

PA1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. One or more OS ^{EDGs} with new fuel oil properties not within limits.</p>	<p>D.1 Restore stored fuel oil properties to within limits.</p>	<p>30 days</p>
<p>E. One or more OS ^{EDGs} with starting air receiver pressure < 225 ¹⁵⁰ psig and ≥ 125 ¹¹⁰ psig.</p>	<p>E.1 Restore starting air receiver pressure to 225 ^{required} psig within limits.</p>	<p>48 hours</p>
<p>F. Required Action and associated Completion Time not met.</p> <p>OR</p> <p>One or more OS ^{EDGs} with diesel fuel oil, lube oil, or starting air subsystem not within limits for reasons other than Condition A, B, C, D, or E.</p>	<p>F.1 Declare associated OS ^{EDG} of condition A, B, C, D, or E inoperable.</p>	<p>Immediately</p> <p>subsystem</p>

[M3]

[M4]

M1
M2
M3
M4

Diesel Fuel Oil, Lube Oil, and Starting Air
3.8.3

PA1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
[3.9.C] [4.9.C] [M1]	SR 3.8.3.1 Verify each fuel oil storage tank contains \geq 33,000 gal of fuel. <i>(X1) 32000 of each EDG PA2</i>	31 days
[M2]	SR 3.8.3.2 Verify lube oil inventory is \geq 1500 gal. <i>(X2) 168</i>	31 days
[M3]	SR 3.8.3.3 Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
[4.9.B.2] [M4]	SR 3.8.3.4 Verify each DG air start receiver pressure is \geq 225 psig. <i>(E) required (X3) 150</i>	31 days
[4.9.C.1]	SR 3.8.3.5 Check for and remove accumulated water from each fuel oil storage tank.	31 days <i>CLB1</i>
	SR 3.8.3.6 For each fuel oil storage tank: a. Drain the fuel oil; b. Remove the sediment; and c. Clean the tank.	10 years <i>TA1</i>

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.8.3 - DIESEL FUEL OIL, LUBE OIL, AND STARTING AIR

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 ITS SR 3.8.3.5 Frequency has been revised to reflect the JAFNPP current license requirement of CTS 4.9.C.1 to inspect for water each month (31 days).

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 system/structure/component nomenclature, equipment identification or description.
- PA2 Editorial changes have been made for enhanced clarity or to correct a grammatical/typographical error.
- PA3 ITS 3.8.3 Required Action E.1 words have been changed to within limits consistent with other Required Actions of this LCO.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

None

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 2, Revision 1 have been incorporated into the revised Improved Technical Specifications. In addition, this is consistent with the current licensing basis, since the CTS does not require this test.

| (E)

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

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 ITS 3.8.3 Condition A and SR 3.8.3.1 have been revised to reflect specific JAFNPP design (M1), for fuel oil level $\geq 32,000$ gal (7 day full load consumption) and $\geq 28,000$ gal (6 day full load consumption).

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.8.3 - DIESEL FUEL OIL, LUBE OIL, AND STARTING AIR

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

- X2 ITS 3.8.3 Condition B and SR 3.8.3.2 have been revised to reflect specific JAFNPP design (M2), for lube oil inventory \geq 168 gal (7 day full load consumption) and $>$ 144 gal (6 day full load consumption).
- X3 ITS 3.8.3 Condition E and SR 3.8.3.4 have been revised to reflect specific JAFNPP design (M4), for EDG starting air receiver pressure to be \geq 150 psig (5 starts) and \geq 110 psig (1 start), and the existence of two independent sets of air receivers when only one is required to meet the OPERABILITY requirements.

(I)

PAZ: If the new fuel oil has not yet been added to the fuel oil storage tanks, entry into this condition is not necessary. PAI

BASES

ACTIONS

D.1 (continued)

the fuel oil properties were outside limits, there is high likelihood that the DG would still be capable of performing its intended function. E

E.1

required

DBS

ISO

DBS
/110

With starting air receiver pressure < 125 psig, sufficient capacity for five successive DG start attempts does not exist. However, as long as the receiver pressure is > 125 psig, there is adequate capacity for at least one start attempt, and the DG can be considered OPERABLE while the air receiver pressure is restored to the required limit. A period of 48 hours is considered sufficient to complete restoration to the required pressure prior to declaring the DG inoperable. This period is acceptable based on the remaining air start capacity, the fact that most DG starts are accomplished on the first attempt, and the low probability of an event during this brief period. E

I

I

of Condition A, B, C, D, or E

PAZ

E.1

With a Required Action and associated Completion Time not met, or the stored diesel fuel oil, lube oil, or starting air subsystem not within limits for reasons other than addressed by Conditions A through E, the associated DG may be incapable of performing its intended function and must be immediately declared inoperable. E

PAZ

B, C, D, or

Subsystem

SURVEILLANCE REQUIREMENTS

SR 3.8.3.1

This SR provides verification that there is an adequate inventory of fuel oil in the storage tanks to support each DG's operation for 7 days at full load. The 7 day period is sufficient time to place the UTD in a safe shutdown condition and to bring in replenishment fuel from an offsite location. E

The 31 day Frequency is adequate to ensure that a sufficient supply of fuel oil is available, since low level alarms are

plant

(continued)

PA1

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.3.3 (continued)

viscosity at 40°C of ≥ 1.9 centistokes and ≤ 4.1 centistokes, and a flash point of $\geq 125^\circ\text{F}$; and

- c. Verify that the new fuel oil has a clear and bright appearance with proper color when tested in accordance with ASTM D4176-~~94~~ (Ref. 6). 1993 DB3

Failure to meet any of the above limits is cause for rejecting the new fuel oil, but does not represent a failure to meet the LCO concern since the fuel oil is not added to the storage tanks. PA4

within 31 days following addition of the new fuel oil to the fuel oil storage tanks

Within 31 days following the initial new fuel oil sample, the fuel oil is analyzed to establish that the other properties specified in Table I of ASTM D975-~~94~~ (Ref. 6) are met for new fuel oil when tested in accordance with ASTM D975-~~94~~ (Ref. 6), except that the analysis for sulfur may be performed in accordance with ASTM D1552-~~94~~ (Ref. 6) or ASTM D2622-~~94~~ (Ref. 6). The 31 day period is acceptable because the fuel oil properties of interest, even if they were not within stated limits, would not have an immediate effect on DG operation. This Surveillance ensures the availability of high quality fuel oil for the DGs. DB3 1995 1994

DB3 1995 1994

Fuel oil degradation during long term storage shows up as an increase in particulate, mostly due to oxidation. The presence of particulate does not mean that the fuel oil will not burn properly in a diesel engine. The particulate can cause fouling of filters and fuel oil injection equipment, however, which can cause engine failure. concentration PA2 S DB3 D6217 - 1998

concentration PA2 S

Particulate concentrations should be determined in accordance with ASTM D2276-~~94~~ (Ref. 6), Method B. This method involves a gravimetric determination of total particulate concentration in the fuel oil and has a limit of 10 mg/l. It is acceptable to obtain a field sample for subsequent laboratory testing in lieu of field testing. [For those designs in which the total volume of stored fuel oil is contained in two or more interconnected tanks, each tank must be considered and tested separately.] PA4 DB4

except that the specified filters may be replaced with filters up to 3.0 microns

The Frequency of this test takes into consideration fuel oil degradation trends that indicate that particulate

(continued)

DB3

Insert B 3.8.3 REF

6. ASTM Standards: D4057-1995, Standard Practice for Manual Sampling of Petroleum and Petroleum Products; D975-1995, Standard Specification for Diesel Fuel Oils; D4176-1993, Standard Test Method for Free Water and Particulate Contamination in Distillate Fuels (Visual Inspection Procedures); D1552-1995, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method); D2622-1994, Standard Test Method for Sulfur in Petroleum Products by X-Ray Spectrometry; and D6217-1998, Standard Test Method for Particulate Contamination in Middle Distillate Fuels by Laboratory Filtration.

| E

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.8.3 - DIESEL FUEL OIL, LUBE OIL, AND STARTING AIR

RETENTION OF EXISTING REQUIREMENT (CLB)

- CLB1 ITS SR 3.8.3.5 Frequency brackets have been removed to reflect the JAFNPP current license requirement of CTS 4.9.C.1 to inspect for water each month (31 days).
- CLB2 ITS SR 3.8.3.4 Frequency brackets have been removed to reflect the JAFNPP current license requirement of CTS 4.9.B.2.

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 system/structure/component nomenclature, equipment identification or description.
- PA2 Editorial changes have been made for enhanced clarity or to correct a grammatical/typographical error.
- PA3 This change in the ASA has been made since Section 3.5, "ECCS and RCIC System" provides the appropriate limits that are affected by the systems in the LCO.
- PA4 Editorial changes have been made for enhanced clarity or to be consistent with the wording in other places in the Specifications or Bases.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

- DB1 ITS 3.8.3 has been revised to reflect the specific JAFNPP reference requirements of, UFSAR, Section 8.6.2.
- DB2 ITS 3.8.3 has been revised to reflect the specific JAFNPP reference requirements of, UFSAR, Chapter 14.
- DB3 ITS 3.8.3 has been revised to reflect the specific JAFNPP reference requirements of, ASTM Standards: D4057-1995; D975-1995; D4176-1993; D1552-1995; D2622-1994; and D6217-1998.
- DB4 ITS SR 3.8.3.3 Bases is revised to reflect specific JAFNPP design, in that JAFNPP does not have interconnected fuel oil storage tanks. Therefore, this information has been deleted.
- DB5 ITS 3.8.3 has been revised to reflect the JAFNPP specific design of the EDG air start system.

1A

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more EDGs with new fuel oil properties not within limits.	D.1 Restore stored fuel oil properties to within limits.	30 days
E. One or more EDGs with required starting air receiver pressure < 150 psig and > 110 psig.	E.1 Restore required starting air receiver pressure to within limits.	48 hours
<p>F. Required Action and associated Completion Time of Condition A, B, C, D, or E not met.</p> <p><u>OR</u></p> <p>One or more EDGs with diesel fuel oil, lube oil, or starting air subsystem not within limits for reasons other than Condition A, B, C, D, or E.</p>	F.1 Declare associated EDG subsystem inoperable.	Immediately

11

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains \geq 32,000 gal of fuel.	31 days
SR 3.8.3.2	Verify lube oil inventory of each EDG is \geq 168 gal.	31 days
SR 3.8.3.3	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
SR 3.8.3.4	Verify each EDG required air start receiver pressure is \geq 150 psig.	31 days
SR 3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	31 days

11

BASES

ACTIONS

C.1 (continued)

inoperable. The 7 day Completion Time allows for further evaluation, resampling, and re-analysis of the EDG fuel oil.

D.1

With the new fuel oil properties defined in the Bases for SR 3.8.3.3 not within the required limits, a period of 30 days is allowed for restoring the stored fuel oil properties. This period provides sufficient time to test the stored fuel oil to determine that the new fuel oil, when mixed with previously stored fuel oil, remains acceptable, or to restore the stored fuel oil properties. This restoration may involve feed and bleed procedures, filtering, or combination of these procedures. Even if an EDG start and load was required during this time interval and the fuel oil properties were outside limits, there is high likelihood that the EDG would still be capable of performing its intended function. If the new fuel oil has not yet been added to the fuel oil storage tanks, entry into this condition is not necessary.

E.1

With required starting air receiver pressure < 150 psig, sufficient capacity for five successive EDG starts does not exist. However, as long as the receiver pressure is > 110 psig, there is adequate capacity for at least one start, and the EDG can be considered OPERABLE while the air receiver pressure is restored to the required limit. A period of 48 hours is considered sufficient to complete restoration to the required pressure prior to declaring the EDG inoperable. This period is acceptable based on the remaining air start capacity, the fact that most EDG starts are accomplished on the first attempt, and the low probability of an event during this brief period.

1(I)

1(I)

F.1

With a Required Action and associated Completion Time of Condition A, B, C, D, or E not met, or the stored diesel fuel oil, lube oil, or starting air subsystem not within

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.3.3 (continued)

Following the initial new fuel oil sample, the fuel oil is analyzed within 31 days following addition of the new fuel oil to the fuel oil storage tanks to establish that the other properties specified in Table 1 of ASTM D975-1995 (Ref. 6) are met for new fuel oil when tested in accordance with ASTM D975-1995 (Ref. 6), except that the analysis for sulfur may be performed in accordance with ASTM D1552-1995 (Ref. 6) or ASTM D2622-1994 (Ref. 6). The 31 day period is acceptable because the fuel oil properties of interest, even if they were not within stated limits, would not have an immediate effect on EDG operation. This Surveillance ensures the availability of high quality fuel oil for the EDGs.

Fuel oil degradation during long term storage shows up as an increase in particulate concentration, mostly due to oxidation. The presence of particulates does not mean that the fuel oil will not burn properly in a diesel engine. The particulates can cause fouling of filters and fuel oil injection equipment, however, which can cause engine failure.

Particulate concentrations should be determined in accordance with ASTM D6217-1998 (Ref. 6), except that the specified filters may be replaced with filters up to 3 microns. This method involves a gravimetric determination of total particulate concentration in the fuel oil and has a limit of 10 mg/l. It is acceptable to obtain a field sample for subsequent laboratory testing in lieu of field testing.

| (I)

The Frequency of this test takes into consideration fuel oil degradation trends that indicate that particulate concentration is unlikely to change significantly between Frequency intervals.

(continued)

BASES

REFERENCES

1. UFSAR, Section 8.6.2.
2. Regulatory Guide 1.137, Revision 1, Fuel-Oil Systems For Standby Diesel Generators, October 1979.
3. ANSI N195, Appendix B, 1976.
4. UFSAR, Chapter 14.
5. 10 CFR 50.36(c)(2)(ii).
6. ASTM Standards: D4057-1995, Standard Practice for Manual Sampling of Petroleum and Petroleum Products; D975-1995, Standard Specification for Diesel Fuel Oils; D4176-1993, Standard Test Method for Free Water and Particulate Contamination in Distillate Fuels (Visual Inspection Procedures); D1552-1995, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method); D2622-1994, Standard Test Method for Sulfur in Petroleum Products by X-Ray Spectrometry; and D6217-1998, Standard Test Method for Particulate Contamination in Middle Distillate Fuels by Laboratory Filtration.

| (I)

DISCUSSION OF CHANGES
ITS: 3.8.4 - DC SOURCES - OPERATING

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 that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).
- A2 The requirement in CTS 3.9.E.2.a that operations may continue only if the other battery including its battery charger is Operable has been deleted. ITS LCO 3.8.4 requires the Division 1 and 2 125 VDC electrical power subsystems to be Operable. The Bases specifies that this consists of both a battery and a charger (see LA1). Since there is no other ITS 3.8.4 Condition which allows operation to continue with two 125 VDC electrical power subsystems the existing explicit requirement is not necessary and has been deleted. Since this change is simply editorial in nature, it is considered administrative and consistent with NUREG-1433, Revision 1.
- A3 When one independent power supply becomes unavailable, CTS 3.9.F.2 allows 7 days of operation consistent with CTS 3.5.A.2 (ITS 3.5.1 ACTION A) for an inoperable LPCI subsystem. Since a LPCI MOV independent power supply subsystem is a support system for a LPCI subsystem CTS 3.9.F.2 (ITS 3.8.4 ACTION C) has been changed to "Declare the associated LPCI subsystem inoperable." This will ensure the current requirements are met and is consistent with the format of NUREG-1433, Revision 1. Since this change simply reflects a change in presentation, this change is considered administrative.
- A4 CTS 3.9.E.3, Station Batteries, requirement to be in cold shutdown within 24 hours if both batteries are found to be inoperable, is not retained as a specific Condition in ITS 3.8.4. As such, this Condition (a circumstance exists in excess of those addressed in the specification) is subject to ACTIONs consistent with CTS 3.0.C (i.e., be in COLD SHUTDOWN within 24 hours), and the subsequent changes proposed in the conversion to ITS LCO 3.0.3. In this Condition, ITS LCO 3.0.3 must be entered and action must be initiated within 1 hour to be in MODE 2 in 9 hours and MODE 3 in 13 hours (ITS 3.0/M1) and MODE 4 within 37 hours (ITS 3.0/L1). Since, this change is consistent with NUREG-1433, Revision 1, and the applicable changes to CTS 3.0.C are discussed in the Discussion of Changes in ITS Section 3.0 this change is considered administrative.

1A
1B
1C

DISCUSSION OF CHANGES
ITS: 3.8.6 - BATTERY CELL PARAMETERS

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 ITS consistent with the conventions in the Standard Technical Specifications, General Electric Plants, BWR/4, NUREG-1433, Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)). These changes are administrative, and have no adverse impact on safety.
- A2 LCO 3.8.6 for Battery Cell Parameters states, Battery cell parameters for the 125 VDC and 419 VDC LPCI MOV independent power supply batteries shall be within the limits of Table 3.8.6-1. The addition of these LCO statements explicitly require the battery cell parameters to be within the limits of ITS Table 3.8.6-1 (M5), and average cell temperatures to be within required limits (M6). These changes separate the existing battery parameter measuring requirements from other reasons for battery unavailability. Changes to individual battery parameters are addressed in the CTS 3.9.E, 3.9.F, 4.9.E, and 4.9.F markups. This change is a presentation preference, consistent with NUREG-1433, Revision 1, and is considered administrative.
- A3 The detail in CTS 4.9.E.2.a and 4.9.F.2.a, to measure the voltage of each cell to nearest 0.01 V, is being deleted. The proposed Float Voltage requirements of Table 3.8.6-1 specify a level of measurement tolerance corresponding to 0.01 V (i.e. 2.13 V and 2.07 V). This change represents a presentation preference, consistent with NUREG-1433, Revision 1, and is considered administrative.
- A4 A Note has been added to CTS 3.9.E and 3.9.F battery requirements. The ITS 3.8.6 ACTIONS Note will allow separate Condition entry for each battery. This change provides more explicit instructions for proper application of the ACTIONS for Technical Specification compliance. In conjunction with the proposed Specification 1.3 - "Completion Times," the Note ("Separate Condition entry ...") and the Conditions of ITS 3.8.6 provide more explicit direction consistent with the intent of the existing Specification ACTIONS for a battery parameter not within limits. This change, is consistent with NUREG-1433, Revision 1 and, is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

- M1 CTS 3.9.E.1 and 3.9.F.1, requirements that the reactor shall not be made critical unless both station batteries and both LPCI MOV Independent

DISCUSSION OF CHANGES
ITS: 3.8.7 - DISTRIBUTION SYSTEMS - OPERATING

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 ITS consistent with the conventions in the Standard Technical Specifications, General Electric Plants, BWR/4, NUREG-1433, Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)). These changes are administrative, and have no adverse impact on safety.
- A2 CTS 3.9.A and 3.9.E terms, "energized" and "in service," have been replaced by the word "OPERABLE" in ITS 3.8.7. Bus OPERABILITY is implied in CTS 3.9 by the requirement for the buses to be energized or in service. This change is a presentation preference and therefore, is considered administrative.
- A3 A new ACTION (ITS 3.8.7 ACTION D) has been added to the requirements in CTS 3.9.A (for loss of AC buses) and CTS 3.9.E (for loss of 125 VDC buses) requiring entry into LCO 3.0.3 if two or more electrical power distribution subsystems are inoperable that result in a loss of function. Since any AC or DC electrical power distribution subsystem inoperability currently requires entry into CTS LCO 3.0.C, the addition of this ACTION is considered administrative. Changes to the CTS 3.0.C definition of Limiting Conditions for Operation (ITS LCO 3.0.3) are addressed in Discussion of Changes for ITS: Section 3.0. Allowances for one or more inoperable AC electrical power distribution subsystem and one inoperable 125 VDC electrical power distribution has been added to the CTS in accordance with L1 (ACTIONS A and B). Therefore, since these new ACTIONS will allow operation to continue for a short period with inoperable electrical power distribution subsystems (buses), this added requirement (ACTION D) is necessary to ensure timely actions is taken to place the plant in a safe condition when a required safety function is lost. (I)

TECHNICAL CHANGES - MORE RESTRICTIVE

- M1 CTS 3.9.A and 3.9.E Applicability, conditions of the reactor shall not be made critical unless ..., effectively MODES 1 and 2, are being supplemented. ITS 3.8.7 Applicability requires AC and DC electrical power distribution subsystems be OPERABLE in MODES 1, 2, and 3. This change expands the Applicability of AC and DC electrical power distribution subsystems OPERABILITY requirements to more MODES of operation. The addition of MODE 3 establishes requirements for the OPERABILITY of AC and DC electrical power distribution subsystems

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.8 Distribution Systems—Operating

BASES

PA1

plant

125 V

PA1
PA2

BACKGROUND

The onsite Class 1E AC and DC electrical power distribution system is divided into redundant and independent AC, DC, and AC vital bus electrical power distribution subsystems.

emergency

The primary AC distribution system consists of three 4.16 kV Engineered Safety Feature (ESF) buses each having an offsite source of power as well as a dedicated onsite diesel generator (DG) source. Each 4.16 kV ESF bus is normally connected to a normal source startup auxiliary transformer (SAT) (2D). During a loss of the normal offsite power source to the 4.16 kV ESF buses, the alternate supply breaker from SAT/2C attempts to close. If all offsite sources are unavailable, the onsite emergency DGs supply power to the 4.16 kV ESF buses.

the

(71T-4)

each emergency bus will be automatically transferred to its associated reserve station service transformer (71T-2 or 71T-3). The normal and reserve sources feed their associated 4.16 kV emergency bus via a 2000-volt emergency bus and the associated breakers

The secondary plant distribution system includes 600 VAC emergency buses, 2C and 2D and associated load centers, and transformers.

The 120 VAC vital buses 2YV1, 2YV2, 2YV3, and 2YV4 are arranged in four load groups and are normally powered from DC. The alternate power supply for the vital buses is a Class 1E constant voltage source transformer powered from the same division as the associated inverter, and its use is governed by LCO 3.8.7, "Inverters—Operating." Each constant voltage source transformer is powered from AC.

There are two independent 125/230 VDC station service electrical power distribution subsystems and three independent 125 VDC DG electrical power distribution subsystems that support the necessary power for ESF functions.

The list of distribution buses is presented in Table B 3.8.8-1.

APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident (DBA) and transient analyses in the FSAR, Chapter 6 (Ref. 1) and Chapter 13 (Ref. 2), assume ESF systems are OPERABLE. The

DB5

14

(continued)

PA2

Insert Table 3.8.7-1

Table B 3.8.7-1 (page 1 of 1)
AC and 125 VDC Electrical Power Distribution Systems

TYPE	VOLTAGE	DIVISION 1*	DIVISION 2*
AC safety buses	4160 V	Emergency Bus 10500	Emergency Bus 10600
	600 V	Load Centers 11500, 12500	Load Centers 11600, 12600
125 VDC buses	125 VDC	Bus 71BCB-2A	Bus 71BCB-2B

1 I
1 I

* Each division of the AC and 125 VDC electrical power distribution systems is a subsystem.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.7 Distribution Systems - Operating

BASES

BACKGROUND

The plant Class 1E AC and 125 VDC electrical power distribution system is divided into redundant and independent AC, and 125 VDC electrical power distribution subsystems.

The primary AC distribution system consists of two 4.16 kV emergency buses each having an offsite source of power as well as a dedicated onsite emergency diesel generator (EDG) source. Each 4.16 kV emergency bus is normally connected to the normal station service transformer (71T-4). During a loss of the normal power source to the 4.16 kV emergency buses, each emergency bus will be automatically transferred to its associated reserve station service transformer (71T-2 or 71T-3). The normal and reserve sources feed their associated 4.16 kV emergency bus via a non-emergency bus and the associated breakers. If both normal and reserve sources are unavailable, the onsite EDGs supply power to the 4.16 kV emergency buses.

(I)
(I)

The secondary plant distribution system includes 600 VAC emergency buses, and associated load centers, and transformers.

There are two independent 125 VDC electrical power distribution subsystems that support the necessary power for engineered safeguards functions.

The list of required distribution buses is presented in Table B 3.8.7-1.

APPLICABLE
SAFETY ANALYSES

The initial conditions of Design Basis Accident (DBA) and transient analyses in the UFSAR, Chapter 6 (Ref. 1) and Chapter 14 (Ref. 2), assume engineered safeguards systems are OPERABLE. The AC and 125 VDC electrical power distribution subsystems are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to Engineered Safeguards systems so that the fuel, Reactor Coolant System, and

(continued)

Table B 3.8.7-1 (page 1 of 1)
AC and 125 VDC Electrical Power Distribution Systems

TYPE	VOLTAGE	DIVISION 1*	DIVISION 2*
AC safety buses	4160 V	Emergency Bus 10500	Emergency Bus 10600
	600 V	Load Centers 11500, 12500	Load Centers 11600, 12600
125 VDC buses	125 VDC	Bus 71BCB-2A	Bus 71BCB-2B

1A
1A

* Each division of the AC and 125 VDC electrical power distribution systems is a subsystem.

SUMMARY OF CHANGES TO ITS SECTION 3.9 - REVISION I

Source of Change	Summary of Change	Affected Pages
Typographical errors	Minor typographical errors in the Discussion of Changes and the retyped ITS Bases has been corrected. (DOC LA1, "CTS 3.10.A.3" changed to "CTS 3.10.A.3 and 3.10.A.4"; two lines of text that were inadvertently duplicated on a rolled page have been deleted from the retyped ITS Bases ACTION section; and two lines of text inadvertently deleted when a page rolled have been added to the retyped ITS Bases of SR 3.9.1.1.)	<u>Specification 3.9.1</u> DOC LA1 (DOCs p 2 of 4) Retyped ITS Bases p B 3.9-4
Editorial change	The change requested by the NRC during a phone conversation with JAFNPP has been made. Specifically, the statement "Thus, refueling with the reactor mode switch in the SHUTDOWN position is not precluded" has been deleted, since it is not necessary to make this statement in the Justification for Differences.	<u>Specification 3.9.1</u> JFD TP1 (JFDs p 2 of 2) Bases JFD TP1 (Bases JFDs p 2 of 3)

DISCUSSION OF CHANGES
ITS: 3.9.1 - REFUELING EQUIPMENT INTERLOCKS

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 and 3.10.A.4 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. (A)

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

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. 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.

1 (I)

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

None

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

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.

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)

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. 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.

①

BASES (continued)

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).

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.

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.9.1.1 (continued)

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).
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SUMMARY OF CHANGES TO ITS SECTION 3.10 - REVISION I

Source of Change	Summary of Change	Affected Pages
Withdrawal of TSTF-296	The changes related to proposed TSTF-296 have been deleted. Specifically, these changes (i.e., TSTF-296 changes) modified the LCO statement for clarity.	<p><u>Specification 3.10.5</u></p> <p>CTS markup p 1 of 2</p> <p>DOCs A2, M3, L1, L2, and L3 (DOCs p 1 of 6, 2 of 6, 3 of 6, 4 of 6, 5 of 6 and 6 of 6)</p> <p>NSHCs L1, L2, and L3 (NSHCs p 1 of 6, 2 of 6, 3 of 6, 5 of 6, and 6 of 6)</p> <p>NUREG ITS markup p 3.10-13 and Insert page 3.10-13 (deleted)</p> <p>JFD TP1 (deleted) (JFDs p 1 of 1)</p> <p>NUREG Bases markup p B 3.10-21, Insert page B 3.10-21 (deleted), B 3.10-22, Insert page B 3.10-22 (deleted), B 3.10-23, Insert page B 3.10-23 (deleted), and B 3.10-24</p> <p>Bases JFD TP1 (deleted) (Bases JFDs p 1 of 1)</p> <p>Retyped ITS p 3.10-13</p> <p>Retyped ITS Bases p B 3.10-21, B 3.10-22, B 3.10-23, and B 3.10-24</p>
Typographical error	Minor typographical error in the Discussion of Changes has been corrected. (DOC A4, "ITS 3.10.6.c" changed to "ITS 3.10.6.b.")	<p><u>Specification 3.10.6</u></p> <p>DOC A4 (DOCs p 1 of 5)</p>
NRC comment	For consistency with an NRC comment concerning Section 3.3 (see NRC extra comment #3), the term "reactor engineer" has been moved to the Bases and replaced with a generic term "other qualified member of the technical staff," consistent with the NUREG.	<p><u>Specification 3.10.7</u></p> <p>NUREG ITS markup p 3.10-18 and 3.10-19</p> <p>JFD CLB1 (deleted) (JFDs p 1 of 1)</p> <p>NUREG Bases markup p B 3.10-30 and B 3.10-31</p> <p>Retyped ITS p 3.10-18 and 3.10-19</p> <p>Retyped ITS Bases p B 3.10-31 and B 3.10-32</p>
Amendment 271	This amendment affects the RHRSW System (CTS 3.5.B.3 footnote *), which is on a CTS mark-up page used by this Specification. However, the Amendment does not affect this Specification.	<p><u>Specification 3.10.8</u></p> <p>CTS markup p 6 of 12</p>

JAFNPP

see ITS: 3.7.7

[3.10.5]

3.10 (cont'd)

4.10 (cont'd)

C. Spent Fuel Storage Pool Water Level

C. Spent Fuel Storage Pool Water Level

Whenever irradiated fuel is stored in the spent fuel storage pool, the pool water level shall be maintained at a minimum level of 33 ft.

Whenever irradiated fuel is stored in the spent fuel storage pool, the pool water level shall be recorded daily.

~~B. Control Rod and Control Rod Drive Maintenance~~

~~D. Control Rod and Control Rod Drive Maintenance~~

1. ~~Two~~ control rods may be withdrawn from the reactor core to perform maintenance provided:

1. When ~~two~~ control rods are withdrawn from the reactor core for maintenance, the ~~following~~ surveillance shall be performed:

a. The Reactor Mode Switch is locked in the Refuel position and all refueling interlocks are operable except for those necessary to perform the demonstration and maintenance described in Specification 4.10.D.1.

a. If the reactor vessel head is removed, specification 4.10.A.1 shall be satisfied.

b. Control rods ~~immediately face and diagonally adjacent~~ to the control rods to be withdrawn are fully inserted, electrically disarmed and sufficient margin to criticality demonstrated.

b. Demonstrate that the reactor core can be maintained subcritical with a margin of 0.38 percent Δk at any time during the maintenance with the analytically determined strongest worth operable control rod fully withdrawn. This margin shall be demonstrated after Specification 3.10.D.1 has been satisfied.

c. Control rods to be withdrawn are separated by three or more calls in any direction. (This specification does not apply to the control rods used to perform the demonstration required by Specification 3.10.D.1.b.)

M2
Five by five array centered on the withdrawn control rod

M1

Perform SR 3.1.1.1

add SR 3.10.5.1

add SR 3.10.5.2

add SR 3.10.5.3
SR 3.10.5.5

add LCO 3.10.5.a

add LCO 3.10.5.d

add LCO allowance to suspend LCO 3.3.1.1 LCO 3.2.1.2 LCO 3.9.5

Amendment No. 54, 115

add Applicability

A4

L1
add proposed LCOs LCO 3.10.5.c 1st part

LCO 3.10.5

LCO 3.10.5.b

LCO 3.10.5.c 2nd part

A2

A

L3

L1

L2

M2

M3

DISCUSSION OF CHANGES
ITS: 3.10.5 - SINGLE CONTROL ROD DRIVE (CRD) REMOVAL - REFUELING

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 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.D provides restrictions on control rod and control rod drive maintenance. ITS 3.10.5.d was added to CTS 3.10.D to restrict all other CORE ALTERATIONS during the performance of this Special Operations LCO. This addition is considered administrative since CORE ALTERATIONS are currently addressed in other parts of CTS 3.10 (CTS 3.10.A.2 prohibits any fuel loading operations since all other control rods must be fully inserted unless loading in accordance with a spiral onload. Since the spiral onload allows refueling interlocks to be bypassed only in those cells which contain no fuel, fuel loading operations are not permitted when the plant is operating within CTS 3.10.D) and therefore implies that control rod withdrawal and CRD removal are the only provisions allowed by this Specification. This change is consistent with NUREG-1433, Revision 1. (I)
- A3 CTS 3.10.D.2 and 4.10.D.2, are cross references to other requirements concerning the removal of more than two control rods. These cross references are not included in ITS 3.10.5. ITS 3.9.1, 3.9.2 and 3.10.6, are more than adequate to ensure the requirements are being met. The requirements are not affected, therefore this change is considered administrative. This change is consistent with NUREG-1433, Revision 1.
- A4 CTS 3.10.D allows two control rods to be withdrawn from the reactor core to perform maintenance. Therefore, since maintenance is allowed to be performed, the withdrawn control rods may not be Operable. ITS 3.10.5 specifies the Applicability of this Specification to be MODE 5 with LCO 3.9.5 not met. ITS LCO 3.9.5 requires each withdrawn control rod to be Operable. Since CTS 3.10.D allows control rods to not be Operable (since maintenance is allowed to be performed), the addition of this Applicability is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

- M1 CTS 3.10.D.1 allows two control rods to be withdrawn from the reactor for maintenance. ITS 3.10.5 allows only one control rod to be withdrawn and subsequently removed from a core cell containing one or more fuel

DISCUSSION OF CHANGES
ITS: 3.10.5 - SINGLE CONTROL ROD DRIVE (CRD) REMOVAL - REFUELING

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 (continued)

assemblies. The number of control rods allowed to be withdrawn (with fuel assemblies not removed from around the control rod) has been reduced to one. The removal of more than one control rod will be controlled in accordance with ITS 3.10.6 (CTS 3.10.A) consistent with NUREG-1433, Revision 1. Since only one control rod may be withdrawn, the separation criteria of CTS 3.10.D.1.c has been deleted and the new requirement (ITS LCO 3.10.5.a) will be to have all other control rods fully inserted. In addition, ITS SR 3.10.5.1 has been added to verify all control rods, other than the control rod withdrawn for the removal of the associated CRD, are fully inserted every 24 hours. This change is more restrictive on plant operation but necessary to ensure adequate shutdown margin is maintained at all times. This change is consistent with NUREG-1433, Revision 1.

M2 The current requirement in CTS 3.10.D.1.b to disarm the control rods immediately facing and diagonally adjacent to the control rods to be withdrawn has been increased to include all control rods in a 5 x 5 array centered on the withdrawn control rod as reflected in proposed ITS 3.10.5.b. In addition, ITS SR 3.10.5.2 has been added to verify the specified control rods are disarmed every 24 hours. This change will ensure the backup protection that the Reactor Protection System and the Refuel Position one-rod-out interlock would have otherwise provided. This change is more restrictive on plant operation, and consistent with NUREG-1433, Revision 1.

M3 Two new Surveillances have been added to the requirements of CTS 4.10.D. ITS SR 3.10.5.3 will require the verification that a control rod block is inserted and ITS SR 3.10.5.5 will require that no other CORE ALTERATIONS are in progress every 24 hours. These added requirements are necessary to ensure that LCO 3.10.5.c (first part) and 3.10.5.d are being met as long as the plant is operating in accordance with this Special Operations LCO. (I)

M4 ITS 3.10.5 ACTION A has been added to the requirements of CTS 3.10.D if one or more of the requirements of the LCO are not met. This ACTION will require the immediate suspension of the CRD mechanism removal and the immediate initiation of action to fully insert all control rods or to initiate immediate action to satisfy the requirements of this LCO. Since there are no current ACTIONS, the addition of this explicit ACTION is considered more restrictive but necessary to ensure the appropriate corrective actions are taken in an expeditious manner.

DISCUSSION OF CHANGES
ITS: 3.10.5 - SINGLE CONTROL ROD DRIVE (CRD) REMOVAL - REFUELING

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

None

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

- L1 CTS 3.10.D.1.a requires the reactor mode switch to be locked in the refuel position and all refueling interlocks operable except for those necessary to perform the demonstration and maintenance described in CTS 4.10.D.1 when two control rods are withdrawn to perform maintenance. ITS LCO 3.10.5 will allow the requirements of LCO 3.9.1, "Refueling Equipment Interlocks"; LCO 3.9.2, "Refuel Position One-Rod-Out Interlock"; and LCO 3.9.4, "Control Rod Position Indication" be suspended in MODE 5 to allow the removal of a single CRD associated with a control rod withdrawn from a core cell containing one or more fuel assemblies, provided the following requirements are met: 1) all other control rods are fully inserted (M1); 2) all other control rods in a five by five array centered on the withdrawn control rod are disarmed (CTS 3.10.D.1.b and M2); 3) a control rod withdrawal block is inserted and LCO 3.1.1, "SHUTDOWN MARGIN (SDM)", MODE 5 requirements, may be changed to allow the single control rod withdrawn to be assumed to be the highest worth control rod (CTS 3.10.D.1.b and L2); and 4) no other CORE ALTERATIONS are in progress (A2). This change is less restrictive since the CTS requires that the reactor mode switch be in refuel and that all refueling interlocks (except the one-rod-out interlock for two control rods on which maintenance is being performed) be Operable. ITS LCO 3.10.5 will not require the Operability of any refueling interlock and will not require the mode switch to be locked in the refuel position. The function of the refueling interlocks, and the requirement to lock the mode switch in the refuel position (thus ensuring the one-rod-interlock is not bypassed), in combination with adequate SDM is to preclude unacceptable reactivity excursions. This change is acceptable since, first, the Specification requires that whenever one control rod drive is removed it prevents any additional control rod withdrawal (i.e., all other rods must be inserted, all other rods in a 5 x 5 array centered on the withdrawn control rod must be disarmed, and finally the added requirement that a control rod block must be inserted). Secondly, requiring that all other CORE ALTERATIONS are prohibited prevents any positive reactivity insertion as a result of any fuel being loaded. Therefore, all the refuel interlocks (e.g., refuel platform fuel grapple, fuel loaded, one-rod-out interlock) and the requirement to lock the mode switch in refuel are not required to preclude an inadvertent criticality. The requirements of the proposed Specification effectively accomplishes the functions of the refueling interlocks. Therefore, the assumptions of the design basis accidents will be maintained while operating under this LCO. Since the requirements of ITS LCOs 3.9.1 and 3.9.2

DISCUSSION OF CHANGES
ITS: 3.10.5 - SINGLE CONTROL ROD DRIVE (CRD) REMOVAL - REFUELING

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 (continued)

may be suspended during the application of this Special Operations LCO, the associated Surveillances of these LCOs are not applicable, therefore, the requirements in CTS 4.10.D.1.a to perform the Surveillance Requirements of CTS 4.10.A.1 have been deleted.

- L2 CTS 4.10.D.1.b requires the performance of a shutdown margin (SDM) demonstration and that adequate margin is maintained during the maintenance with the analytically determined strongest worth operable control rod fully withdrawn. This demonstration shall be performed after CTS 3.10.D.1 has been satisfied. CTS 3.10.D.1.b requires the demonstration to be performed prior to the withdrawal of the control rods for maintenance. CTS 3.10.D allows up to two control rods with fuel assemblies loaded into the associated core cells to be withdrawn. Therefore, adequate SDM should be maintained throughout the maintenance work with these two rods and the analytically determined strongest worth operable control rod withdrawn. The SDM demonstration is currently required to be performed prior to performing any maintenance. ITS SR 3.10.5.4 requires SR 3.1.1.1, the SDM verification, to be performed in accordance with its associated surveillance frequency. ITS 3.10.5 allows withdrawal of only one control rod from core cells containing fuel (M1). Withdrawal/removal of multiple control rods is only allowed in accordance with ITS 3.10.6, and then, only if all four fuel assemblies have been removed from the core cells associated with each control rod or control rod drive being removed. ITS SR 3.1.1.1 requires SDM to be verified to be within limits prior to each in-vessel fuel movement during a fuel loading sequence and once within 4 hours after criticality following fuel movement within the reactor pressure vessel or control rod replacement. In addition, ITS 3.10.5.c allows the SDM verification to be changed to allow the single control rod withdrawn to be assumed to be the highest worth control rod. (I)

This change is less restrictive in two ways. SDM can be verified in accordance with the Frequency of SR 3.1.1.1 instead of demonstrated prior to maintenance and the verification can be met by allowing the single control rod to be withdrawn to be assumed to be the highest worth control rod. The allowance that the single control rod to be withdrawn can be assumed to be the highest worth control rod is acceptable due to existing an added requirements of the proposed Specification. These requirements are 1) all other control rods are fully inserted (M1); 2) all other control rods in a five by five array centered on the withdrawn control rod are disarmed (CTS 3.10.D.1.b and M2); 3) a control rod withdrawal block is inserted; and 4) no other CORE ALTERATIONS are in (I)
(I)

DISCUSSION OF CHANGES
ITS: 3.10.5 - SINGLE CONTROL ROD DRIVE (CRD) REMOVAL - REFUELING

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 (continued)

progress (A2). The requirements are adequate to preclude the possibility of an inadvertent criticality during operations under Special Operations LCO 3.10.5 by minimizing the possibility of any positive reactivity insertion (control rod withdrawal or fuel loading). Since all other control rods must be inserted and since provisions are made to ensure additional control rods cannot be withdrawn (by inserting a control rod block and disarming the other control rods in a five by five array centered on the withdrawn control rod), control rod withdrawal is not likely to occur. In addition, all other CORE ALTERATIONS are prohibited, therefore fuel cannot be loaded. These provisions are adequate to avoid any inadvertent criticality and ensure adequate SDM. The allowance that SDM can be verified in accordance with the Frequency of SR 3.1.1.1 is acceptable since this Frequency is adequate to ensure that operations under this Special Operations LCO will be performed with adequate SDM. In addition, SR 3.0.1 requires this SR to be met during the MODES or other specified conditions in the Applicability unless otherwise stated in the SR. Failure to meet this Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be considered a failure to meet the LCO. Therefore, the requirements of ITS SR 3.10.5.4 and SR 3.0.1 will still ensure the required SDM is met during operations within LCO 3.10.5 and the maintenance activity. (I)

L3 An allowance has been added to CTS 3.10.D (ITS LCO 3.10.5) to suspend the requirements for automatic scram capability during control rod and control rod drive maintenance. ITS LCO 3.10.5 explicitly states that the requirements of LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation"; LCO 3.3.8.2, "Reactor Protection System (RPS) Electric Power Monitoring"; and LCO 3.9.5, "Control Rod OPERABILITY" may be suspended in MODE 5 to allow the removal of a single control rod associated with a control rod withdrawn from a core cell containing one or more fuel assemblies provided: 1) all other control rods are fully inserted (M1); 2) all other control rods in a five by five array centered on the withdrawn control rod are disarmed (CTS 3.10.D.1.b and M2); 3) a control rod withdrawal block is inserted and LCO 3.1.1, "SHUTDOWN MARGIN (SDM)," MODE 5 requirements, may be changed to allow the single control rod withdrawn to be assumed to be the highest worth control rod (CTS 3.10.D.1.b and L2); and 4) no other CORE ALTERATIONS are in progress (A2). This change is acceptable since the proposed requirements are adequate to preclude the possibility of an inadvertent criticality and maintains adequate SDM during operations under Special Operations LCO 3.10.5. The proposed requirements prevent positive reactivity insertion by prohibiting any additional control rod (I) (I) (I) (I) (I)

DISCUSSION OF CHANGES
ITS: 3.10.5 - SINGLE CONTROL ROD DRIVE (CRD) REMOVAL - REFUELING

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 (continued)

withdrawal and any fuel loading and ensures that the reactivity added by the removal of one control rod does not result in an inadvertent criticality. As such, the scram function is not required in this condition since the possibility of an inadvertent criticality has been minimized. The CRD removal requires isolation of the CRD from the CRD Hydraulic System, thereby resulting in an inoperable control rod, therefore this allowance is necessary if the CRD maintenance requires the isolation of the CRD Hydraulic System.

(I)

TECHNICAL CHANGES - RELOCATIONS

None

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.10.5 - SINGLE CONTROL ROD DRIVE (CRD) REMOVAL - REFUELING

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

The Licensee has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below. 1 (I)

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

The proposed change affects the status of the refueling interlocks while a single control rod drive is removed. The existing Specification requires that the reactor mode switch be in refuel and that all refueling interlocks (except the one-rod-out interlock for two control rods on which maintenance is being performed) be Operable. The proposed Specification will not require Operability of any refueling interlocks and will allow the mode switch to be in the shutdown position. This change will not increase the probability of an accident (inadvertent criticality) for two reasons. First, the Specification requires that whenever one control rod drive is removed, all other rods must be inserted, all other rods in a 5 x 5 array centered on the withdrawn control rod must be disarmed, and a control rod block is inserted. This effectively accomplishes the actions of the refueling interlocks. 1 (I)

Second, both the existing requirement (CTS 3.10.D.a) and the proposed requirement (LCO 3.10.5) authorize defeating the refueling interlocks for the control rod drive being removed by bypassing the full-in position indication signals for those rods. The refueling interlocks provide protection from a reactivity excursion by ensuring that control rods are fully inserted prior to the start of Core Alterations. With the full-in signal for the rod in the cells affected by the Core Alteration bypassed, the refueling interlocks provide no protection from a reactivity excursion. The consequences of an accident are not increased because the only purpose of the reactor mode switch in refuel and the Operability of the associated refueling interlocks is to prevent an accident. The interlocks have no functions associated with the mitigation of the consequences of an accident that has already occurred. As a result, the consequences of an event occurring with the proposed change are the same as the consequences of an event occurring with the current requirements. Additional requirements ensure that no other Core Alterations are performed during this Special Operation. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.10.5 - SINGLE CONTROL ROD DRIVE (CRD) REMOVAL - REFUELING

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

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

The proposed change affects the status of the refueling interlocks while a single control rod drive is removed. The change does not create the possibility of a new or different type of accident because all other control rods are inserted, the rods in a 5 x 5 array centered on the withdrawn control rod are disarmed, and a control rod block is inserted. In addition, the proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed). 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 reduced by the proposed change. The proposed change affects the status of the refueling interlocks while a single control rod drive is removed. In the proposed Specification, prior to bypassing the one-rod-out interlock and the removal of one control rod drive, the other control rods are inserted, the rods in a 5 x 5 array centered on the withdrawn control rod are disarmed, and a control rod block is inserted. These actions essentially perform the function of the refueling interlocks. Therefore, this change does not involve a significant reduction in a margin of safety.

| (I)

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.10.5 - SINGLE CONTROL ROD DRIVE (CRD) REMOVAL - REFUELING

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

The Licensee has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

1 I

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

This change allows the SDM to be verified in accordance with the frequency of SR 3.1.1.1 instead of demonstrated prior to maintenance and the verification can be met by allowing the single control rod to be withdrawn to be assumed to be the highest worth control rod. The method of complying with the SDM requirements does not influence the assumptions relative to the initiation of any accident. Therefore, this change does not significantly increase the probability of an accident previously analyzed. The proposed requirements preclude the possibility of an accident (inadvertent criticality). The following requirements must be met during any single CRD removal process: 1) all other control rods are fully inserted; 2) all other control rods in a five by five array centered on the withdrawn control rod are disarmed; 3) a control rod withdrawal block is inserted and LCO 3.1.1, "SHUTDOWN MARGIN (SDM)", MODE 5 requirements, may be changed to allow the single control rod withdrawn to be assumed to be the highest worth control rod; and 4) no other CORE ALTERATIONS are in progress. In addition, the Surveillances associated with ITS 3.10.5 must be met along with the requirements of SR 3.0.1. SR 3.0.1 requires the SRs of the proposed Specification to be met during the MODES or other specified conditions in the Applicability unless otherwise stated in the SR. Failure to meet the Surveillances, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be considered a failure to meet the LCO. These proposed requirements are adequate to prevent a positive reactivity insertion by prohibiting any additional control rod withdrawal and any fuel loading. The SHUTDOWN MARGIN verification ensures the reactivity added by the removal of one control rod meets the requirements of LCO 3.1.1 during operations in the Special Operations LCO and additional SDM verifications or demonstrations are not necessary. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

1 I

1 I

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.10.5 - SINGLE CONTROL ROD DRIVE (CRD) REMOVAL - REFUELING

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

The Licensee has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below. (I)

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

The proposed change has been added to allow a single control rod drive (CRD) to be withdrawn and subsequently removed without maintaining automatic scram capability. This change is acceptable since the proposed requirements are adequate to preclude the possibility of an inadvertent criticality and ensure adequate shutdown margin (SDM) during operations under the Special Operations LCO. Therefore, there is no need for scram capability. The CRD removal requires isolation of the CRD from the CRD Hydraulic System, thereby causing inoperability of the control rod, therefore this allowance is necessary if the CRD maintenance requires the isolation of the CRD Hydraulic System. Since all other rods are required to be inserted, the scram functions are not required. The proposed requirements preclude the possibility of an accident (inadvertent criticality). The following requirements must be met during any single CRD removal process: 1) all other control rods are fully inserted; 2) all other control rods in a five by five array centered on the withdrawn control rod are disarmed; 3) a control rod withdrawal block is inserted and LCO 3.1.1, "SHUTDOWN MARGIN (SDM)," MODE 5 requirements, may be changed to allow the single control rod withdrawn to be assumed to be the highest worth control rod; and 4) no other CORE ALTERATIONS are in progress. Requiring all other control rods to be fully inserted, the disarming of the control rods in a five by five array centered on the withdrawn control rod, the SHUTDOWN MARGIN verification, the requirement to insert a control rod block, and the requirement that no other CORE ALTERATIONS are allowed precludes the need for the control rod scram function. These requirements prevent a positive reactivity insertion by prohibiting any additional control rod withdrawal and any fuel loading. The SHUTDOWN MARGIN verification ensures the reactivity added by the removal of one control rod meets the requirements of LCO 3.1.1. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated. (I)
(I)
(I)

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.10.5 - SINGLE CONTROL ROD DRIVE (CRD) REMOVAL - REFUELING

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

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

The proposed change affects the status of Reactor Protection System (RPS) instrumentation, RPS electric power monitoring assemblies and control rod Operability while a single control rod drive is removed. The change does not create the possibility of a new or different type of accident because all other control rods are inserted, the rods in a 5 x 5 array centered on the withdrawn control rod are disarmed, control rod block is inserted, and no additional CORE ALTERATIONS are permitted. In addition, the proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed). Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated. (A)

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

The margin of safety is not reduced by the proposed change. The proposed change affects the status of RPS instrumentation, RPS electric power monitoring assemblies and control rod Operability while a single control rod drive is removed. In the proposed Specification, prior to suspending the automatic scram capability requirements and prior to the removal of one control rod drive, the other control rods are inserted, the rods in a 5 x 5 array centered on the withdrawn control rod are disarmed, a control rod withdrawal block is inserted, SHUTDOWN MARGIN requirements must be met, and no other CORE ALTERATIONS are in progress. These actions essentially preclude the possibility of an inadvertent criticality. Therefore, this change does not involve a significant reduction in a margin of safety. (E)

3.10 SPECIAL OPERATIONS

3.10.5 Single Control Rod Drive (CRD) Removal—Refueling

LCO 3.10.5

[3.10.D.1]
[3.10.D.1.a]

PA1

The requirements of LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation"; LCO 3.3.8.2, "Reactor Protection System (RPS) Electric Power Monitoring"; LCO 3.9.1, "Refueling Equipment Interlocks"; LCO 3.9.2, "Refuel Position One Rod Out Interlock"; LCO 3.9.4, "Control Rod Position Indication"; and LCO 3.9.5, "Control Rod OPERABILITY—Refueling," may be suspended in MODE 5 to allow the removal of a single CRD associated with a control rod withdrawn from a core cell containing one or more fuel assemblies, provided the following requirements are met:

[M1]

[3.10.D.1.6] [M2]

[3.10.D.1.6] [L1] [L2]

- a. All other control rods are fully inserted;
- b. All other control rods in a five by five array centered on the withdrawn control rod are disarmed;
- c. A control rod withdrawal block is inserted and LCO 3.1.1, "SHUTDOWN MARGIN (SDM)," MODE 5 requirements may be changed to allow the single control rod withdrawn to be assumed to be the highest worth control rod; and
- d. No other CORE ALTERATIONS are in progress.

PA1

[A2]

APPLICABILITY: MODE 5 with LCO 3.9.5 not met.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more of the above requirements not met.	A.1 Suspend removal of the CRD mechanism. AND PA2	Immediately (continued)

[M4]

BWR/4/STS
JAFNIP

3.10-13

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Amendment No.

Typ
All
Pages

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.10.5 - SINGLE CONTROL ROD DRIVE (CRD) REMOVAL - REFUELING

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

PA1 Changes have been made to correct typographical errors and omissions.

PA2 Changes have been made to reflect plant specific nomenclature. JAFNPP utilizes CRD without the addition of "mechanism." "CRD" without the use of "mechanism" is also used in the LCO statement and various Bases descriptions throughout the NUREG.

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)

X1 Not used.

1A

B 3.10 SPECIAL OPERATIONS

B 3.10.5 Single Control Rod Drive (CRD) Removal—Refueling

BASES

BACKGROUND

The purpose of this MODE 5 Special Operations LCO is to permit the removal of a single CRD during refueling operations by imposing certain administrative controls. Refueling interlocks restrict the movement of control rods and the operation of the refueling equipment to reinforce operational 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 from a core cell containing one or more fuel assemblies. The refueling interlocks use the "full-in" position indicators to determine the position of all control rods. If the "full-in" position signal is not present for every control rod, then the all rods in permissive for the refueling equipment interlocks is not present and fuel loading is prevented. Also, the refuel position one-rod-out interlock will not allow the withdrawal of a second control rod.

PAI

The control rod scram function provides backup protection in the event normal refueling procedures, and the refueling interlocks described above fail to prevent inadvertent criticalities during refueling. The requirement for this function to be OPERABLE precludes the possibility of removing the CRD once a control rod is withdrawn from a core cell containing one or more fuel assemblies. This Special Operations LCO provides controls sufficient to ensure the possibility of an inadvertent criticality is precluded, while allowing a single CRD to be removed from a core cell containing one or more fuel assemblies. The removal of the CRD involves disconnecting the position indication probe, which causes noncompliance with LCO 3.9.4, "Control Rod Position Indication," and, therefore, LCO 3.9.1, "Refueling Equipment Interlocks," and LCO 3.9.2, "Refueling Position One-Rod-Out Interlock." The CRD removal also requires isolation of the CRD from the CRD Hydraulic System, thereby causing inoperability of the control rod (LCO 3.9.5, "Control Rod OPERABILITY—Refueling").

I

(continued)

BWR/4 STS
JAFNIP

B 3.10-21

Rev 1, 04/07/95
Amendment No.

Typ
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Pages

REVISION 01

BASES (continued)

APPLICABLE SAFETY ANALYSES

With the reactor mode switch in the refuel position, the analyses for control rod withdrawal during refueling are applicable and, provided the assumptions of these analyses are satisfied, these analyses will bound the consequences of accidents. Explicit safety analyses in the FSAR (Ref. 1) demonstrate that proper operation of the refueling interlocks and adequate SDM will preclude unacceptable reactivity excursions.

U PA2
and 2
S DB1

Refueling interlocks restrict the movement of control rods and the operation of the refueling equipment to reinforce operational procedures that prevent the reactor from becoming critical. These interlocks prevent the withdrawal of more than one control rod. Under these conditions, since only one control rod can be withdrawn, the core will always be shut down even with the highest worth control rod withdrawn if adequate SDM exists. By requiring all other control rods to be inserted and a control rod withdrawal block initiated, the function of the inoperable one-rod-out interlock (LCO 3.9.2) is adequately maintained. This Special Operations LCO requirement ~~(to suspend all)~~ CORE ALTERATIONS, adequately compensates for the inoperable all rods in permissive for the refueling equipment interlocks (LCO 3.9.1).

PA3
are in progress

that no other
PA3

The control rod scram function provides backup protection to normal refueling procedures and the refueling interlocks, which prevent inadvertent criticalities during refueling. Since the scram function and refueling interlocks may be suspended, alternate backup protection required by this Special Operations LCO is obtained by ensuring that a five by five array of control rods, centered on the withdrawn control rod, are inserted and are incapable of being withdrawn (by insertion of a control rod block).

PA3
are inserted and disarmed, and all other control rods

IA
IA

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

As described in LCO 3.0.7, compliance with Special Operations LCOs is optional, and therefore, no criteria of ~~the NRC Policy Statement~~ apply. Special Operations LCOs provide flexibility to perform certain operations by appropriately modifying requirements of other LCOs. A discussion of the criteria satisfied for the other LCOs is provided in their respective Bases.

XI

(continued)

BASES (continued)

LCO

As described in LCO 3.0.7, compliance with this Special Operations LCO is optional. Operation in MODE 5 with any of the following LCOs, LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," LCO 3.3.8.2, "Reactor Protection System (RPS) Electric Power Monitoring," LCO 3.9.1, LCO 3.9.2, LCO 3.9.4, or LCO 3.9.5 not met, can be performed in accordance with the Required Actions of these LCOs without meeting this Special Operations LCO or its ACTIONS. However, if a single CRD removal from a core cell containing one or more fuel assemblies is desired in MODE 5, controls consistent with those required by LCO 3.3.1.1, LCO 3.3.8.2, LCO 3.9.1, LCO 3.9.2, LCO 3.9.4, and LCO 3.9.5 must be implemented, and this Special Operations LCO applied.

By requiring all other control rods to be inserted and a control rod withdrawal block initiated, the function of the inoperable one-rod-out interlock (LCO 3.9.2) is adequately maintained. This Special Operations LCO requirement ~~to suspend all~~ CORE ALTERATIONS adequately compensates for the inoperable all rods in permissive for the refueling equipment interlocks (LCO 3.9.1). Ensuring that the five by five array of control rods, centered on the withdrawn control rod, are inserted and incapable of withdrawal adequately satisfies the backup protection that LCO 3.3.1.1 and LCO 3.9.2 would have otherwise provided. Also, once these requirements (Items a, b, and c) are completed, the SDM requirement to account for both the withdrawn-untrippable control rod and the highest worth control rod may be changed to allow the withdrawn-untrippable control rod to be the single highest worth control rod.

PA3 that no other are in progress

I

APPLICABILITY

Operation in MODE 5 is controlled by existing LCOs. The allowance to comply with this Special Operations LCO in lieu of the ACTIONS of LCO 3.3.1.1, LCO 3.3.8.2, LCO 3.9.1, LCO 3.9.2, LCO 3.9.4, and LCO 3.9.5 is appropriately controlled with the additional administrative controls required by this Special Operations LCO, which reduce the potential for reactivity excursions.

(continued)

BASES (continued)

ACTIONS

A.1, A.2.1, and A.2.2

If one or more of the requirements of this Special Operations LCO are not met, the immediate implementation of these Required Actions restores operation consistent with the normal requirements for failure to meet LCO 3.3.1.1, LCO 3.9.1, LCO 3.9.2, LCO 3.9.4, and LCO 3.9.5 (i.e., all control rods inserted) or with the allowances of this Special Operations LCO. The Completion Times for Required Action A.1, Required Action A.2.1, and Required Action A.2.2 are intended to require that these Required Actions be implemented in a very short time and carried through in an expeditious manner to either initiate action to restore the CRD and insert its control rod, or initiate action to restore compliance with this Special Operations LCO. Actions must continue until either Required Action A.2.1 or Required Action A.2.2 is satisfied.

SURVEILLANCE
REQUIREMENTS

SR 3.10.5.1, SR 3.10.5.2, SR 3.10.5.3, SR 3.10.5.4,
and SR 3.10.5.5

Verification that all the control rods, other than the control rod withdrawn for the removal of the associated CRD, are fully inserted is required to ensure the SDM is within limits. Verification that the local five by five array of control rods, other than the control rod withdrawn for removal of the associated CRD, is inserted and disarmed, while the scram function for the withdrawn rod is not available, is required to ensure that the possibility of criticality remains precluded. Verification that a control rod withdrawal block has been inserted ensures that no other control rods can be inadvertently withdrawn under conditions when position indication instrumentation is inoperable for the withdrawn control rod. The Surveillance for LCO 3.1.1, which is made applicable by this Special Operations LCO, is required in order to establish that this Special Operations LCO is being met. Verification that no other CORE ALTERATIONS are being made is required to ensure the assumptions of the safety analysis are satisfied.

Periodic verification of the administrative controls established by this Special Operations LCO is prudent to preclude the possibility of an inadvertent criticality. The 24 hour Frequency is acceptable, given the administrative

PA4

The control rods can be hydraulically disarmed by closing the drive water and exhaust water isolation valves. The control rods can be electrically disarmed by disconnecting power from all four directional control valve solenoids.

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(continued)

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.10.5 - SINGLE CONTROL ROD DRIVE REMOVAL - REFUELING

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

- PA1 Changes have been made to correct typographical errors and omissions.
- PA2 The Bases have been revised to reflect the appropriate JAFNPP nomenclature.
- PA3 The Bases have been revised to be consistent with the Specifications.
- PA4 The Bases have been revised to be consistent with other places in the Bases.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

- DB1 The Bases have been revised to reflect the appropriate JAFNPP references.
- DB2 The brackets have been removed and the proper plant specific references have been incorporated.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

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

None

(I)

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.

3.10 SPECIAL OPERATIONS

3.10.5 Single Control Rod Drive (CRD) Removal - Refueling

LCO 3.10.5 The requirements of LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation"; LCO 3.3.8.2, "Reactor Protection System (RPS) Electric Power Monitoring"; LCO 3.9.1, "Refueling Equipment Interlocks"; LCO 3.9.2, "Refuel Position One-Rod-Out Interlock"; LCO 3.9.4, "Control Rod Position Indication"; and LCO 3.9.5, "Control Rod OPERABILITY-Refueling," may be suspended in MODE 5 to allow the removal of a single CRD associated with a control rod withdrawn from a core cell containing one or more fuel assemblies, provided the following requirements are met:

- a. All other control rods are fully inserted;
- b. All other control rods in a five by five array centered on the withdrawn control rod are disarmed;
- c. A control rod withdrawal block is inserted and LCO 3.1.1, "SHUTDOWN MARGIN (SDM)," MODE 5 requirements, may be changed to allow the single control rod withdrawn to be assumed to be the highest worth control rod; and
- d. No other CORE ALTERATIONS are in progress.

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| I

APPLICABILITY: MODE 5 with LCO 3.9.5 not met.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more of the above requirements not met.	A.1 Suspend removal of the CRD. <u>AND</u>	Immediately (continued)

B 3.10 SPECIAL OPERATIONS

B 3.10.5 Single Control Rod Drive (CRD) Removal - Refueling

BASES

BACKGROUND

The purpose of this MODE 5 Special Operations LCO is to permit the removal of a single CRD during refueling operations by imposing certain administrative controls. Refueling interlocks restrict the movement of control rods and the operation of the refueling equipment to reinforce operational 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 from a core cell containing one or more fuel assemblies. The refueling interlocks use the "full-in" position indicators to determine the position of all control rods. If the "full-in" position signal is not present for every control rod, then the all rods in permissive for the refueling equipment interlocks is not present and fuel loading is prevented. Also, the refuel position one-rod-out interlock will not allow the withdrawal of a second control rod.

The control rod scram function provides backup protection in the event normal refueling procedures, and the refueling interlocks described above fail to prevent inadvertent criticalities during refueling. The requirement for this function to be OPERABLE precludes the possibility of removing the CRD once a control rod is withdrawn from a core cell containing one or more fuel assemblies. This Special Operations LCO provides controls sufficient to ensure the possibility of an inadvertent criticality is precluded, while allowing a single CRD to be removed from a core cell containing one or more fuel assemblies. The removal of the CRD involves disconnecting the position indication probe, which causes noncompliance with LCO 3.9.4, "Control Rod Position Indication", and therefore, LCO 3.9.1, "Refueling Equipment Interlocks," and LCO 3.9.2, "Refueling Position One-Rod-Out Interlock". The CRD removal also requires isolation of the CRD from the CRD Hydraulic System, thereby causing inoperability of the control rod (LCO 3.9.5, "Control Rod OPERABILITY - Refueling").

I

(continued)

BASES (continued)

APPLICABLE
SAFETY ANALYSES

With the reactor mode switch in the refuel position, the analyses for control rod withdrawal during refueling are applicable and, provided the assumptions of these analyses are satisfied, these analyses will bound the consequences of accidents. Explicit safety analyses in the UFSAR (Refs. 1 and 2) demonstrate that proper operation of the refueling interlocks and adequate SDM will preclude unacceptable reactivity excursions.

Refueling interlocks restrict the movement of control rods and the operation of the refueling equipment to reinforce operational procedures that prevent the reactor from becoming critical. These interlocks prevent the withdrawal of more than one control rod. Under these conditions, since only one control rod can be withdrawn, the core will always be shut down even with the highest worth control rod withdrawn if adequate SDM exists.

By requiring all other control rods to be inserted and a control rod withdrawal block initiated, the function of the inoperable one-rod-out interlock (LCO 3.9.2) is adequately maintained. This Special Operations LCO requirement that no other CORE ALTERATIONS are in progress adequately compensates for the inoperable all rods in permissive for the refueling equipment interlocks (LCO 3.9.1).

The control rod scram function provides backup protection to normal refueling procedures and the refueling interlocks, which prevent inadvertent criticalities during refueling. Since the scram function and refueling interlocks may be suspended, alternate backup protection required by this Special Operations LCO is obtained by ensuring that a five by five array of control rods, centered on the withdrawn control rod are inserted and disarmed, and all other control rods are inserted and are incapable of being withdrawn (by insertion of a control rod block).

As described in LCO 3.0.7, compliance with Special Operations LCOs is optional, and therefore, no criteria of 10 CFR 50.36(c)(2)(ii) (Ref. 3) apply. Special Operations LCOs provide flexibility to perform certain operations by appropriately modifying requirements of other LCOs. A discussion of the criteria satisfied for the other LCOs is provided in their respective Bases.

(continued)

BASES (continued)

LCO

As described in LCO 3.0.7, compliance with this Special Operations LCO is optional. Operation in MODE 5 with any of the following LCOs, LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," LCO 3.3.8.2, "Reactor Protection System (RPS) Electric Power Monitoring," LCO 3.9.1, LCO 3.9.2, LCO 3.9.4, or LCO 3.9.5 not met, can be performed in accordance with the Required Actions of these LCOs without meeting this Special Operations LCO or its ACTIONS. However, if a single CRD removal from a core cell containing one or more fuel assemblies is desired in MODE 5, controls consistent with those required by LCO 3.3.1.1, LCO 3.3.8.2, LCO 3.9.1, LCO 3.9.2, LCO 3.9.4, and LCO 3.9.5 must be implemented, and this Special Operations LCO applied.

By requiring all other control rods to be inserted and a control rod withdrawal block initiated, the function of the inoperable one-rod-out interlock (LCO 3.9.2) is adequately maintained. This Special Operations LCO requirement that no other CORE ALTERATIONS are in progress adequately compensates for the inoperable all rods in permissive for the refueling equipment interlocks (LCO 3.9.1). Ensuring that the five by five array of control rods, centered on the withdrawn control rod, are inserted and incapable of withdrawal adequately satisfies the backup protection that LCO 3.3.1.1 and LCO 3.9.2 would have otherwise provided. Also, once these requirements (Items a, b, and c) are completed, the SDM requirement to account for both the withdrawn-untrippable control rod and the highest worth control rod may be changed to allow the withdrawn-untrippable control rod to be the single highest worth control rod.

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APPLICABILITY

Operation in MODE 5 is controlled by existing LCOs. The allowance to comply with this Special Operations LCO in lieu of the ACTIONS of LCO 3.3.1.1, LCO 3.3.8.2, LCO 3.9.1, LCO 3.9.2, LCO 3.9.4, and LCO 3.9.5 is appropriately controlled with the additional administrative controls required by this Special Operations LCO, which reduce the potential for reactivity excursions.

(continued)

BASES (continued)

ACTIONS

A.1, A.2.1, and A.2.2

If one or more of the requirements of this Special Operations LCO are not met, the immediate implementation of these Required Actions restores operation consistent with the normal requirements for failure to meet LCO 3.3.1.1, LCO 3.9.1, LCO 3.9.2, LCO 3.9.4, and LCO 3.9.5 (i.e., all control rods inserted) or with the allowances of this Special Operations LCO. The Completion Times for Required Action A.1, Required Action A.2.1, and Required Action A.2.2 are intended to require that these Required Actions be implemented in a very short time and carried through in an expeditious manner to either initiate action to restore the CRD and insert its control rod, or initiate action to restore compliance with this Special Operations LCO. Actions must continue until either Required Action A.2.1 or Required Action A.2.2 is satisfied.

SURVEILLANCE
REQUIREMENTS

SR 3.10.5.1, SR 3.10.5.2, SR 3.10.5.3, SR 3.10.5.4,
and SR 3.10.5.5

Verification that all the control rods, other than the control rod withdrawn for the removal of the associated CRD, are fully inserted is required to ensure the SDM is within limits. Verification that the local five by five array of control rods, other than the control rod withdrawn for removal of the associated CRD, is inserted and disarmed, while the scram function for the withdrawn rod is not available, is required to ensure that the possibility of criticality remains precluded. The control rods can be hydraulically disarmed by closing the drive water and exhaust water isolation valves. The control rods can be electrically disarmed by disconnecting power from all four directional control valve solenoids. Verification that a control rod withdrawal block has been inserted ensures that no other control rods can be inadvertently withdrawn under conditions when position indication instrumentation is inoperable for the withdrawn control rod. The Surveillance for LCO 3.1.1, which is made applicable by this Special Operations LCO, is required in order to establish that this Special Operations LCO is being met. Verification that no other CORE ALTERATIONS are being made is required to ensure the assumptions of the safety analysis are satisfied.

I

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.10.5.1, SR 3.10.5.2, SR 3.10.5.3, SR 3.10.5.4,
and SR 3.10.5.5 (continued)

Periodic verification of the administrative controls established by this Special Operations LCO is prudent to preclude the possibility of an inadvertent criticality. The 24 hour Frequency is acceptable, given the administrative controls on control rod removal and hardware interlock to block an additional control rod withdrawal.

REFERENCES

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

DISCUSSION OF CHANGES
ITS: 3.10.6 - MULTIPLE CONTROL ROD WITHDRAWAL - REFUELING

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 ITS 3.10.6 ACTION A has been added to CTS 3.10.A.5, 3.10.A.6, 3.10.A.7 to 1) suspend withdrawal/removal of the control rod and removal of the CRD, 2) suspend loading of fuel assemblies, and 3) initiate action to insert all control rods in core cells containing fuel, or to satisfy the requirements of the LCO. The CTS implies these actions (the control rods and CRDs can only be removed if the LCO requirements are met); therefore, this change is considered administrative.
- A3 CTS 3.10.A.5.d requires fuel on-loading operations to be suspended until CTS 3.10.A.2 is satisfied. The requirement of CTS 3.10.A.2 is that fuel loading can commence if all control rods are fully inserted except as permitted by CTS 3.10.A.7. CTS 3.10.A.7 specifies the requirements of a spiral on-load. These cross references are not included in ITS 3.10.6 since the requirements of CTS 3.10.A.7 (spiral on-loading) have been incorporated directly in ITS 3.10.6.c and the refueling requirement of CTS 3.10.A.2 (fuel loading can commence if all control rods are fully inserted) is incorporated into ITS 3.9.3. Since there are no technical changes, this change is considered administrative and is consistent with NUREG-1433, Revision 1.
- A4 CTS 3.10.A.5 imposes requirements for multiple control rod withdrawal and removal during refueling. CTS 3.10.A.5.b requires the fuel assemblies situated in the control cell of the control rod to be withdrawn to be removed. This implies all other control rods are inserted since they would not be allowed to be withdrawn if operating under this LCO (CTS 3.10.A.5). For clarity, ITS 3.10.6.b includes an explicit requirement that all other control rods in core cells containing one or more fuel assemblies be fully inserted. This change is considered administrative since no technical changes are imposed by this specification. This change is consistent with NUREG-1433, Revision 1. (E)
- A5 CTS 4.10.A.2 requires the verification that the control cell contains no fuel before the corresponding control rod is withdrawn whenever the reactor mode switch is in the refuel position and refueling interlocks are bypassed. This allowance is included in ITS 3.10.6.a. ITS 3.10.6.a

3.10 SPECIAL OPERATIONS

3.10.7 Control Rod Testing—Operating

LCO 3.10.7

The requirements of LCO 3.1.6, "Rod Pattern Control," may be suspended to allow performance of SDM ~~demonstrations~~ control rod scram time testing, control rod friction testing, ~~and the Startup Test Program~~ provided:

- a. The banked position withdrawal sequence requirements of SR 3.3.2.1.8 are changed to require the control rod sequence to conform to the specified test sequence.

OR

- b. The RWM is bypassed; the requirements of LCO 3.3.2.1, "Control Rod Block Instrumentation," Function 2 are suspended; and conformance to the approved control rod sequence for the specified test is verified by a second licensed operator or other qualified member of the technical staff.

APPLICABILITY: MODES 1 and 2 with LCO 3.1.6 not met.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Requirements of the LCO not met.	A.1 Suspend performance of the test and exception to LCO 3.1.6.	Immediately

[L1]

[L1]

[L1]

and PAZ

PA1 testing

PAZ

I

BWR/4/STS
JAFNIP

Rev Y, 04/07/95
Amendment No.
Revision I
Typ All Pages

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.10.7.1 -----NOTE----- Not required to be met if SR 3.10.7.2 satisfied.</p> <p>[LI] Verify movement of control rods is in compliance with the approved control rod sequence for the specified test by a second licensed operator or other qualified member of the technical staff.</p>	<p>During control rod movement</p> <p style="text-align: right;">[A]</p>
<p>SR 3.10.7.2 -----NOTE----- Not required to be met if SR 3.10.7.1 satisfied.</p> <p>[LI] Verify control rod sequence input to the RWM is in conformance with the approved control rod sequence for the specified test.</p>	<p>Prior to control rod movement</p>

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.10.7 - CONTROL ROD TESTING-OPERATING

RETENTION OF EXISTING REQUIREMENT (CLB)

None

11

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

PA1 The Specification has been changed to reflect JAFNPP specific nomenclature.

PA2 The Startup Test Program has been completed at JAFNPP; therefore, the reference to this program is not needed.

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

BASES

APPLICABLE SAFETY ANALYSES
(continued)

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

As described in LCO 3.0.7, compliance with Special Operations LCOs is optional, and therefore, no criteria of ~~the NRC Policy Statement~~ apply. Special Operations LCOs provide flexibility to perform certain operations by appropriately modifying requirements of other LCOs. A discussion of the criteria satisfied for the other LCOs is provided in their respective Bases.

XI

LCO

As described in LCO 3.0.7, compliance with this Special Operations LCO is optional. Control rod testing may be performed in compliance with the prescribed sequences of LCO 3.1.6, and during these tests, no exceptions to the requirements of LCO 3.1.6 are necessary. For testing performed with a sequence not in compliance with LCO 3.1.6, the requirements of LCO 3.1.6 may be suspended, provided additional administrative controls are placed on the test to ensure that the assumptions of the special safety analysis for the test sequence are satisfied. Assurances that the test sequence is followed can be provided by either programming the test sequence into the RWM, with conformance verified as specified in SR 3.3.2.1.8 and allowing the RWM to monitor control rod withdrawal and provide appropriate control rod blocks if necessary, or by verifying conformance to the approved test sequence by a second licensed operator or other qualified member of the technical staff. These controls are consistent with those normally applied to operation in the startup range as defined in the SRs and ACTIONS of LCO 3.3.2.1, "Control Rod Block Instrumentation."

I
CLBS
(Reactor Operator or Senior Operator)
(i.e., reactor engineer)
DB2
CLBS

10% RTP

APPLICABILITY

Control rod testing, while in MODES 1 and 2, with THERMAL POWER greater than ~~the LPSR of the RWM~~, is adequately controlled by the existing LCOs on power distribution limits and control rod block instrumentation. Control rod movement during these conditions is not restricted to prescribed sequences and can be performed within the constraints of LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," LCO 3.2.3, "LINEAR HEAT GENERATION RATE (LHGR)," and LCO 3.3.2.1. With THERMAL POWER less than or equal to ~~the LPSR of the RWM~~, the provisions of this Special Operations LCO are necessary to perform special tests that are not in conformance with the prescribed sequences of LCO 3.1.6.

10% RTP
DB2

(continued)

Revision I

BASES

APPLICABILITY
(continued)

While in MODES 3 and 4, control rod withdrawal is only allowed if performed in accordance with Special Operations LCO 3.10.3, "Single Control Rod Withdrawal—Hot Shutdown," or Special Operations LCO 3.10.4, "Single Control Rod Withdrawal—Cold Shutdown," which provide adequate controls to ensure that the assumptions of the safety analyses of Reference 1 and 2 are satisfied. During these Special Operations and while in MODE 5, the one-rod-out interlock (LCO 3.9.2, "Refuel Position One-Rod-Out Interlock,") and scram functions (LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," and LCO 3.9.5, "Control Rod OPERABILITY—Refueling"), or the added administrative controls prescribed in the applicable Special Operations LCOs, provide mitigation of potential reactive excursions.

PA 3

17

ACTIONS

A.1

PA 3
or

With the requirements of the LCO not met (e.g., the control rod pattern is not in compliance with the special test sequence, the sequence is improperly loaded in the RWM) the testing is required to be immediately suspended. Upon suspension of the special test, the provisions of LCO 3.1.6 are no longer excepted, and appropriate actions are to be taken to restore the control rod sequence to the prescribed sequence of LCO 3.1.6, or to shut down the reactor, if required by LCO 3.1.6.

SURVEILLANCE
REQUIREMENTS

SR 3.10.7.1

(Reactor Operator or Senior Operator)

(i.e., reactor engineer)

CLA 1

With the special test sequence not programmed into the RWM, a second licensed operator or other qualified member of the technical staff is required to verify conformance with the approved sequence for the test. (Note: A member of the technical staff is considered to be qualified if he possesses skills equal to a licensed operator [in the following areas:]). This verification must be performed during control rod movement to prevent deviations from the specified sequence. A Note is added to indicate that this Surveillance does not need to be performed if SR 3.10.7.2 is satisfied.

A

PA 4

met PA 5

(continued)

3.10 SPECIAL OPERATIONS

3.10.7 Control Rod Testing-Operating

LCO 3.10.7 The requirements of LCO 3.1.6, "Rod Pattern Control," may be suspended to allow performance of SDM testing, control rod scram time testing, and control rod friction testing, provided:

- a. The banked position withdrawal sequence requirements of SR 3.3.2.1.8 are changed to require the control rod sequence to conform to the specified test sequence.

OR

- b. The RWM is bypassed; the requirements of LCO 3.3.2.1, "Control Rod Block Instrumentation," Function 2 are suspended; and conformance to the approved control rod sequence for the specified test is verified by a second licensed operator or other qualified member of the technical staff.

IA

APPLICABILITY: MODES 1 and 2 with LCO 3.1.6 not met.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Requirements of the LCO not met.	A.1 Suspend performance of the test and exception to LCO 3.1.6.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.10.7.1 -----NOTE----- Not required to be met if SR 3.10.7.2 satisfied. -----</p> <p>Verify movement of control rods is in compliance with the approved control rod sequence for the specified test by a second licensed operator or other qualified member of the technical staff.</p>	<p>During control rod movement</p>
<p>SR 3.10.7.2 -----NOTE----- Not required to be met if SR 3.10.7.1 satisfied. -----</p> <p>Verify control rod sequence input to the RWM is in conformance with the approved control rod sequence for the specified test.</p>	<p>Prior to control rod movement</p>

(I)

BASES

APPLICABLE
SAFETY ANALYSES
(continued)

As described in LCO 3.0.7, compliance with Special Operations LCOs is optional, and therefore, no criteria of 10 CFR 50.36(c)(2)(ii) (Ref. 3) apply. Special Operations LCOs provide flexibility to perform certain operations by appropriately modifying requirements of other LCOs. A discussion of the criteria satisfied for the other LCOs is provided in their respective Bases.

LCO

As described in LCO 3.0.7, compliance with this Special Operations LCO is optional. Control rod testing may be performed in compliance with the prescribed sequences of LCO 3.1.6, and during these tests, no exceptions to the requirements of LCO 3.1.6 are necessary. For testing performed with a sequence not in compliance with LCO 3.1.6, the requirements of LCO 3.1.6 may be suspended, provided additional administrative controls are placed on the test to ensure that the assumptions of the special safety analysis for the test sequence are satisfied. Assurances that the test sequence is followed can be provided by either programming the test sequence into the RWM, with conformance verified as specified in SR 3.3.2.1.8 and allowing the RWM to monitor control rod withdrawal and provide appropriate control rod blocks if necessary, or by verifying conformance to the approved test sequence by a second licensed operator (Reactor Operator or Senior Operator) or other qualified member of the technical staff (i.e., a reactor engineer). These controls are consistent with those normally applied to operation in the startup range as defined in the SRs and ACTIONS of LCO 3.3.2.1, "Control Rod Block Instrumentation."

(A)

APPLICABILITY

Control rod testing, while in MODES 1 and 2, with THERMAL POWER greater than 10% RTP, is adequately controlled by the existing LCOs on power distribution limits and control rod block instrumentation. Control rod movement during these conditions is not restricted to prescribed sequences and can be performed within the constraints of LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)", LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)", LCO 3.2.3, "LINEAR HEAT GENERATION RATE (LHGR)", and LCO 3.3.2.1. With THERMAL POWER less than or equal to 10% RTP, the provisions of this Special Operations LCO are necessary to perform special

(continued)

BASES

APPLICABILITY
(continued)

tests that are not in conformance with the prescribed sequences of LCO 3.1.6.

While in MODES 3 and 4, control rod withdrawal is only allowed if performed in accordance with Special Operations LCO 3.10.3, "Single Control Rod Withdrawal—Hot Shutdown," or Special Operations LCO 3.10.4, "Single Control Rod Withdrawal—Cold Shutdown," which provide adequate controls to ensure that the assumptions of the safety analyses of Reference 1 and 2 are satisfied. During these Special Operations and while in MODE 5, the one-rod-out interlock (LCO 3.9.2, "Refuel Position One-Rod-Out Interlock,") and scram functions (LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," and LCO 3.9.5, "Control Rod OPERABILITY—Refueling"), or the added administrative controls prescribed in the applicable Special Operations LCOs, provide mitigation of potential reactivity excursions.

ACTIONS

A.1

With the requirements of the LCO not met (e.g., the control rod pattern is not in compliance with the special test sequence or the sequence is improperly loaded in the RWM) the testing is required to be immediately suspended. Upon suspension of the special test, the provisions of LCO 3.1.6 are no longer excepted, and appropriate actions are to be taken to restore the control rod sequence to the prescribed sequence of LCO 3.1.6, or to shut down the reactor, if required by LCO 3.1.6.

SURVEILLANCE
REQUIREMENTS

SR 3.10.7.1

With the special test sequence not programmed into the RWM, a second licensed operator (Reactor Operator or Senior Operator) or other qualified member of the technical staff (i.e., reactor engineer) is required to verify conformance with the approved sequence for the test. This verification must be performed during control rod movement to prevent deviations from the specified sequence. A Note is added to indicate that this Surveillance does not need to be met if SR 3.10.7.2 is satisfied.

△

(continued)

AI

JAFNPP

3.5 (cont'd)

4.5 (cont'd)

- 2. Should one RHRSW pump of the components required in 3.5.B.1 above be made or found inoperable, continued reactor operation is permissible only during the succeeding 30 days provided that during such 30 days all remaining components of the containment cooling mode subsystems are operable.
- 3. Should one of the containment cooling subsystems become inoperable or should one RHRSW pump in each subsystem become inoperable, continued reactor operation is permissible for a period not to exceed 7 days.*
- 4. If the requirements of 3.5.B.2 or 3.5.B.3 cannot be met, the reactor shall be placed in a cold condition within 24 hr.
- 5. ~~Low power physics testing and reactor operator training shall be permitted with reactor coolant temperature $\leq 212^{\circ}\text{F}$~~ with an inoperable component(s) as specified in 3.5.B above.

M3
Shut Down Margin

[Co 3.10.8]
A2
Applicability

Amendment No. 3, 95, 148, 151, 153, 171, 203, 241, 259, 271

Item	Frequency
e. a verification that each valve (manual, power operated, or automatic) in the flowpath that is not locked, sealed or otherwise secured in position, is in the correct position.	Once per 31 Days
f. an air test shall be performed on the containment spray headers and nozzles.	Once per 5 Years

- 2. When it is determined that one RHRSW pump of the components required in 3.5.B.1 above is inoperable, the remaining components of the containment cooling mode subsystems shall be verified to be operable immediately and daily thereafter.
- 3. When one containment cooling subsystem becomes inoperable, the redundant containment cooling subsystem shall be verified to be operable immediately and daily thereafter. When one RHRSW pump in each subsystem becomes inoperable, the remaining components of the containment cooling subsystems shall be verified to be operable immediately and daily thereafter.

* During the installation of modification 00-125 to the "B" RHRSW strainer, continued reactor operation is permissible for a period not to exceed 11 days.

M1

MODE 5 with the reactor mode switch in startup/hot standby position

LI

See ITS: 3.6.1.9,
3.6.2.3,
3.7.1

1220 am
5/5

SUMMARY OF CHANGES TO ITS CHAPTER 5.0 - REVISION I

Source of Change	Summary of Change	Affected Pages
Typographical errors	Minor typographical errors in the Discussion of Changes have been corrected. (DOC A4, "(A3)" changed to "(A2)"; and DOC M1, "ITS 5.2.2.c and ITS 5.2.2.d" changed to "ITS 5.2.2.b and ITS 5.2.2.c.")	<u>Specification 5.2</u> DOCs A4 and M1 (DOCs p 2 of 5 and 3 of 5)
Editorial correction	The term "onsite diesel generators" has been changed to "emergency diesel generators" to be consistent with plant terminology and ITS 3.8.1 terminology.	<u>Specification 5.5</u> NUREG markup p Insert page 5.0-16 Retyped ITS p 5.0-18
Editorial change	The CTS included the MSIV leakage limit in both the Containment Section and in the Primary Containment Leakage Rate Testing Program. In the JAFNPP ITS submittal, the limit was only maintained in the Program. However, the NUREG includes the limit in the MSIV Specification, not the Program. Therefore, for consistency with the NUREG, the MSIV leakage limit has been added to the MSIV leakage limit SR and deleted from the Primary Containment Leakage Rate Testing Program. (Note - This item is also described in the Section 3.6 Summary)	<u>Specification 3.6.1.3</u> CTS markup p 1 of 10 through 10 of 10 DOC A6 (DOCs p 2 of 14) NUREG ITS markup p 3.6-17 JFD CLB10 (JFDs p 2 of 5) NUREG Bases markup B 3.6-31 Retyped ITS p 3.6-14 Retyped ITS Bases B 3.6-27 <u>Specification 5.5</u> CTS markup p 8 of 22 NUREG ITS markup p Insert page 5.0-10-2 Retyped ITS p 5.0-11
Technical change	The proper ASTM Standard for performing the particulate concentration test has been included in the ITS. Specifically, the old standard "ASTM D 5452-1998" has been replaced with "ASTM D6217-1998." In addition, the actual ASTM standard has been deleted from the Fuel Oil Testing Program since it is included in the Bases of ITS 3.8.3. Also, the Bases of SR 3.8.3.3 has been modified to be consistent with the Program exception concerning filter size. (Note - This item is also described in the Section 3.8 Summary)	<u>Specification 3.8.3</u> NUREG Bases markup p B 3.8-47 and Insert page B 3.8-49 Bases JFD DB3 (Bases JFDs p 1 of 2) Retyped ITS Bases p B 3.8-41 and B 3.8-43 <u>Specification 5.5</u> NUREG ITS markup p 5.0-15 and Insert page 5.0-15 JFD X7 (JFDs p 5 of 5) Retyped ITS p 5.0-17

SUMMARY OF CHANGES TO ITS CHAPTER 5.0 - REVISION I

Source of Change	Summary of Change	Affected Pages
Typographical error	Minor typographical error in the Configuration Risk Management Program has been corrected. (The term "LCO Action Statement" changed to "LCO Conditions(s)", consistent with the terminology in other parts of this Specification.	<u>Specification 5.5</u> NUREG ITS markup p Insert page 5.0-17 Retyped ITS p 5.0-19
Amendment 243	This amendment affects a record retention requirement that was deleted (CTS 6.10.B.13), which is on a CTS mark-up page used by these Specifications. However, the Amendment does not affect these Specifications.	<u>Specification 5.5</u> CTS markup p 9 of 22 <u>Specification 5.7</u> CTS markup p 1 of 2
Amendment 267	This amendment affects a new Special Operations LCO requirement (CTS 3.0.G), which is on a CTS mark-up page used by this Specification. However, the Amendment does not affect this Specification.	<u>Specification 5.5</u> CTS markup p 13 of 22
Technical change	In the last revision to this section (Revision H), the annual report of safety/relief valve failures was deleted, consistent with TSTF-258, revision 4. However, the CTS markup was not annotated with this change, nor was a Discussion of Change (DOC) or No Significant Hazards Consideration (NSHC) provided. This change provides the proper CTS markup change, DOC, and NSHC.	<u>Specification 5.6</u> CTS markup p 2 of 9 DOCs M3 (deleted) and L4 (DOCs p 3 of 5 and 5 of 5) NSHC L4 (NSHCs p 4 of 4)
Amendment 243	This amendment affects a record retention requirement that was deleted (CTS 6.10.B.13). However, the entire Specification is being relocated, thus the Amendment does not affect the ITS.	<u>Current Specification 6.0</u> CTS markup p 12 of 22
Amendment 268	This amendment changed the title of the owner of JAFNPP from "The Authority" to "Entergy Nuclear Operations, Inc." However, the entire Specification is being relocated, thus the Amendment does not affect the ITS.	<u>Current Specification 6.0</u> CTS markup p 17 of 22
Amendment 270	This amendment affects the Plant Staff Qualifications requirement (CTS 6.3.1), which is on a CTS mark-up page used by this Specification. However, the Amendment does not affect this Specification.	<u>Current Specification 6.0</u> CTS markup p 1 of 22
Amendment 268	This amendment changed the title of the owner of JAFNPP from "New York Power Authority" to "Entergy Nuclear Fitzpatrick LLC" in the Figure of the Site Boundary. However, the entire Figure is being relocated, thus the Amendment does not affect the ITS.	<u>RETS Specification 5.0</u> CTS markup p 3 of 4

DISCUSSION OF CHANGES
ITS: 5.2 - ORGANIZATION

ADMINISTRATIVE CHANGES

- A4 CTS 6.2.1.2, statement that the Site Executive Officer is responsible for overall plant operation, is revised. ITS 5.2.1.b states that the plant manager (A2) shall be responsible for overall safe operation of the plant. The responsibility of the plant manager for the safe operation of the plant, as identified in CTS 6.1 (see ITS 5.1 Discussion Of Changes) is retained in ITS 5.2 Onsite and Offsite Organizations (ITS 5.2.1.b). This change, does not reduce or eliminate any plant manager responsibilities, is a presentation preference consistent with NUREG-1433, Revision 1, and is considered administrative. This change has no impact on safety. ①
- A5 CTS Table 6.2-1, notation that the STA be on site, and which permits the STA position to be combined with one of the SRO positions, provided the individual meets the dual role SRO/STA qualification requirements in accordance with CTS 6.3.2 are deleted. These issues are adequately addressed in the "Commission Policy Statement on Engineering Expertise on Shift," published in the October 28, 1985 Federal Register (50 FR 43621), and need not be retained in the ITS. This change, does not modify any technical requirements, is consistent with NUREG 1433, Revision 1, is considered administrative, and has no adverse impact on safety.
- A6 CTS 6.2.2.2 requires an SRO or an SRO with a license limited to fuel handling to directly supervise all CORE ALTERATIONS. This requirement is adequately addressed in 10 CFR 50.54(m)(2)(iv), and need not be repeated in the ITS. Since this change does not modify any technical requirements, it is administrative and has no adverse impact on safety.
- A7 CTS 6.2.2.5 requires that the Shift Manager and Control Room Supervisor hold an SRO license; and that the Senior Nuclear Operator and the Nuclear Control Operator hold an SRO or an RO license. Operator licensing requirements for these positions are adequately addressed in 10 CFR 50.54(1) and 10 CFR 55.2, and need not be repeated in the ITS. Since this change does not modify any technical requirements, it is administrative and has no adverse impact on safety.
- A8 CTS 6.3.2 is revised (ITS 5.5.2.f) to clarify that the STA provide advisory technical support to the shift supervisor in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the plant. This clarification is consistent with the guidance provided in NUREG-0737, the Commission Policy Statement on Engineering Expertise on Shift, and NRC Information Notice 93-81, to provide engineering and accident assessment expertise on shift. Since this change does not modify any technical requirements, it is administrative and has no adverse impact on safety.

DISCUSSION OF CHANGES
ITS: 5.2 - ORGANIZATION

ADMINISTRATIVE CHANGES

- A9 CTS 6.3.2 requires that the STA meet the requirements of either Option 1 (combined SRO/STA position) or Option 2 (continued use of STA position); and that, when invoking Option 1, the STA role may be filled by the Shift Manager or the Control Room Supervisor. These details are adequately addressed in the "Commission Policy Statement on Engineering Expertise on Shift," and need not be repeated in the ITS. Since this change does not modify any technical requirements, it is administrative and has no adverse impact on safety.
- A10 CTS 6.3.3 requires that any qualification deviations (CTS 6.3.1 and 6.3.2) will be justified to the NRC prior to an individual's filling of one of the identified positions. This requirement is adequately addressed in the federal regulations (e.g., 10 CFR 50.54, 10 CFR 50.120) and need not be repeated in the ITS. Since this change does not modify any technical requirements, it is administrative and has no adverse impact on safety.

TECHNICAL CHANGES - MORE RESTRICTIVE

- M1 CTS 6.2.2.4 allows up to 2 hours to restore the shift crew to the minimum complement in the event of illness or unexpected absence. ITS 5.2.2.b and 5.2.2.c require the same actions provided, however, that immediate action is taken to restore the shift crew composition to within the minimum requirements. This change, by imposing additional requirements in order to maintain the same flexibility, is therefore more restrictive and has no adverse impact on safety. (A)

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

- LA1 Details of CTS Table 6.2-1 Note "***" requires that both licensed ROs on shift be in the control room during plant startup or planned shutdown. These details are not retained in the ITS and are relocated to the UFSAR.

The details associated with the involved Specification are not required to be in the ITS to provide adequate protection of the public health and safety because minimum shift staffing requirements are addressed in 10 CFR 50.54(m), and this requirement is a plant specific enhancement. This approach provides an effective level of regulatory control and

(A1)

JAFNPP

This program provides control that

[5.5.3] 5.19 POSTACCIDENT SAMPLING PROGRAM

A program shall be established, implemented and maintained which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

- A) Training of personnel,
- B) Procedures for sampling and analysis,
- C) Provisions for maintenance of sampling and analysis

[5.5.6] 5.20 PRIMARY CONTAINMENT LEAKAGE RATE TESTING PROGRAM

This program

A program shall be established to implement the leakage rate testing of the Primary Containment as required by 10 CFR 50.54 (e) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program", dated September 1995, as modified by the exception that Type C testing of valves not isolable from the containment free air space may be accomplished by pressurization in the reverse direction provided that testing in this manner provides equivalent or more conservative results than testing in the accident direction. If potential atmospheric leakage paths (e.g., valve stem packing) are not subjected to test pressure, the portions of the valve not exposed to test pressure shall be subjected to leakage rate measurement during regularly scheduled Type A testing. A list of these valves, the leakage rate measurement method, and the acceptance criteria, shall be contained in the Program.

- (a) The peak Primary Containment internal pressure for the design basis loss of coolant accident (P_p), is 45 psig.
- (b) The maximum allowable Primary Containment leakage rate (L_p), at P_p , shall be 1.5% of primary containment air weight per day.
- (c) The leakage rate acceptance criteria are:
 1. Primary containment leakage rate acceptance criteria is $\leq 1.0 L_p$. During unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.80 L_p$ for the Type B and Type C tests and $\leq 0.75 L_p$ for the Type A tests;
 2. Airlock testing acceptance criteria are:
 - a. Overall airlock leakage rate is $\leq 0.05 L_p$ when tested at $\geq P_p$.
 - b. For each door seal, leakage rate is ≤ 120 scfd when tested at $\geq P_p$.
 3. MSIV leakage rate acceptance criteria is ≤ 11.5 scfm for each MSIV when tested at ≥ 25 psig.
- (d) The provisions of Specification 4.0.B do not apply to the test frequencies specified in the Primary Containment Leakage Rate Testing Program.
- (e) The provisions of Specification 4.0.C are applicable to the Primary Containment Leakage Rate Testing Program.

see ITS 3.6.3

A5

I

SR 3.0.3

A6

add ITS 3.5.4 Radioactive Effluent Controls Program

Amendment No. 320, 324, 261

258e

A5

e. Nothing in these Technical Specifications shall be construed to modify the testing frequencies required by 10 CFR 50, Appendix J.

Component Cycle or
Transient Limits

JAFNPP

(A)

See CTS: Chapter 6.0

(B) The following records shall be retained for the duration of the Facility Operating License:

1. Records of any drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.
2. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
3. Records of facility radiation and contamination surveys.
4. Records of radiation exposure for all individuals entering radiation control areas.
5. Records of gaseous and liquid radioactive material released to the environs.

[5/5.5]

6. ~~Records of transient or operational cycles for those facility components identified in Table~~

This program provides controls to track

6.10-1 INSERT 255-1

7. Records of training and qualification for current members of the plant staff.
8. Records of in-service inspections performed pursuant to these Technical Specifications.
9. Records of Quality Assurance activities required by the Quality Assurance Manual.
10. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
11. Records of meetings of the PORC and the SRC.
12. Records for Environmental Qualification which are covered under the provisions of paragraph 6.15.
13. DELETED

See CTS: Chapter 6.0

6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared and adhered to for all plant operations. These procedures shall be formulated to maintain radiation exposures received during operation and maintenance as far below the limits specified in 10 CFR 20 as practicable. The procedures shall include planning, preparation, and training for operation and maintenance activities. They shall also include exposure allocation, radiation and contamination control techniques, and final debriefing.

See ITS: Section 5.7

A1

CRS Amend 267

3.0 Continued

G. Special Operations LCOs in Section 3.12 allow specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with the Special Operations LCOs is optional. When a Special Operations LCO is desired to be met but is not met, the ACTIONS of the Special Operations LCO shall be met. When a Special Operations LCO is not desired to be met, entry into an OPERATIONAL CONDITION (mode) or other specified condition shall only be made in accordance with the other applicable specifications.

See ITS: 3.0

4.0 Continued

Testing frequencies

are as follows:

[S.5.7.a] 2.

~~Surveillance intervals~~ specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice testing activities required by the Code and applicable Addenda shall be applicable as defined in Technical Specification 1.0.T.

A7

above required

[S.5.7.b] 3.

The provisions of ~~Specification 4.0.B~~ are applicable to the frequencies specified in Technical Specification 1.0.T for performing inservice testing activities.

SR 3.0.2

[S.5.7.c] 4.

Performance of the above inservice testing activities shall be in addition to other specified Surveillance Requirements.

A7

[S.5.7.d] 5.

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

The provisions of SR 3.0.3 are applicable to inservice testing activities

L4

Insert 5.5.6-1 (continued)

2. Air lock testing acceptance criteria are:
 - (a) Overall air lock leakage rate is $\leq 0.05 L_a$ when tested at $\geq P_a$; and
 - (b) For each door seal, leakage rate is ≤ 120 scfd when tested at $\geq P_a$.
- d. The provisions of SR 3.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.
- e. Nothing in these Technical Specifications shall be construed to modify the testing Frequencies required by 10 CFR 50, Appendix J.

I

5.5 Programs and Manuals (continued)

[Doc M3] 5.5.10

Diesel Fuel Oil Testing Program

~~A diesel fuel oil testing program to implement required testing of both new fuel oil and stored fuel oil shall be established.~~ The program shall include sampling and testing requirements, and acceptance criteria, all in accordance with applicable ASTM Standards. The purpose of the program is to establish the following:

a. Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has:

- 1. an API gravity or an absolute specific gravity within limits,
- 2. a flash point and kinematic viscosity within limits for ASTM 2D fuel oil, and
- 3. a clear and bright appearance with proper color;

PA1

PA1

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

TA1

INSERT 5.5.10-1

X7 Standard

INSERT 5.5.10-2

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

the applicable

of the new fuel oil

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

[Doc M4] 5.5.11

Technical Specifications (TS) Bases Control Program

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

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

TA9

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

require

PAB

UFSAR

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

PA1

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

requires NRC approval pursuant to

TA9

(continued)

Insert 5.5.10-1

TAI

verify that the properties of the new fuel oil, other than those addressed in a., above, are within limits for ASTM 2D fuel oil

Insert 5.5.10-2

X7

except that the specified filters may be replaced with filters up to 3.0 microns

I

Insert 5.5.12-1

TAG

no concurrent loss of offsite power or no concurrent loss of emergency
diesel generator subsystems

PAG

PAG

I

Insert 5.5.12-2

TAG

When a loss of safety function is caused by the inoperability of a single Technical Specification support system, the appropriate Conditions and Required Actions to enter are those of the support system.

Insert 5.5.13

CLB6

CONFIGURATION RISK MANAGEMENT PROGRAM (CRMP)

The CRMP provides a proceduralized risk-informed assessment to manage the risk associated with equipment inoperability. The program applies to technical specification structures, systems, or components for which a risk-informed allowed outage time has been granted. The program is to include the following:

- a. Provisions for the control and implementation of a level 1 at-power internal events PRA-informed methodology. The assessment is to be capable of evaluating the applicable plant configuration.
- b. Provisions for performing an assessment prior to entering the plant configuration described by the Limiting Condition for Operation (LCO) Condition(s) for preplanned activities.
- c. Provisions for performing an assessment after entering the plant configuration described by the LCO Condition(s) for unplanned entry into the LCO Condition(s). 12
- d. Provisions for assessing the need for additional actions after the discovery of additional equipment-out-of-service conditions while in the plant configuration described by the LCO Condition(s).
- e. Provisions for considering other applicable risk-significant contributors such as Level 2 issues and external events, qualitatively or quantitatively.

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 5.5 - PROGRAMS AND MANUALS

DIFFERENCE FOR OTHER REASONS THAN ABOVE (X)

- X1 Not Used.
- X2 ITS 5.5.2 includes a statement of applicability (L5) of ITS SR 3.0.2 and SR 3.0.3 to clarify that the allowances for the 24 month Surveillance Frequency extensions do apply, since these SRs are not normally applied to Frequencies identified in Administrative Controls chapters of the Technical Specifications. This change is a clarification needed to maintain provisions that would be allowed in the LCO sections of the Technical Specifications, is consistent with TSTF-299, Revision 0 (JFD TA12), and is consistent with statements provided in other programs.
- X3 The bracketed "Reviewer's Note" has been deleted. This information is for the NRC reviewer to understand exactly what is needed to meet this requirement. This is not meant to be retained in the final version of the plant specific information.
- X4 ITS 5.5.8.d references to Regulatory Guide 1.52, Revision 2, and ASME N510-1989 are deleted, since no actual reference for pressure drop testing exists in the documents.
- X5 Not Used.
- X6 The bracketed values for penetration and system bypass have been incorporated into ITS 5.5.8 consistent with the current requirements in CTS 4.7.B.1.c and 4.11.A.1.c as modified by M2.
- X7 ITS 5.5.10.c (M3) is revised to reflect the current JAFNPP fuel oil particulate concentration testing standard ASTM D6217-1998, except that in place of the specified filter in the ASTM, filters up to 3.0 microns may be used. The ASTM standard was originally intended for test of aircraft fuel rather than diesel fuel and the Emergency Diesel Generator (EDG) engine mounted filters for the engine and motor driven fuel pumps are 10 micron filters. Performing the fuel particulate test using a 3 micron filter is conservative and therefore acceptable. Additionally, consistent with 5.5.10, the actual ASTM Standard is not included in 5.5.10.c, but a generic statement that the test is performed "in accordance with the applicable ASTM Standard" is used. The actual ASTM Standard (D6217-1998) is identified in the Bases for SR 3.8.3.3, similar to all the other applicable fuel oil testing standards. This is consistent with the CTS, which does not identify the actual ASTM Standard. | I
- X8 ITS 5.5.9.b is revised by discussing the radioactivity contained in unprotected outside liquid storage tanks in terms of the limits associated with uncontrolled release of the contents. The changes makes the phrases and words consistent with those contained in ITS 5.5.4.b (as modified by TSTF-258, R4) | I

5.5 Programs and Manuals (continued)

5.5.6 Primary Containment Leakage Rate Testing Program

This program implements the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995, as modified by the following exception:

Type C testing of valves not isolable from the containment free air space may be accomplished by pressurization in the reverse direction, provided that testing in this manner provides equivalent or more conservative results than testing in the accident direction. If potential atmospheric leakage paths (e.g., valve stem packing) are not subjected to test pressure, the portions of the valve not exposed to test pressure shall be subjected to leakage rate measurement during regularly scheduled Type A testing. A list of these valves, the leakage rate measurement method, and the acceptance criteria, shall be contained in the Program.

- a. The peak primary containment internal pressure for the design basis loss of coolant accident, P_a , is 45 psig.
- b. The maximum allowable primary containment leakage rate, L_a , at P_a , shall be 1.5% of containment air weight per day.
- c. The leakage rate acceptance criteria are:
 1. Primary containment leakage rate acceptance criteria is $\leq 1.0 L_a$. During plant startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60 L_a$ for the Type B and Type C tests, and $\leq 0.75 L_a$ for the Type A tests.
 2. Air lock testing acceptance criteria are:
 - (a) Overall air lock leakage rate is $\leq 0.05 L_a$ when tested at $\geq P_a$; and
 - (b) For each door seal, leakage rate is ≤ 120 scfd when tested at $\geq P_a$.

1A

(continued)

5.5 Programs and Manuals

5.5.10 Diesel Fuel Oil Testing Program (continued)

applicable ASTM Standards. The purpose of the program is to establish the following:

- a. Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has:
 1. An API gravity or an absolute specific gravity within limits,
 2. A flash point and kinematic viscosity within limits for ASTM 2D fuel oil, and
 3. A clear and bright appearance with proper color.
- b. Within 31 days following addition of the new fuel oil to storage tanks verify that the properties of the new fuel oil, other than those addressed in a., above, are within limits for ASTM 2D fuel oil; and
- c. Total particulate concentration of the fuel oil is ≤ 10 mg/l when tested every 31 days in accordance with the applicable ASTM Standard, except that the specified filters may be replaced with filters up to 3.0 microns.

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

5.5.11 Technical Specifications (TS) Bases Control Program

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

- a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.
- b. Licensees may make changes to Bases without prior NRC approval provided the changes do not require either of the following:
 1. A change in the TS incorporated in the license; or
 2. A change to the UFSAR or Bases that requires NRC approval pursuant to 10 CFR 50.59.

(continued)

5.5 Programs and Manuals

5.5.11 Technical Specifications (TS) Bases Control Program (continued)

- c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the UFSAR.
- d. Proposed changes that meet the criteria of Specification 5.5.11b above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).

5.5.12 Safety Function Determination Program (SFDP)

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

- a. The SFDP shall contain the following:
 - 1. Provisions for cross division checks to ensure a loss of the capability to perform the safety function assumed in the accident analysis does not go undetected;
 - 2. Provisions for ensuring the plant is maintained in a safe condition if a loss of function condition exists;
 - 3. Provisions to ensure that an inoperable supported system's Completion Time is not inappropriately extended as a result of multiple support system inoperabilities; and
 - 4. Other appropriate limitations and remedial or compensatory actions.
- b. A loss of safety function exists when, assuming no concurrent single failure, no concurrent loss of offsite power or no concurrent loss of emergency diesel generator subsystems, a safety function assumed in the accident analysis cannot be performed. For the purpose of this program, a loss of safety function may exist when a support system is inoperable, and:

(I)

(continued)

5.5 Programs and Manuals

5.5.12 Safety Function Determination Program (SFDP) (continued)

1. A required system redundant to system(s) supported by the inoperable support system is also inoperable; or
2. A required system redundant to system(s) in turn supported by the inoperable supported system is also inoperable; or
3. A required system redundant to support system(s) for the supported systems (1) and (2) above is also inoperable.

The SFDP identifies where a loss of safety function exists. If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered. When a loss of safety function is caused by the inoperability of a single Technical Specification support system, the appropriate Conditions and Required Actions to enter are those of the supported system.

5.5.13 CONFIGURATION RISK MANAGEMENT PROGRAM (CRMP)

The CRMP provides a proceduralized risk-informed assessment to manage the risk associated with equipment inoperability. The program applies to technical specification structures, systems, or components for which a risk-informed allowed outage time has been granted. The program is to include the following:

- a. Provisions for the control and implementation of a Level 1 at-power internal events PRA-informed methodology. The assessment is to be capable of evaluating the applicable plant configuration.
 - b. Provisions for performing an assessment prior to entering the plant configuration described by the Limiting Condition for Operation (LCO) Condition(s) for preplanned activities.
 - c. Provisions for performing an assessment after entering the plant configuration described by the LCO Condition(s) for unplanned entry into the LCO Condition(s). 
 - d. Provisions for assessing the need for additional actions after the discovery of additional equipment-out-of-service conditions while in the plant configuration described by the LCO Condition(s).
 - e. Provisions for considering other applicable risk-significant contributors such as Level 2 issues and external events, qualitatively or quantitatively.
-

(A1)

(A) ROUTINE REPORTS (Continued)

1. STARTUP REPORT (Continued)

b. Startup Reports shall be submitted within (1) 90 days following completion of the startup test program, or (2) 90 days following resumption or commencement of commercial power operation, or whichever is earliest. If the Start-up Report does not cover both events, i.e., completion of startup test program and resumption or commencement of commercial power operation, supplementary reports shall be submitted at least every three months until both events are completed.

(LA1)

2. ANNUAL REPORTS

(5.6.1)

a. ~~Annual~~ Occupational Exposure ^{Radiation} ~~tabulation~~ ^{Report}

A tabulation on an annual basis of the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man-rem exposure according to work and job functions, e.g., reactor operations and surveillance, in-service inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD, or film badge measurements. Small exposures totaling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.

INSERT 254b-1

INSERT 254b-2

INSERT 254b-3

INSERT 254b-4

(A3)

(L1)

b. Annual Report of ~~S&RV~~ Failures and Challenges ^{Should}

An annual report of safety/relief valve failures and challenges will be submitted prior to March 1 of each year.

(L4)

(M1)

(A3)

(5.6.4)

3. MONTHLY OPERATING REPORT

^(Routine)

A report providing a narrative summary of facility operating experience, major safety-related maintenance, and other pertinent information shall be submitted no later than the 15th of each month following the calendar month covered to the USNRC Director, Office of Management Information and Program Control.

^{Statistics and Shutdown}

(M2)

shall

1/ This tabulation supplements the requirements of 10 CFR 20.2206 and 20.402 of 10 CFR Part 20.

DISCUSSION OF CHANGES
ITS: 5.6 - REPORTING REQUIREMENTS

TECHNICAL CHANGES - MORE RESTRICTIVE

- M1 CTS 6.9.A.2.a requires submittal of an Annual Occupational Exposure Tabulation on an annual basis. ITS 5.6.1 requires that an Occupational Radiation Exposure Report be submitted by April 30 of each year. This change adopts a specific date for submittal of a report, which is more restrictive. Since this change involves submittal of an after-the-fact report, and does not affect plant operation, it has no adverse impact on safety.
- M2 CTS 6.9.A.3 requires that the Monthly Operating Report should be submitted by the 15th of each month. ITS 5.6.4 requires that the Monthly Operating Report shall be submitted by the 15th of the month. This change revises an action from "should" to "shall," and is therefore more restrictive. Since this change involves submittal of an after-the-fact report, and does not affect plant operation, it has no adverse impact on safety.

11

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

- LA1 The details associated with CTS 6.9.A.1, "STARTUP REPORT," are proposed to be relocated to the UFSAR. The Startup Report is a summary of plant startup and power escalation testing following receipt of the operating license, increase in licensed power level, installation of nuclear fuel with a different design or manufacturer than the current fuel, and modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant. The report provides the NRC a mechanism to review the appropriateness of licensee activities after-the-fact, but provides no regulatory authority once the report is submitted (i.e., no requirement for NRC approval). The Quality Assurance requirements of 10 CFR 50, Appendix B and the Startup Test Program provisions contained in the UFSAR provide assurance that the listed activities will be adequately performed and that appropriate corrective actions, if required, are taken. Given that the report was required to be provided to the Commission no later than 90 days following completion of the respective milestone, report completion and submittal was clearly not necessary to assure operation of the facility in a safe manner for the interval between completion of the startup testing and submittal of the report. Additionally, given there is no requirement for the Commission to approve the report, the Startup Report is not necessary to assure operation of the facility in a safe manner. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Based on these considerations, the Startup Report may be removed from Technical Specifications and relocated to the UFSAR. Changes to the UFSAR are controlled by the provisions of 10 CFR 50.59.

DISCUSSION OF CHANGES
ITS: 5.6 - REPORTING REQUIREMENTS

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC) (continued)

LA2 The details in CTS RETS 7.3.c and 7.3.d, associated with the contents of the Radioactive Effluent Release Report (ITS 5.6.3), and the Annual Radiological Environmental Operating Report (ITS 5.6.2), are being relocated to the Offsite Dose Calculation Manual (ODCM). This change is based on Generic Letter 89-01 which provides guidance on the removal of the Radiological Environmental Technical Specifications from the Technical Specifications. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the ODCM will be controlled in accordance with ITS 5.5.1, Offsite Dose Calculation Manual (ODCM).

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

- L1 CTS 6.9.A.2.a requires that, "at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions." ITS 5.6.1 requires that, "at least 80% of the total whole body dose received from external sources should be assigned to specific major work functions." This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because this requirement relates to the format and content of an annual occupational radiation exposure report, and has no impact on the operation of the plant. This change is consistent with NUREG-1433, Revision 1.
- L2 CTS RETS 7.3.d requires that the Annual Radiological Environmental Operating Report be submitted prior to May 1 of each year. ITS 5.6.2 requires this report to be submitted by May 15 of each year. This is a relaxation of requirements, which is less restrictive. This change is acceptable, however, because the report is after-the-fact, covering the previous calendar year, and there is no requirement for the NRC to approve the report. Completion and submittal of the reports is clearly not necessary to ensure safe operation of the plant during the additional time intervals provided by these changes. This change is consistent with NUREG-1433, Revision 1.
- L3 CTS RETS 7.3.c requires that the Radioactive Effluent Release Report be submitted on a semiannual basis. ITS 5.6.3 requires that this report be submitted in accordance with 10 CFR 50.36a, on an annual basis. This is a relaxation of requirements, which is less restrictive. This change is acceptable, however, since this report covers the previous calendar year, and there is no requirement for the NRC to approve the report. Completion and submittal of the report is clearly not necessary to ensure safe operation of the plant during the additional time interval provided by the proposed change. This change is consistent with NUREG-1433, Revision 1.

DISCUSSION OF CHANGES
ITS: 5.6 - REPORTING REQUIREMENTS

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC) (continued)

- L4 CTS 6.9.A.2.b requires an annual report of safety/relief valve (S/RV) failures and challenges to be submitted prior to March 1 of each year. This specific requirement has been deleted. The NRC has stated in approving TSTF-258, Revision 4 that this specific report is not necessary. This is an after-the-fact report and there is no requirement for the NRC to approve the report. Completion and submittal of the report is clearly not necessary to ensure safe operation of the plant. Other Technical Specifications provide adequate actions if an S/RV fails and is inoperable. Since the only purpose of the report is to inform the NRC of these events, and the NRC has stated that it is not necessary to report these events annually, this change is considered acceptable.

I

TECHNICAL CHANGES - RELOCATIONS

None

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 5.6 - REPORTING REQUIREMENTS

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion 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 does not involve any physical alteration of plant systems, structures, or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change revises a reporting requirement from "shall" to "should." Reporting requirements are not considered to be initiators of accidents, nor do they affect plant operations. Therefore, the proposed change does not involve an increase in the probability or consequence 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 involve any physical alteration of plant systems, structures, or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change does not introduce any new modes of operation. A reporting requirement cannot be the initiator of a new or different kind of accident. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change does not introduce any new modes of operation. There are no margins of safety related to any safety analyses that are dependent upon the proposed change. Therefore, this change does not involve a reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 5.6 - REPORTING REQUIREMENTS

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion 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 does not involve any physical alteration of plant systems, structures, or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change modifies the dates for submittal of "after the fact" information, which has no impact on the safety analysis. Since these reports cover the previous calendar year, and there is no requirement for the NRC to approve these reports, completion and submittal of the reports is clearly not necessary to ensure safe operation of the plant during the additional time intervals provided by the proposed change. Therefore, the proposed change does not involve an increase in the probability or consequence 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 involve any physical alteration of plant systems, structures, or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change does not introduce any new modes of operation. The proposed change impacts only the administrative requirements for submittal of information and does not directly impact operation of the plant. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change does not introduce any new modes of operation. There are no margins of safety related to any safety analyses that are dependent upon the proposed change. Therefore, this change does not involve a reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 5.6 - REPORTING REQUIREMENTS

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion 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 does not involve any physical alteration of plant systems, structures, or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change modifies the date for submittal of "after the fact" information, which clearly has no impact on the safety analysis. Since this report covers the previous calendar year, and there is no requirement for the NRC to approve the report, completion and submittal of the report is not necessary to ensure safe operation of the plant during the additional time interval provided by the proposed change. Therefore, the proposed change does not involve an increase in the probability or consequence 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 involve any physical alteration of plant systems, structures, or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change does not introduce any new modes of operation. The proposed change impacts only the administrative requirements for submittal of information and does not directly impact operation of the plant. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change does not introduce any new modes of operation. There are no margins of safety related to any safety analyses that are dependent upon the proposed change. Therefore, this change does not involve a reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 5.6 - REPORTING REQUIREMENTS

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

The Licensee has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion 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 does not involve any physical alteration of plant systems, structures, or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change deletes the requirement for submittal of "after the fact" information, which clearly has no impact on the safety analysis. Since there is no requirement for the NRC to approve the report, completion and submittal of the report is not necessary to ensure safe operation of the plant. Therefore, the proposed change does not involve an increase in the probability or consequence 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 involve any physical alteration of plant systems, structures, or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change does not introduce any new modes of operation. The proposed change impacts only the administrative requirements for submittal of information and does not directly impact operation of the plant. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

The proposed change does not involve any physical alteration of plant systems, structures or components, change in parameters governing normal plant operation, or methods of operation. The proposed change does not introduce any new modes of operation. There are no margins of safety related to any safety analyses that are dependent upon the proposed change. In addition, the only purpose of the report is to inform the NRC of these events, and the NRC has stated that it is not necessary to report these events annually. Therefore, this change does not involve a reduction in a margin of safety.

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See CTS: Chapter 6.0

(B) The following records shall be retained for the duration of the Facility Operating License:

- 1. Records of any drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.
- 2. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
- 3. Records of facility radiation and contamination surveys.
- 4. Records of radiation exposure for all individuals entering radiation control areas.
- 5. Records of gaseous and liquid radioactive material released to the environs.

See ITS: Section 5.5

6. Records of transient or operational cycles for those facility components identified in Table 6.10-1.

- 7. Records of training and qualification for current members of the plant staff.
- 8. Records of in-service inspections performed pursuant to these Technical Specifications.
- 9. Records of Quality Assurance activities required by the Quality Assurance Manual.
- 10. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- 11. Records of meetings of the PORC and the SRC.
- 12. Records for Environmental Qualification which are covered under the provisions of paragraph 6.15.
- 13. DELETED

See ITS: Chapter 6.0

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6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared and adhered to for all plant operations. These procedures shall be formulated to maintain radiation exposures received during operation and maintenance as far below the limits specified in 10 CFR 20 as practicable. The procedures shall include planning, preparation, and training for operation and maintenance activities. They shall also include exposure allocation, radiation and contamination control techniques, and final debriefing.

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6.3 PLANT STAFF QUALIFICATIONS

See ITS: 5.3

6.3.1 The minimum qualifications with regard to educational background and experience for plant staff positions shown in FSAR Figure 13.2-7 shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions; except for the radiation protection manager who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975.

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6.3.2 The Shift Technical Advisor (STA) shall meet or exceed the minimum requirements of either Option 1 (Combined SRO/STA Position) or Option 2 (Continued use of STA Position), as defined in the Commission Policy Statement on Engineering Expertise on Shift, published in the October 28, 1985 Federal Register (50 FR 43621). When invoking Option 1, the STA role may be filled by the Shift Manager or Control Room Supervisor. (1)

See ITS:
5.2

6.3.3 Any deviations will be justified to the NRC prior to an individual's filling of one of these positions.

NOTE:

(1) The 13 individuals who hold SRO licenses, and have completed the FitzPatrick Advanced Technical Training Program prior to the issuance of License Amendment 111, shall be considered qualified as dual-role SRO/STAs.

6.4 RETRAINING AND REPLACEMENT TRAINING

A training program shall be maintained under the direction of the Training Manager to assure overall proficiency of the plant staff organization. It shall consist of both retraining and replacement training and shall meet or exceed the minimum requirements of Section 5.5 of ANSI N18.1-1971.

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The retraining program shall not exceed periods two years in length with a curriculum designed to meet or exceed the requalification requirements of 10 CFR 55.59

6.5 REVIEW AND AUDIT

Review requirements are completed by using designated technical reviewers/qualified safety reviewer and two separate review committees. The Plant Operating Review Committee (PORC) is an onsite review group; the Safety Review Committee (SRC) is an independent offsite review and audit group.

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6.5.0 REVIEW AND APPROVAL OF PROGRAMS AND PROCEDURES

6.5.0.1 The procedure review and approval process shall be controlled and implemented by administrative procedure(s).

6.5.0.2 Each program and procedure required by Specification 6.8 and other procedures that affect nuclear safety, and changes thereto, shall be reviewed by a minimum of two designated technical reviewers who are knowledgeable in the affected functional area.

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(B) The following records shall be retained for the duration of the Facility Operating License:

1. Records of any drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.
2. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
3. Records of facility radiation and contamination surveys.
4. Records of radiation exposure for all individuals entering radiation control areas.
5. Records of gaseous and liquid radioactive material released to the environs.

6. Records of transient or operational cycles for those facility components identified in Table 6.10-1.

See ITS: Section 5.5

7. Records of training and qualification for current members of the plant staff.

8. Records of in-service inspections performed pursuant to these Technical Specifications.

9. Records of Quality Assurance activities required by the Quality Assurance Manual.

10. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.

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11. Records of meetings of the PORC and the SRC.

12. Records for Environmental Qualification which are covered under the provisions of paragraph 6.15.

13. DELETED

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6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared and adhered to for all plant operations. These procedures shall be formulated to maintain radiation exposures received during operation and maintenance as far below the limits specified in 10 CFR 20 as practicable. The procedures shall include planning, preparation, and training for operation and maintenance activities. They shall also include exposure allocation, radiation and contamination control techniques, and final debriefing.

See ITS: Section 5.7

see ITS:5.5

C. Revisions of the ODCM:

1. shall be submitted to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the revisions were made effective. This submittal shall contain:
 - a. sufficiently detailed information to support the rationale for the revisions without benefit of additional information (information submitted shall consist of revised pages of the ODCM, with each page numbered and provided with an approval and date box, together with appropriate evaluations justifying the revisions);
 - b. a determination that the revisions will not reduce the accuracy or reliability of dose calculation or setpoint determinations; and
 - c. documentation that the revisions have been reviewed and accepted by the PORC.
2. shall become effective upon issue following review and acceptance by the PORC.

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6.18 MAJOR MODIFICATIONS TO RADIOACTIVE LIQUID, GASEOUS AND SOLID WASTE TREATMENT SYSTEMS*

- A. Major modifications to radioactive waste systems (liquid, gaseous and solid):
 1. shall be reported to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the modifications are completed and made operational. The discussion of each modification shall contain:
 - a. a summary of the evaluation that led to the determination that the modification could be made in accordance with 10 CFR 50.59;
 - b. sufficient information to support the reason for the modification without benefit of additional or supplemental information; and
 - c. a description of the equipment, components and processes involved and the interfaces with other plant systems.

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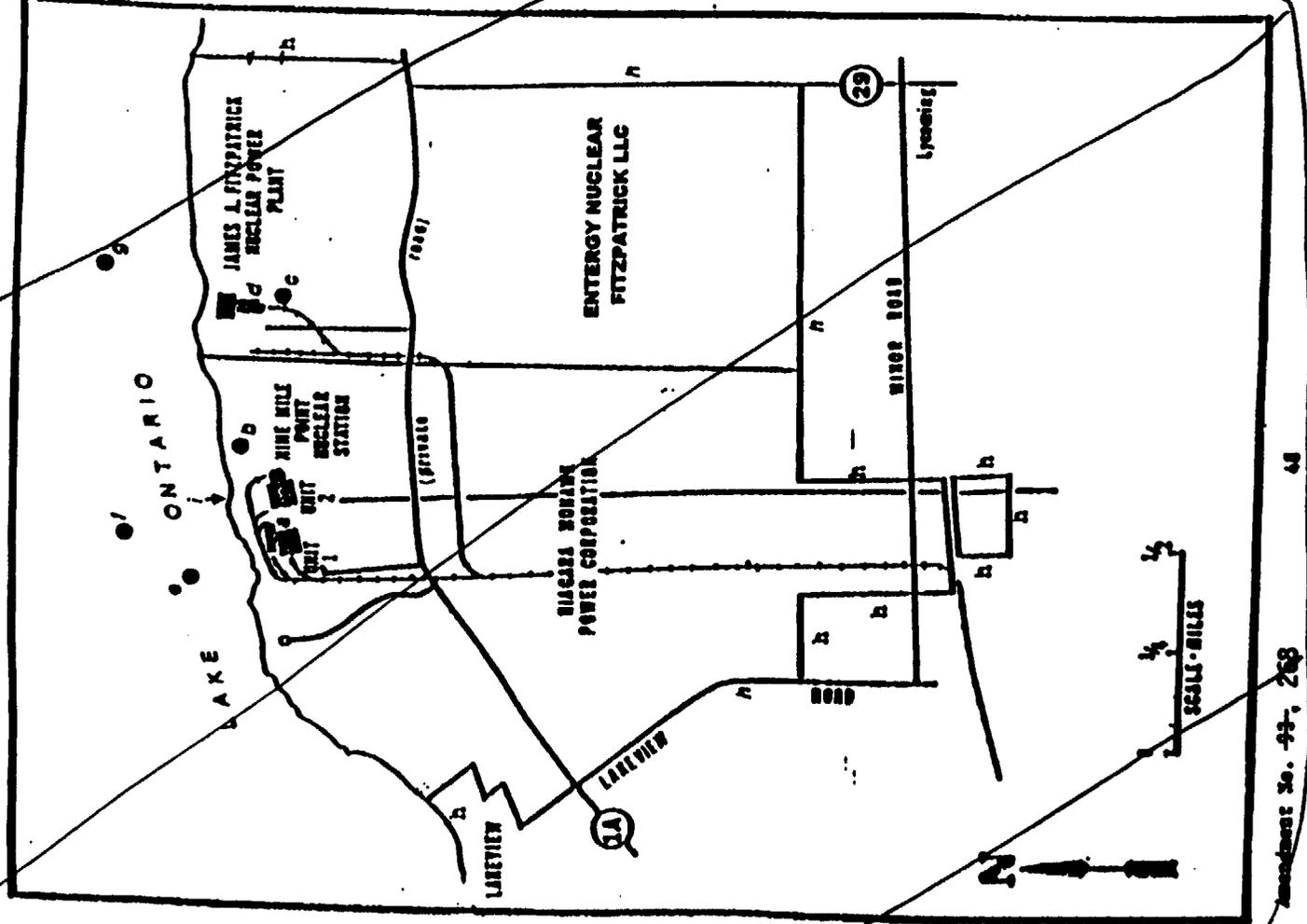
* Entergy Nuclear Operations, Inc. may elect to submit the information called for in this Specification as part of the annual 10 CFR 50.59 Safety Evaluation Report.

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FIGURE S.1-1
SITE BOUNDARY MAP



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ATTACHMENT 2

JAMES A. FITZPATRICK NPP
IMPROVED TECHNICAL SPECIFICATIONS
REVISION "I"
INSERT AND DISCARD INSTRUCTIONS

[REDACTED]	
[REDACTED]	
Summary Disposition Matrix p 13 of 14	Summary Disposition Matrix p 13 of 14

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CTS markup for ITS 3.0 p 1 of 5	CTS markup for ITS 3.0 p 1 of 5
DOCs for ITS 3.0 pgs 6 of 8 and 7 of 8	DOCs for ITS 3.0 pgs 6 of 8 and 7 of 8
NSHCs for ITS 3.0 pgs 1 of 5 and 2 of 5	NSHCs for ITS 3.0 pgs 1 of 5 and 2 of 5
NUREG ITS markup for ITS 3.0 p 3.0-1	NUREG ITS markup for ITS 3.0 p 3.0-1
JFDs for ITS 3.0 p 2 of 2	JFDs for ITS 3.0 p 2 of 2
NUREG Bases markup for ITS 3.0 p Insert Page B 3.0-9 (II)	NUREG Bases markup for ITS 3.0 p Insert Page B 3.0-9 (II)
Retyped ITS 3.0 p 3.0-1	Retyped ITS 3.0 p 3.0-1
Retyped ITS 3.0 Bases p B 3.0-10	Retyped ITS 3.0 Bases p B 3.0-10

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DOCs for ITS 3.1.7 p 6 of 7	DOCs for ITS 3.1.7 p 6 of 7
NSHCs for ITS 3.1.7 p 7 of 10	NSHCs for ITS 3.1.7 p 7 of 10
NUREG ITS markup for ITS 3.1.7 p 3.1-22	NUREG ITS markup for ITS 3.1.7 p 3.1-22
Retyped ITS 3.1.7 p 3.1-22	Retyped ITS 3.1.7 p 3.1-22
Bases JFDs for ITS 3.2.2 p 1 of 1	Bases JFDs for ITS 3.2.2 p 1 of 1
DOCs for ITS 3.2.3 p 1 of 2	DOCs for ITS 3.2.3 p 1 of 2
DOCs for ITS 3.2.4 p 2 of 3	DOCs for ITS 3.2.4 p 2 of 3
NUREG Bases markup for ITS 3.2.4 p Insert Page B 3.2-19	NUREG Bases markup for ITS 3.2.4 p Insert Page B 3.2-19
Retyped ITS 3.2.4 Bases p B 3.2-18	Retyped ITS 3.2.4 Bases p B 3.2-18

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VOLUME 8	
CTS markup for ITS 3.3.1.1 pgs 6 of 16 through 8 of 16	CTS markup for ITS 3.3.1.1 pgs 6 of 16 through 8 of 16
CTS markup for ITS 3.3.1.1 p 10 of 16	CTS markup for ITS 3.3.1.1 p 10 of 16
CTS markup for ITS 3.3.1.1 pgs 12 of 16 through 15 of 16	CTS Markups for ITS 3.3.1.1 pgs 12 of 16 through 15 of 16
DOCs for ITS 3.3.1.1 p 1 of 25	DOCs for ITS 3.3.1.1 p 1 of 25
DOCs for ITS 3.3.1.1 pgs 4 of 25 and 5 of 25	DOCs for ITS 3.3.1.1 pgs 4 of 25 and 5 of 25
DOCs for ITS 3.3.1.1 pgs 7 of 25 through 25 of 25	DOCs for ITS 3.3.1.1 pgs 7 of 25 through 25 of 25
NSHCs for ITS 3.3.1.1 pgs 11 of 26 and 12 of 26	NSHCs for ITS 3.3.1.1 pgs 11 of 26 and 12 of 26
NUREG ITS markup for ITS 3.3.1.1 p 3.3-2	NUREG ITS markup for ITS 3.3.1.1 p 3.3-2
NUREG ITS markup for ITS 3.3.1.1 pgs 3.3-4 through 3.3-9	NUREG ITS markup for ITS 3.3.1.1 pgs 3.3-4 through 3.3-9
JFDs for ITS 3.3.1.1 pgs 1 of 4 through 4 of 4	JFDs for ITS 3.3.1.1 pgs 1 of 4 through 4 of 4
NUREG Bases markup for ITS 3.3.1.1 p Insert Page B 3.3-1a	NUREG Bases markup for ITS 3.3.1.1 p Insert Page B 3.3-1a
NUREG Bases markup for ITS 3.3.1.1 p Insert Page B 3.3-3	NUREG Bases markup for ITS 3.3.1.1 p Insert Page B 3.3-3
NUREG Bases markup for ITS 3.3.1.1 pgs B 3.3-8 and Insert Page B 3.3-8	NUREG Bases markup for ITS 3.3.1.1 pgs B 3.3-8 and Insert Page B 3.3-8
NUREG Bases markup for ITS 3.3.1.1 p B 3.3-29	NUREG Bases markup for ITS 3.3.1.1 p B 3.3-29
NUREG Bases markup for ITS 3.3.1.1 pgs B 3.3-30 and Insert Page B 3.3-30	NUREG Bases markup for ITS 3.3.1.1 pgs B 3.3-30 and Insert Page B 3.3-30
NUREG Bases markup for ITS 3.3.1.1 p B 3.3-31	NUREG Bases markup for ITS 3.3.1.1 p B 3.3-31
NUREG Bases markup for ITS 3.3.1.1 pgs B 3.3-32 and Insert Page B 3.3-32	NUREG Bases markup for ITS 3.3.1.1 pgs B 3.3-32 and Insert Page B 3.3-32
Bases JFDs for ITS 3.3.1.1 p 1 of 4	Bases JFDs for ITS 3.3.1.1 p 1 of 4
Bases JFDs for ITS 3.3.1.1 pgs 3 of 4 and 4 of 4	Bases JFDs for ITS 3.3.1.1 pgs 3 of 4 and 4 of 4
Retyped ITS 3.3.1.1 pgs 3.3-2 through 3.3-9	Retyped ITS 3.3.1.1 pgs 3.3-2 through 3.3-8
Retyped ITS 3.3.1.1 Bases p B 3.3-1	Retyped ITS 3.3.1.1 Bases p B 3.3-1
Retyped ITS 3.3.1.1 Bases p B 3.3-6	Retyped ITS 3.3.1.1 Bases p B 3.3-6
Retyped ITS 3.3.1.1 Bases p B 3.3-10	Retyped ITS 3.3.1.1 Bases p B 3.3-10
Retyped ITS 3.3.1.1 Bases pgs B 3.3-31 through B 3.3-37	Retyped ITS 3.3.1.1 Bases pgs B 3.3-31 through B 3.3-37
CTS markup for ITS 3.3.1.2 p 1 of 3	CTS markup for ITS 3.3.1.2 p 1 of 3
DOCs for ITS 3.3.1.2 pgs 1 of 7 through 4 of 7	DOCs for ITS 3.3.1.2 pgs 1 of 7 through 4 of 7
NUREG ITS markup for ITS 3.3.1.2 pgs 3.3-13 and 3.3-14	NUREG ITS markup for ITS 3.3.1.2 pgs 3.3-13 and 3.3-14

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REMOVE	INSERT
VOLUME 8 (continued)	
JFDs for ITS 3.3.1.2 p 1 of 1	JFDs for ITS 3.3.1.2 pgs 1 of 2 and 2 of 2
NUREG Bases markup for ITS 3.3.1.2 p B 3.3-42	NUREG Bases markup for ITS 3.3.1.2 pgs B 3.3-42 and Insert Page B 3.3-42
NUREG Bases markup for ITS 3.3.1.2 p B 3.3-43	NUREG Bases markup for ITS 3.3.1.2 p B 3.3-43
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Retyped ITS 3.3.1.2 pgs 3.3-13 and 3.3-14	Retyped ITS 3.3.1.2 pgs 3.3-13 through 3.3-15
Retyped ITS 3.3.1.2 Bases pgs B 3.3-45 and B 3.3-46	Retyped ITS 3.3.1.2 Bases pgs B 3.3-45 through B 3.3-47
CTS markup for ITS 3.3.2.1 pgs 8 of 10 and 9 of 10	CTS markup for ITS 3.3.2.1 pgs 8 of 10 and 9 of 10
DOCs for ITS 3.3.2.1 p 5 of 9	DOCs for ITS 3.3.2.1 p 5 of 9
DOCs for ITS 3.3.2.1 p 9 of 9	DOCs for ITS 3.3.2.1 p 9 of 9
NUREG ITS markup for ITS 3.3.2.1 p 3.3-16	NUREG ITS markup for ITS 3.3.2.1 p 3.3-16
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NUREG ITS markup for ITS 3.3.2.2 p 3.3-22	NUREG ITS markup for ITS 3.3.2.2 p 3.3-22
NUREG Bases markup for ITS 3.3.2.2 p 3.3-56	NUREG Bases markup for ITS 3.3.2.2 p 3.3-56
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CTS markup for ITS 3.3.3.1 p 7 of 7	CTS markup for ITS 3.3.3.1 p 7 of 7
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NSHCs for ITS 3.3.3.1 p 10 of 10	NSHCs for ITS 3.3.3.1 p 10 of 10
NUREG ITS markup for ITS 3.3.3.1 p 3.3-25	NUREG ITS markup for ITS 3.3.3.1 p 3.3-25
JFDs for ITS 3.3.3.1 p 3 of 3	JFDs for ITS 3.3.3.1 p 3 of 3

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Retyped ITS 3.3.3.1 Bases pgs B 3.3-78 and B 3.3-79	Retyped ITS 3.3.3.1 Bases pgs B 3.3-78 through B 3.3-80
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NSHCs for ITS 3.3.3.2 p 1 of 2	NSHCs for ITS 3.3.3.2 p 1 of 2
NUREG ITS markup for ITS 3.3.3.2 p 3.3-27	NUREG ITS markup for ITS 3.3.3.2 p 3.3-27
JFDs for ITS 3.3.3.2 p 1 of 1	JFDs for ITS 3.3.3.2 pgs 1 of 2 and 2 of 2
NUREG Bases markup for ITS 3.3.3.2 pgs B 3.3-74 and Insert Page B 3.3-74	NUREG Bases markup for ITS 3.3.3.2 pgs B 3.3-74 and Insert Page B 3.3-74
NUREG Bases markup for ITS 3.3.3.2 p B 3.3-75 and B 3.3-76	NUREG Bases markup for ITS 3.3.3.2 p B 3.3-75 and B 3.3-76
NUREG Bases markup for ITS 3.3.3.2 p B 3.3-77	NUREG Bases markup for ITS 3.3.3.2 pgs B 3.3-77 and Insert Page B 3.3-77
NUREG Bases markup for ITS 3.3.3.2 pgs B 3.3-78 and Insert Page B 3.3-78	NUREG Bases markup for ITS 3.3.3.2 p B 3.3-78
NUREG Bases markup for ITS 3.3.3.2 p B 3.3-79	NUREG Bases markup for ITS 3.3.3.2 p B 3.3-79
Bases JFDs for ITS 3.3.3.2 p 1 of 1	Bases JFDs for ITS 3.3.3.2 pgs 1 of 2 and 2 of 2
Retyped ITS 3.3.3.2 p 3.3-28	Retyped ITS 3.3.3.2 p 3.3-28
Retyped ITS 3.3.3.2 Bases pgs B 3.3-80 through B 3.3-85	Retyped ITS 3.3.3.2 Bases pgs B 3.3-80 through B 3.3-85
DOCs for ITS 3.3.4.1 pgs 7 of 8 and 8 of 8	DOCs for ITS 3.3.4.1 pgs 7 of 8 and 8 of 8

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DOCs for ITS 3.3.5.1 pgs 9 of 14 through 14 of 14	DOCs for ITS 3.3.5.1 pgs 9 of 13 through 13 of 13
NUREG ITS markup for ITS 3.3.5.1 p 3.3-44	NUREG ITS markup for ITS 3.3.5.1 p 3.3-44
NUREG Bases markup for ITS 3.3.5.1 p Insert Page B 3.3-114	NUREG Bases markup for ITS 3.3.5.1 p Insert Page B 3.3-114
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NUREG Bases markup for ITS 3.3.5.1 p B 3.3-123	NUREG Bases markup for ITS 3.3.5.1 p B 3.3-123
Retyped ITS 3.3.5.1 p 3.3-40	Retyped ITS 3.3.5.1 p 3.3-40
Retyped ITS 3.3.5.1 Bases pgs B 3.3-112 and B 3.3-113	Retyped ITS 3.3.5.1 Bases pgs B 3.3-112 and B 3.3-113
Retyped ITS 3.3.5.1 Bases pgs B 3.3-121 through B 3.3-123	Retyped ITS 3.3.5.1 Bases pgs B 3.3-121 through B 3.3-123
CTS markup for ITS 3.3.5.2 p 2 of 10	CTS markup for ITS 3.3.5.2 p 2 of 10
DOCs for ITS 3.3.5.2 pgs 5 of 7 through 7 of 7	DOCs for ITS 3.3.5.2 pgs 5 of 7 through 7 of 7
NUREG markup for ITS 3.3.5.2 p 3.3-51	NUREG markup for ITS 3.3.5.2 p 3.3-51
NUREG Bases markup for ITS 3.3.5.2 p B 3.3-139	NUREG Bases markup for ITS 3.3.5.2 p B 3.3-139
NUREG Bases markup for ITS 3.3.5.2 p B 3.3-145	NUREG Bases markup for ITS 3.3.5.2 p B 3.3-145
Retyped ITS 3.3.5.2 p 3.3-46	Retyped ITS 3.3.5.2 p 3.3-46
Retyped ITS 3.3.5.2 Bases p B 3.3-136	Retyped ITS 3.3.5.2 Bases p B 3.3-136
Retyped ITS 3.3.5.2 Bases p B 3.3-142	Retyped ITS 3.3.5.2 Bases p B 3.3-142
CTS markup for ITS 3.3.6.1 pgs 1 of 25 through 25 of 25	CTS markup for ITS 3.3.6.1 pgs 1 of 22 through 22 of 22
DOCs for ITS 3.3.6.1 pgs 1 of 26 through 26 of 26	DOCs for ITS 3.3.6.1 pgs 1 of 25 through 25 of 25
NSHCs for ITS 3.3.6.1 pgs 23 of 32 and 24 of 32	NSHCs for ITS 3.3.6.1 pgs 23 of 32 and 24 of 32
NUREG ITS markup for ITS 3.3.6.1 pgs 3.3-52 and 3.3-53	NUREG ITS markup for ITS 3.3.6.1 pgs 3.3-52 and 3.3-53
NUREG ITS markup for ITS 3.3.6.1 p 3.3-55	NUREG ITS markup for ITS 3.3.6.1 p 3.3-55
NUREG ITS markup for ITS 3.3.6.1 p 3.3-57	NUREG ITS markup for ITS 3.3.6.1 p 3.3-57
NUREG ITS markup for ITS 3.3.6.1 pgs 3.3-58 and Insert Page 3.3-58	NUREG ITS markup for ITS 3.3.6.1 pgs 3.3-58 and Insert Page 3.3-58
NUREG ITS markup for ITS 3.3.6.1 pgs 3.3-61 and Insert Page 3.3-61	NUREG ITS markup for ITS 3.3.6.1 pgs 3.3-61 and Insert Page 3.3-61
NUREG ITS markup for ITS 3.3.6.1 p 3.3-62	NUREG ITS markup for ITS 3.3.6.1 p 3.3-62
JFDs for ITS 3.3.6.1 pgs 1 of 5 through 5 of 5	JFDs for ITS 3.3.6.1 pgs 1 of 5 through 5 of 5
NUREG Bases markup for ITS 3.3.6.1 p Insert Page B 3.3-152	NUREG Bases markup for ITS 3.3.6.1 p Insert Page B 3.3-152

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REMOVE	INSERT
VOLUME 9 (continued)	
NUREG Bases markup for ITS 3.3.6.1 p B 3.3-153	NUREG Bases markup for ITS 3.3.6.1 p B 3.3-153
NUREG Bases markup for ITS 3.3.6.1 p Insert Page B 3.3-154a	NUREG Bases markup for ITS 3.3.6.1 p Insert Page B 3.3-154a
NUREG Bases markup for ITS 3.3.6.1 p Insert Page B 3.3-155	NUREG Bases markup for ITS 3.3.6.1 p Insert Page B 3.3-155
NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-161 and Insert Page B 3.3-161	NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-161 and Insert Page B 3.3-161
NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-162 and Insert Page B 3.3-162	NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-162 and Insert Page B 3.3-162
NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-163 and Insert Page B 3.3-163	NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-163 and Insert Page B 3.3-163
NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-164, Insert Page B 3.3-164a, and Insert Page B 3.3-164b	NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-164, Insert Page B 3.3-164a, and Insert Page B 3.3-164b
NUREG Bases markup for ITS 3.3.6.1 p B 3.3-171	NUREG Bases markup for ITS 3.3.6.1 p B 3.3-171
NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-172 and Insert Page B 3.3-172	NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-172 and Insert Page B 3.3-172
NUREG Bases markup for ITS 3.3.6.1 p B 3.3-174	NUREG Bases markup for ITS 3.3.6.1 p B 3.3-174
NUREG Bases markup for ITS 3.3.6.1 p B 3.3-175	NUREG Bases markup for ITS 3.3.6.1 p B 3.3-175
NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-176 and Insert Page B 3.3-176	NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-176 and Insert Page B 3.3-176
NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-177 and B 3.3-178	NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-177 and B 3.3-178
NUREG Bases markup for ITS 3.3.6.1 p Insert Page B 3.3-179	NUREG Bases markup for ITS 3.3.6.1 p Insert Page B 3.3-179
NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-180 and Insert Page B 3.3-180	NUREG Bases markup for ITS 3.3.6.1 pgs B 3.3-180 and Insert Page B 3.3-180
Bases JFDs for ITS 3.3.6.1 pgs 1 of 4 through 3 of 4	Bases JFDs for ITS 3.3.6.1 pgs 1 of 4 through 3 of 4
Retyped ITS 3.3.6.1 pgs 3.3-47 and 3.3-48	Retyped ITS 3.3.6.1 pgs 3.3-47 and 3.3-48
Retyped ITS 3.3.6.1 p 3.3-50	Retyped ITS 3.3.6.1 p 3.3-50
Retyped ITS 3.3.6.1 pgs 3.3-52 and 3.3-53	Retyped ITS 3.3.6.1 pgs 3.3-52 and 3.3-53
Retyped ITS 3.3.6.1 p 3.3-56	Retyped ITS 3.3.6.1 p 3.3-56
Retyped ITS 3.3.6.1 Bases pgs B 3.3-149 through B 3.3-185	Retyped ITS 3.3.6.1 Bases pgs B 3.3-149 through B 3.3-184

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REMOVE	INSERT
VOLUME 10	
CTS markup for ITS 3.3.6.2 p 10 of 15	CTS markup for ITS 3.3.6.2 p 10 of 15
DOCs for ITS 3.3.6.2 pgs 11 of 12 and 12 of 12	DOCs for ITS 3.3.6.2 pgs 11 of 12 and 12 of 12
NSHCs for ITS 3.3.6.2 p 8 of 9	NSHCs for ITS 3.3.6.2 p 8 of 9
NUREG Bases markup for ITS 3.3.6.2 pgs B 3.3-187 and Insert Page B 3.3-187	NUREG Bases markup for ITS 3.3.6.2 pgs B 3.3-187
NUREG Bases markup for ITS 3.3.6.2 p B 3.3-188	NUREG Bases markup for ITS 3.3.6.2 p B 3.3-188 and Insert Page B 3.3-188
Retyped ITS 3.3.6.2 Bases p B 3.3-189	Retyped ITS 3.3.6.2 Bases p B 3.3-189
CTS markup for ITS 3.3.7.2 p 1 of 10	CTS markup for ITS 3.3.7.2 p 1 of 10
DOCs for ITS 3.3.7.2 pgs 1 of 8 through 3 of 8	DOCs for ITS 3.3.7.2 pgs 1 of 8 through 3 of 8
DOCs for ITS 3.3.7.2 pgs 5 of 8 through 8 of 8	DOCs for ITS 3.3.7.2 pgs 5 of 8 through 8 of 8
NSHCs for ITS 3.3.7.2 pgs 1 of 8 through 3 of 8	NSHCs for ITS 3.3.7.2 pgs 1 of 8 through 3 of 8
NUREG ITS markup for ITS 3.3.7.2 pgs Insert Page 3.3-74a and Insert Page 3.3-74b	NUREG ITS markup for ITS 3.3.7.2 pgs Insert Page 3.3-74a and Insert Page 3.3-74b
JFDs for ITS 3.3.7.2 p 1 of 1	JFDs for ITS 3.3.7.2 p 1 of 1
NUREG Bases markup for ITS 3.3.7.2 pgs Insert Page B 3.3-219a and Insert Page B 3.3-219b	NUREG Bases markup for ITS 3.3.7.2 pgs Insert Page B 3.3-219a and Insert Page B 3.3-219b
NUREG Bases markup for ITS 3.3.7.2 pgs Insert Page B 3.3-219d and Insert Page B 3.3-219e	NUREG Bases markup for ITS 3.3.7.2 pgs Insert Page B 3.3-219d and Insert Page B 3.3-219e
NUREG Bases markup for ITS 3.3.7.2 p Insert Page B 3.3-219g	NUREG Bases markup for ITS 3.3.7.2 p Insert Page B 3.3-219g
NUREG Bases markup for ITS 3.3.7.2 p Insert Page B 3.3-219j	NUREG Bases markup for ITS 3.3.7.2 p Insert Page B 3.3-219j
Retyped ITS 3.3.7.2 pgs 3.3-64 and 3.3-65	Retyped ITS 3.3.7.2 pgs 3.3-64 and 3.3-65
Retyped ITS 3.3.7.2 Bases pgs B 3.3-203 through B 3.3-208 -	Retyped ITS 3.3.7.2 Bases pgs B 3.3-203 through B 3.3-208
NUREG Bases markup for ITS 3.3.7.3 p Insert Page B 3.3-219n	NUREG Bases markup for ITS 3.3.7.3 p Insert Page B 3.3-219n
DOCs for ITS 3.3.8.2 p 4 of 7	DOCs for ITS 3.3.8.2 p 4 of 7
NUREG ITS markup for ITS 3.3.8.2 pgs 3.3-78 through 3.3-80	NUREG ITS markup for ITS 3.3.8.2 pgs 3.3-78 through 3.3-80
JFDs for ITS 3.3.8.2 pgs 1 of 3 through 3 of 3	JFDs for ITS 3.3.8.2 pgs 1 of 3 through 3 of 3
NUREG Bases markup for ITS 3.3.8.2 p B 3.3-227	NUREG Bases markup for ITS 3.3.8.2 p B 3.3-227
NUREG Bases markup for ITS 3.3.8.2 p B 3.3-229	NUREG Bases markup for ITS 3.3.8.2 p B 3.3-229

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REMOVE	INSERT
VOLUME 10 (continued)	
NUREG Bases markup for ITS 3.3.8.2 pgs B 3.3-230 through B 3.3-232	NUREG Bases markup for ITS 3.3.8.2 pgs B 3.3-230 through B 3.3-232
Bases JFDs for ITS 3.3.8.2 pgs 1 of 2 and 2 of 2	Bases JFDs for ITS 3.3.8.2 pgs 1 of 2 and 2 of 2
Retyped ITS 3.3.8.2 pgs 3.3-72 through 3.3-74	Retyped ITS 3.3.8.2 pgs 3.3-72 through 3.3-74
Retyped ITS 3.3.8.2 Bases p B 3.3-223	Retyped ITS 3.3.8.2 Bases p B 3.3-223
Retyped ITS 3.3.8.2 Bases pgs B 3.3-226 through B 3.3-228	Retyped ITS 3.3.8.2 Bases pgs B 3.3-226 through B 3.3-228

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REMOVE	INSERT
VOLUME 11	
DOCs for ITS 3.4.4 p 3 of 3	DOCs for ITS 3.4.4 p 3 of 3
CTS markup for ITS 3.4.5 p 2 of 7	CTS markup for ITS 3.4.5 p 2 of 7
CTS markup for ITS 3.4.5 pgs 4 of 7 and 5 of 7	CTS markup for ITS 3.4.5 pgs 4 of 7 and 5 of 7
DOCs for ITS 3.4.5 pgs 1 of 5 through 5 of 5	DOCs for ITS 3.4.5 pgs 1 of 5 through 5 of 5
NSHCs for ITS 3.4.5 pgs 1 of 9 through 9 of 9	NSHCs for ITS 3.4.5 pgs 1 of 10 through 10 of 10
NUREG ITS markup for ITS 3.4.5 pgs 3.4-12 through 3.4-15	NUREG ITS markup for ITS 3.4.5 pgs 3.4-12 through 3.4-15
JFDs for ITS 3.4.5 pgs 1 of 2 and 2 of 2	JFDs for ITS 3.4.5 pgs 1 of 2 and 2 of 2
NUREG Bases markup for ITS 3.4.5 pgs B 3.4-29 through B 3.4-31	NUREG Bases markup for ITS 3.4.5 pgs B 3.4-29 through B 3.4-31
NUREG Bases markup for ITS 3.4.5 pgs B 3.4-32 and Insert Page B 3.4-32	NUREG Bases markup for ITS 3.4.5 pgs B 3.4-32 and Insert Page B 3.4-32
Bases JFDs for ITS 3.4.5 pgs 1 of 2 and 2 of 2	Bases JFDs for ITS 3.4.5 pgs 1 of 2 and 2 of 2
Retyped ITS 3.4.5 pgs 3.4-10 and 3.4-11	Retyped ITS 3.4.5 pgs 3.4-10 through 3.4-12
Retyped ITS 3.4.5 Bases pgs B 3.4-27 through B 3.4-30	Retyped ITS 3.4.5 Bases pgs B 3.4-27 through B 3.4-31
DOCs for ITS 3.4.6 p 1 of 4	DOCs for ITS 3.4.6 p 1 of 4
NUREG ITS markup for ITS 3.4.6 p 3.4-16	NUREG ITS markup for ITS 3.4.6 p 3.4-16
JFDs for ITS 3.4.6 p 1 of 1	JFDs for ITS 3.4.6 p 1 of 1
NUREG Bases markup for ITS 3.4.6 pgs B 3.4-34 and B 3.4-35	NUREG Bases markup for ITS 3.4.6 pgs B 3.4-34 and B 3.4-35
Bases JFDs for ITS 3.4.6 p 1 of 1	Bases JFDs for ITS 3.4.6 p 1 of 1
Retyped ITS 3.4.6 p 3.4-12	Retyped ITS 3.4.6 p 3.4-12
Retyped ITS 3.4.6 Bases pgs B 3.4-32 and B 3.4-33	Retyped ITS 3.4.6 Bases pgs B 3.4-32 and B 3.4-33
DOCs for ITS 3.4.9 p 1 of 7	DOCs for ITS 3.4.9 p 1 of 7
NUREG ITS markup for ITS 3.4.9 pgs 3.4-24 and Insert Page 3.4-24	NUREG ITS markup for ITS 3.4.9 pgs 3.4-24 and Insert Page 3.4-24
JFDs for ITS 3.4.9 p 1 of 1	JFDs for ITS 3.4.9 p 1 of 1
Retyped ITS 3.4.9 pgs 3.4-20 and 3.4-21	Retyped ITS 3.4.9 pgs 3.4-20 and 3.4-21

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REMOVE	INSERT
VOLUME 12	
CTS markup for ITS 3.5.1 p 3 of 17	CTS markup for ITS 3.5.1 p 3 of 17
CTS markup for ITS 3.5.1 p 9 of 17	CTS markup for ITS 3.5.1 p 9 of 17
DOCs for ITS 3.5.1 pgs 3 of 24 through 5 of 24	DOCs for ITS 3.5.1 pgs 3 of 24 through 5 of 24
DOCs for ITS 3.5.1 p 9 of 24	DOCs for ITS 3.5.1 p 9 of 24
NUREG Bases markup for ITS 3.5.1 p B 3.5-5	NUREG Bases markup for ITS 3.5.1 p B 3.5-5
NUREG Bases markup for ITS 3.5.1 p B 3.5-12	NUREG Bases markup for ITS 3.5.1 p B 3.5-12
Retyped ITS 3.5.1 Bases p B 3.5-5	Retyped ITS 3.5.1 Bases p B 3.5-5
Retyped ITS 3.5.1 Bases p B 3.5-13	Retyped ITS 3.5.1 Bases p B 3.5-13
DOCs for ITS 3.5.2 p 1 of 9	DOCs for ITS 3.5.2 p 1 of 9
CTS markup for ITS 3.5.3 p 2 of 4	CTS markup for ITS 3.5.3 p 2 of 4
DOCs for ITS 3.5.3 p 1 of 7	DOCs for ITS 3.5.3 p 1 of 7
NUREG Bases markup for ITS 3.5.3 p B 3.5-27	NUREG Bases markup for ITS 3.5.3 p B 3.5-27
NUREG Bases markup for ITS 3.5.3 p B 3.5-29	NUREG Bases markup for ITS 3.5.3 p B 3.5-29
Retyped ITS 3.5.3 Bases p B 3.5-30	Retyped ITS 3.5.3 Bases p B 3.5-30
Retyped ITS 3.5.3 Bases pgs B 3.5-32 and B 3.5-33	Retyped ITS 3.5.3 Bases pgs B 3.5-32 and B 3.5-33

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REMOVE	INSERT
VOLUME 13	
CTS markup for ITS 3.6.1.1 pgs 1 of 8 and 2 of 8	CTS markup for ITS 3.6.1.1 pgs 1 of 8 and 2 of 8
DOCs for ITS 3.6.1.1 pgs 3 of 6 and 4 of 6	DOCs for ITS 3.6.1.1 pgs 3 of 6 and 4 of 6
NUREG ITS markup for ITS 3.6.1.1 p 3.6-2	NUREG ITS markup for ITS 3.6.1.1 p 3.6-2
JFDs for ITS 3.6.1.1 pgs 1 of 2 and 2 of 2	JFDs for ITS 3.6.1.1 p 1 of 1
Retyped ITS 3.6.1.1 p 3.6-2	Retyped ITS 3.6.1.1 p 3.6-2
CTS markup for ITS 3.6.1.3 pgs 1 of 9 through 9 of 9	CTS markup for ITS 3.6.1.3 pgs 1 of 10 through 10 of 10
DOCs for ITS 3.6.1.3 p 2 of 14	DOCs for ITS 3.6.1.3 p 2 of 14
DOCs for ITS 3.6.1.3 p 7 of 14	DOCs for ITS 3.6.1.3 p 7 of 14
NUREG ITS markup for ITS 3.6.1.3 p 3.6-14	NUREG ITS markup for ITS 3.6.1.3 p 3.6-14
NUREG ITS markup for ITS 3.6.1.3 pgs 3.6-17 and 3.6-18	NUREG ITS markup for ITS 3.6.1.3 pgs 3.6-17 and 3.6-18
JFDs for ITS 3.6.1.3 pgs 1 of 5 and 2 of 5	JFDs for ITS 3.6.1.3 pgs 1 of 5 and 2 of 5
JFDs for ITS 3.6.1.3 p 5 of 5	JFDs for ITS 3.6.1.3 p 5 of 5
NUREG Bases markup for ITS 3.6.1.3 p B 3.6-25	NUREG Bases markup for ITS 3.6.1.3 p B 3.6-25
NUREG Bases markup for ITS 3.6.1.3 pgs B 3.6-31 and Insert Page B 3.6-31	NUREG Bases markup for ITS 3.6.1.3 pgs B 3.6-31 and Insert Page B 3.6-31
Bases JFDs for ITS 3.6.1.3 pgs 1 of 6 and 2 of 6	Bases JFDs for ITS 3.6.1.3 pgs 1 of 6 and 2 of 6
Bases JFDs for ITS 3.6.1.3 p 6 of 6	Bases JFDs for ITS 3.6.1.3 p 6 of 6
Retyped ITS 3.6.1.3 p 3.6-12	Retyped ITS 3.6.1.3 p 3.6-12
Retyped ITS 3.6.1.3 p 3.6-14	Retyped ITS 3.6.1.3 p 3.6-14
Retyped ITS 3.6.1.3 Bases pgs B 3.6-23 and B 3.6-24	Retyped ITS 3.6.1.3 Bases pgs B 3.6-23 and B 3.6-24
Retyped ITS 3.6.1.3 Bases pgs B 3.6-27 and B 3.6-28	Retyped ITS 3.6.1.3 Bases pgs B 3.6-27 and B 3.6-28
CTS markup for ITS 3.6.1.7 p 2 of 3	CTS markup for ITS 3.6.1.7 p 2 of 3
DOCs for ITS 3.6.1.7 pgs 1 of 6 and 2 of 6	DOCs for ITS 3.6.1.7 pgs 1 of 6 and 2 of 6
NUREG Bases markup for ITS 3.6.1.7 p B 3.6-53	NUREG Bases markup for ITS 3.6.1.7 p B 3.6-53
CTS markup for ITS 3.6.1.9 p 2 of 2	CTS markup for ITS 3.6.1.9 p 2 of 2
NUREG Bases markup for ITS 3.6.1.9 pgs Insert Page B 3.6-57c and Insert Page B 3.6-57d	NUREG Bases markup for ITS 3.6.1.9 pgs Insert Page B 3.6-57c and Insert Page B 3.6-57d
Retyped ITS 3.6.1.9 Bases pgs B 3.6-53 and B 3.6-54	Retyped ITS 3.6.1.9 Bases pgs B 3.6-53 and B 3.6-54

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REMOVE	INSERT
VOLUME 14	
DOCs for ITS 3.6.2.1 pgs 1 of 6 through 6 of 6	DOCs for ITS 3.6.2.1 pgs 1 of 6 through 6 of 6
CTS markup for ITS 3.6.2.3 p 2 of 2	CTS markup for ITS 3.6.2.3 p 2 of 2
NUREG Bases markup for ITS 3.6.2.3 pgs B 3.6-68 and Insert Page B 3.6-68	NUREG Bases markup for ITS 3.6.2.3 p B 3.6-68
NUREG Bases markup for ITS 3.6.2.3 p B 3.6-70	NUREG Bases markup for ITS 3.6.2.3 p B 3.6-70
Retyped ITS 3.6.2.3 Bases pgs B 3.6-68 through B 3.6-71	Retyped ITS 3.6.2.3 Bases pgs B 3.6-68 through B 3.6-71
DOCs for ITS 3.6.2.4 p 1 of 2	DOCs for ITS 3.6.2.4 p 1 of 2
DOCs for ITS 3.6.4.2 p 5 of 10	DOCs for ITS 3.6.4.2 p 5 of 10
DOCs for ITS 3.6.4.3 p 8 of 8	DOCs for ITS 3.6.4.3 p 8 of 8

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REMOVE	INSERT
VOLUME 15	
CTS markup for ITS 3.7.1 p 2 of 2	CTS markup for ITS 3.7.1 p 2 of 2
DOCs for ITS 3.7.1 p 1 of 6	DOCs for ITS 3.7.1 p 1 of 6
DOCs for ITS 3.7.5 pgs 2 of 4 through 4 of 4	DOCs for ITS 3.7.5 pgs 2 of 4 through 4 of 4
NUREG ITS markup for ITS 3.7.5 p 3.7-17	NUREG ITS markup for ITS 3.7.5 p 3.7-17
NUREG Bases markup for ITS 3.7.5 p B 3.7-32	NUREG Bases markup for ITS 3.7.5 p B 3.7-32
Retyped ITS 3.7.5 p 3.7-15	Retyped ITS 3.7.5 p 3.7-15
Retyped ITS 3.7.5 Bases p B 3.7-31	Retyped ITS 3.7.5 Bases p B 3.7-31
NUREG ITS markup for ITS 3.7.6 p 3.7-18	NUREG ITS markup for ITS 3.7.6 p 3.7-18
JFDs for ITS 3.7.6 p 2 of 2	JFDs for ITS 3.7.6 p 2 of 2
NUREG Bases markup for ITS 3.7.6 p B 3.7-35	NUREG Bases markup for ITS 3.7.6 p B 3.7-35
NUREG Bases markup for ITS 3.7.6 pgs B 3.7-36 and Insert Page B 3.7-36	NUREG Bases markup for ITS 3.7.6 pgs B 3.7-36 and Insert Page B 3.7-36
Retyped ITS 3.7.6 p 3.7-17	Retyped ITS 3.7.6 p 3.7-17
Retyped ITS 3.7.6 Bases pgs B 3.7-35 and B 3.7-36	Retyped ITS 3.7.6 Bases pgs B 3.7-35 and B 3.7-36
CTS markup for CTS 3/4.8 p 1 of 1	CTS markup for CTS 3/4.8 p 1 of 1
CTS markup for CTS 3/4.11.C p 1 of 1	CTS markup for CTS 3/4.11.C p 1 of 1
CTS markup for ITS 3.8.1 p 2 of 11	CTS markup for ITS 3.8.1 p 2 of 11
DOCs for ITS 3.8.1 pgs 2 of 12 through 12 of 12	DOCs for ITS 3.8.1 pgs 2 of 12 through 12 of 12
NUREG ITS markup for ITS 3.8.1 p 3.8-6	NUREG ITS markup for ITS 3.8.1 p 3.8-6
NUREG ITS markup for ITS 3.8.1 p 3.8-9	NUREG ITS markup for ITS 3.8.1 p 3.8-9
JFDs for ITS 3.8.1 p 6 of 10	JFDs for ITS 3.8.1 p 6 of 10
NUREG Bases markup for ITS 3.8.1 pgs B 3.8-4 and Insert Page B 3.8-4	NUREG Bases markup for ITS 3.8.1 pgs B 3.8-4 and Insert Page B 3.8-4
NUREG Bases markup for ITS 3.8.1 pgs B 3.8-16 and Insert Page B 3.8-16	NUREG Bases markup for ITS 3.8.1 pgs B 3.8-16 and Insert Page B 3.8-16
NUREG Bases markup for ITS 3.8.1 p B 3.8-20	NUREG Bases markup for ITS 3.8.1 p B 3.8-20
NUREG Bases markup for ITS 3.8.1 p B 3.8-21	NUREG Bases markup for ITS 3.8.1 p B 3.8-21
Retyped ITS 3.8.1 p 3.8-5	Retyped ITS 3.8.1 p 3.8-5
Retyped ITS 3.8.1 p 3.8-7	Retyped ITS 3.8.1 p 3.8-7
Retyped ITS 3.8.1 Bases pgs B 3.8-5 and B 3.8-6	Retyped ITS 3.8.1 Bases pgs B 3.8-5 and B 3.8-6
Retyped ITS 3.8.1 Bases pgs B 3.8-16 through B 3.8-26	Retyped ITS 3.8.1 Bases pgs B 3.8-16 through B 3.8-26

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DOCs for ITS 3.8.3 pgs 3 of 5 through 5 of 5	DOCs for ITS 3.8.3 pgs 3 of 5 through 5 of 5
NSHCs for ITS 3.8.3 pgs 5 of 6 and 6 of 6	NSHCs for ITS 3.8.3 pgs 5 of 6 and 6 of 6
NUREG ITS markup for ITS 3.8.3 pgs 3.8-22 and 3.8-23	NUREG ITS markup for ITS 3.8.3 pgs 3.8-22 and 3.8-23
JFDs for ITS 3.8.3 pgs 1 of 2 and 2 of 2	JFDs for ITS 3.8.3 pgs 1 of 2 and 2 of 2
NUREG Bases markup for ITS 3.8.3 p B 3.8-45	NUREG Bases markup for ITS 3.8.3 p B 3.8-45
NUREG Bases markup for ITS 3.8.3 p B 3.8-47	NUREG Bases markup for ITS 3.8.3 p B 3.8-47
NUREG Bases markup for ITS 3.8.3 p Insert Page B 3.8-49	NUREG Bases markup for ITS 3.8.3 p Insert Page B 3.8-49
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