks are those associated with the reactor mode switch REFUEL position, and the Applicability is proposed to be modified to state that the LCO is applicable when the reactor mode switch is in the REFUEL position. In addition, this change is consistent with the previous Standard Technical Specification (pre-ITS) for this LCO.

RAI 3.9.1-01

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.1

Refueling Equipment Interlocks

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.9 REFUELING OPERATIONS

B 3.9.1 Refueling Equipment Interlocks

BASES

BACKGROUND

Refueling equipment interlocks restrict the operation of the refueling equipment or the withdrawal of control rods to reinforce ~~our~~ plant procedures that prevent the reactor from achieving criticality during refueling. The refueling interlock circuitry senses the conditions of the refueling equipment and the control rods. Depending on the sensed conditions, interlocks are actuated to prevent the operation of the refueling equipment or the withdrawal of control rods.

UFSAR, Section 16.6

~~GDC 26 of 10 CFR 50, Appendix A~~, requires that one of the two required independent reactivity control systems be capable of holding the reactor core subcritical under cold conditions (Ref. 1). The control rods, when fully inserted, serve as the system capable of maintaining the reactor subcritical in cold conditions during all fuel movement activities and accidents.

Two channels of instrumentation are provided to sense the full insertion of all control rods.

One channel of instrumentation is provided to sense the position of the refueling platform, the loading of the refueling platform fuel grapple, ~~and the full insertion of all control rods. Additionally, inputs are provided for~~ the loading of the refueling platform frame mounted hoist, the loading of the refueling platform ~~monorail~~ mounted hoist, ~~s~~ the ~~full retraction of the~~ fuel grapple, ~~and the loading of the service platform hoist~~. With the reactor mode switch in the shutdown or refueling position, the indicated conditions are combined in logic circuits to ~~determine if all~~ establish appropriate restrictions on refueling equipment operations and control rod ~~insertion are satisfied~~ movement. or if the fuel grapple is not fully up

in the not fully up position

A control rod not at its full-in (to) position interrupts power to the refueling equipment ~~and~~ prevents operating the equipment over the reactor core when loaded with a fuel assembly. Conversely, ~~the refueling equipment located over the core and loaded with fuel inserts~~ a control rod withdrawal block ~~in the Control Rod Drive~~ System to prevent withdrawing a control rod. is inserted Reactor Manual Control

near or

with the refueling platform equipment near or over the core and loaded with fuel or the fuel grapple is not fully up

The refueling platform has two mechanical switches that open before the platform or any of its hoists are physically

(continued)

However only one of these switches provides input to the required refueling interlock circuitry with the reactor mode switch in the refuel position. DB2

In addition, a switch will open if the fuel grapple is not fully up

BASES

BACKGROUND (continued)

located over the reactor vessel. All refueling hoists have switches that open when the hoists are loaded with fuel. DB2

Insert BKGD

The refueling interlocks use these indications (near or over the core) to prevent operation of the refueling equipment with fuel loaded over the core whenever any control rod is withdrawn, or to prevent control rod withdrawal whenever fuel loaded the refueling equipment is over the core (near or) (Ref. 2).

or the fuel grapple is not fully up

The hoist switches open at a load lighter than the weight of a single fuel assembly in water. PA4

PA2 PA1

APPLICABLE SAFETY ANALYSES

The refueling interlocks are explicitly assumed in the FSAR analyses for the control rod removal (withdrawal) error during refueling (Ref. 3) and the fuel assembly insertion error during refueling (Ref. 4). These analyses evaluate the consequences of control rod withdrawal during refueling and also fuel assembly insertion with a control rod withdrawn. A prompt reactivity excursion during refueling could potentially result in fuel failure with subsequent release of radioactive material to the environment.

and loaded with fuel or the fuel grapple not fully up

Criticality and, therefore, subsequent prompt reactivity excursions are prevented during the insertion of fuel, provided all control rods are fully inserted during the fuel insertion. The refueling interlocks accomplish this by preventing loading of fuel into the core with any control rod withdrawn or by preventing withdrawal of a rod from the core during fuel loading.

The refueling platform location switches activate at a point outside of the reactor core such that, ~~considering switch hysteresis and maximum platform momentum toward the core at the time of power loss~~ with a fuel assembly loaded and a control rod withdrawn, the fuel is not over the core. DB2

Refueling equipment interlocks satisfy Criterion 3 of ~~the NRC Policy Statement~~. 10 CFR 50.36(c)(2)(ii) (Ref. 5) X1

LCO

To prevent criticality during refueling, the refueling interlocks ensure that fuel assemblies are not loaded with any control rod withdrawn.

equipment PA2

associated with the reactor mode switch

in the refuel position

into the core TP1

(continued)

TP1 PA5

REVISION D

DB2

INSERT BKGD

Each control rod full-in position channel provides input to two all-rods-in channels. Both all-rods-in channels must register for the refueling interlock circuitry to indicate the all-rods-in condition.

BASES

LCO (continued)

To prevent these conditions from developing, the all-rods-in, the refueling platform position, the refueling platform fuel grapple fuel loaded, the refueling platform trolley ~~frame~~ mounted hoist fuel loaded, the refueling platform ~~monorail~~ mounted hoist fuel loaded, the refueling platform fuel grapple ~~fully retracted~~ position, ~~and the service platform hoist fuel loaded~~ inputs are required to be OPERABLE. These inputs are combined in logic circuits, which provide refueling equipment or control rod blocks to prevent operations that could result in criticality during refueling operations.

APPLICABILITY

In MODE 5, a prompt reactivity excursion could cause fuel damage and subsequent release of radioactive material to the environment. The refueling equipment interlocks protect against prompt reactivity excursions during MODE 5. The interlocks are required to be OPERABLE during in-vessel fuel movement with refueling equipment associated with the interlocks.

In MODES 1, 2, 3, and 4, the reactor pressure vessel head is on, and ~~CORE ALTERATIONS~~ are not possible. Therefore, the refueling interlocks are not required to be OPERABLE in these MODES.

ACTIONS

A.1

With one or more of the required refueling equipment interlocks inoperable ~~(does not include the one-rod-out interlock addressed in LCO 3.9.2)~~, the ~~UNIT~~ must be placed in a condition in which the LCO does not apply. In-vessel fuel movement with the affected refueling equipment must be immediately suspended. This action ensures that operations are not performed with equipment that would potentially not be blocked from unacceptable operations (e.g., loading fuel into a cell with a control rod withdrawn).

Suspension of in-vessel fuel movement shall not preclude completion of movement of a component to a safe position.

when the reactor mode switch is in the refuel position. The interlocks are not required when the reactor mode switch is in the shutdown position because a control rod block (LCO 3.2.1, "Control Rod Block Instrumentation") ensures control rod withdrawal cannot occur simultaneously with in-vessel fuel movements

(continued)

REVISION D

ACTION A-1

or the Surveillances are not needed. This can be performed by ensuring fuel assemblies are not moved in the reactor vessel or by ensuring that the control rods are inserted and cannot be withdrawn. Therefore, Required Action A.1 requires that

ACTION A-2

TSTF-225

Alternately, Required Actions A.2.1 and A.2.2 require that a control rod withdrawal block be inserted and that all control rods are subsequently verified to be fully inserted. Required Action A.2.1 ensures that no control rods can be withdrawn. This action ensures that control rods cannot be inappropriately withdrawn because an electrical or hydraulic block to control rod withdrawal is in place. Required Action A.2.2 is performed after placing the rod withdrawal block in effect. This verification that all control rods are fully inserted is in addition to the periodic verifications required by SR 3.9.3.1 and SR 3.10.6.2. Like Required Action A.1, Required Actions A.2.1 and A.2.2 ensure that unacceptable operations are blocked (e.g., loading fuel into a cell with the control rod withdrawn).

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.9.1.1

Performance of a CHANNEL FUNCTIONAL TEST demonstrates each required refueling equipment interlock will function properly when a simulated or actual signal indicative of a required condition is injected into the logic. The CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping, or total channel steps so that the entire channel is tested.

The 7 day Frequency is based on engineering judgment and is considered adequate in view of other indications of refueling interlocks and their associated input status that are available to ~~unit~~ plant operations personnel. PAF

CLB1

REFERENCES

1. ~~10 CFR 50, Appendix A, GDC 26.~~ UFSAR, Section 16.6
2. ~~U~~FSAR, Section ~~7.6.1~~. 3
3. ~~U~~FSAR, Section ~~15.1.13~~. 14.5.4.3
4. ~~U~~FSAR, Section ~~15.1.14~~. 14.5.4.4

DB3

IA1

5. 10 CFR 50.36 (c)(2)(ii) X1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.1

Refueling Equipment Interlocks

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.9.1 - REFUELING EQUIPMENT INTERLOCKS

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 JAFNPP was designed and under construction prior to the promulgation of Appendix A to 10 CFR 50 - General Design Criteria for Nuclear Power Plants. 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 FR 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.

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

PA1 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature.

PA2 Minor wording changes have been made to the Bases for clarity or to be consistent with the Specification.

PA3 This information concerning Specification 3.9.2 is not required since Specification 3.9.1 does not include the one-rod-out interlock.

PA4 Editorial change made with no change in intent or to be consistent with other places in the Bases.

PA5 Editorial change made to be consistent with the modifications made in TP1.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The service platform and associated hoist has been removed from the plant, therefore this requirement is not applicable and has been deleted.

DB2 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature, number, reference, system description, or analysis description.

DB3 The brackets have been removed and the appropriate JAFNPP reference included.

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.9.1 - REFUELING EQUIPMENT INTERLOCKS

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TSTF-225

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 225, Revision 0, have been incorporated into the revised Improved Technical Specifications.

The incorporation of TSTF-225, Rev 0, has been modified to delete reference to "in core cells containing one or more fuel assemblies" in Required Action A.2.2. This is consistent with NRC concerns with in-vessel fuel movements with inoperable refueling interlocks.

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

RAI 3.9.1-01

TP1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 232, Revision 0, have been incorporated into the revised Improved Technical Specifications.

The LCO and Applicability for ITS 3.9.1 (as modified by TSTF-232) is addressed in DOC L2. Furthermore, the justification provided in TSTF-232 applies to JAFNPP and appropriate portions are repeated below:

> The current wording of ITS LCO 3.9.1 and the associated Applicability could imply that all refueling equipment interlocks are required at all times during in-vessel fuel movement. The intent of this LCO was to require the refueling interlocks when the reactor mode switch is in REFUEL, consistent with the Applicability of ITS LCO 3.9.2. When the reactor mode switch is in SHUTDOWN, a control rod block (required by ITS LCO 3.3.2.1, Function 3) will ensure that no rod withdrawals can occur simultaneously with in-vessel fuel movements. Thus, refueling with the reactor mode switch in the SHUTDOWN position is not precluded; ITS Table 1.1-1 allows the reactor mode switch to be in the SHUTDOWN position during the refueling mode (MODE 5). Therefore, to avoid confusion, the LCO is proposed to be modified to specifically state that the refueling interlocks are those associated with the reactor mode switch REFUEL position, and the Applicability is proposed to be modified to state that the LCO is applicable when the reactor mode switch is in the REFUEL position. In addition, this change is consistent with the previous Standard Technical Specification (pre-ITS) for this LCO. Appropriate Bases changes are also made.

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.9.1 - REFUELING EQUIPMENT INTERLOCKS

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.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.1

Refueling Equipment Interlocks

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.9 REFUELING OPERATIONS

3.9.1 Refueling Equipment Interlocks

LCO 3.9.1 The refueling equipment interlocks associated with the reactor mode switch in the refuel position shall be OPERABLE.

APPLICABILITY: During in-vessel fuel movement with equipment associated with the interlocks when the reactor mode switch is in the refuel position.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required refueling equipment interlocks inoperable.	A.1 Suspend in-vessel fuel movement with equipment associated with the inoperable interlock(s).	Immediately
	OR	
	A.2.1 Insert a control rod withdrawal block.	Immediately
	AND	
	A.2.2 Verify all control rods are fully inserted.	Immediately

TBTF-225

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.1.1	Perform CHANNEL FUNCTIONAL TEST on each of the following required refueling equipment interlock inputs: a. All-rods-in, b. Refuel platform position, c. Refuel platform fuel grapple, fuel loaded, d. Refuel platform fuel grapple not fully up, e. Refuel platform frame mounted hoist, fuel loaded, and f. Refuel platform trolley mounted hoist, fuel loaded.	7 days

B 3.9 REFUELING OPERATIONS

B 3.9.1 Refueling Equipment Interlocks

BASES

BACKGROUND

Refueling equipment interlocks restrict the operation of the refueling equipment or the withdrawal of control rods to reinforce plant procedures that prevent the reactor from achieving criticality during refueling. The refueling interlock circuitry senses the conditions of the refueling equipment and the control rods. Depending on the sensed conditions, interlocks are actuated to prevent the operation of the refueling equipment or the withdrawal of control rods.

UFSAR, Section 16.6, requires that one of the two required independent reactivity control systems be capable of holding the reactor core subcritical under cold conditions (Ref. 1). The control rods, when fully inserted, serve as the system capable of maintaining the reactor subcritical in cold conditions during all fuel movement activities and accidents.

Two channels of instrumentation are provided to sense the full insertion of all control rods. One channel of instrumentation is provided to sense the position of the refueling platform, the loading of the refueling platform fuel grapple, the loading of the refueling platform frame mounted hoist, the loading of the refueling platform trolley mounted hoist, and the fuel grapple in the not fully up position. With the reactor mode switch in the shutdown or refueling position, the indicated conditions are combined in logic circuits to establish appropriate restrictions on refueling equipment operations and control rod movement.

A control rod not at its full-in position interrupts power to the refueling equipment to prevent operating the equipment near or over the reactor core when loaded with a fuel assembly or if the fuel grapple is not fully up. Conversely, with the refueling platform equipment near or over the core and loaded with fuel or the fuel grapple is not fully up a control rod withdrawal block is inserted in the Reactor Manual Control System to prevent withdrawing a control rod.

(continued)

BASES

BACKGROUND (continued)

The refueling platform has two mechanical switches that open before the platform or any of its hoists are physically located over the reactor vessel. However, only one of these channels provides input to the required refueling interlock circuitry with the reactor mode switch in the refuel position. Each control rod full-in position channel provides input to two all-rods-in channels. Both all-rods-in channels must register for the refueling interlock circuitry to indicate the all-rods-in condition. All refueling hoists have switches that open when the hoists are loaded with fuel. The hoist switches open at a load lighter than the weight of a single fuel assembly in water. In addition, a switch will open if the fuel grapple is not fully up.

The refueling interlocks use these indications to prevent operation of the refueling equipment near or over the core with fuel loaded or the fuel grapple not fully up whenever any control rod is withdrawn, or to prevent control rod withdrawal whenever the refueling equipment is near or over the core and loaded with fuel or the fuel grapple is not fully up (Ref. 2).

APPLICABLE SAFETY ANALYSES

The refueling interlocks are explicitly assumed in the UFSAR analyses for the control rod withdrawal error during refueling (Ref. 3) and the fuel assembly insertion error during refueling (Ref. 4). These analyses evaluate the consequences of control rod withdrawal during refueling and also fuel assembly insertion with a control rod withdrawn. A prompt reactivity excursion during refueling could potentially result in fuel failure with subsequent release of radioactive material to the environment.

Criticality and, therefore, subsequent prompt reactivity excursions are prevented during the insertion of fuel, provided all control rods are fully inserted during the fuel insertion. The refueling interlocks accomplish this by preventing loading of fuel into the core with any control rod withdrawn or by preventing withdrawal of a rod from the core during fuel loading.

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

The refueling platform location switches activate at a point outside of the reactor core such that, with a fuel assembly loaded and a control rod withdrawn, the fuel is not over the core.

Refueling equipment interlocks satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii)(Ref.5).

LCO

To prevent criticality during refueling, the refueling equipment interlocks associated with the reactor mode switch ensure that fuel assemblies are not loaded into the core in the refuel position with any control rod withdrawn.

To prevent these conditions from developing, the all-rods-in, the refueling platform position, the refueling platform fuel grapple fuel loaded, the refueling platform trolley mounted hoist fuel loaded, the refueling platform frame mounted hoist fuel loaded, and the refueling platform fuel grapple not full up position inputs are required to be OPERABLE. These inputs are combined in logic circuits, which provide refueling equipment power interruptions or control rod blocks to prevent operations that could result in criticality during refueling operations.

APPLICABILITY

In MODE 5, a prompt reactivity excursion could cause fuel damage and subsequent release of radioactive material to the environment. The refueling equipment interlocks protect against prompt reactivity excursions during MODE 5. The interlocks are required to be OPERABLE during in-vessel fuel movement with refueling equipment associated with the interlocks when the reactor mode switch is in the refuel position. The interlocks are not required when the reactor mode switch is in the shutdown position because a control rod block (LCO 3.3.2.1, "Control Rod Block Instrumentation") ensures control rod withdrawal cannot occur simultaneously with in-vessel fuel movements.

In MODES 1, 2, 3, and 4, the reactor pressure vessel head is on, and fuel loading activities are not possible. Therefore, the refueling interlocks are not required to be OPERABLE in these MODES.

(continued)

BASES (continued)

Therefore, the refueling interlocks are not required to be OPERABLE in these MODES.

ACTIONS

A.1, A.2.1 and A.2.2

With one or more of the required refueling equipment interlocks inoperable, the plant must be placed in a condition in which the LCO does not apply or the Surveillances are not needed. This can be performed by ensuring fuel assemblies are not moved in the reactor vessel or by ensuring that the control rods are inserted and cannot be withdrawn.

Therefore, Required Action A.1 requires that in-vessel fuel movement with the affected refueling equipment must be immediately suspended. This action ensures that operations are not performed with equipment that would potentially not be blocked from unacceptable operations (e.g., loading fuel into a cell with a control rod withdrawn). Suspension of in-vessel fuel movement shall not preclude completion of movement of a component to a safe position.

Alternately, Required Actions A.2.1 and A.2.2 require that a control rod withdrawal block be inserted and that all control rods are subsequently verified to be fully inserted. Required Action A.2.1 ensures that no control rods can be withdrawn. This action ensures that control rods cannot be inappropriately withdrawn because an electrical or hydraulic block to control rod withdrawal is in place. Required Action A.2.2 is performed after placing the rod withdrawal block in effect. This verification that all control rods are fully inserted is in addition to the periodic verifications required by SR 3.9.3.1 and SR 3.10.6.2. Like Required Action A.1, Required Actions A.2.1 and A.2.2 ensure that unacceptable operations are blocked (e.g., loading fuel into a cell with the control rod withdrawn).

TSTF-225

SURVEILLANCE REQUIREMENTS

SR 3.9.1.1

Performance of a CHANNEL FUNCTIONAL TEST demonstrates each required refueling equipment interlock will function properly when a simulated or actual signal indicative of a

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

sequential, overlapping, or total channel steps so that the entire channel is tested.

The 7 day Frequency is based on engineering judgment and is considered adequate in view of other indications of refueling interlocks and their associated input status that are available to plant operations personnel.

REFERENCES

1. UFSAR, Section 16.6.
2. UFSAR, Section 7.6.3.
3. UFSAR, Section 14.5.4.3.
4. UFSAR, Section 14.5.4.4.
5. 10 CFR 50.36(c)(2)(ii).

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.2

Refuel Position One-Rod-Out Interlock

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: 3.9.2

Refuel Position One-Rod-Out Interlock

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

Specification 3.9.2 (A1)

3.10 LIMITING CONDITIONS FOR OPERATION

3.10 CORE ALTERATIONS

Applicability:

Applies to fuel handling and core reactivity limitations.

Objective:

To assure that core reactivity is within the capability of the control rods and to prevent criticality during refueling.

Specification:

3.9.2 Refuel Position One-Rod-Out Interlock

A. Refueling Interlocks

[SR 3.9.2.1] [LCO 3.9.2]

1. The Reactor Mode Switch shall be locked in the Refuel position during core alterations and the refueling interlocks shall be operable except as permitted by Specifications 3.10.A.5, 3.10.A.6, 3.10.A.7 and 3.10.D. (A3)

2. Fuel shall not be loaded into the reactor core unless all control rods are fully inserted except as permitted by Specification 3.10.A.7.

See ITS: 3.9.3.

See ITS: 3.10.6

Applicability: MODES with the reactor mode switch in the refuel position and any control rod withdrawn (L1)

(M1) every 12 hours — verified — one rod-out (A2)

add Proposed Action A (M2)

4.10 SURVEILLANCE REQUIREMENTS

4.10 CORE ALTERATIONS

Applicability:

Applies to the periodic testing of those interlocks and instruments used during refueling and core alterations.

Objective:

To verify the operability of instrumentation and interlocks used in refueling and core alterations.

Specification:

A. Refueling Interlocks

[SR 3.9.2.2]

Note: Not required to be performed until 1 hour after any control rod is withdrawn (L2)

1. Prior to any fuel handling, with the head off the reactor vessel, the refueling interlocks shall be functionally tested. They shall also be tested at weekly intervals thereafter until no longer required and following any repair work associated with the interlocks. (L4) (A2) one-rod-out (L3)

2. Whenever the reactor mode switch is in the Refuel position and refueling interlocks are bypassed, one licensed operator and a member of the reactor analyst department shall verify that the control cell contains no fuel before the corresponding control rod is withdrawn.

See ITS: 3.10.6

Page 1 of 1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.2

Refuel Position One-Rod-Out Interlock

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.9.2 - REFUEL POSITION ONE-ROD-OUT INTERLOCK

ADMINISTRATIVE CHANGES

A1 In the conversion of the James A. FitzPatrick Nuclear Power Plant (JAFNPP) Current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted which do not result in technical changes. 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 3.10.A.1, Refueling Interlocks, identifies requirements when performing Core Alterations. These requirements include locking the reactor mode switch in the "Refuel" position and having the refueling interlocks Operable. However, two different types of Core Alterations (see proposed Definition for Core Alteration) are covered by these interlocks: movement of fuel in the reactor vessel and movement of control rods. Each of these two types of Core Alterations depend on different refueling interlocks for the prevention of an inadvertent criticality. Therefore, CTS 3.10.A.1 is proposed to be divided into two parts: ITS 3.9.1, "Refueling Equipment Interlocks" which covers in-vessel fuel movement only; and, ITS 3.9.2, "Refuel Position One-Rod-Out Interlock" which covers control rod withdrawal during MODE 5. Since this change simply adopts the presentation format of NUREG-1433, Revision 1, this change is considered administrative.

A3 CTS 3.10.A.1 is Applicable "during Core Alterations" but then modifies this with the statement "except as specified in 3.10.A.5, 3.10.A.6, 3.10.A.7 and 3.10.D below." In ITS 3.9.2, this cross reference to other Specifications is not included in the Applicability statement. The CTS exception to the Applicability statement is a cross reference to existing Specifications governing the withdrawal or removal of control rods, and spiral off-load and on-load operations. The structure and format of NUREG-1433 is such that compliance with the Specifications does not require the use of cross references. Therefore, statements that cross reference Specifications are deleted and this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 CTS 3.10.A.1 requires that the reactor mode switch be locked in the Refuel position during core alterations. An additional proposed requirement, ITS SR 3.9.2.1, will require verification every 12 hours that the mode switch remains locked in the "Refuel" position while ITS 3.9.2 is applicable. This change represents an additional restriction on plant operation necessary to ensure the one-rod-out interlock is maintained Operable.

TECHNICAL CHANGES - MORE RESTRICTIVE

M2 CTS 3.10.A does not provide specific actions to take when the requirements of CTS 3.10.A.1 are not met (one-rod-out interlock inoperable). ITS 3.9.2 ACTION A is proposed to be added to CTS 3.10.A.1. This ACTION requires the immediate suspension of control rod withdrawal and action to be immediately initiated to fully insert all insertable control rods in core cells containing one or more fuel assemblies. Currently, no specific ACTIONS are provided but implicit actions to stop Core Alterations (see proposed Definition for Core Alterations) exist since CTS 3.10.A.1 is applicable during Core Alterations. Since the CTS Definition of Core Alterations does not include normal control rod withdrawal (with control rod drive hydraulic system) and since explicit actions to immediately insert all insertable control rods in core cells containing one or more fuel assemblies has been added this change is considered more restrictive on plant operation. The change represents an additional restriction on plant operation that is necessary to ensure timely actions are taken to preclude an inadvertent criticality in this condition.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

None

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CTS 3.10.A.1, Refueling Interlocks, identifies the requirements applicable "during Core Alterations." However, there are two types of Core Alterations (see proposed Definition for Core Alteration): movement of fuel in the reactor vessel and movement of control rods. Each of the two types of core alterations depend on different refueling interlocks for the prevention of an inadvertent criticality. Therefore, CTS 3.10.A.1 is being broken into two parts: ITS 3.9.1, "Refueling Equipment Interlocks" which covers in-vessel fuel movement only; and, ITS 3.9.2, "Refuel Position One-Rod-Out Interlock" which covers control rod withdrawal during MODE 5. Where as CTS 3.10.A.1 governs all of the refueling interlocks and is applicable "during Core Alterations." ITS 3.9.2 governs only the refuel position One-Rod-Out Interlock and is applicable in "MODE 5 with the reactor mode switch in the refuel position and any control rod withdrawn." The proposed change in the Applicability requires that the "one-rod-out interlock" be operable only during those situations when the interlock is assumed to operate to prevent inadvertent criticality, i.e., the mode switch in refuel and any control rod withdrawn. This change is less restrictive because it will allow the One-Rod-Out Interlock to be inoperable in conditions identical

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 (continued)

to conditions where CTS would require this interlock to be Operable. However, the proposed applicability will result in this interlock being Operable in all cases where it may be required to prevent an inadvertent criticality.

L2 CTS 4.10.A.1 requires that the interlocks for the "Refuel" position of the mode switch be functionally tested "prior to any fuel handling, with the head off the reactor vessel." The proposed requirement for testing of the one-rod-out interlock, SR 3.9.2.2, is modified by a Note which allows deferring the performance of this functional test "until one hour after any control rod is withdrawn." This allowance is necessary because the test is performed by entering the applicable condition (i.e., a control rod must be withdrawn from its full-in position) and attempting to withdraw a second control rod. This one hour allowance for performing the functional test of the "one-rod-out interlock" is acceptable because of the demonstrated reliability of this interlock, procedural controls on control rod withdrawals, and visual indications available in the control room to alert the operator that control rods are not fully inserted.

L3 CTS 4.10.A.1 provides post maintenance testing requirements for the one-rod-out interlock. A functional test is required following repair work associated with the interlock. This specific requirement is not retained in ITS 3.9.2. Any time the Operability of a system or component has been affected by repair, maintenance or replacement of a component, post maintenance testing is required to demonstrate Operability of the system or component. After restoration of a component that caused a required SR to be failed, ITS SR 3.0.1 requires the appropriate SRs (in this case, SR 3.9.2.2) to be performed to demonstrate Operability of the affected components. Therefore, explicit post maintenance Surveillance Requirements in CTS 4.10.A.1 are not required and are proposed to be deleted from the Technical Specifications.

L4 CTS 4.10.A.1 requires that the interlocks for the Refuel position of the mode switch be functionally tested "prior to any fuel handling, with the head off the reactor vessel" and weekly thereafter until no longer required. ITS SR 3.9.2.2, Surveillance Frequency is every 7 days. The normal periodic surveillance frequency (once per 7 days in CTS 4.10.A.1 and ITS SR 3.9.2.2) for the component tests provides adequate assurance of Operability.

The requirement to perform a functional test of the one-rod-out

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 (continued)

interlock "Prior to any fuel handling with the head off the reactor vessel" in CTS 4.10.A.1 is deleted. If any Surveillance is not performed within the normal surveillance interval, control rod withdrawal may not be performed since ITS SR 3.0.1 requires a Surveillance be met within the specified Frequency while in the applicable MODES or other specified conditions. ITS SR 3.0.1 also states that failure to meet the Surveillance constitutes failure to meet the LCO, which would then require the ACTIONS of the LCO to be taken. If ITS SR 3.9.2.2 is not performed within the specified Frequency of 7 days prior to entering the specified condition, this would result in the LCO not being met. The ACTIONS for this LCO require immediate action to be taken to exit the Applicability of the LCO. Therefore, this effectively ensures that the Applicability of the LCO is not entered with the Surveillance not current. The normal periodic Surveillance Frequency ensures the requirements are adequately checked prior to and during control rod withdrawal.

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.2

Refuel Position One-Rod-Out Interlock

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.9.2 - REFUEL POSITION ONE-ROD-OUT INTERLOCK

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

New York Power Authority 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 divides CTS 3.10.A.1 into two parts: Specification 3.9.1, "Refueling Equipment Interlocks" which covers in-vessel fuel movement only; and, Specification 3.9.2, Refuel Position One-Rod-Out Interlock" which covers control rod withdrawal during MODE 5. Since Specification 3.9.2 governs only the refuel position One-Rod-Out Interlock, it will be applicable in MODE 5, but only when one control rod is withdrawn. The proposed change in the Applicability requires that the "One-Rod-Out Interlock" be operable only during those situations when the interlock is assumed to operate to prevent inadvertent criticality (i.e., the mode switch in refuel and one control rod withdrawn).

   The purpose of this interlock is the prevention of conditions that could result in an inadvertent criticality. The change still requires the interlock to be Operable in all conditions where the safety analysis assumes it to function in order to prevent an inadvertent criticality. The consequences of an accident are not increased because the proposed change affects the applicability of the One-Rod-Out Interlock. This interlock is designed to prevent an inadvertent criticality during refueling and does not play a role in the mitigation of any accident. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The possibility of a new or different kind of accident from any accident previously evaluated is not created. The proposed change does not involve any physical changes to plant systems, structures, or components (SSC), or the manner in which this SSC is operated, maintained, modified, tested, or inspected. Additionally, the One-Rod-Out Interlock will still be required to be Operable in all conditions where the safety analysis assumes it to function in order to prevent an inadvertent

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

2. (continued)

criticality. Therefore, this change will not create the possibility of an accident of a different type than any previously evaluated.

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

The proposed change in the Applicability requires that the "One-Rod-Out Interlock" be Operable only during those situations when the interlock is assumed to operate to prevent inadvertent criticality (i.e., the mode switch in refuel and one control rod withdrawn). Since the interlock is still required to be Operable in all conditions where the safety analysis assumes it to function, no margin of safety is decreased. Therefore, the proposed change does not result in a significant reduction in the margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.9.2 - REFUEL POSITION ONE-ROD-OUT INTERLOCK

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

New York Power Authority 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 defers the performance of surveillance testing of the One-Rod-Out Interlock, SR 3.9.2.2, "until one hour after any control rod is withdrawn." The allowance is necessary because the test is performed by entering the applicable condition (i.e., a control rod must be withdrawn from its full in position) and attempting to withdraw a second control rod.

   The probability of an accident is not increased for two reasons. First, procedural controls on control rod withdrawals and visual indications available in the control room should prevent the operator from entering a condition (attempting to withdraw additional control rods) where the interlock would be required to function to prevent an inadvertent criticality. Second, it is overly conservative to assume that a component is not Operable when a surveillance is not performed. The opposite is in fact the case; the vast majority of surveillances performed demonstrate that components are Operable. The consequences of an accident are not increased because the proposed change only allows a short delay in the performance of a surveillance test on the One-Rod-Out Interlock. In addition, this interlock is designed to prevent an inadvertent criticality during refueling and does not play a role in the mitigation of any accident. 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 defers the performance of surveillance testing of the One-Rod-Out Interlock, SR 3.9.2.2, "until one hour after any control rod is withdrawn." This change will not involve any physical changes to plant systems, structures, or components (SSC), or the manner in which

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

2. (continued)

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 margin of safety is not significantly reduced by allowing entry into the condition where the One-Rod-Out Interlock is required before performing the surveillance to demonstrate Operability of the Interlock. Procedural controls on control rod withdrawals and visual indications available in the control room should prevent the operator from entering a condition (attempting to withdraw additional control rods) where the interlock would be required to function to prevent an inadvertent criticality. The one hour time period prior to the performance of this surveillance on the One-Rod-Out Interlock is acceptable based on the small probability of an event requiring the functioning of this interlock during this period. Additionally, it is overly conservative to assume that the interlock is not Operable when a surveillance is not performed because of the demonstrated reliability of this interlock as indicated by the most common outcome of a surveillance test is the successful demonstration that the acceptance criteria are satisfied. The change does not affect the current safety analysis assumptions. 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: 3.9.2 - REFUEL POSITION ONE-ROD-OUT INTERLOCK

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

New York Power Authority 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 explicit post maintenance testing requirement in CTS 4.10.A.1 has been deleted. This requirement was specified in the Technical Specifications to ensure the Operability of the refuel position one-rod-out interlock was positively verified following repair. The proposed deletion of this explicit requirement is considered administrative since SR 3.0.1 requires the appropriate SRs to be performed to demonstrate Operability after restoration of a component that caused the SR to be failed (e.g., after maintenance, modification). In this case, SR 3.0.1 would require SR 3.9.2.2 to be performed, which requires a Channel Functional Test on the refuel position one-rod-out interlock be performed. As a result, the accident consequences are unaffected by this change. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The 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 continues to ensure the operability of components required to prevent an inadvertent criticality. It merely eliminates an unnecessary restatement of an existing requirement.

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

   The proposed deletion of the explicit requirement to perform a functional test on the refuel position one-rod-out interlock following repair is considered administrative since SR 3.0.1 requires the appropriate SRs to be performed to demonstrate Operability after restoration of a component that caused the SR to be failed (e.g., after

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

3. (continued)

maintenance, modification). In this case, SR 3.0.1 would require SR 3.9.2.2 to be performed, which requires a Channel Functional Test of the refuel position one-rod-out interlock be performed. As a result, the existing requirement to perform a functional test on the refuel position one-rod-out interlock following repair is maintained. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.9.2 - REFUEL POSITION ONE-ROD-OUT INTERLOCK

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

New York Power Authority 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 would remove an unnecessary additional performance of a Surveillance which has been performed within its normally required Frequency. Not performing the Surveillance would not affect any equipment which is assumed to be an initiator of any analyzed event. Further, since the Surveillance continues to be performed on its normal Frequency, there is no impact on the capability of the system to perform its required safety function. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The 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 does not involve a significant reduction in a margin of safety since the normal periodic Frequencies are adequate for assuring the LCO requirements are maintained. Additionally, the ACTION requirement of proposed ITS 3.9.2, which requires immediate suspension of control rod withdrawal, and the requirements of SR 3.0.1 effectively preclude starting of control rod withdrawal unless LCO requirements are met (in this case, Surveillance Requirements satisfied within the normal periodic Frequency prior to starting the activity).

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.2

Refuel Position One-Rod-Out Interlock

MARKUP OF NUREG-1433, REVISION 1 SPECIFICATION

3.9 REFUELING OPERATIONS

3.9.2 Refuel Position One-Rod-Out Interlock

[3.10.A.1] LCO 3.9.2 The refuel position one-rod-out interlock shall be OPERABLE.

[3.10.A.1] APPLICABILITY: MODE 5 with the reactor mode switch in the refuel position and any control rod withdrawn.

ACTIONS

[M2]

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Refuel position one-rod-out interlock inoperable.	A.1 Suspend control rod withdrawal.	Immediately
	AND	
	A.2 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

[4.10.A.1]

SURVEILLANCE		FREQUENCY
SR 3.9.2.1	Verify reactor mode switch locked in Refuel position.	12 hours

PA1

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.9.2.2 [3.10.A.1]	----------NOTE---------- Not required to be performed until 1 hour after any control rod is withdrawn. ---------- Perform CHANNEL FUNCTIONAL TEST.	7 days

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.2

Refuel Position One-Rod-Out Interlock

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.9.2 - REFUEL POSITION ONE-ROD-OUT INTERLOCK

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

PA1 Typographical/grammatical error corrected.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

None

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)

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.2

Refuel Position One-Rod-Out Interlock

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.9 REFUELING OPERATIONS

B 3.9.2 Refuel Position One-Rod-Out Interlock

PA1

plant

BASES

BACKGROUND

The refuel position one-rod-out interlock restricts the movement of control rods to reinforce ~~the~~ procedures that prevent the reactor from becoming critical during refueling operations. During refueling operations, no more than one control rod is permitted to be withdrawn.

except as allowed by LCO 3.10.6, "Multiple Control Rod Withdrawal - Refueling"

CLB1

UFSAR Section 16.6

~~GDC 26 of 10 CFR 50, Appendix A,~~ requires that one of the two required independent reactivity control systems be capable of holding the reactor core subcritical under cold conditions (Ref. 1). The control rods serve as the system capable of maintaining the reactor subcritical in cold conditions.

The refuel position one-rod-out interlock prevents the selection of a second control rod for movement when any other control rod is not fully inserted (Ref. 2). It is a logic circuit that has redundant channels. It uses the all-rods-in signal (from the control rod full-in position indicators discussed in LCO 3.9.4, "Control Rod Position Indication") and a rod selection signal (from the Reactor Manual Control System).

This Specification ensures that the performance of the refuel position one-rod-out interlock in the event of a Design Basis Accident meets the assumptions used in the safety analysis of Reference 3.

PA2

APPLICABLE SAFETY ANALYSES

The refueling position one-rod-out interlock is explicitly assumed in the FSAR analysis for the control rod withdrawal error during refueling (Ref. 3). This analysis evaluates the consequences of control rod withdrawal during refueling. A prompt reactivity excursion during refueling could potentially result in fuel failure with subsequent release of radioactive material to the environment.

PA5

The refuel position one-rod-out interlock and adequate SDM (LCO 3.1.1, "SHUTDOWN MARGIN (SDM)") prevent criticality ~~by~~ preventing withdrawal of more than one control rod ~~with~~

The interlock

and adequate SDM ensures that the core will remain subcritical with the highest worth

PA4

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

~~one~~ control rod fully withdrawn, ~~the core will remain subcritical,~~ thereby preventing any prompt critical excursion. PA4

The refuel position one-rod-out interlock satisfies Criterion 3 of ~~the NRC Policy Statement~~. 10 CFR 50.36 (c)(2)(ii) (Ref. 4) X1

LCO

To prevent criticality during MODE 5, the refuel position one-rod-out interlock ensures no more than one control rod may be withdrawn. Both channels of the refuel position one-rod-out interlock are required to be OPERABLE and the reactor mode switch must be locked in the refuel position to support the OPERABILITY of these channels.

APPLICABILITY

In MODE 5, with the reactor mode switch in the refuel position, the OPERABLE refuel position one-rod-out interlock provides protection against prompt reactivity excursions. PA4

In MODES 1, 2, 3, and 4, the refuel position one-rod-out interlock is not required to be OPERABLE and is bypassed. "Control Rod OPERABILITY"

In MODES 1 and 2, the Reactor Protection System (LCO 3.3.1.1) and the control rods (LCO 3.1.3) provide mitigation of potential reactivity excursions. In MODES 3 and 4, with the reactor mode switch in the shutdown position, a control rod block (LCO 3.3.2.1) ensures all control rods are inserted, thereby preventing criticality during shutdown conditions.

"Reactor Protection System (RPS) Instrumentation"

"Control Rod Block Instrumentation"

ACTIONS

A.1 and A.2

With one or both channels of the refueling position one-rod-out interlock inoperable, the refueling interlocks may not be capable of preventing more than one control rod from being withdrawn. This condition may lead to criticality.

Control rod withdrawal must be immediately suspended, and action must be immediately initiated to fully insert all insertable control rods in core cells containing one or more

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

fuel assemblies. Action must continue until all such control rods are fully inserted. Control rods in core cells containing no fuel assemblies do not affect the reactivity of the core and, therefore, do not have to be inserted.

SURVEILLANCE REQUIREMENTS

SR 3.9.2.1

Proper functioning of the refueling position one-rod-out interlock requires the reactor mode switch to be in Refuel. During control rod withdrawal in MODE 5, improper positioning of the reactor mode switch could, in some instances, allow improper bypassing of required interlocks. Therefore, this Surveillance imposes an additional level of assurance that the refueling position one-rod-out interlock will be OPERABLE when required. By "locking" the reactor mode switch in the proper position (i.e., removing the reactor mode switch key from the console while the reactor mode switch is positioned in refuel), an additional administrative control is in place to preclude operator errors from resulting in unanalyzed operation.

position

the

PA4

The Frequency of 12 hours is sufficient in view of other administrative controls utilized during refueling operations to ensure safe operation.

SR 3.9.2.2

TA1

INSERT SR 3.9.2.2

Performance of a CHANNEL FUNCTIONAL TEST on each channel demonstrates the associated refuel position one-rod-out interlock will function properly when a simulated or actual signal indicative of a required condition is injected into the logic. The CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping, or total channel steps so that the entire channel is tested. The 7 day Frequency is considered adequate because of demonstrated circuit reliability, procedural controls on control rod withdrawals, and visual and audible indications available in the control room to alert the operator to control rods not fully inserted. To perform the required testing, the applicable condition must be entered (i.e., a control rod

TSTF-205

(continued)

TSTF-205

INSERT SR 3.9.2.2

A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions.

NRC-ED-3

BASES

SURVEILLANCE REQUIREMENTS

SR 3.9.2.2 (continued)

must be withdrawn from its full-in position). Therefore, SR 3.9.2.1 has been modified by a Note that states the CHANNEL FUNCTIONAL TEST is not required to be performed until 1 hour after any control rod is withdrawn. TA2

REFERENCES

1. ~~10 CFR 50, Appendix A, GDC 26.~~ UFSAR Section 16.6 CLB1
2. FSAR, Section 7.6.1.10. PA2
3. FSAR, Section ~~15.4.1.1~~. 14.5.4.3 DB1
4. 10 CFR 50.36(c)(2)(ii) X1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.2

Refuel Position One-Rod-Out Interlock

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.9.2 - REFUEL POSITION-ONE-ROD-OUT INTERLOCK

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 JAFNPP was designed and under construction prior to the promulgation of Appendix A to 10 CFR 50 - General Design Criteria for Nuclear Power Plants. 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 FR 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.

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

PA1 Editorial change made with no change in intent.

PA2 Changes have been made to reflect the plant specific nomenclature.

PA3 Not Used.

PA4 Editorial change made for enhanced clarity and to be consistent with similar statements in other places in the Bases.

PA5 Typographical error corrected.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The brackets have been removed and the proper plant specific value/nomenclature has been provided.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 205, Revision 3, have been incorporated into the revised Improved Technical Specifications.

TA2 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number NRC-ED-3 have been incorporated into the revised Improved Technical Specifications.

NRC-ED-3 / TSTF-205

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

None

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.9.2 - REFUEL POSITION-ONE-ROD-OUT INTERLOCK

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.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.2

Refuel Position One-Rod-Out Interlock

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.9 REFUELING OPERATIONS

3.9.2 Refuel Position One-Rod-Out Interlock

LCO 3.9.2 The refuel position one-rod-out interlock shall be OPERABLE.

APPLICABILITY: MODE 5 with the reactor mode switch in the refuel position and any control rod withdrawn.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. Refuel position one-rod-out interlock inoperable.	A.1	Suspend control rod withdrawal.	Immediately
	AND		
	A.2	Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.2.1	Verify reactor mode switch locked in refuel position.	12 hours

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.9.2.2	----------NOTE---------- Not required to be performed until 1 hour after any control rod is withdrawn. ---------- Perform CHANNEL FUNCTIONAL TEST.	7 days

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.3

Control Rod Position

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: 3.9.3

Control Rod Position

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

B 3.9 REFUELING OPERATIONS

B 3.9.2 Refuel Position One-Rod-Out Interlock

BASES

BACKGROUND

The refuel position one-rod-out interlock restricts the movement of control rods to reinforce plant procedures that prevent the reactor from becoming critical during refueling operations. During refueling operations, no more than one control rod is permitted to be withdrawn except as allowed by LCO 3.10.6, "Multiple Control Rod Withdrawal – Refueling".

UFSAR, Section 16.6, requires that one of the two required independent reactivity control systems be capable of holding the reactor core subcritical under cold conditions (Ref. 1). The control rods serve as the system capable of maintaining the reactor subcritical in cold conditions.

The refuel position one-rod-out interlock prevents the selection of a second control rod for movement when any other control rod is not fully inserted (Ref. 2). It is a logic circuit that has redundant channels. It uses the all-rods-in signal (from the control rod full-in position indicators discussed in LCO 3.9.4, "Control Rod Position Indication") and a rod selection signal (from the Reactor Manual Control System).

This Specification ensures that the performance of the refuel position one-rod-out interlock in the event of a Design Basis Accident meets the assumptions used in the safety analysis of Reference 3.

APPLICABLE SAFETY ANALYSES

The refueling position one-rod-out interlock is explicitly assumed in the UFSAR analysis for the control rod withdrawal error during refueling (Ref. 3). This analysis evaluates the consequences of control rod withdrawal during refueling. A prompt reactivity excursion during refueling could potentially result in fuel failure with subsequent release of radioactive material to the environment.

The refuel position one-rod-out interlock and adequate SDM (LCO 3.1.1, "SHUTDOWN MARGIN (SDM)", prevent criticality. The interlock prevents withdrawal of more than one control

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

rod and adequate SDM ensures that the core will remain subcritical with the highest worth control rod fully withdrawn, thereby preventing any prompt critical excursion.

The refuel position one-rod-out interlock satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 4).

LCO

To prevent criticality during MODE 5, the refuel position one-rod-out interlock ensures no more than one control rod may be withdrawn. Both channels of the refuel position one-rod-out interlock are required to be OPERABLE and the reactor mode switch must be locked in the refuel position to support the OPERABILITY of these channels.

APPLICABILITY

In MODE 5, with the reactor mode switch in the refuel position, the OPERABLE refuel position one-rod-out interlock provides protection against prompt reactivity excursions.

In MODES 1, 2, 3, and 4, the refuel position one-rod-out interlock is not required to be OPERABLE and is bypassed. In MODES 1 and 2, the Reactor Protection System (LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation") and the control rods (LCO 3.1.3, "Control Rod OPERABILITY") provide mitigation of potential reactivity excursions. In MODES 3 and 4, with the reactor mode switch in the shutdown position, a control rod block (LCO 3.3.2.1, "Control Rod Block Instrumentation") ensures all control rods are inserted, thereby preventing criticality during shutdown conditions.

ACTIONS

A.1 and A.2

With one or both channels of the refueling position one-rod-out interlock inoperable, the refueling interlocks may not be capable of preventing more than one control rod from being withdrawn. This condition may lead to criticality.

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

Control rod withdrawal must be immediately suspended, and action must be immediately initiated to fully insert all insertable control rods in core cells containing one or more fuel assemblies. Action must continue until all such control rods are fully inserted. Control rods in core cells containing no fuel assemblies do not affect the reactivity of the core and, therefore, do not have to be inserted.

SURVEILLANCE REQUIREMENTS

SR 3.9.2.1

Proper functioning of the refueling position one-rod-out interlock requires the reactor mode switch to be in the refuel position. During control rod withdrawal in MODE 5, improper positioning of the reactor mode switch could, in some instances, allow improper bypassing of required interlocks. Therefore, this Surveillance imposes an additional level of assurance that the refueling position one-rod-out interlock will be OPERABLE when required. By "locking" the reactor mode switch in the proper position (i.e., removing the reactor mode switch key from the console while the reactor mode switch is positioned in refuel), an additional administrative control is in place to preclude operator errors from resulting in unanalyzed operation.

The Frequency of 12 hours is sufficient in view of other administrative controls utilized during refueling operations to ensure safe operation.

SR 3.9.2.2

TSTF-205

Performance of a CHANNEL FUNCTIONAL TEST on each channel demonstrates the associated refuel position one-rod-out interlock will function properly when a simulated or actual signal indicative of a required condition is injected into the logic. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical

(continued)

BASES

TSTF-205

SURVEILLANCE REQUIREMENTS

SR 3.9.2.2 (continued)

Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. The CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping, or total channel steps so that the entire channel is tested. The 7 day Frequency is considered adequate because of demonstrated circuit reliability, procedural controls on control rod withdrawals, and visual and audible indications available in the control room to alert the operator to control rods not fully inserted. To perform the required testing, the applicable condition must be entered (i.e., a control rod must be withdrawn from its full-in position). Therefore, SR 3.9.2.2 has been modified by a Note that states the CHANNEL FUNCTIONAL TEST is not required to be performed until 1 hour after any control rod is withdrawn.

REFERENCES

1. UFSAR, Section 16.6.
2. UFSAR, Section 7.6.3.
3. UFSAR, Section 14.5.4.3.
4. 10 CFR 50.36(c)(2)(ii).

Specification 3.9.3

(A1)

3.10 LIMITING CONDITIONS FOR OPERATION

3.10 CORE ALTERATIONS

Applicability:

Applies to fuel handling and core reactivity limitations.

Objective:

To assure that core reactivity is within the capability of the control rods and to prevent criticality during refueling.

Specification:

[3.9.3] 2. ~~Refueling Interlocks~~ Control Rod Position [3.9.3] A. ~~Refueling Interlocks~~

1. The Reactor Mode Switch shall be locked in the Refuel position during core alterations and the refueling interlocks shall be operable except as permitted by Specifications 3.10.A.5, 3.10.A.6, 3.10.A.7 and 3.10.D.

[LCO 3.9.3] 2. ~~Fuel shall not be loaded into the reactor core unless all control rods are fully inserted except as permitted by Specification 3.10.A.7.~~

See ITS: 3.10.6

[Applicability] When loading fuel assemblies into the core.

add proposed ACTION A (A2)

4.10 SURVEILLANCE REQUIREMENTS

4.10 CORE ALTERATIONS

Applicability:

Applies to the periodic testing of those interlocks and instruments used during refueling and core alterations.

Objective:

To verify the operability of instrumentation and interlocks used in refueling and core alterations.

Specification:

1. Prior to any fuel handling, with the head off the reactor vessel, the refueling interlocks shall be functionally tested. They shall also be tested at weekly intervals thereafter until no longer required and following any repair work associated with the interlocks.

See ITS: 3.9.1

2. Whenever the reactor mode switch is in the Refuel position and refueling interlocks are bypassed, one licensed operator and a member of the reactor analyst department shall verify that the control cell contains no fuel before the corresponding control rod is withdrawn.

See ITS: 3.10.6

add SR 3.9.3.1 (M1)

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JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.3

Control Rod Position

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.9.3 - CONTROL ROD POSITION

ADMINISTRATIVE CHANGES

A1 In the conversion of the James A. FitzPatrick Nuclear Power Plant (JAFNPP) Current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted which do not result in technical changes. 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 3.10.A.2 requires that fuel not be loaded into the reactor core unless all control rods are fully inserted. Implicit in this requirement is that, if all control rods are not fully inserted, action must be immediately taken to suspend loading of fuel assemblies into the core. ITS 3.9.3 ACTION A is added to explicitly require immediate suspension of loading of fuel assemblies into the core in the event that one or more control rods are not fully inserted. Since this added action is implicitly required by CTS 3.10.A.2, this change is considered to be administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 CTS 3.10.A.2 requires that all control rods be inserted prior to loading fuel but there is no associated surveillance. Proposed SR 3.9.3.1 is added to CTS 4.10.A to verify that all control rods are fully inserted when loading fuel assemblies in the core every 12 hours. This change represents an additional restriction on plant operation necessary to ensure that safety analysis assumptions are maintained.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

None

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

None

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.3

Control Rod Position

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.9.3 - CONTROL ROD POSITION

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

There are no plant specific less restrictive changes identified for this Specification.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.3

Control Rod Position

MARKUP OF NUREG-1433, REVISION 1 SPECIFICATION

3.9 REFUELING OPERATIONS

3.9.3 Control Rod Position

3.10 A.2 LCO 3.9.3 All control rods shall be fully inserted.

3.10 A.2 APPLICABILITY: When loading fuel assemblies into the core.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
[A2] A. One or more control rods not fully inserted.	A.1 Suspend loading fuel assemblies into the core.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
[M1] SR 3.9.3.1 Verify all control rods are fully inserted.	12 hours

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.3

Control Rod Position

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.9.3 - CONTROL ROD POSITION

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

None

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)

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.3

Control Rod Position

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.9 REFUELING OPERATIONS

B 3.9.3 Control Rod Position

BASES

BACKGROUND

PA1

Control rods provide the capability to maintain the reactor subcritical under all conditions and to limit the potential amount and rate of reactivity increase caused by a malfunction in the ~~Control Rod Drive~~ Reactor Manual Control System. During refueling, movement of control rods is limited by the refueling interlocks (LCO 3.9.1, "Refueling Equipment Interlocks," and LCO 3.9.2, "Refuel Position One-Rod-Out Interlock") or the control rod block with the reactor mode switch in the shutdown position (LCO 3.3.2.1, "Control Rod Block Instrumentation").

PA2

~~GDC 26 of 10 CFR 50, Appendix A,~~ requires that one of the two required independent reactivity control systems be capable of holding the reactor core subcritical under cold conditions (Ref. 1). The control rods serve as the system capable of maintaining the reactor subcritical in cold conditions.

CLB1

UFSAR, Section 16.6

PA2

The refueling interlocks allow a single control rod to be withdrawn at any time unless fuel is being loaded into the core. To preclude loading fuel assemblies into the core with a control rod withdrawn, all control rods must be fully inserted (Ref. 2), except as allowed by LCO 3.10.6, "Multiple Control Rod Withdrawal - Refueling". This ~~prevents the reactor from achieving~~ precludes criticality during refueling operations.

PA2 DB1 PA2

APPLICABLE SAFETY ANALYSES

Prevention and mitigation of prompt reactivity excursions during refueling are provided by the refueling interlocks (LCO 3.9.1 and LCO 3.9.2), the SDM (LCO 3.1.1, "SHUTDOWN MARGIN (SDM)"), the intermediate range monitor neutron flux scram (LCO 3.3.1.1), ~~the average power range monitor neutron flux scram (LCO 3.3.1.1)~~, and the control rod block instrumentation (LCO 3.3.2.1, "Reactor Protection System (RPS) Instrumentation").

PA2 PA3

The safety analysis for the control rod ~~withdrawal~~ removal error during refueling in the FSAR (Ref. 2) assumes the functioning of the refueling interlocks and adequate SDM. The analysis for the fuel assembly insertion error (Ref. 3) assumes all control rods are fully inserted. Thus, prior to fuel reload, all control rods must be fully inserted to minimize the probability of an inadvertent criticality.

PA4 PA5

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

Control rod position satisfies Criterion 3 of ~~the NRC Policy Statement~~. 10 CFR 50.36(c)(2)(ii) (Ref. 4) X1

LCO

All control rods must be fully inserted during applicable refueling conditions to minimize the probability of an inadvertent criticality during refueling.

APPLICABILITY

During MODE 5, loading fuel into core cells with control rods withdrawn may result in inadvertent criticality. Therefore, the control rods must be inserted before loading fuel into a core cell. All control rods must be inserted before loading fuel to ensure that a fuel loading error does not result in loading fuel into a core cell with the control rod withdrawn.

In MODES 1, 2, 3, and 4, the reactor pressure vessel head is on, and no fuel loading activities are possible. Therefore, this Specification is not applicable in these MODES.

ACTIONS

A.1

With all control rods not fully inserted during the applicable conditions, an inadvertent criticality could occur that is not analyzed in the FSAR. All fuel loading operations must be immediately suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position. U1 PA4

SURVEILLANCE REQUIREMENTS

SR 3.9.3.1

During refueling, to ensure that the reactor remains subcritical, all control rods must be fully inserted prior to and during fuel loading. Periodic checks of the control rod position ensure this condition is maintained.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.9.3.1 (continued)

The 12 hour Frequency takes into consideration the procedural controls on control rod movement during refueling as well as the redundant functions of the refueling interlocks.

CLD1

REFERENCES

1. ~~10 CFR 50, Appendix A, GDC 26.~~ UFSAR, Section 16.6
2. PA4 U FSAR, Section ~~15.1.13~~. 14.5.4.3
3. FSAR, Section ~~15.1.14~~. 14.5.4.4

DB1

4. 10 CFR 50.36(c)(2)(ii)

X1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.3

Control Rod Position

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.9.3 - CONTROL ROD POSITION

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 JAFNPP was designed and under construction prior to the promulgation of Appendix A to 10 CFR 50 - General Design Criteria for Nuclear Power Plants. 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 FR 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.

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

PA1 The correct system name has been included.

PA2 Editorial change made for enhanced clarity or to be consistent with similar statements in other places in the Bases.

PA3 The APRM neutron flux scram is not required to be Operable while in MODE 5, therefore reference to it has been deleted.

PA4 Changes have been made to reflect the plant specific nomenclature.

PA5 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific analysis description.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The brackets have been removed and the proper plant specific reference has been provided.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

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

None

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.9.3 - CONTROL ROD POSITION

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.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.3

Control Rod Position

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.9 REFUELING OPERATIONS

3.9.3 Control Rod Position

LCO 3.9.3 All control rods shall be fully inserted.

APPLICABILITY: When loading fuel assemblies into the core.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more control rods not fully inserted.	A.1 Suspend loading fuel assemblies into the core.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.3.1 Verify all control rods are fully inserted.	12 hours

B 3.9 REFUELING OPERATIONS

B 3.9.3 Control Rod Position

BASES

BACKGROUND

Control rods provide the capability to maintain the reactor subcritical under all conditions and to limit the potential amount and rate of reactivity increase caused by a malfunction in the Reactor Manual Control System. During refueling, movement of control rods is limited by the refueling interlocks (LCO 3.9.1, "Refueling Equipment Interlocks," and LCO 3.9.2, "Refuel Position One-Rod-Out Interlock") or the control rod block with the reactor mode switch in the shutdown position (LCO 3.3.2.1, "Control Rod Block Instrumentation").

UFSAR, 16.6, requires that one of the two required independent reactivity control systems be capable of holding the reactor core subcritical under cold conditions (Ref. 1). The control rods serve as the system capable of maintaining the reactor subcritical in cold conditions.

The refueling interlocks allow a single control rod to be withdrawn at any time unless fuel is being loaded into the core. To preclude loading fuel assemblies into the core with a control rod withdrawn, all control rods must be fully inserted (Ref. 2), except as allowed by LCO 3.10.6, "Multiple Control Rod Withdrawal-Refueling". This precludes criticality during refueling operations.

APPLICABLE SAFETY ANALYSES

Prevention and mitigation of prompt reactivity excursions during refueling are provided by the refueling interlocks (LCO 3.9.1 and LCO 3.9.2), the SDM (LCO 3.1.1, "SHUTDOWN MARGIN (SDM)"), the intermediate range monitor neutron flux scram (LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation"), and the control rod block instrumentation (LCO 3.3.2.1).

The safety analysis for the control rod removal error during refueling in the UFSAR (Ref. 2) assumes the functioning of the refueling interlocks and adequate SDM. The analysis for the fuel assembly insertion error (Ref. 3) assumes all control rods are fully inserted. Thus, prior to fuel

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

reload, all control rods must be fully inserted to minimize the probability of an inadvertent criticality.

Control rod position satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 4).

LCO

All control rods must be fully inserted during applicable refueling conditions to minimize the probability of an inadvertent criticality during refueling.

APPLICABILITY

During MODE 5, loading fuel into core cells with control rods withdrawn may result in inadvertent criticality. Therefore, the control rods must be inserted before loading fuel into a core cell. All control rods must be inserted before loading fuel to ensure that a fuel loading error does not result in loading fuel into a core cell with the control rod withdrawn.

In MODES 1, 2, 3, and 4, the reactor pressure vessel head is on, and no fuel loading activities are possible. Therefore, this Specification is not applicable in these MODES.

ACTIONS

A.1

With all control rods not fully inserted during the applicable conditions, an inadvertent criticality could occur that is not analyzed in the UFSAR. All fuel loading operations must be immediately suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position.

SURVEILLANCE REQUIREMENTS

SR 3.9.3.1

During refueling, to ensure that the reactor remains subcritical, all control rods must be fully inserted prior to and during fuel loading. Periodic checks of the control rod position ensure this condition is maintained.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.9.3.1 (continued)

The 12 hour Frequency takes into consideration the procedural controls on control rod movement during refueling as well as the redundant functions of the refueling interlocks.

REFERENCES

1. UFSAR, Section 16.6.
2. UFSAR, Section 14.5.4.3.
3. UFSAR, Section 14.5.4.4.
4. 10 CFR 50.36(c)(2)(ii).

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.4

Control Rod Position Indication

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: 3.9.4

Control Rod Position Indication

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

M1

Insert New Specification 3.9.4

Insert new Specification 3.9.4, "Control Rod Position Indication," as shown in the James A. FitzPatrick Improved Technical Specifications.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.4

Control Rod Position Indication

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.9.4 - CONTROL ROD POSITION INDICATION

ADMINISTRATIVE CHANGES

None

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 A new Specification concerning Control Rod Position Indication is proposed to be added as ITS 3.9.4. The proposed Specification will require that the control rod "full-in" position indication for each control rod be Operable when in MODE 5. The Required Actions for not meeting the LCO are to immediately suspend in-vessel fuel movement and control rod withdrawal, and to initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies or to initiate action to fully insert the control rod associated with the inoperable position indicator and to disarm the affected control rod drive associated with the fully inserted control rod. The associated Surveillance Requirement is to verify that the full-in position indication is not present whenever a control rod is withdrawn from the full-in position. This proposed Specification helps to ensure that safety analysis assumptions of UFSAR, Section 14.5.4.3, "Control Rod Removal Error During Refueling" and Section 14.5.4.4, "Fuel Assembly Insertion Error During Refueling" are satisfied and constitutes a more restrictive change.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

None

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

None

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.4

Control Rod Position Indication

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.9.4 - CONTROL ROD POSITION INDICATION

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

There are no plant specific less restrictive changes identified for this Specification.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.4

Control Rod Position Indication

MARKUP OF NUREG-1433, REVISION 1 SPECIFICATION

3.9 REFUELING OPERATIONS

3.9.4 Control Rod Position Indication

[MI] LCO 3.9.4 The control rod "full-in" position indication channel for each control rod shall be OPERABLE.

[MI] APPLICABILITY: MODE 5.

ACTIONS

[MI]

----------NOTE----------
Separate Condition entry is allowed for each required channel.

[MI]

CONDITION	REQUIRED ACTION (PAI)	COMPLETION TIME
A. One or more required control rod position indication channels inoperable.	A.1.1 Suspend in-vessel fuel movement.	Immediately
	AND	
	A.1.2 Suspend control rod withdrawal.	Immediately
	AND	
	A.1.3 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately
	OR	
		(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued) [M1]	A.2.1 Initiate action to fully insert the control rod associated with the inoperable position indicator.	Immediately
	AND	
	A.2.2 Initiate action to disarm the control rod drive associated with the fully inserted control rod.	Immediately

SURVEILLANCE REQUIREMENT

SURVEILLANCE		FREQUENCY
SR 3.9.4.1 [M1]	Verify the required channel has no "full-in" indication on each control rod that is not "full-in."	Each time the control rod is withdrawn from the "full-in" position

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.4

Control Rod Position Indication

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.9.4 - CONTROL ROD POSITION INDICATION

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

PA1 Typographical error corrected.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

None

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)

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.4

Control Rod Position Indication

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.9 REFUELING OPERATIONS

B 3.9.4 Control Rod Position Indication

BASES

BACKGROUND

The full-in position indication channel for each control rod provides necessary information to the refueling interlocks to prevent inadvertent criticalities during refueling operations. During refueling, the refueling interlocks (LCO 3.9.1 and LCO 3.9.2) use the full-in position indication channel to limit the operation of the refueling equipment and the movement of the control rods. The absence of the full-in position channel signal for any control rod removes the all-rods-in permissive for the refueling equipment interlocks and prevents fuel loading. Also, this condition causes the refuel position one-rod-out interlock to not allow the withdrawal of any other control rod.

GDC 26 of 10 CFR 50, Appendix A, requires that one of the two required independent reactivity control systems be capable of holding the reactor core subcritical under cold conditions (Ref. 1). The control rods serve as the system capable of maintaining the reactor subcritical in cold conditions.

APPLICABLE SAFETY ANALYSES

Prevention and mitigation of prompt reactivity excursions during refueling are provided by the refueling interlocks (LCO 3.9.1 and LCO 3.9.2), the SDM (LCO 3.1.1), the intermediate range monitor neutron flux scram (LCO 3.3.1.1), and the control rod block instrumentation (LCO 3.3.2.1).

The safety analysis for the control rod withdrawal error during refueling (Ref. 2) assumes the functioning of the refueling interlocks and adequate SDM. The analysis for the fuel assembly insertion error (Ref. 3) assumes all control rods are fully inserted. The full-in position indication channel is required to be OPERABLE so that the refueling interlocks can ensure that fuel cannot be loaded with any control rod withdrawn and that no more than one control rod can be withdrawn at a time.

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

Control rod position indication satisfies Criterion 3 of ~~the~~ ~~NRC Policy Statement~~. 10 CFR 50.36 (c)(2)(ii) (Ref. 4) (X1)

LCO

Each control rod full-in position indication channel must be OPERABLE to provide the required input to the refueling interlocks. A channel is OPERABLE if it provides correct position indication to the refueling interlock logic.

APPLICABILITY

During MODE 5, the control rods must have OPERABLE full-in position indication channels to ensure the applicable refueling interlocks will be OPERABLE.

In MODES 1 and 2, requirements for control rod position are specified in LCO 3.1.3, "Control Rod OPERABILITY." In MODES 3 and 4, with the reactor mode switch in the shutdown position, a control rod block (LCO 3.3.2.1) ensures all control rods are inserted, thereby preventing criticality during shutdown conditions.

ACTIONS

A Note has been provided to modify the ACTIONS related to control rod position indication channels. Section 1.3, Completion Times, specifies that once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition. Section 1.3 also specifies that Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for inoperable control rod position indication channels provide appropriate compensatory measures for separate inoperable channels. As such, this Note has been provided, which allows separate Condition entry for each inoperable required control rod position indication channel.

(continued)

BASES

PA1

ACTIONS (continued)

A.1.1, A.1.2, A.1.3, A.2.1 and A.2.2

Control rods in core cells containing no fuel assemblies do not affect the reactivity of the core and, therefore, do not have to be inserted.

With one or more required full-in position indication channels inoperable, compensating actions must be taken to protect against potential reactivity excursions from fuel assembly insertions or control rod withdrawals. This may be accomplished by immediately suspending in-vessel fuel movement and control rod withdrawal, and immediately initiating action to fully insert all insertable control rods in core cells containing one or more fuel assemblies. Actions must continue until all insertable control rods in core cells containing one or more fuel assemblies are fully inserted. Suspension of in-vessel fuel movements and control rod withdrawal shall not preclude moving a component to a safe position.

PA1

(electrically or hydraulically

A control rod can be hydraulically disarmed by closing the drive water and exhaust water valves. A control rod can be electrically disarmed by removing the four amphenol type plug connectors from the drive insert and withdrawal solenoids.

Alternatively, actions must be immediately initiated to fully insert the control rod(s) associated with the inoperable full-in position indicator(s) and disarm the drive(s) to ensure that the control rod is not withdrawn. Actions must continue until all associated control rods are fully inserted and drives are disarmed. Under these conditions (control rod fully inserted and disarmed), an inoperable full-in channel may be bypassed to allow refueling operations to proceed. An alternate method must be used to ensure the control rod is fully inserted (e.g., use the "00" notch position indication).

PA1

SURVEILLANCE REQUIREMENTS

SR 3.9.4.1

TP1

INSERT 1

The full-in position indication channels provide input to the one-rod-out interlock and other refueling interlocks that require an all-rods-in permissive. The interlocks are actuated when the full-in position indication for any control rod is not present, since this indicates that all rods are not fully inserted. Therefore, testing of the full-in position indication channels is performed to ensure that when a control rod is withdrawn, the full-in position indication is not present. The full-in position indication channel is considered inoperable even with the control rod fully inserted, if it would continue to indicate full-in with the control rod withdrawn. Performing the SR each time a control rod is withdrawn is considered adequate because of

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(continued)

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INSERT 1

Note that failure to indicate full-in when the control rod is not withdrawn results in conservative actuation of the one-rod-out interlock, and therefore, is not explicitly required to be verified by this SR.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.9.4.1 (continued)

the procedural controls on control rod withdrawals and the visual ~~and audible~~ indications and alarms available in the control room to alert the operator to control rods not fully inserted.

PA1

CLB1

REFERENCES

1. ~~10 CFR 50, Appendix A, GDC 26.~~ UFSAR, Section 16.6
2. FSAR, Section ~~[15.1.13]~~. 14.5.4.3
3. FSAR, Section ~~[15.1.14]~~. 14.5.4.4
4. 10 CFR 50.36(c)(2)(ii)

PA3

DB1

X1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.9.4

Control Rod Position Indication

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.9.4 - CONTROL ROD POSITION INDICATION

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 JAFNPP was designed and under construction prior to the promulgation of Appendix A to 10 CFR 50 - General Design Criteria for Nuclear Power Plants. 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 FR 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.

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

PA1 Editorial change made for enhanced clarity or to be consistent with similar statements in other places in the Bases.

PA2 Not Used.

PA3 Changes have been made to reflect the plant specific nomenclature.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The brackets have been removed and the proper plant specific reference has been provided.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

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

BWROG-ED-4

TP1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Editorial Change Traveler BWROG-ED-4 have been incorporated into the revised Improved Technical Specifications.

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.