JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.8.2

Reactor Protection System (RPS) Electric Power Monitoring

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

ADMINISTRATIVE CHANGES

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

A2 CTS 3.9.G.1 and 2 provides the option of either restoring the inoperable RPS electrical power monitoring assemblies to operable status, or removing the associated RPS power supply from service. The ITS 3.3.8.2 Required Actions A.1 and B.1 require that the associated inservice power supply(s) be removed from service. The option of restoring inoperable RPS electric power monitoring assemblies to an operable condition is implicit in the ITS. ITS LCO 3.0.2 states that if the LCO is met prior to expiration of the specified Completion Time(s), completion of the Required Actions is not required, unless otherwise stated. Therefore, it is acceptable to restore the EPAs to an operable status within the Required Action Completion Times and the Required Action of removing the associated inservice power supply(s) from service would not be required. Therefore the proposed change to remove this statement from the Technical Specifications is considered an administrative change, and is consistent with NUREG-1433, Revision 1.

A3 CTS 4.9.G.2 includes RPS electrical protection assembly "setpoints." The setting for each RPS electrical protection assembly over-voltage, under-voltage and under-frequency setpoint and time delay is listed. In ITS SR 3.3.8.2.2 and SR 3.3.8.2.3 the "Allowable Value" is specified.

The CTS "setpoints" are considered the "Allowable Values" as described in the ITS since the instrumentation is considered inoperable if the value is exceeded when either the CTS or the ITS is applicable. A detailed explanation of trip setpoints, allowable values and analytical limits as they relate to instrumentation uncertainties is provided below.

Trip setpoints are those predetermined values of output at which an action is expected to take place. The setpoints are compared to the actual process parameter and when the measured output value of the process parameter exceeds the setpoint in either the increasing or decreasing direction, the associated device (e.g., trip unit) changes state.

RAI - 3.3.6.1-04

ADMINISTRATIVE CHANGES

A3 (continued)

The trip setpoints are specified in the setpoint calculations, are derived from the analytical limits, and account for all worst case applicable instrumentation uncertainties (e.g., drift, process effects, calibration uncertainties, and severe environmental effects as appropriate). The trip setpoints derived in this manner provide adequate protection because all expected uncertainties are accounted for in the setpoint calculations.

The setpoints specified in the setpoint calculations are selected to ensure that the actual field trip setpoints do not exceed the ITS Allowable Values (i.e., the CTS "setpoints") between successive CHANNEL CALIBRATIONS. The CTS "setpoints" and the "ITS Allowable Values" are both the TS limit values that are placed on the actual field setpoints. The Allowable Values are derived from the trip setpoints by accounting for normal effects that would be seen during periodic surveillance or calibration. These effects are instrumentation uncertainties observed during normal operation (e.g., drift and calibration uncertainties). Accordingly, the ITS Allowable Values include all applicable instrument channel and measurement uncertainties. A channel is inoperable if its actual field trip setpoint is not within its required ITS Allowable Value.

The analytical limits are derived from the limiting values of the process parameters obtained from the safety analysis or other appropriate documents.

These "setpoints" or "Allowable Values" have been established consistent with the NYPA Engineering Standards Manual, IES-3A, "Instrument Loop Accuracy and Setpoint Calculation Methodology." The methodology used to determine the "Allowable Values" are consistent with the methodology discussed in ISA-S67.04-1994, Part II, "Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation." This change revises the terminology used in the CTS from "setpoints" to "Allowable Values". Since the instrumentation will be declared inoperable at the same numerical value, this change is considered administrative. Any changes to any "setpoints" in the CTS will be discussed below. This change is consistent with NUREG-1433, Revision 1.

LAR 3.3.6.1-4

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 A new ACTION is provided if CTS 3.9.G.1 or CTS 3.9.G.2 (ITS 3.3.8.2 Condition A and B, respectively) are not met in MODE 5 with any control rod withdrawn from a cell containing one or more fuel assemblies. ITS 3.3.8.2 ACTION D requires action to be initiated to insert any withdrawn control rod in cells containing fuel. This action places the reactor in the least reactive condition and ensures the safety function of RPS will not be required.

M2 If the Required Actions and associated Completions Times of CTS 3.9.G.1 or 3.9.G.2 are not met the reactor must be placed in the COLD SHUTDOWN condition within 24 hours in accordance with CTS 3.0.C since no specific action is provided. This requirement is proposed to be replaced by ITS 3.3.8.2 ACTION C which requires the plant be in MODE 3 within 12 hours under the same conditions (see L3 for elimination of requirement to be in COLD SHUTDOWN). Based on operating experience, this 12 hour Completion Time limit still allows for an orderly transition to MODE 3 without challenging plant systems. This change is more restrictive because it provides an additional requirement to place the plant in MODE 3 in 12 hours.

M3 This change replaces the under-voltage setpoint or Allowable Value (A3) in CTS 4.9.G.2 of electrical power monitoring assemblies associated with the inservice alternate power supply from ≥ 108 V to ≥ 109.9 V. The Allowable Values (to be icluded in the Technical Specifications) and the Trip Setpoints (to be included in plant procedures) have been established consistent with the NYPA Engineering Standards Manual, IES-3A, "Instrument Loop Accuracy and Setpoint Calculation Methodology." The methodology used to determine the "Allowable Values" are consistent with the methodology discussed in ISA-S67.04-1994, Part II, "Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation." The proposed value will ensure the most limiting voltage requirement is met. All design limits, applied in the methodologies, were confirmed as ensuring that applicable design requirements of the associated systems are maintained.

PAI 3.3.8.1-4

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 The portion of CTS 4.9.G.2 concerning demonstrating operability of RPS Electric Power Monitoring instrumentation including simulated automatic actuation of the protective relays, tripping logic, and output circuit breakers is replaced with a requirement to perform a system functional test (proposed SR 3.3.8.2.4). These current details of how to perform the system functional test are proposed to be relocated to the Bases.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 (continued)

This information provides instructions on the Surveillance performance which is not necessary in the Technical Specifications to ensure the RPS Electric Power Monitoring instruments are Operable. The requirements of ITS 3.3.8.2 which require the Electric Power Monitoring instruments to be Operable and the definition of Operability suffice. As such, these details are not required to be in the ITS to provide adequate protection of public health and safety. Changes to the Bases will be controlled by the provisions of the Bases Control Program described in Chapter 5 of the ITS.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CTS 3.9.G does not provide specific Applicability requirements for the RPS electric power monitoring assemblies (EPAs). The CTS Bases for this Specification and Amendment 76 to the JAFNPP Operating License specify that this protection is for the RPS (see discussion below with regards to License Amendment 76). CTS Table 3.1-1 requires the RPS instrumentation to be Operable when in the refuel, startup and run modes. The Applicability for the RPS Electric Power Monitoring in ITS 3.3.8.2 is MODES 1 and 2, and MODE 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies. This change is less restrictive since the only Applicability requirements during Refuel will be when a control rod is withdrawn from a core cell containing one or more fuel assemblies. The current requirement is at all time during MODE 5 or refueling operations. This change is acceptable since the RPS electric power monitoring assemblies provide protection for RPS and therefore must be Operable to support RPS Operability. In addition, ITS 3.10.3, "Single Control Rod Withdrawal - Hot Shutdown" and ITS 3.10.4, "Single Control Rod Withdrawal - Cold Shutdown" will allow a single control rod to be withdrawn in MODE 3 or MODE 4, respectively by allowing the reactor mode switch to be placed in the refuel position. In this situation, the RPS EPAs will be required by the new Specification.

JAF-3.3.8.2-01

License Amendment Number 76, dated November 7, 1983, approved the modifications and the associated Technical Specification/Bases changes which were necessary to address the Staff's concerns with regards to the capability of the RPS to properly operate after suffering sustained, abnormal voltage or frequency conditions from a non-Class 1E power supply. Included as part of this License Amendment was the results of a detailed review and technical evaluation of the proposed modifications

JAF-3.3.8.2-01

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 (continued)

and associated Technical Specification changes which were performed by Lawrence Livermore Laboratory (LLL). This evaluation was reported in LLL report UCID-19706, "Technical Evaluation of the Monitoring of Electric Power to the Reactor Protection System," dated June 15, 1983. Both the LLL report and the Staff's Safety Evaluation concluded that the proposed modifications and the associated Technical Specification changes will provide automatic protection to the RPS components from sustained abnormal power supply. Therefore, the Licensing Bases of the modification/Technical Specification changes is that the protection provided by these changes to the facility are for RPS components. This conclusion is consistent with the Bases discussion of the LCO for the current Technical Specifications. Accordingly, the applicability requirements of the ITS (3.3.8.2) needs to be consistent with the applicability requirements of the RPS (3.3.1.1).

The applicability requirements of the RPS as provided in ITS 3.3.1.1, Table 3.3.1.1-1 is for Modes 1, 2 and 5, with note "a" applied to Mode 5. Note "a" states "With any control rod withdrawn from a core cell containing one or more fuel assemblies." The proposed applicability requirements for ITS 3.3.8.2 are identical to those found in ITS 3.3.1.1 for the RPS.

In summary, consistent with the current licensing basis as described by License Amendment 76, the applicability requirements for ITS 3.3.8.2 ensure that the electrical protection assemblies are operable whenever the RPS is required to be operable. Accordingly, the proposed applicability requirements are acceptable.

RAI 3.3.8.2-01

L2 CTS 3.9.G.2 provides 30 minutes to restore at least one RPS electric power monitoring assemblies to operable status if both RPS electric power monitoring assemblies are inoperable for an inservice RPS motor generator or an inservice alternate power supply prior to removing the associated motor generator or power supply from service.

ITS 3.3.8.2, Required Action B.1 allows 1 hour to remove the motor generator or power supply from service (see A2). The 1 hour Completion Time provides sufficient time to determine the problem and take proper corrective actions without undue risk caused by having to remove an RPS powersupply from service in a very short amount of time. Extending the allowed outage time from 30 minutes to one hour decreases the likelihood of improperly performing the evolution, which could cause a plant trip and unnecessary transient. Therefore, this proposed change is not a decrease in safety and is consistent with NUREG-1433, Revision 1.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 If the Required Actions and associated Completions Times of CTS 3.9.G.1 or 3.9.G.2 are not met the reactor must be placed in the cold shutdown condition within 24 hours in accordance with CTS 3.0.C since no specific action is provided. In the ITS, the requirement to be in cold shutdown is not included but a new Required Action has been added to be in MODE 3 (see M2) within 12 hours. The RPS electric power monitoring assemblies are required to support the Operability of the RPS logic and the scram solenoids. With the plant in MODE 3, all rods are fully inserted, and will remain inserted since the mode switch, while in the shutdown position, enforces a rod block. This change is acceptable since the default condition is consistent with the requirements for RPS.

In addition, since the applicability of ITS 3.3.8.2 does not include Mode 3 and 4 (See DOC L1 and ITS JFD CLB1), placing the plant in Mode 3 as required by Required Action C.1 results in the plant being outside the applicability of the Specification and thus there is no need (or requirement) to place the plant in Mode 4.

RAI 3.3.8.2-02

L4 CTS 3.9.G.3 requires that at least one RPS division be powered from its respective motor generator while in MODE 1. If both RPS divisions are powered from the alternate power supply, there is a 7 day allowable outage time to restore at least one of the motor generator power supplies to Operable status, or the reactor is required to be placed in a cold condition within the next 24 hours. This requirement and action is proposed to be deleted. The alternate power supplies to both RPS divisions are supplied from the associated Division 1 or 2 emergency AC power subsystem. The two RPS electric power monitoring assemblies for each power supply assure that the voltage, frequency and current reaching the associated RPS Bus are within acceptable limits for equipment protection. Powering both RPS buses from their alternate power supply does not decrease safety, since the power supplies are still assured to be within acceptable limits by the associated RPS electric power monitoring assemblies, and the RPS Bus can still supply necessary power to the components supplied by the buses. This change is consistent with NUREG-1433, Revision 1.

L5 Existing requirements for actuation testing of CTS 4.9.G.2 stipulate a simulated automatic actuation test shall be performed. The phrase "actual or," in reference to the automatic initiation signal, has been added to the Bases of proposed SR 3.3.8.4 for verifying the protective relays, tripping logic and output circuit breaker of the associated electric power monitoring assembly actuates on an automatic initiation signal. This allows satisfactory automatic system initiations to be used to fulfill the Surveillance Requirements. Operability is adequately demonstrated in either case since the logic itself can not discriminate between "actual" or "simulated" signals.

DISCUSSION OF CHANGES
ITS: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.8.2

Reactor Protection System (RPS) Electric Power Monitoring

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

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

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

   This change will limit the required applicability to those conditions during which the RPS electric power monitoring assemblies provide a necessary function. Although loss of power is considered in conjunction with design basis accidents, it is not considered as an initiator for any accidents previously analyzed. Therefore, this change does not significantly increase the probability of a previously analyzed accident. Also, this change does not degrade the capability of the RPS electric power monitoring assemblies to perform their design basis function when needed. Therefore, this change does not significantly increase the consequences of a previously analyzed accident.

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

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

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

   This change does not involve a significant reduction in a margin of safety since the RPS electric power monitoring assemblies are provided to assure adequate power is available to the RPS and RPS bus powered equipment when required and this change only affects conditions where such power would not be required.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

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

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

   This change will provide additional time (30 minutes) to restore inoperable RPS electric power monitoring assemblies. The RPS electric power monitoring assemblies are not considered as an initiator for any accidents previously evaluated. Therefore, this change does not significantly increase the probability of a previously analyzed accident. Also, this change does not further degrade the capability of the RPS electric power monitoring assemblies to perform this required function under these circumstances. Therefore, this change does not significantly increase the consequences of a previously analyzed accident.

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

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

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

   This change does not involve a significant reduction in a margin of safety since the extended time is small and allows the operator consideration of plant conditions, personnel availability and appropriate response.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

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

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

   This change deletes the requirement to place the reactor in a cold condition when the Required Actions and Completion Times associated with inoperable RPS electric power monitoring assemblies are not met. The new requirement will be to place the reactor in MODE 3. The RPS electric power monitoring assemblies are required to support RPS logic and the scram pilot valve solenoids. With the plant in MODE 3, all rods are fully inserted, and will remain inserted since the mode switch, while in the shutdown position, enforces a rod block. Therefore, a reactivity control accident related to control rods cannot occur. Thus, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

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

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

   This change deletes the requirement to place the reactor in a cold condition when the Required Actions and Completion Times associated with inoperable RPS electric power monitoring assemblies are not met. The new requirement will be to place the reactor in MODE 3. The RPS electric power monitoring assemblies are required to support the Operability of the RPS logic and the scram solenoids. With the plant in MODE 3, all rods are fully inserted, and will remain inserted since the mode switch, while in the shutdown position, enforces a rod block. The margin of safety is not significantly reduced since the function of the RPS electric power monitoring assemblies will be accomplished in MODE 3 and a reactivity control accident related to control rods cannot occur.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

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

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

   The proposed change will delete the action to restrict the amount of time that both RPS electrical divisions can be powered from the alternate power supplies at the same time. The power supplies to the RPS buses are not considered as an initiator for any accidents previously evaluated. Therefore, this change does not significantly increase the probability of a previously analyzed accident. Also, this change does not degrade the capability of the RPS buses to perform their required function. Therefore, this change does not significantly increase the consequences of a previously analyzed accident.

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

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

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

   This change does not involve a significant reduction in a margin of safety since the alternate power supplies are powered from the Emergency AC Power System, and the RPS electric power monitoring assemblies will assure proper voltage, frequency and current to the RPS buses. Therefore, the RPS buses will be able to complete their intended function while powered from their alternate power supplies.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L5 CHANGE

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

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

   The phrase "actual or," in reference to the automatic initiation signal, has been added to the system functional test surveillance test description. This does not impose a requirement to create an "actual" signal. This change will allow the plant to take credit for spurious or real actuations as long as the surveillance requirements are satisfied. The proposed change does not affect the procedures governing plant operations and therefore the probability of creating these signals; it simply would allow such a signal to be credited when evaluating the results of the actual events against the acceptance criteria for the system functional test requirements. Therefore, the change does not involve a significant increase in the probability of an accident previously evaluated. Since the method of initiation will not affect the acceptance criteria of the system functional test, the change does not involve a significant increase in the consequences of an accident previously evaluated.

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

   The possibility of a new or different kind of accident from any accident previously evaluated is not created because the proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. The change merely allows the plant to take credit for spurious or real actuations as long as the actuation satisfies the surveillance requirement.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L5 CHANGE

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

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

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IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.8.2

Reactor Protection System (RPS) Electric Power Monitoring

MARKUP OF NUREG-1433, REVISION 1
SPECIFICATION

3.3 INSTRUMENTATION

[3.9.6] 3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring

[3.9.6] LCO 3.3.8.2 Two RPS electric power monitoring assemblies shall be OPERABLE for each inservice RPS motor generator set or alternate power supply.

[L1] APPLICABILITY: MODES 1, 2, and 3.
MODES 4 and 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies. (LCO1)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
[3.9.6.1] A. One or both inservice power supplies with one electric power monitoring assembly inoperable.	A.1 Remove associated inservice power supply(s) from service.	72 hours
[3.9.6.2] [L2] B. One or both inservice power supplies with both electric power monitoring assemblies inoperable.	B.1 Remove associated inservice power supply(s) from service.	1 hour
[M2] [L3] C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	12 hours 36 hours (LCO1)

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A or B not met in MODE 4 or 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies.	D.1 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately
	AND	
	D.2.1 Initiate action to restore one electric power monitoring assembly to OPERABLE status for inservice power supply(s) supplying required instrumentation.	Immediately
	OR	
	D.2.2 Initiate action to isolate the Residual Heat Removal Shutdown Cooling System.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.8.2.1	NOTE Only required to be performed prior to entering MODE 2 or 3 from MODE 4, when in MODE 4 for ≥ 24 hours.	
	Perform CHANNEL FUNCTIONAL TEST.	184 days

(continued)

DBI: of the electric power monitoring assemblies associated with the inservice RPS motor generator sets

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
[4.9.6.2] SR 3.3.8.2.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be:	(18) 24 months (DBI)
	a. Overvoltage ≤ (132) V, with time delay set ≤ 4 seconds	(DBI) RAI 3.3.6.1-04
	b. Undervoltage ≥ (108) V, with time delay set to (zero). ≤ 4 seconds	
	c. Underfrequency ≥ (57) Hz, with time delay set to (zero). ≤ 4 seconds	
[4.9.6.2] SR 3.3.8.2.(3) (4) DBI	Perform a system functional test.	(18) 24 months CLIB3

Channel "A" ≥ 112.5 V
Channel "B" ≥ 113.9 V

DBI

[4.9.6.2] SR 3.3.8.2.3 Perform CHANNEL CALIBRATION of the electric power monitoring assemblies associated with the inservice alternate power supplies. The Allowable Values shall be: — 24 months

a. Overvoltage ≤ 132 V, with time delay set to ≤ 4 seconds.

b. Undervoltage ≥ 109.9 V, with time delay set to ≤ 4 seconds.

c. Underfrequency ≥ 57 Hz, with time delay set to ≤ 4 seconds.

[M3]

Revision F

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IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.8.2

Reactor Protection System (RPS) Electric Power Monitoring

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG 1433, REVISION 1
ITS: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 The MODES 3, 4, and 5 Applicability of LCO 3.3.8.2, "RPS Electric Power Monitoring," is revised to not include MODE 3 or 4, consistent with the Applicability of RPS Functions in LCO 3.3.1.1 and CTS Table 3.3-1. In MODES 3 and 4, a control rod may be withdrawn from a core cell containing one or more fuel assemblies in accordance with LCO 3.10.3, "Single Control Rod Withdrawal - Hot Shutdown, and LCO 3.10.4, "Single Control Rod Withdrawal - Cold Shutdown," respectively. Therefore, LCO 3.10.3 and LCO 3.10.4 include Operability requirements for RPS Functions (LCO 3.3.1.1) and control rods (LCO 3.9.5). As a result, LCO 3.10.3 and LCO 3.10.4 have been modified to also include requirements for the RPS Electric Power Monitoring assemblies to be Operable when the RPS Functions and control rods are required to be Operable. Commensurate changes to the ACTIONS of LCO 3.3.8.2 and SR 3.3.8.2.1 have also been made for consistency.

License Amendment Number 76, dated November 7, 1983, approved the modifications and the associated Technical Specification/Bases changes which were necessary to address the Staff's concerns with regards to the capability of the RPS to properly operate after suffering sustained, abnormal voltage or frequency conditions from a non-Class 1E power supply. Included as part of this License Amendment was the results of a detailed review and technical evaluation of the proposed modifications and associated Technical Specification changes which were performed by Lawrence Livermore Laboratory (LLL). This evaluation was reported in LLL report UCID-19706, "Technical Evaluation of the Monitoring of Electric Power to the Reactor Protection System," dated June 15, 1983. Both the LLL report and the Staff's Safety Evaluation concluded that the proposed modifications and the associated Technical Specification changes will provide automatic protection to the RPS components from sustained abnormal power supply. Therefore, the Licensing Bases of the modification/Technical Specification changes is that the protection provided by these changes to the facility are for the RPS. This conclusion is consistent with the Bases discussion of the LCO for the current Technical Specifications. Accordingly, the applicability requirements of the ITS (3.3.8.2) needs to be consistent with the applicability requirements of the RPS (3.3.1.1).

The applicability requirements of the RPS as provided in ITS 3.3.1.1, Table 3.3.1.1-1 is for Modes 1, 2 and 5, with note "a" applied to Mode 5. Note "a" states "With any control rod withdrawn from a core cell containing one or more fuel assemblies." The proposed applicability requirements for ITS 3.3.8.2 are identical to those found in ITS for the RPS.

RAI 3.3.8.2-01

JUSTIFICATION FOR DIFFERENCES FROM NUREG 1433, REVISION 1
ITS: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 (continued)

ISTS 3.3.8.2 was written for plants where the protection provided by the RPS electric power monitoring was intended to include components in addition to RPS. As described above, the Licensing Basis of the JAFNPP differs from the Bases of ISTS 3.3.8.2 in that the protection provided is solely for the RPS components. Accordingly, the last phrase of the last sentence found in the applicability section of the Bases of ISTS 3.3.8.2 is deleted. This deleted phrase states that the applicability of the LCO is for "...both residual heat removal (RHR) shutdown cooling isolation valves open."

In summary, consistent with the current licensing basis as described by License Amendment 76, the applicability requirements for ITS 3.3.8.2 ensure that the electrical protection assemblies are operable whenever the RPS is required to be operable. Accordingly, the proposed applicability requirements are acceptable.

RAI - 3.3.8.2-01

CLB2 The bracketed ITS 3.3.8.2 Required Actions D.2.1 and D.2.2 have been deleted since they are not applicable to the JAFNPP licensing basis for the RPS Electric Power Monitoring Assemblies.

CLB3 The system functional test Frequency in ISTS SR 3.3.8.2.3 (SR 3.3.8.2.4) has been extended from 18 months to 24 months consistent with the current requirements in CTS 4.9.G.2.

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 A new SR (SR 3.3.8.2.3) has been added to simplify the presentation. The JAFNPP design includes two electric power monitoring assemblies (EPAs) for each power supply. There are a total of four power supplies, two in each electrical division and each power supply having two electric power monitoring assemblies. The Allowable Values of the electric power monitoring assemblies associated with the RPS motor generator sets are included in SR 3.3.8.2.2, and the Allowable of the EPAs associated with the alternate supplies are included in SR 3.3.8.2.3. The proposed Allowable Values are based on calculations based on a 24 month Surveillance Frequency, therefore the bracketed SR Frequency has been extended from 18 months to 24 months. This Frequency is consistent with CTS 4.9.G.2.

JUSTIFICATION FOR DIFFERENCES FROM NUREG 1433, REVISION 1
ITS: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

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

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.8.2

Reactor Protection System (RPS) Electric Power Monitoring

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.3 INSTRUMENTATION

B 3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring

BASES

BACKGROUND

RPS Electric Power Monitoring System is provided to isolate the RPS bus from the motor generator (MG) set or an alternate power supply in the event of overvoltage, undervoltage, or underfrequency. This system protects the loads connected to the RPS bus against unacceptable voltage and frequency conditions (Ref. 1) and forms an important part of the primary success path of the essential safety circuits. Some of the essential equipment powered from the RPS buses includes the RPS logic, scram solenoids, and various valve isolation logic.

PA2

(Safety functions powered by the RPS buses deenergize to actuate.)

RPS electric power monitoring assembly will detect any abnormal high or low voltage or low frequency condition in the outputs of the two MG sets or the alternate power supply and will de-energize its respective RPS bus, thereby causing all safety functions normally powered by this bus to de-energize.

In the event of failure of an RPS Electric Power Monitoring System (e.g., both in series electric power monitoring assemblies), the RPS loads may experience significant effects from the unregulated power supply. Deviation from the nominal conditions can potentially cause damage to the scram solenoids and other Class 1E devices.

PA1

pilot valve

PA2

In the event of a low voltage condition for an extended period of time, the scram solenoids can chatter and potentially lose their pneumatic control capability, resulting in a loss of primary scram action.

In the event of an overvoltage condition, the RPS logic relays and scram solenoids, as well as the main steam isolation valve (MSIV) solenoids, may experience a voltage higher than their design voltage. If the overvoltage condition persists for an extended time period, it may cause equipment degradation and the loss of plant safety function.

CLB1

Two redundant Class 1E circuit breakers are connected in series between each RPS bus and its MG set, and between each RPS bus and its alternate power supply. Each of these

(continued)

BASES

BACKGROUND (continued)

circuit breakers has an associated independent set of Class 1E overvoltage, undervoltage, and underfrequency sensing logic. Together, a circuit breaker and its sensing logic constitute an electric power monitoring assembly. If the output of the MG set exceeds predetermined limits of overvoltage, undervoltage, or underfrequency, a trip coil driven by this logic circuitry opens the circuit breaker, which removes the associated power supply from service.

APPLICABLE SAFETY ANALYSES

The RPS electric power monitoring is necessary to meet the assumptions of the safety analyses by ensuring that the equipment powered from the RPS buses can perform its intended function. RPS electric power monitoring provides protection to the RPS and other systems that receive power from the RPS buses, by acting to disconnect the RPS from the power supply under specified conditions that could damage the RPS bus powered equipment.

RPS electric power monitoring satisfies Criterion 3 of the NRC Policy Statement.

LCO

The OPERABILITY of each RPS electric power monitoring assembly is dependent on the OPERABILITY of the overvoltage, undervoltage, and underfrequency logic, as well as the OPERABILITY of the associated circuit breaker. Two electric power monitoring assemblies are required to be OPERABLE for each inservice power supply. This provides redundant protection against any abnormal voltage or frequency conditions to ensure that no single RPS electric power monitoring assembly failure can preclude the function of RPS bus powered components. Each inservice electric power monitoring assembly trip logic setpoints are required to be within the specified Allowable Value. The actual setpoint is calibrated consistent with applicable setpoint methodology assumptions.

Allowable Values are specified for each RPS electric power monitoring assembly trip logic (refer to SR 3.3.8.2.2). Nominal trip setpoints are specified in the setpoint calculations. The nominal setpoints are selected to ensure that the setpoints do not exceed the Allowable Value between CHANNEL CALIBRATIONS. Operation with a trip setpoint less

(continued)

BASES

LCO (continued)

conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable. A channel is inoperable if its actual trip setpoint is not within its required Allowable Value. Trip setpoints are those predetermined values of output at which an action should take place. The setpoints are compared to the actual process parameter (e.g., overvoltage), and when the measured output value of the process parameter exceeds the setpoint, the associated device (e.g., trip unit) changes state. The analytic limits are derived from the limiting values of the process parameters obtained from the safety analysis. The Allowable Values are derived from the analytic limits, corrected for calibration, process, and some of the instrument errors. The trip setpoints are then determined, accounting for the remaining instrument errors (e.g., drift). The trip setpoints derived in this manner provide adequate protection because instrumentation uncertainties, process effects, calibration tolerances, instrument drift, and severe environment errors (for channels that must function in harsh environments as defined by 10 CFR 50.49) are accounted for.

The Allowable Values for the instrument settings are based on the RPS providing ≥ 57 Hz, 120 V ± 10% (to all equipment), and 115 V ± 10 V (to scram and MSIV solenoids). The most limiting voltage requirement and associated line losses determine the settings of the electric power monitoring instrument channels. The settings are calculated based on the loads on the buses and RPS MG set or alternate power supply being 120 VAC and 60 Hz.

APPLICABILITY

The operation of the RPS electric power monitoring assemblies is essential to disconnect the RPS bus powered components from the MG set or alternate power supply during abnormal voltage or frequency conditions. Since the degradation of a nonclass 1E source supplying power to the RPS bus can occur as a result of any random single failure, the OPERABILITY of the RPS electric power monitoring assemblies is required when the RPS bus powered components are required to be OPERABLE. This results in the RPS Electric Power Monitoring System OPERABILITY being required in MODES 1, 2, and 3; and in MODES 4 and 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies or with both residual heat removal (RHR) shutdown cooling isolation valves open.

(continued)

DB3

INSERT LCO

The trip setpoints are derived from the analytical limits and account for all worst case instrumentation uncertainties as appropriate (e.g., drift, process effects, calibration uncertainties, and severe environmental errors (for channels that must function in harsh environments as defined by 10 CFR 50.49)). The trip setpoints derived in this manner provide adequate protection because all expected uncertainties are accounted for. The Allowable Values are then derived from the trip setpoints by accounting for normal effects that would be seen during periodic surveillance or calibration. These effects are instrumentation uncertainties observed during normal operation (e.g., drift and calibration uncertainties).

RAI 3.3.6.1-4

BASES (continued)

ACTIONS

A.1

If one RPS electric power monitoring assembly for an inservice power supply (MG set or alternate) is inoperable, or one RPS electric power monitoring assembly on each inservice power supply is inoperable, the OPERABLE assembly will still provide protection to the RPS bus powered components under degraded voltage or frequency conditions. However, the reliability and redundancy of the RPS Electric Power Monitoring System is reduced, and only a limited time (72 hours) is allowed to restore the inoperable assembly to OPERABLE status. If the inoperable assembly cannot be restored to OPERABLE status, the associated power supply(s) must be removed from service (Required Action A.1). This places the RPS bus in a safe condition. An alternate power supply with OPERABLE power monitoring assemblies may then be used to power the RPS bus.

The 72 hour Completion Time takes into account the remaining OPERABLE electric power monitoring assembly and the low probability of an event requiring RPS electric power monitoring protection occurring during this period. It allows time for plant operations personnel to take corrective actions or to place the plant in the required condition in an orderly manner and without challenging plant systems.

Alternately, if it is not desired to remove the power supply from service (e.g., as in the case where removing the power supply(s) from service would result in a scram or isolation), Condition C or D, as applicable, must be entered and its Required Actions taken.

B.1

If both power monitoring assemblies for an inservice power supply (MG set or alternate) are inoperable or both power monitoring assemblies in each inservice power supply are inoperable, the system protective function is lost. In this condition, 1 hour is allowed to restore one assembly to OPERABLE status for each inservice power supply. If one inoperable assembly for each inservice power supply cannot be restored to OPERABLE status, the associated power supply(s) must be removed from service within 1 hour (Required Action B.1). An alternate power supply with

(continued)

BASES

ACTIONS

B.1 (continued)

OPERABLE assemblies may then be used to power one RPS bus. The 1 hour Completion Time is sufficient for the plant operations personnel to take corrective actions and is acceptable because it minimizes risk while allowing time for restoration or removal from service of the electric power monitoring assemblies.

Alternately, if it is not desired to remove the power supply(s) from service (e.g., as in the case where removing the power supply(s) from service would result in a scram or isolation), Condition C or D, as applicable, must be entered and its Required Actions taken.

C.1 and C.2 (CLB2)

If any Required Action and associated Completion Time of Condition A or B are not met in MODE 1, 2, or 3, a plant shutdown must be performed. This places the plant in a condition where minimal equipment, powered through the inoperable RPS electric power monitoring assembly(s), is required and ensures that the safety function of the RPS (e.g., scram of control rods) is not required. The plant shutdown is accomplished by placing the plant in MODE 3 within 12 hours and in MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(CLB2)

(CLB2)

D.1, D.2.1, and D.2.2 (CLB1)

If any Required Action and associated Completion Time of Condition A or B are not met in MODE 4 or 5, or with any control rod withdrawn from a core cell containing one or more fuel assemblies or with both RHR shutdown cooling valves open, the operator must immediately initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies. Required Action D.1 results in the least reactive condition for the reactor core and ensures that the safety function of the RPS (e.g., scram of control rods) is not required.

(CLB2)

(CLB1)

(continued)

BASES

ACTIONS

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

CLB1

In addition, action must be immediately initiated to either restore one electric power monitoring assembly to OPERABLE status for the inservice power source supplying the required instrumentation powered from the RPS bus (Required Action D.2.1) or to isolate the RHR Shutdown Cooling System (Required Action D.2.2). Required Action D.2.1 is provided because the RHR Shutdown Cooling System may be needed to provide core cooling. All actions must continue until the applicable Required Actions are completed.

TA1

TSTF 205R3

SURVEILLANCE REQUIREMENTS

Insert SR 3.3.8.2.1

SR 3.3.8.2.1

A CHANNEL FUNCTIONAL TEST is performed on each overvoltage, undervoltage, and underfrequency channel to ensure that the entire channel will perform the intended function. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

As noted in the Surveillance, the CHANNEL FUNCTIONAL TEST is only required to be performed while the plant is in a condition in which the loss of the RPS bus will not jeopardize steady state power operation (the design of the system is such that the power source must be removed from service to conduct the Surveillance). The 24 hours is intended to indicate an outage of sufficient duration to allow for scheduling and proper performance of the Surveillance.

The 184 day Frequency and the Note in the Surveillance are based on guidance provided in Generic Letter 91-09 (Ref. 9).

A1

3

and SR 3.3.8.2.3

DB2

SR 3.3.8.2.2

CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies that the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology.

(continued)

Revision F

TA1

INSERT SR 3.3.8.2.1

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

TSTF-205

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.8.2.2 (continued)

The Frequency is based on the assumption of a 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.8.2.3

Performance of a system functional test demonstrates that, with a required system actuation (simulated or actual) signal, the logic of the system will automatically trip open the associated power monitoring assembly. Only one signal per power monitoring assembly is required to be tested. This Surveillance overlaps with the CHANNEL CALIBRATION to provide complete testing of the safety function. The system functional test of the Class 1E circuit breakers is included as part of this test to provide complete testing of the safety function. If the breakers are incapable of operating, the associated electric power monitoring assembly would be inoperable.

The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency.

REFERENCES

1. FSAR, Section [8.3.1.1.4.3].

2. NRC Generic Letter 91-09, "Modification of Surveillance Interval for the Electrical Protective Assemblies in Power Supplies for the Reactor Protection System," June 1991.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.8.2

Reactor Protection System (RPS) Electric Power Monitoring

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 The EPAs were installed to protect the RPS components, therefore reference to the MSIV solenoids and other isolation functions have been deleted.

CLB2 The MODES 3, 4, and 5 Applicability of LCO 3.3.8.2, "RPS Electric Power Monitoring," is revised to not include MODE 3 or 4, consistent with the Applicability of RPS Functions in LCO 3.3.1.1 and CTS Table 3.3-1. In MODES 3 and 4, a control rod may be withdrawn from a core cell containing one or more fuel assemblies in accordance with LCO 3.10.3, "Single Control Rod Withdrawal – Hot Shutdown, and LCO 3.10.4, "Single Control Rod Withdrawal – Cold Shutdown," respectively. Therefore, LCO 3.10.3 and LCO 3.10.4 include Operability requirements for RPS Functions (LCO 3.3.1.1) and control rods (LCO 3.9.5). As a result, LCO 3.10.3 and LCO 3.10.4 have been modified to also include requirements for the RPS Electric Power Monitoring assemblies to be Operable when the RPS Functions and control rods are required to be Operable. Commensurate changes to the ACTIONS of LCO 3.3.8.2 and SR 3.3.8.2.1 have also been made for consistency. The Justification for Differences for the Specification (CLB1) provides additional justification.

CLB3 This requirement was added consistent with the current requirements in CTS 4.9.G.2. Since there is no other simulated actuation test for this equipment in another Technical Specification this testing is appropriate.

CLB4 The system functional test Frequency in SR 3.3.8.2.4 has been extended from 18 months to 24 months consistent with the current requirements in CTS 4.9.G.2.

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

PA1 Typographical error corrected.

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

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

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

MAT-3382-01

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.3.8.2 - REACTOR PROTECTION SYSTEM (RPS) ELECTRIC POWER MONITORING

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB2 A new SR (SR 3.3.8.2.3) has been added to the Specification, therefore the Bases has been modified to reflect this change. This modification was necessary to identify the different Allowable Values of the electrical power monitoring assemblies associated with the MG set and the alternate power supplies. Subsequent SRs have been renumbered, as applicable to reflect this change.

DB3 The description of the setpoint calculation methodology has been revised to reflect the plant specific methodology.

DB4 The proposed Allowable Values are based on calculations based on a 24 month Surveillance Frequency, therefore the 18 month SR Frequency has been extended from 18 months to 24 months. This Frequency is consistent with CTS 4.9.G.2.

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

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

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

TSTF-205

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

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

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

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.8.2

Reactor Protection System (RPS) Electric Power Monitoring

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.3 INSTRUMENTATION

3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring

LCO 3.3.8.2 Two RPS electric power monitoring assemblies shall be OPERABLE for each inservice RPS motor generator set or alternate power supply.

APPLICABILITY: MODES 1 and 2,
MODES 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or both inservice power supplies with one electric power monitoring assembly inoperable.	A.1 Remove associated inservice power supply(s) from service.	72 hours
B. One or both inservice power supplies with both electric power monitoring assemblies inoperable.	B.1 Remove associated inservice power supply(s) from service.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1 or 2.	C.1 Be in MODE 3.	12 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A or B not met in MODE 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies.	D.1 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.8.2.1	----------NOTE---------- Only required to be performed prior to entering MODE 2 from MODE 3 or 4, when in MODE 4 for ≥ 24 hours. ---------- Perform CHANNEL FUNCTIONAL TEST.	184 days

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.8.2.2	Perform CHANNEL CALIBRATION of the electric power monitoring assemblies associated with the inservice RPS motor generator sets. The Allowable Values shall be: a. Overvoltage ≤ 132 V, with time delay set to ≤ 4 seconds. b. Undervoltage with time delay set to ≤ 4 seconds. Channel "A" ≥ 112.5 V Channel "B" ≥ 113.9 V c. Underfrequency ≥ 57 Hz, with time delay set to ≤ 4 seconds.	24 months
SR 3.3.8.2.3	Perform CHANNEL CALIBRATION of the electric power monitoring assemblies associated with the inservice alternate power supplies. The Allowable Values shall be: a. Overvoltage ≤ 132 V, with time delay set to ≤ 4 seconds. b. Undervoltage ≥ 109.9 V, with time delay set to ≤ 4 seconds. c. Underfrequency ≥ 57 Hz, with time delay set to ≤ 4 seconds.	24 months
SR 3.3.8.2.4	Perform a system functional test.	24 months

RAI 3.3.6.1-4

RAI 3.3.6.1-4

B 3.3 INSTRUMENTATION

B 3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring

BASES

BACKGROUND

RPS Electric Power Monitoring System is provided to isolate the RPS bus from the motor generator (MG) set or an alternate power supply in the event of overvoltage, undervoltage, or underfrequency. This system protects the loads connected to the RPS bus against unacceptable voltage and frequency conditions (Ref. 1) and forms an important part of the primary success path of the essential safety circuits. Some of the essential equipment powered from the RPS buses includes the RPS logic, scram solenoids, and various valve isolation logic.

RPS electric power monitoring assembly will detect any abnormal high or low voltage or low frequency condition in the outputs of the two MG sets or the alternate power supply and will de-energize its respective RPS bus, thereby causing all safety functions normally powered by this bus to de-energize. (Safety functions powered by the RPS buses deenergize to actuate.)

In the event of failure of an RPS Electric Power Monitoring System (e.g., both in-series electric power monitoring assemblies), the RPS loads may experience significant effects from the unregulated power supply. Deviation from the nominal conditions can potentially cause damage to the scram pilot valve solenoids and other Class 1E devices.

In the event of a low voltage condition for an extended period of time, the scram pilot valve solenoids can chatter and potentially lose their pneumatic control capability, resulting in a loss of primary scram action.

In the event of an overvoltage condition, the RPS logic relays and scram pilot valve solenoids, may experience a voltage higher than their design voltage. If the overvoltage condition persists for an extended time period, it may cause equipment degradation and the loss of plant safety function.

Two redundant Class 1E circuit breakers are connected in series between each RPS bus and its MG set, and between each RPS bus and its alternate power supply. Each of these

(continued)

BASES

BACKGROUND (continued)

circuit breakers has an associated independent set of Class 1E overvoltage, undervoltage, and underfrequency sensing logic. Together, a circuit breaker and its sensing logic constitute an electric power monitoring assembly. If the output of the inservice MG set or alternate power supply exceeds predetermined limits of overvoltage, undervoltage, or underfrequency, a trip coil driven by this logic circuitry opens the circuit breaker, which removes the associated power supply from service.

APPLICABLE SAFETY ANALYSES

The RPS electric power monitoring is necessary to meet the assumptions of the safety analyses by ensuring that the equipment powered from the RPS buses can perform its intended function. RPS electric power monitoring provides protection to the RPS and other systems that receive power from the RPS buses, by acting to disconnect the RPS from the power supply under specified conditions that could damage the RPS bus powered equipment.

RPS electric power monitoring satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 2).

LCO

The OPERABILITY of each RPS electric power monitoring assembly is dependent on the OPERABILITY of the overvoltage, undervoltage, and underfrequency logic, as well as the OPERABILITY of the associated circuit breaker. Two electric power monitoring assemblies are required to be OPERABLE for each inservice power supply. This provides redundant protection against any abnormal voltage or frequency conditions to ensure that no single RPS electric power monitoring assembly failure can preclude the function of RPS components. Each of the inservice electric power monitoring assembly trip logic setpoints is required to be within the specified Allowable Value. The actual setpoint is calibrated consistent with applicable setpoint methodology assumptions.

Allowable Values are specified for each RPS electric power monitoring assembly trip logic (refer to SR 3.3.8.2.2 and SR 3.3.8.2.3). Nominal trip setpoints are specified in the setpoint calculations. The nominal setpoints are selected to ensure that the setpoints do not exceed the Allowable

(continued)

BASES

LCO (continued)

Value between CHANNEL CALIBRATIONS. Operation with a trip setpoint less conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable. A channel is inoperable if its actual trip setpoint is not within its required Allowable Value. Trip setpoints are those predetermined values of output at which an action should take place. The setpoints are compared to the actual process parameter (e.g., overvoltage), and when the measured output value of the process parameter exceeds the setpoint, the associated device (e.g., trip unit) changes state. The analytic limits are derived from the limiting values of the process parameters obtained from the design and safety analysis. The trip setpoints are derived from the analytical limits and account for all worst case instrumentation uncertainties as appropriate (e.g., drift, process effects, calibration uncertainties, and severe environmental errors (for channels that must function in harsh environments as defined by 10 CFR 50.49)). The trip setpoints derived in this manner provide adequate protection because all expected uncertainties are accounted for. The Allowable Values are then derived from the trip setpoints by accounting for normal effects that would be seen during periodic surveillance or calibration. These effects are instrumentation uncertainties observed during normal operation (e.g., drift and calibration uncertainties).

The Allowable Values for the instrument settings are based on the RPS providing ≥ 57 Hz, 120 V ± 10% (to all equipment), and 115 V ± 10 V (to scram pilot valve solenoids). The most limiting voltage requirement and associated line losses determine the settings of the electric power monitoring instrument channels. The settings are calculated based on the loads on the buses and RPS MG set or alternate power supply being 120 VAC and 60 Hz.

APPLICABILITY

The operation of the RPS electric power monitoring assemblies is essential to disconnect the RPS components from the inservice MG set or alternate power supply during abnormal voltage or frequency conditions. Since the degradation of a non-class 1E source supplying power to the RPS bus can occur as a result of any random single failure, the OPERABILITY of the RPS electric power monitoring assemblies is required when the RPS bus powered components are required to be OPERABLE. This results in the RPS

(continued)

BASES

APPLICABILITY (continued)

Electric Power Monitoring System OPERABILITY being required in MODES 1 and 2; and in MODE 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies.

ACTIONS

A.1

If one RPS electric power monitoring assembly for an inservice power supply (MG set or alternate) is inoperable, or one RPS electric power monitoring assembly on each inservice power supply is inoperable, the OPERABLE assembly will still provide protection to the RPS bus under degraded voltage or frequency conditions. However, the reliability and redundancy of the RPS Electric Power Monitoring System is reduced, and only a limited time (72 hours) is allowed to restore the inoperable assembly to OPERABLE status. If the inoperable assembly cannot be restored to OPERABLE status, the associated power supply(s) must be removed from service (Required Action A.1). This places the RPS bus in a safe condition. An alternate power supply with OPERABLE power monitoring assemblies may then be used to power the RPS bus.

The 72 hour Completion Time takes into account the remaining OPERABLE electric power monitoring assembly and the low probability of an event requiring RPS electric power monitoring protection occurring during this period. It allows time for plant operations personnel to take corrective actions or to place the plant in the required condition in an orderly manner and without challenging plant systems.

Alternately, if it is not desired to remove the power supply from service (e.g., as in the case where removing the power supply(s) from service would result in a scram or isolation), Condition C or D, as applicable, must be entered and its Required Actions taken.

B.1

If both power monitoring assemblies for an inservice power supply (MG set or alternate) are inoperable or both power monitoring assemblies in each inservice power supply are inoperable, the system protective function is lost. In this

(continued)

BASES

ACTIONS

B.1 (continued)

condition, 1 hour is allowed to restore one assembly to OPERABLE status for each inservice power supply. If one inoperable assembly for each inservice power supply cannot be restored to OPERABLE status, the associated power supply(s) must be removed from service within 1 hour (Required Action B.1). An alternate power supply with OPERABLE assemblies may then be used to power one RPS bus. The 1 hour Completion Time is sufficient for the plant operations personnel to take corrective actions and is acceptable because it minimizes risk while allowing time for restoration or removal from service of the electric power monitoring assemblies.

Alternately, if it is not desired to remove the power supply(s) from service (e.g., as in the case where removing the power supply(s) from service would result in a scram or isolation), Condition C or D, as applicable, must be entered and its Required Actions taken.

C.1

If any Required Action and associated Completion Time of Condition A or B are not met in MODE 1 or 2, a plant shutdown must be performed. This places the plant in a condition where minimal equipment, powered through the inoperable RPS electric power monitoring assembly(s), is required and ensures that the safety function of the RPS (e.g., scram of control rods) is not required. The plant shutdown is accomplished by placing the plant in MODE 3 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

D.1

If any Required Action and associated Completion Time of Condition A or B are not met in MODE 5, with any control rod withdrawn from a core cell containing one or more fuel assemblies, the operator must immediately initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies. Required Action D.1

(continued)

BASES

ACTIONS

D.1 (continued)

results in the least reactive condition for the reactor core and ensures that the safety function of the RPS (e.g., scram of control rods) is not required. All actions must continue until the applicable Required Actions are completed.

SURVEILLANCE REQUIREMENTS

SR 3.3.8.2.1

A CHANNEL FUNCTIONAL TEST is performed on each overvoltage, undervoltage, and underfrequency channel to ensure that the entire channel will perform the intended function. A successful test of the required contacts(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

TSTF-205R3

As noted in the Surveillance, the CHANNEL FUNCTIONAL TEST is only required to be performed while the plant is in a condition in which the loss of the RPS bus will not jeopardize steady state power operation (the design of the system is such that the power source must be removed from service to conduct the Surveillance). The 24 hours is intended to indicate an outage of sufficient duration to allow for scheduling and proper performance of the Surveillance.

The 184 day Frequency and the Note in the Surveillance are based on guidance provided in Generic Letter 91-09 (Ref. 3).

SR 3.3.8.2.2 and SR 3.3.8.2.3

CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies that the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.8.2.2 and SR 3.3.8.2.3 (continued)

adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology.

The Frequency is based on the assumption of a 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.8.2.4

Performance of a system functional test demonstrates that, with a required system actuation (simulated or actual) signal, the logic of the system will automatically trip open the associated electric power monitoring assembly. The system functional test shall include actuation of the protective relays, tripping logic, and output circuit breakers. Only one signal per electric power monitoring assembly is required to be tested. This Surveillance overlaps with the CHANNEL CALIBRATION to provide complete testing of the safety function. The system functional test of the Class 1E circuit breakers is included as part of this test to provide complete testing of the safety function. If the breakers are incapable of operating, the associated electric power monitoring assembly would be inoperable.

The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency.

REFERENCES

1. UFSAR, Section 8.9.5.

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

3. NRC Generic Letter 91-09, Modification of Surveillance Interval for the Electric Protective Assemblies in Power Supplies for the Reactor Protection System, June 1991.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.3.6.3

Low-Low Set (LLS) Instrumentation

THIS SPECIFICATION IS DELETED.

THERE ARE NO REQUIREMENTS FOR THIS SPECIFICATION AT JAFNPP; THEREFORE THIS MARKUP PACKAGE CONTAINS ONLY THE FOLLOWING SECTIONS:

MARKUP OF NUREG-1433, REVISION 1, SPECIFICATION

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

MARKUP OF NUREG-1433, REVISION 1, BASES

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

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.3.6.3

Low-Low Set (LLS) Instrumentation

MARKUP OF NUREG-1433, REVISION 1
SPECIFICATION

3.3 INSTRUMENTATION

3.3.6.3 Low-Low Set (LLS) Instrumentation

LCO 3.3.6.3 The LLS valve instrumentation for each Function in Table 3.3.6.3-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One LLS valve inoperable due to inoperable channel(s).	A.1 Restore channel(s) to OPERABLE status.	24 hours
B. One or more safety/relief valves (S/RVs) with one Function 3 channel inoperable.	B.1 --------NOTE-------- LCO 3.0.4 is not applicable. ---------- Restore tailpipe pressure switches to OPERABLE status.	Prior to entering MODE 2 or 3 from MODE 4
C. ---------NOTE--------- Separate Condition entry is allowed for each S/RV. ---------- One or more S/RVs with two Function 3 channels inoperable.	C.1 Restore one tailpipe pressure switch to OPERABLE status.	[14] days

(continued)

DB1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A, B, or C not met. OR Two or more LLS valves inoperable due to inoperable channels.	D.1 Declare the associated LLS valve(s) inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

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

1. Refer to Table 3.3.6.3-1 to determine which SRs apply for each Function.
2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains LLS initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.6.3.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.6.3.2	Perform CHANNEL FUNCTIONAL TEST for portion of the channel outside primary containment.	[92] days

(continued)

DB1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.6.3.3	----------NOTE---------- Only required to be performed prior to entering MODE 2 during each scheduled outage > 72 hours when entry is made into primary containment. ---------- Perform CHANNEL FUNCTIONAL TEST for portions of the channel inside primary containment.	[92] days
SR 3.3.6.3.4	Perform CHANNEL FUNCTIONAL TEST.	[92] days
SR 3.3.6.3.5	Calibrate the trip unit.	[92] days
SR 3.3.6.3.6	Perform CHANNEL CALIBRATION.	[18] months
SR 3.3.6.3.7	Perform LOGIC SYSTEM FUNCTIONAL TEST.	[18] months

DB1

Table 3.3.6.3-1 (page 1 of 1)
Low-Low Set Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Steam Dome Pressure – High	[1 per LLS valve]	[SR 3.3.6.3.1] SR 3.3.6.3.4 [SR 3.3.6.3.5] SR 3.3.6.3.6 SR 3.3.6.3.7	≤ [1054] psig
2. Low-Low Set Pressure Setpoints	[2 per LLS valve]	[SR 3.3.6.3.1] SR 3.3.6.3.4 [SR 3.3.6.3.5] SR 3.3.6.3.6 SR 3.3.6.3.7	Low: Open ≤ [1010] psig Close ≤ [860] psig Medium-Low: Open ≤ [1025] psig Close ≤ [875] psig Medium-High: Open ≤ [1040] psig Close ≤ [890] psig High: Open ≤ [1050] psig Close ≤ [900] psig
3. Tailpipe Pressure Switch	[22] [2 per S/RV]	[SR 3.3.6.3.1] SR 3.3.6.3.2 [SR 3.3.6.3.3] SR 3.3.6.3.6 [SR 3.3.6.3.7]	≥ [80] psig and ≤ [100] psig

DB1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.3.6.3

Low-Low Set (LLS) Instrumentation

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.3.6.3 - LOW-LOW SET (LLS) INSTRUMENTATION

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The FitzPatrick design does not include the Low-Low Set Instrumentation for Safety Relief Valve actuation. Therefore this Specification is being deleted.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

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

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.3.6.3

Low-Low Set (LLS) Instrumentation

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.3 INSTRUMENTATION

B 3.3.6.3 Low-Low Set (LLS) Instrumentation

BASES

BACKGROUND

The LLS logic and instrumentation is designed to mitigate the effects of postulated thrust loads on the safety/relief valve (S/RV) discharge lines by preventing subsequent actuations with an elevated water leg in the S/RV discharge line. It also mitigates the effects of postulated pressure loads on the torus shell or suppression pool by preventing multiple actuations in rapid succession of the S/RVs subsequent to their initial actuation.

Upon initiation, the LLS logic will assign preset opening and closing setpoints to four preselected S/RVs. These setpoints are selected such that the LLS S/RVs will stay open longer; thus, releasing more steam (energy) to the suppression pool, and hence more energy (and time) will be required for repressurization and subsequent S/RV openings. The LLS logic increases the time between (or prevents) subsequent actuations to allow the high water leg created from the initial S/RV opening to return to (or fall below) its normal water level; thus, reducing thrust loads from subsequent actuations to within their design limits. In addition, the LLS is designed to limit S/RV subsequent actuations to one valve, so torus loads will also be reduced. DB1

The LLS instrumentation logic is arranged in two divisions with Logic channels A and C in one division and Logic channels B and D in the other division (Ref. 1). Each LLS logic channel (e.g., Logic A channel) controls one LLS valve. The LLS logic channels will not actuate their associated LLS valves at their LLS setpoints until the arming portion of the associated LLS logic is satisfied. Arming occurs when any one of the 11 S/RVs opens as indicated by a signal from one of the redundant pressure switches located on its tailpipe coincident with a high reactor pressure signal. Each division receives tailpipe arming signals from dedicated tailpipe pressure switches on each of the 11 S/RVs, six in Logic C and five in the other LLS logic (e.g., Logic A). Each LLS logic (e.g., Logic A) receives the reactor pressure arming signal from a different reactor pressure transmitter and trip unit. These arming signals seal in until reset. The arming signal from one

(continued)

BASES

BACKGROUND (continued)

logic is sent to the other logic within the same division and performs the same function as the tailpipe arming signal (i.e., Logic A will arm if it has received a high reactor pressure signal and Logic C has armed).

After arming, opening of each LLS valve is by a two-out-of-two logic from one reactor pressure transmitter and two trip units set to trip at the required LLS opening setpoint. The LLS valve recloses when reactor pressure has decreased to the reclose setpoint of one of the two trip units used to open the valve (one-out-of-two logic).

This logic arrangement prevents single instrument failures from precluding the LLS S/RV function. The channels include electronic equipment (e.g., trip units) that compares measured input signals with pre-established setpoints. When the setpoint is exceeded, the channel output relay actuates, which then outputs a LLS initiation signal to the initiation logic.

APPLICABLE SAFETY ANALYSES

The LLS instrumentation and logic function ensures that the containment loads remain within the primary containment design basis (Ref. 2).

The LLS instrumentation satisfies Criterion 3 of the NRC Policy Statement.

DB1

LCO

The LCO requires OPERABILITY of sufficient LLS instrumentation channels to ensure successfully accomplishing the LLS function assuming any single instrumentation channel failure within the LLS logic. Therefore, the OPERABILITY of the LLS instrumentation is dependent on the OPERABILITY of the instrumentation channel Function specified in Table 3.3.6.3-1. Each Function must have a required number of OPERABLE channels, with their setpoints within the specified Allowable Value. A channel is inoperable if its actual trip setpoint is not within its required Allowable Value. The actual setpoint is calibrated consistent with applicable setpoint methodology assumptions.

Allowable Values are specified for each LLS actuation Function in Table 3.3.6.3-1. Nominal trip setpoints are

(continued)

BASES

LCO (continued)

specified in the setpoint calculations. The nominal setpoints are selected to ensure the setpoints do not exceed the Allowable Value between CHANNEL CALIBRATIONS. Operation with a trip setpoint less conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable. Trip setpoints are those predetermined values of output at which an action should take place. The setpoints are compared to the actual process parameter (e.g., reactor vessel water level), and when the measured output value of the process parameter exceeds the setpoint, the associated device (e.g., trip unit) changes state. The analytic limits are derived from the limiting values of the process parameters obtained from the safety analysis. The Allowable Values are derived from the analytic limits, corrected for calibration, process, and some of the instrument errors. The trip setpoints are then determined accounting for the remaining instrument errors (e.g., drift). The trip setpoints derived in this manner provide adequate protection because instrumentation uncertainties, process effects, calibration tolerances, instrument drift, and severe environment errors (for channels that must function in harsh environments as defined by 10 CFR 50.49) are accounted for.

The Tailpipe Pressure Switch Allowable Value is based on ensuring that a proper arming signal is sent to the LLS logic. That is, the pressure switch is initiated only when an S/RV has opened.

The Reactor Steam Dome Pressure—High was chosen to be the same as the Reactor Protection System (RPS) Reactor Steam Dome Pressure Allowable Value (LCO 3.3.1.1) because it would be expected that LLS would be needed for pressurization events. Providing LLS after a scram has been initiated would prevent false initiations of LLS at 100% power. The LLS valve open and close Allowable Values are based on the safety analysis performed in Reference 2.

DB1

APPLICABILITY

The LLS instrumentation is required to be OPERABLE in MODES 1, 2, and 3 since considerable energy is in the nuclear system and the S/RVs may be needed to provide pressure relief. If the S/RVs are needed, then the LLS function is required to ensure that the primary containment design basis is maintained. In MODES 4 and 5, the reactor pressure is low enough that the overpressure limit cannot be

(continued)

BASES

APPLICABILITY (continued)

approached by assumed operational transients or accidents. Thus, LLS instrumentation and associated pressure relief is not required.

ACTIONS

Reviewer's Note: Certain LCO Completion Times are based on approved topical reports. In order for a licensee to use the times, the licensee must justify the Completion Times as required by the staff Safety Evaluation Report (SER) for the topical report.

A.1

The failure of any reactor steam dome pressure instrument channel to provide the arming, S/RV opening and closing pressure setpoints for an individual LLS valve does not affect the ability of the other LLS S/RVs to perform their LLS function. A LLS valve is OPERABLE if the associated logic, (e.g., Logic A), has one Function 1 channel, two Function 2 channels, and three Function 3 channels OPERABLE. Therefore, 24 hours is provided to restore the inoperable channel(s) to OPERABLE status (Required Action A.1). If the inoperable channel(s) cannot be restored to OPERABLE status within the allowable out of service time, Condition D must be entered and its Required Action taken. The Required Actions do not allow placing the channel in trip since this action could result in an instrumented LLS valve actuation. The 24 hour Completion Time is considered appropriate because of the redundancy in the design (four LLS valves are provided and any one LLS valve can perform the LLS function) and the very low probability of multiple LLS instrumentation channel failures, which render the remaining LLS S/RVs inoperable, occurring together with an event requiring the LLS function during the 24 hour Completion Time. The 24 hour Completion Time is also based on the reliability analysis of Reference 3. DB1

B.1

Although the LLS circuitry is designed so that operation of a single tailpipe pressure switch will result in arming both LLS logics in its associated division, each tailpipe pressure switch provides a direct input to only one LLS

(continued)

BASES

ACTIONS

B.1 (continued)

logic (e.g., Logic A). Since each LLS logic normally receives at least five S/RV pressure switch inputs (and also receives the other S/RV signals from the other logic in the same division by an arming signal), the LLS logic and instrumentation remains capable of performing its safety function if any S/RV tailpipe pressure switch instrument channel becomes inoperable. Therefore, it is acceptable for plant operation to continue with only one tailpipe pressure switch OPERABLE on each S/RV. However, this is only acceptable provided each LLS valve is OPERABLE. (Refer to Required Action A.1 and D.1 Bases).

Required Action B.1 requires restoration of the tailpipe pressure switches to OPERABLE status prior to entering MODE 2 or 3 from MODE 4 to ensure that all switches are OPERABLE at the beginning of a reactor startup (this is because the switches are not accessible during plant operation). The Required Actions do not allow placing the channel in trip since this action could result in a LLS valve actuation. As noted, LCO 3.0.4 is not applicable, thus allowing entry into MODE 1 from MODE 2 with inoperable channels. This allowance is needed since the channels only have to be repaired prior to entering MODE 2 from MODE 3 or MODE 4. Yet, LCO 3.0.4 would preclude entry into MODE 1 from MODE 2 since the Required Action does not allow unlimited operations.

DB1

C.1

A failure of two pressure switch channels associated with one S/RV tailpipe could result in the loss of the LLS function (i.e., multiple actuations of the S/RV would go undetected by the LLS logic). However, the S/RVs are organized in groups and, during an event, groups of S/RVs initially open (setpoints are at same settings for a total of 11 S/RVs in three groups). Therefore, it would be very unlikely that a single S/RV would be required to arm all the LLS logic. Therefore, it is acceptable to allow 14 days to restore one pressure switch of the associated S/RV to OPERABLE status (Required Action C.1). However, this allowable out of service time is only acceptable provided each LLS is OPERABLE (Refer to Required Action A.1 and D.1 Bases). If one inoperable tailpipe pressure switch cannot

(continued)

BASES

ACTIONS

C.1 (continued)

be restored to OPERABLE status within the allowable out of service time, Condition D must be entered and its Required Action taken. The Required Actions do not allow placing the channels in trip since this action could result in a LLS valve actuation.

A Note has been provided in the Condition to modify the Required Actions and Completion Times conventions related to LLS Function 3 channels. Section 1.3, Completion Times, specifies that once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition. Section 1.3 also specifies that Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for inoperable LLS Function 3 channels provide appropriate compensatory measures for separate inoperable Condition entry for each S/RV with inoperable tailpipe pressure switches.

DB1

D.1

If any Required Action and associated Completion Time of Conditions A, B, or C are not met, or two or more LLS valves are inoperable due to inoperable channels, the LLS valves may be incapable of performing their intended function. Therefore, the associated LLS valve must be declared inoperable immediately. A LLS valve is OPERABLE if the associated logic (e.g., Logic A) has one Function 1 channel, two Function 2 channels, and three Function 3 channels OPERABLE.

SURVEILLANCE REQUIREMENTS

[Reviewer's Note: Certain Frequencies are based on approved topical reports. In order for a licensee to use the Frequencies, the licensee must justify the Frequencies as required by the staff SER for the topical report.]

As noted at the beginning of the SRs, the SRs for each LLS instrumentation Function are located in the SRs column of Table 3.3.6.3-1.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

The Surveillances are modified by a Note to indicate that when a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains LLS initiation capability. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. This Note is based on the reliability analysis (Ref. 3) assumption of the average time required to perform channel surveillance. That analysis demonstrated that the 6 hour testing allowance does not significantly reduce the probability that the LLS valves will initiate when necessary.

DB1

SR 3.3.6.3.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on another channel. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the instrument channels could be an indication of excessive instrument drift in one of the channels or something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

Agreement criteria are determined by the plant staff based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the instrument has drifted outside its limit.

The Frequency is based upon operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with channels required by the LCO.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.6.3.2, SR 3.3.6.3.3, and SR 3.3.6.3.4

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the entire channel will perform the intended function. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

The 92 day Frequency is based on the reliability analysis of Reference 3.

A portion of the S/RV tailpipe pressure switch instrument channels are located inside the primary containment. The Note for SR 3.3.6.3.3, "Only required to be performed prior to entering MODE 2 during each scheduled outage > 72 hours when entry is made into primary containment," is based on the location of these instruments, ALARA considerations, and compatibility with the Completion Time of the associated Required Action (Required Action B.1).

DB1

SR 3.3.6.3.5

The calibration of trip units provides a check of the actual trip setpoints. The channel must be declared inoperable if the trip setting is discovered to be less conservative than the Allowable Value. If the trip setting is discovered to be less conservative than accounted for in the appropriate setpoint methodology, but is not beyond the Allowable Value, the channel performance is still within the requirements of the plant safety analysis. Under these conditions, the setpoint must be readjusted to be equal to or more conservative than the setting accounted for in the appropriate setpoint methodology. The Frequency of every 92 days for SR 3.3.6.3.5 is based on the reliability analysis of Reference 3.

SR 3.3.6.3.6

CHANNEL CALIBRATION is a complete check of the instrument loop and sensor. This test verifies the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.6.3.6 (continued)

calibrations consistent with the plant specific setpoint methodology.

The Frequency of once every 18 months for SR 3.3.6.3.6 is based on the assumption of an 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

DB1

SR 3.3.6.3.7

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required actuation logic for a specified channel. The system functional testing performed in LCO 3.4.3, "Safety/Relief Valves(S/RVs)" and LCO 3.6.1.8, "Low-Low Set (LLS) Safety/Relief Valves (S/RVs)," for S/RVs overlaps this test to provide complete testing of the assumed safety function.

The Frequency of once every 18 months for SR 3.3.6.3.7 is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed at the 18 month Frequency.

REFERENCES

1. FSAR, Figure [ ].

2. FSAR, Section [5.5.17].

3. GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," February 1991.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.3.6.3

Low-Low Set (LLS) Instrumentation

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.3.6.3 - LOW-LOW SET (LLS) INSTRUMENTATION

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The FitzPatrick design does not include the Low-Low Set Instrumentation for Safety Relief Valve actuation. Therefore this Specification and Bases are being deleted.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

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

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.3.4.1

End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation

THIS SPECIFICATION IS DELETED.

THERE ARE NO REQUIREMENTS FOR THIS SPECIFICATION AT JAFNPP; THEREFORE THIS MARKUP PACKAGE CONTAINS ONLY THE FOLLOWING SECTIONS:

MARKUP OF NUREG-1433, REVISION 1, SPECIFICATION

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

MARKUP OF NUREG-1433, REVISION 1, BASES

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

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.3.4.1

End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation

MARKUP OF NUREG-1433, REVISION 1
SPECIFICATION

DOC

3.3 INSTRUMENTATION

3.3.4.1 End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation

LCO 3.3.4.1 a. Two channels per trip system for each EOC-RPT instrumentation Function listed below shall be OPERABLE:

1. Turbine Stop Valve (TSV)—Closure; and

2. Turbine Control Valve (TCV) Fast Closure, Trip Oil Pressure—Low.

OR

b. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," limits for inoperable EOC-RPT as specified in the COLR are made applicable.

APPLICABILITY: THERMAL POWER > [30]% RTP.

ACTIONS

NOTE
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Restore channel to OPERABLE status.	72 hours
	OR	
	A.2 NOTE Not applicable if inoperable channel is the result of an inoperable breaker. Place channel in trip.	72 hours

(continued)

DBI

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more Functions with EOC-RPT trip capability not maintained. AND MCPR limit for inoperable EOC-RPT not made applicable.	B.1 Restore EOC-RPT trip capability. OR B.2 Apply the MCPR limit for inoperable EOC-RPT as specified in the COLR.	2 hours 2 hours
C. Required Action and associated Completion Time not met.	C.1 Remove the associated recirculation pump from service. OR C.2 Reduce THERMAL POWER to < [30]% RTP.	4 hours 4 hours

SURVEILLANCE REQUIREMENTS

----------NOTE----------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains EOC-RPT trip capability.

SURVEILLANCE		FREQUENCY
SR 3.3.4.1.1	Perform CHANNEL FUNCTIONAL TEST.	[92] days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.3.4.1.2	Calibrate the trip units.	[92] days
SR 3.3.4.1.3	Perform CHANNEL CALIBRATION. The Allowable Values shall be: TSV—Closure: ≥ [10]% closed; and TCV Fast Closure, Trip Oil Pressure—Low: ≥ [600] psig.	[18] months
SR 3.3.4.1.4	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	[18] months
SR 3.3.4.1.5	Verify TSV—Closure and TCV Fast Closure, Trip Oil Pressure—Low Functions are not bypassed when THERMAL POWER is ≥ [30]% RTP.	[18] months
SR 3.3.4.1.6	----------NOTE---------- Breaker [interruption] time may be assumed from the most recent performance of SR 3.3.4.1.7. ---------- Verify the EOC-RPT SYSTEM RESPONSE TIME is within limits.	[18] months on a STAGGERED TEST BASIS
SR 3.3.4.1.7	Determine RPT breaker [interruption] time.	60 months

081

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.3.4.1

End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.3.4.1 - EOC-RPT INSTRUMENTATION

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The FitzPatrick design does not include the EOC-RPT Trip System. Therefore this Specification is being deleted, and followup Specifications renumbered as necessary.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

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

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.3.4.1

End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.3 INSTRUMENTATION

B 3.3.4.1 End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation

BASES

BACKGROUND

The EOC-RPT instrumentation initiates a recirculation pump trip (RPT) to reduce the peak reactor pressure and power resulting from turbine trip or generator load rejection transients to provide additional margin to core thermal MCPR Safety Limits (SLs).

The need for the additional negative reactivity in excess of that normally inserted on a scram reflects end of cycle reactivity considerations. Flux shapes at the end of cycle are such that the control rods may not be able to ensure that thermal limits are maintained by inserting sufficient negative reactivity during the first few feet of rod travel upon a scram caused by Turbine Control Valve (TCV) Fast Closure, Trip Oil Pressure—Low or Turbine Stop Valve (TSV)—Closure. The physical phenomenon involved is that the void reactivity feedback due to a pressurization transient can add positive reactivity at a faster rate than the control rods can add negative reactivity. DB1

The EOC-RPT instrumentation, as shown in Reference 1, is composed of sensors that detect initiation of closure of the TSVs or fast closure of the TCVs, combined with relays, logic circuits, and fast acting circuit breakers that interrupt power from the recirculation pump motor generator (MG) set generators to each of the recirculation pump motors. The channels include electronic equipment (e.g., trip units) that compares measured input signals with pre-established setpoints. When the setpoint is exceeded, the channel output relay actuates, which then outputs an EOC-RPT signal to the trip logic. When the RPT breakers trip open, the recirculation pumps coast down under their own inertia. The EOC-RPT has two identical trip systems, either of which can actuate an RPT.

Each EOC-RPT trip system is a two-out-of-two logic for each Function; thus, either two TSV—Closure or two TCV Fast Closure, Trip Oil Pressure—Low signals are required for a trip system to actuate. If either trip system actuates, both recirculation pumps will trip. There are two EOC-RPT breakers in series per recirculation pump. One trip system trips one of the two EOC-RPT breakers for each recirculation

(continued)

BASES

BACKGROUND (continued)

pump, and the second trip system trips the other EOC-RPT breaker for each recirculation pump.

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

The TSV—Closure and the TCV Fast Closure, Trip Oil Pressure—Low Functions are designed to trip the recirculation pumps in the event of a turbine trip or generator load rejection to mitigate the neutron flux, heat flux, and pressurize transients, and to increase the margin to the MCPR SL. The analytical methods and assumptions used in evaluating the turbine trip and generator load rejection, as well as other safety analyses that ensure EOC-RPT, are summarized in References 2, 3, and 4.

To mitigate pressurization transient effects, the EOC-RPT must trip the recirculation pumps after initiation of closure movement of either the TSVs or the TCVs. The combined effects of this trip and a scram reduce fuel bundle power more rapidly than a scram alone, resulting in an increased margin to the MCPR SL. Alternatively, MCPR limits for an inoperable EOC-RPT, as specified in the COLR, are sufficient to mitigate pressurization transient effects. The EOC-RPT function is automatically disabled when turbine first stage pressure is < [40%] RTP.

DB1

EOC-RPT instrumentation satisfies Criterion 3 of the NRC Policy Statement.

The OPERABILITY of the EOC-RPT is dependent on the OPERABILITY of the individual instrumentation channel Functions. Each Function must have a required number of OPERABLE channels in each trip system, with their setpoints within the specified Allowable Value of SR 3.3.4.1.3. The actual setpoint is calibrated consistent with applicable setpoint methodology assumptions. Channel OPERABILITY also includes the associated EOC-RPT breakers. Each channel (including the associated EOC-RPT breakers) must also respond within its assumed response time.

Allowable Values are specified for each EOC-RPT Function specified in the LCO. Nominal trip setpoints are specified in the setpoint calculations. A channel is inoperable if its actual trip setpoint is not within its required Allowable Value. The nominal setpoints are selected to ensure that the setpoints do not exceed the Allowable Value

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

between successive CHANNEL CALIBRATIONS. Operation with a trip setpoint less conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable. Each Allowable Value specified is more conservative than the analytical limit assumed in the transient and accident analysis in order to account for instrument uncertainties appropriate to the Function. Trip setpoints are those predetermined values of output at which an action should take place. The setpoints are compared to the actual process parameter (e.g., TSV position), and when the measured output value of the process parameter exceeds the setpoint, the associated device (e.g., trip unit) changes state. The analytic limits are derived from the limiting values of the process parameters obtained from the safety analysis. The Allowable Values are derived from the analytic limits, corrected for calibration, process, and some of the instrument errors. The trip setpoints are then determined accounting for the remaining instrument errors (e.g., drift). The trip setpoints derived in this manner provide adequate protection because instrumentation uncertainties, process effects, calibration tolerances, instrument drift, and severe environment errors (for channels that must function in harsh environments as defined by 10 CFR 50.49) are accounted for.

The specific Applicable Safety Analysis, LCO, and Applicability discussions are listed below on a Function by Function basis.

DB1

Alternatively, since this instrumentation protects against a MCPR SL violation, with the instrumentation inoperable, modifications to the MCPR limits (LCO 3.2.2) may be applied to allow this LCO to be met. The MCPR penalty for the EOC-RPT inoperable condition is specified in the COLR.

Turbine Stop Valve—Closure

Closure of the TSVs and a main turbine trip result in the loss of a heat sink that produces reactor pressure, neutron flux, and heat flux transients that must be limited. Therefore, an RPT is initiated on TSV—Closure in anticipation of the transients that would result from closure of these valves. EOC-RPT decreases reactor power and aids the reactor scram in ensuring that the MCPR SL is not exceeded during the worst case transient.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

Turbine Stop Valve—Closure (continued)

Closure of the TSVs is determined by measuring the position of each valve. There are two separate position switches associated with each stop valve, the signal from each switch being assigned to a separate trip channel. The logic for the TSV—Closure Function is such that two or more TSVs must be closed to produce an EOC-RPT. This Function must be enabled at THERMAL POWER ≥ 30% RTP. This is normally accomplished automatically by pressure transmitters sensing turbine first stage pressure; therefore, to consider this Function OPERABLE, the turbine bypass valves must remain shut at THERMAL POWER ≥ 30% RTP. Four channels of TSV—Closure, with two channels in each trip system, are available and required to be OPERABLE to ensure that no single instrument failure will preclude an EOC-RPT from this Function on a valid signal. The TSV—Closure Allowable Value is selected to detect imminent TSV closure.

081

This protection is required, consistent with the safety analysis assumptions, whenever THERMAL POWER is ≥ 30% RTP. Below 30% RTP, the Reactor Vessel Steam Dome Pressure—High and the Average Power Range Monitor (APRM) Fixed Neutron Flux—High Functions of the Reactor Protection System (RPS) are adequate to maintain the necessary safety margins.

Turbine Control Valve Fast Closure, Trip Oil Pressure—Low

Fast closure of the TCVs during a generator load rejection results in the loss of a heat sink that produces reactor pressure, neutron flux, and heat flux transients that must be limited. Therefore, an RPT is initiated on TCV Fast Closure, Trip Oil Pressure—Low in anticipation of the transients that would result from the closure of these valves. The EOC-RPT decreases reactor power and aids the reactor scram in ensuring that the MCPR SL is not exceeded during the worst case transient.

Fast closure of the TCVs is determined by measuring the electrohydraulic control fluid pressure at each control valve. There is one pressure transmitter associated with each control valve, and the signal from each transmitter is assigned to a separate trip channel. The logic for the TCV Fast Closure, Trip Oil Pressure—Low Function is such that two or more TCVs must be closed (pressure transmitter trips)

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

Turbine Control Valve Fast Closure, Trip Oil Pressure—Low (continued)

to produce an EOC-RPT. This Function must be enabled at THERMAL POWER ≥ 30% RTP. This is normally accomplished automatically by pressure transmitters sensing turbine first stage pressure; therefore, to consider this Function OPERABLE, the turbine bypass valves must remain shut at THERMAL POWER ≥ 30% RTP. Four channels of TCV Fast Closure, Trip Oil Pressure—Low, with two channels in each trip system, are available and required to be OPERABLE to ensure that no single instrument failure will preclude an EOC-RPT from this Function on a valid signal. The TCV Fast Closure, Trip Oil Pressure—Low Allowable Value is selected high enough to detect imminent TCV fast closure.

This protection is required consistent with the safety analysis whenever THERMAL POWER is > 30% RTP. Below 30% RTP, the Reactor Vessel Steam Dome Pressure—High and the APRM Fixed Neutron Flux—High Functions of the RPS are adequate to maintain the necessary safety margins.

DB1

ACTIONS

[Reviewer's Note: Certain LCO Completion Times are based on approved topical reports. In order for a licensee to use the times, the licensee must justify the Completion Times as required by the staff Safety Evaluation Report (SER) for the topical report.]

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

(continued)

BASES

ACTIONS (continued)

A.1

With one or more channels inoperable, but with EOC-RPT trip capability maintained (refer to Required Actions B.1 and B.2 Bases), the EOC-RPT System is capable of performing the intended function. However, the reliability and redundancy of the EOC-RPT instrumentation is reduced such that a single failure in the remaining trip system could result in the inability of the EOC-RPT System to perform the intended function. Therefore, only a limited time is allowed to restore compliance with the LCO. Because of the diversity of sensors available to provide trip signals, the low probability of extensive numbers of inoperabilities affecting all diverse Functions, and the low probability of an event requiring the initiation of an EOC-RPT, 72 hours is provided to restore the inoperable channels (Required Action A.1) [or apply the EOC-RPT inoperable MCPR limit]. Alternately, the inoperable channels may be placed in trip (Required Action A.2) since this would conservatively compensate for the inoperability, restore capability to accommodate a single failure, and allow operation to continue. As noted, placing the channel in trip with no further restrictions is not allowed if the inoperable channel is the result of an inoperable breaker, since this may not adequately compensate for the inoperable breaker (e.g., the breaker may be inoperable such that it will not open). If it is not desired to place the channel in trip (e.g., as in the case where placing the inoperable channel in trip would result in an RPT, or if the inoperable channel is the result of an inoperable breaker), Condition C must be entered and its Required Actions taken.

DR1

B.1 and B.2

Required Actions B.1 and B.2 are intended to ensure that appropriate actions are taken if multiple, inoperable, untripped channels within the same Function result in the Function not maintaining EOC-RPT trip capability. A Function is considered to be maintaining EOC-RPT trip capability when sufficient channels are OPERABLE or in trip, such that the EOC-RPT System will generate a trip signal from the given Function on a valid signal and both recirculation pumps can be tripped. This requires two channels of the Function in the same trip system, to each be OPERABLE or in trip, and the associated EOC-RPT breakers to

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

be OPERABLE or in trip. Alternately, Required Action B.2 requires the MCPR limit for inoperable EOC-RPT, as specified in the COLR, to be applied. This also restores the margin to MCPR assumed in the safety analysis.

The 2 hour Completion Time is sufficient time for the operator to take corrective action, and takes into account the likelihood of an event requiring actuation of the EOC-RPT instrumentation during this period. It is also consistent with the 2 hour Completion Time provided in LCO 3.2.2 for Required Action A.1, since this instrumentation's purpose is to preclude a MCPR violation.

DOI

C.1 and C.2

With any Required Action and associated Completion Time not met, THERMAL POWER must be reduced to < 30% RTP within 4 hours. Alternately, the associated recirculation pump may be removed from service, since this performs the intended function of the instrumentation. The allowed Completion Time of 4 hours is reasonable, based on operating experience, to reduce THERMAL POWER to < 30% RTP from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

[Reviewer's Note: Certain Frequencies are based on approved topical reports. In order for a licensee to use these Frequencies, the licensee must justify the Frequencies as required by the staff SER for the topical report.]

The Surveillances are modified by a Note to indicate that when a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains EOC-RPT trip capability. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. This Note is based on the reliability analysis (Ref. 5) assumption of the average time required to perform channel Surveillance. That

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

analysis demonstrated that the 6 hour testing allowance does not significantly reduce the probability that the recirculation pumps will trip when necessary.

SR 3.3.4.1.1

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the entire channel will perform the intended function. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

The Frequency of 92 days is based on reliability analysis of Reference 5.

SR 3.3.4.1.2

DB1

Calibration of trip units provides a check of the actual trip setpoints. The channel must be declared inoperable if the trip setting is discovered to be less conservative than the Allowable Value specified in SR 3.3.4.1.3. If the trip setting is discovered to be less conservative than accounted for in the appropriate setpoint methodology, but is not beyond the Allowable Value, the channel performance is still within the requirements of the plant safety analysis. Under these conditions, the setpoint must be readjusted to be equal to or more conservative than accounted for in the appropriate setpoint methodology.

The Frequency of 92 days is based on assumptions of the reliability analysis (Ref. 5) and on the methodology included in the determination of the trip setpoint.

SR 3.3.4.1.3

CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.4.1.3 (continued)

The Frequency is based upon the assumption of an 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.4.1.4

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required trip logic for a specific channel. The system functional test of the pump breakers is included as a part of this test, overlapping the LOGIC SYSTEM FUNCTIONAL TEST, to provide complete testing of the associated safety function. Therefore, if a breaker is incapable of operating, the associated instrument channel(s) would also be inoperable.

The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed at the 18 month Frequency.

081

SR 3.3.4.1.5

This SR ensures that an EOC-RPT initiated from the TSV—Closure and TCV Fast Closure, Trip Oil Pressure—Low Functions will not be inadvertently bypassed when THERMAL POWER is ≥ 30% RTP. This involves calibration of the bypass channels. Adequate margins for the instrument setpoint methodologies are incorporated into the actual setpoint. Because main turbine bypass flow can affect this setpoint nonconservatively (THERMAL POWER is derived from first stage pressure) the main turbine bypass valves must remain closed at THERMAL POWER ≥ 30% RTP to ensure that the calibration remains valid. If any bypass channel's setpoint is nonconservative (i.e., the Functions are bypassed at ≥ 30% RTP, either due to open main turbine bypass valves or other reasons), the affected TSV—Closure and TCV Fast Closure, Trip Oil Pressure—Low Functions are considered inoperable. Alternatively, the bypass channel can be placed in the conservative condition (nonbypass). If placed in the

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.4.1.5 (continued)

nonbypass condition, this SR is met with the channel considered OPERABLE.

The Frequency of 18 months has shown that channel bypass failures between successive tests are rare.

SR 3.3.4.1.6

This SR ensures that the individual channel response times are less than or equal to the maximum values assumed in the accident analysis. The EOC-RPT SYSTEM RESPONSE TIME acceptance criteria are included in Reference 6.

A Note to the Surveillance states that breaker interruption time may be assumed from the most recent performance of SR 3.3.4.1.7. This is allowed since the time to open the contacts after energization of the trip coil and the arc suppression time are short and do not appreciably change, due to the design of the breaker opening device and the fact that the breaker is not routinely cycled.

EOC-RPT SYSTEM RESPONSE TIME tests are conducted on an 18 month STAGGERED TEST BASIS. Response times cannot be determined at power because operation of final actuated devices is required. Therefore, the 18 month Frequency is consistent with the typical industry refueling cycle and is based upon plant operating experience, which shows that random failures of instrumentation components that cause serious response time degradation, but not channel failure, are infrequent occurrences.

DOI

SR 3.3.4.1.7

This SR ensures that the RPT breaker interruption time (arc suppression time plus time to open the contacts) is provided to the EOC-RPT SYSTEM RESPONSE TIME test. The 60 month Frequency of the testing is based on the difficulty of performing the test and the reliability of the circuit breakers.

(continued)

BASES (continued)

REFERENCES

1. FSAR, Figure [ ] (EOC-RPT logic diagram).

2. FSAR, Section [5.2.2].

3. FSAR, Sections [15.1.1, 15.1.2, and 15.1.3].

4. FSAR, Sections [5.5.16.1 and 7.6.10].

5. GENE-770-06-1, "Bases For Changes To Surveillance Test Intervals And Allowed Out-Of-Service Times For Selected Instrumentation Technical Specifications," February 1991.

6. FSAR, Section [5.5.16.2].

DB1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.3.4.1

End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.3.4.1 - EOC-RPT INSTRUMENTATION

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The FitzPatrick design does not include the EOC-RPT Trip System. Therefore this Specification is being deleted, and followup Specifications renumbered as necessary.

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

MODIFIED RAI RESPONSES FOR ITS SECTION 3.3

Revision F Changes to Section 3.3 RAI Responses

RAI 3.3.2.1-3

CTS 4.3.B.3.a.4
DOC L.4, M.5

CTS 4.3.B.3.a.4 requires demonstration of the rod block function of the rod worth minimizer during startup, prior to the start of control rod withdrawal. The corresponding ITS SR 3.3.2.1.2 requires a channel functional test of the RWM every 92 days in Mode 2 and a Note to SR 3.3.2.1.2 delays the performance of the surveillance until 1 hour after any control rod is withdrawn at greater than or equal to 10% RTP. In addition, ITS SR 3.3.2.1.3 is added (see M5) to perform a channel functional test in Mode 1, but not until 1 hour after thermal power is greater than or equal to 10% RTP. These changes, consistent with the STS, are justified in DOC L.3 and JFD DB2, based on reliability analysis results documented in NEDC-30851-P-A.

Comment: The extended SR Frequency based on topical report NEDC-30851-P-A requires prior review and approval by the staff for use in ITS. Provide a license amendment citation for the referenced analysis.

Licensee Response:

The requested review is made within the ITS Conversion submittal, DOC L3. No separate license amendment request has been made.

[Revised Response provided with Revision F package]
After further review, the topical report does not provide supporting information for the 92 day Frequency. Proper justification for the 92 day Frequency will be provided, similar to that approved during the NMP2 ITS conversion.

RAI 3.3.3.1-1
CTS Table 3.2-6, Note K
DOC LA3

CTS Table 3.2-6, Note K specifies that the primary containment atmosphere shall be continuously monitored for hydrogen and oxygen (H2/O2) when in the Run and Startup/Hot Standby modes; except, when the Post-Accident Sampling System (PASS) is to be operated, the containment atmosphere monitoring system (CAMS) may be isolated for a period not to exceed 3 hours in a 24-hour period. CTS require 1 of 2 containment atmosphere H2/O2 monitoring channels to be operable. The proposed ITS relocate the specific operational allowance to periodically isolate the monitoring system during PASS operation to the Bases. The proposed Bases states that the hydrogen/oxygen monitor is still considered operable during the realignment.

Comment: The staff notes that the Bases cannot be used to change TS LCO operability requirements. Thus, if CAMS is isolated to operate PASS and the CAMS cannot perform its intended function and the staff has not credited PASS to replace CAMS then the CAMS H2/O2 channel(s) are inoperable and the TS Actions should be entered. The CTS requirements added to the ITS Bases as part of LA3 should be restructured to be included in the LCO or otherwise dispositioned with an L-DOC.

Licensee Response:

In conjunction with the Authority's response to RAI 3.3.3.1-4 (revising the PAM Specification to require only one division in accordance with CTS), DOC LA3 will be deleted. Furthermore, a new M-DOC will be provided that will delete the flexibility provided by CTS Footnote K. The Technical Specifications and associated Actions will provide sufficient controls for any situation where operation of PASS renders any H2/O2 monitor inoperable.

[Revised Response provided with Revision F package]
The CTS Table 3.2-6 Note k allowance will be added back into the ITS as a Note to the LCO and DOC LA 3 will be deleted.

RAI 3.3.3.1-2
CTS Table 3.2-6, Note K
DOC L5

CTS Table 3.2-6, Note K specifies that the primary containment atmosphere shall be continuously monitored for hydrogen and oxygen (H2/O2) when in the Run and Startup/Hot Standby modes; except when the Post-Accident Sampling System (PASS) is to be operated, the containment atmosphere monitoring system (CAMS) may be isolated for a period not to exceed 3 hours in a 24-hour period. CTS require 1 of 2 containment atmosphere H2/O2 monitoring channels to be operable. The proposed ITS delete the maximum acceptable time period for operating with the CAMS isolated.

Comment: The staff notes that CTS Table 3.2-6, Note K states that when the PASS is in operation the CAMS may be isolated. Thus, Note K indicates that the design of PASS will render both CAMS inoperable when PASS is placed into operation. If so, the L5 justification for deleting time limits for operating PASS based on a second channel of CAMS that is required to be operable should be reevaluated. Clarify DOC L5.

Licensee Response:
In conjunction with The Authority's response to RAI 3.3.3.1-4 (revising the PAM Specification to require only one division in accordance with CTS), DOC L5 will be deleted. Furthermore, a new M-DOC will be provided that will delete the flexibility provided by CTS Footnote K. The Technical Specifications and associated Actions will provide sufficient controls for any situation where operation of PASS renders any H2/O2 monitor inoperable.

[Revised Response provided with Revision F package]
The CTS Table 3.2-6 Note k allowance will be added back into the ITS as a Note to the LCO and DOC L5 will be deleted.

RAI 3.3.3.1-4

ITS Table 3.2-6, Note A, Note F
DOC M1

The DOCs used to justify translation of CTS Note A into ITS Actions do not consider the difference between the CTS and ITS required channels operable. For the CTS, only 1 of 2 available channels are required by TS. Thus, for one inoperable channel no CTS actions are required. For the second inoperable CTS channel, Note A allows 30 days to repair or otherwise place the plant in cold shutdown. ITS provides separate required actions for one channel inoperable, and for two channels inoperable for each TS function.

Comment: Revise DOCs, as appropriate, to address differences between the CTS and ITS required channels. The staff maintains that ITS Condition A and C are new requirements for channels not previously included in TS. The staff also maintains that Condition C is a more restrictive change, requiring a 7 day repair time in place of a 30 day repair time.

Licensee Response:

The Authority will revise the conversion of the PAM Specification to more closely reflect CTS requirements (only require one of two PAM channels and provide a 30 day AOT for a required channel inoperable). DOC L4 justifying a relaxation in actions for both containment radiation monitors inoperable will be retained.

[Revised Response provided with Revision F package]
DOC M1 will be revised to clarify that ITS ACTIONS A and C are new requirements, since the ITS now requires two channels to be Operable where the CTS only requires one channel to be Operable.

RAI 3.3.3.1-7

CTS Table 3.2-6, Note K
DOC LA3, DOC L5

ITS Table 3.3.3.1-1, Function 7 is added to address PCIV Position. According to ISTS Table 3.3.3.1-1, Function 8, PCIV Position, footnotes (a) and (b) modify the Function operability requirements. The addition of footnotes (a) and (b) are not discussed in the submittal.

Comment: Provide the applicable change documentation.

Licensee Response:

<<Above discussion and comment are not consistent with referenced Specification and DOCs. The following addresses the discussion and comment - not the references.>>

DOC M4 will be clarified to include a reference to the ITS footnotes (a) and (b).

[Revised Response provided with Revision F package]
DOC M3 will be clarified to include a reference to the ITS footnotes (a) and (b).

RAI 3.3.3.1-8
CTS Table 3.2-6, Note K
DOC LA3, DOC L5

Beyond Scope Issue (BSI)- changes to TS limits
In the retyped (smooth copy) ITS Table 3.3.3.1-1, Function 10, Suppression Pool Water Temperature operability is modified by footnote (c), which states: "A channel requires 15 of 16 RTDs to be OPERABLE." This results in a CTS change and a deviation from the STS.

Comment: Inadequate or no discussion or justification is included for the CTS change or the STS deviation. Provide applicable change request documentation. (Licensee to discuss schedule w/ PM for this BSI)

Licensee Response:
<<Above discussion and comment are not consistent with referenced Specification and DOCs. The following addresses the discussion and comment - not the references.>>

The ITS Markup is not consistent with the clean typed version of the ITS. Specifically, footnote (c) to the Table does not exist in the ITS M/U but does exist in the ITS clean typed version. Accordingly, there is no JFD for the footnote. However, the ITS Bases "Insert LCO-10" on page B3.3-69a, provides the justification for the CTS and ITS change.

The Authority will provide an L DOC and a JFD, which will be consistent with the information provided in the Bases insert. This will provide the basis for concluding that with 15 of 16 RTDs operable in each instrument channel, each tee-quencher will have at least two operable RTDs monitoring its local temperature at all times. The Authority will also revise the ITS Markup to be consistent with the retyped ITS.

Finally, the Authority will make changes appropriate for adopting approved TSTF-295 (addressing separate Condition entry).

[Revised Response provided with Revision F package]
The clean typed version of the ITS is in error. Footnote (c) will be deleted from the Table.

RAI 3.3.3.2-1
CTS 3.2.J.3.a
DOC A3
An explicit CTS requirement is deleted. The option to place the component actuated by the control circuit in the safe shutdown configuration (CTS 3.2.J.3.a) is deleted, retaining the CTS 3.2.J.3 requirement to restore the control circuit to operable status.

Comment: The DOC does not include sufficient supporting documentation to conclude this proposed change is an administrative change to CTS.

Licensee Response:
The submittal will be revised to incorporate the allowance of CTS 3.2.J.3.a explicitly in the Actions for ITS 3.3.3.2. As such, DOC A3 will be deleted.

[Revised Response provided with Revision F package]
After further review, JAFNPP has determined that this change is more restrictive. Therefore, DOC A3 will be deleted and a new M DOC will be provided.

RAI 3.3.3.2-2
CTS 3.2.J.2.b
DOC LA1
The staff notes that the Bases cannot be used to change TS LCO operability requirements. Thus, the Bases cannot contain the proposed allowance to approve use of alternate channels or circuits for required channels or circuits.

Comment: Revise the submittal (LA1 and L1)to provide justification for deleting all CTS 3.2.J.2.b requirements.

Licensee Response:
DOC LA1 will be deleted and DOC L1 will be revised to address all the CTS 3.2.J.2.b requirements. The allowance to have and utilize alternate controls is consistent with the essence of the NUREG-1433 presentation of the Remote Shutdown System requirements (refer to the next-to-last paragraph of the LCO Bases). When a required instrument or control is inoperable, the 30-day Completion Time provides time to establish operability of any one of the acceptable alternates. Elimination of CTS 3.2.J.2.b eliminates an apparent time limit to restore the primary alternate, even though an acceptable alternate is operable. The change results in elimination of a plant shutdown if the primary instrument or control is not restored within 90 days. Since an acceptable alternate is available and operable within 30 days (as assured by Required Action A.1), the JAFNPP corrective action program provides adequate controls to assure prompt restoration of the primary instrument or control without imposing a 90 day plant shutdown limit.

[Revised Response provided with Revision F package]
After further review, JAFNPP has determined that the deletion of this CTS allowance is a more restrictive change. Therefore, DOCs LA1 and L1 have been deleted and a new M DOC has been provided.

RAI 3.3.3.2-3
CTS Table 3.2-10
DOC LA2

Beyond Scope Issue (BSI)
Proposed relocation of RSS components to TRM changes the ISTS format which includes the list of RSS components in the Bases.

Comment: Revise the submittal to adopt ISTS as approved by the TSTF and the staff or provide applicable change request for this BSI. (Licensee to discuss schedule with PM on this BSI)

Licensee Response:
The Authority will revise the submittal to relocate the Table of RSS components to the ITS Bases (instead of the TRM) in accordance with TSTF-266.

[Revised Response provided with Revision F package]
The change to relocate the information to the TRM and not the ITS Bases is consistent with the most recently approved BWR ITS conversions (NMP2 and LaSalle County Station Units 1 and 2, as well as WNP-2). In these ITS conversions, the NRC allowed the information to be relocated to the TRM, since changes to the TRM are controlled by 10 CFR 50.59. Therefore, JAFNPP will relocate the information to the TRM. In addition, since the change has been previously approved in recent ITS conversions, and the only difference between the TSTF change and the proposed JAFNPP change is the location of the information (and both locations have regulatory control over future changes), the JAFNPP change does not appear to be a beyond scope change. For clarity, the DOC will be revised to include the recently approved ITS conversions.

RAI 3.3.4.1-2

CTS Table 3.2-7, Footnote *
DOC A4

DOC A4 states that CTS Footnote *, specifying that an inoperable channel or trip system need not be placed in the tripped condition where this would cause the Trip Function to occur, is clarified by ITS 3.3.4.1 Required Action A.1 which specifies a channel is to be restored to operable status. DOC A4 states that the proposed ITS change is consistent with current requirements since the alternative actions in the CTS is to place the reactor in the startup/hot standby mode within 6 hours if the Required Actions are not performed.

Comment: Explain the equivalence between CTS and ITS requirements.

Licensee Response:

DOC A4 will be clarified as follows:

A4 CTS Table 3.2-7 Note 1 requires an inoperable channel or trip system to be placed in trip, but is modified by Footnote (*) which specifies that an inoperable channel or trip system need not be placed in the tripped condition where this would cause the Trip Function to occur. Utilizing the Footnote (*) allowance, the resultant requirement is to restore the channel to operable status within the same time allowed to trip the channel. For clarity this CTS presented option (trip or restore) is presented as two ITS actions: Required Actions A.1 and A.2. This change is considered administrative since there are no changes in any technical requirements. This change is consistent with NUREG-1433, Revision 1.

[Revised Response provided with Revision F package]
After further review, JAFNPP has determined that the deletion of footnote * is an LA change and will be relocated to the Bases (where it already resides) and the addition of Required Action A.1 is a less restrictive change. Appropriate changes to the DOCs will be made.

3.3.6.1-01

CTS 4.2.A and Table 3.2-8 Function 4
DOC L.2
ITS NA
JFD NA

The instrument ID numbers included in CTS 4.2.A and CTS Table 3.2-8 for Function 4, Containment High Range Radiation Monitor, are deleted for this conversion. In this submittal, this change is categorized as a L-2, Less Restrictive discussion of change. This change is a removal of detail, not necessary to ensure OPERABILITY, and should be categorized as a LA change.

Comment: Provide corrected categorization for this discussion of change.

JAFNPP Response:

1. The Authority will correct the categorization of the change and provide an appropriate DOC.

[Revised Response provided with Revision F package]
While the detail is being removed from the ITS, it is not being classified as an LA type of DOC. That is, it is not being relocated to the UFSAR, TRM, or Bases. This type of information is normally maintained in plant procedures. The deletion is acceptable since the Bases proper describes the instruments, and the actual instrument ID number is not necessary in the Bases. This deletion is consistent with the NUREG Bases, which do not include instrument ID numbers. Therefore, the L DOC is the correct classification.

3.3.6.1-08

CTS Table 4.1-1 and 4.1-2
DOC L.14
ITS NA
JFD NA

The details removed from CTS Tables 4.1-1 and 4.1-2 as discussed in DOC L-14 are incorrectly identified as Less Restrictive changes. This change is a removal of detail, not necessary to ensure OPERABILITY, and should be categorized as a LA change.

Comment: Provide corrected categorization for this discussion of change.

JAFNPP Response:

1. The Authority will correct the categorization and provide an appropriate DOC.

[Revised Response provided with Revision F package]
While the detail is being removed from the ITS, it is not being classified as an LA type of DOC. That is, it is not being relocated to the UFSAR, TRM, or Bases. This type of information is normally maintained in plant procedures. The deletion is acceptable since the Bases proper describes the instruments and the definition of Channel Calibration adequately controls how channels are calibrated; the actual method is not necessary in the Bases. This deletion is consistent with the NUREG Bases, which do not include any of these details. Therefore, the L DOC is the correct classification.

3.3.6.2-02

CTS RETS Table 3.10-2 Note (f)
DOC L.6
ITS NA
JFD NA

CTS RETS Table 3.10-2 Note (f) provides detail of how to perform an LSFT (where possible using test jacks) which is omitted in the ITS as stated because this information is included in the definition for LSFT. DOC L.6 documents this change as less-restrictive. This change is actually a removal of detail not required to ensure OPERABILITY. Therefore, the change should be reclassified as an LA "Generic Less Restrictive Change."

Comment: Provide corrected change classification and associated documentation.

JAFNPP Response:

1. The Authority will correct the categorization of the change and provide an appropriate DOC.

[Revised Response provided with Revision F package]
While the detail is being removed from the ITS, it is not being classified as an LA type of DOC. That is, it is not being relocated to the UFSAR, TRM, or Bases. This type of information is normally maintained in plant procedures. The deletion is acceptable since the definition of Channel Calibration adequately controls how channels are calibrated. In addition, this change is actually an administrative change since it only says to use test jacks where possible, and this is the normal manner to perform these types of tests (using test jacks if installed). Therefore, this change is being recategorized as an A DOC. In addition, this change is consistent with the NUREG Bases, which do not include this type of information.