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IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.6.2

Secondary Containment Isolation Instrumentation

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

DISCUSSION OF CHANGES (DOCs) TO THE CTS

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

MARKUP OF NUREG-1433, REVISION 1, SPECIFICATION

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

MARKUP OF NUREG-1433, REVISION 1, BASES

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

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.6.2

Secondary Containment Isolation Instrumentation

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

Specification 3.3.6.2

A1

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3.2 LIMITING CONDITIONS FOR OPERATION

3.2 INSTRUMENTATION

Applicability:

Applies to the plant instrumentation which either (1) initiates and controls a protective function, or (2) provides information to aid the operator in monitoring and assessing plant status during normal and accident conditions.

Objective:

To assure the operability of the aforementioned instrumentation.

4.2 SURVEILLANCE REQUIREMENTS

4.2 INSTRUMENTATION

Applicability:

Applies to the surveillance requirement of the instrumentation which either (1) initiates and controls protective function, or (2) provides information to aid the operator in monitoring and assessing plant status during normal and accident conditions.

Objective:

To specify the type and frequency of surveillance to be applied to the aforementioned instrumentation.

Specifications | Secondary | Instrumentation | 3.3.6.2 | Primary Containment Isolation Function

[3.3.6.2] [Applicability] [LCO 3.3.6.2]

When primary containment integrity is required, the limiting conditions of operation for the instrumentation that initiates primary containment isolation are given in Table 3.2-1. 3.3.6.2-1

Secondary

[SR Table Note 1]

Specifications | Secondary | Instrumentation | 3.3.6.2 | Primary Containment Isolation Function

Instrumentation shall be functionally tested and calibrated as indicated in Table 4.2-1. System logic shall be functionally tested as indicated in Table 4.2-1. 3.3.6.2-1

The response time of the main steam isolation valve actuation instrumentation isolation trip functions listed below shall be demonstrated to be within their limits once per 24 months. Each test shall include at least one channel in each trip system. All channels in both trip systems shall be tested within two test intervals.

1. MSIV Closure - Reactor Low Water Level (L1) *
   (02-3LT-57A,B and 02-3LT-58A,B)
2. MSIV Closure - Low Steam Line Pressure *
   (02PT-134A,B,C,D)
3. MSIV Closure - High Steam Line Flow *
   (02DPT-116A-D, 117A-D, 118A-D, 119A-D)

* Sensor is eliminated from response time testing for the MSIV actuation logic circuits. Response time testing and conformance to the test acceptance criteria for the remaining channel components includes trip unit and relay logic.

add Note (a) for proposed ITS Function 1. — M1

M7 — MODES 1, 2 and 3

See ITS: 3.3.6.1

Specification 3.3.6.2

Table 3.3.6.2-1 Secondary Containment Isolation Instrumentation

A1

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TABLE 3.2-1

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION REQUIREMENTS

Required Minimum No. of Operable Instrument Channels Per Trip System (Notes 1 and 2)	Trip Function	A1.2 Allowable Value Trip Level Setting	LA1 Total Number of Instrument Channels Provided by Design for Both Trip Systems	Action (Note 3)
[ ] 2	(1) Reactor Low Water Level (Notes ~~4 & 7~~)	≥ 177 in. ~~above TAF~~ LA6	4	A [C] LZ
2	Reactor Low Water Level (Notes 7 & 8)	≥ 177 in. above TAF	2	A
1	Reactor High Pressure (Shutdown Cooling Isolation)	≤ 75 psig	2	D
2	Reactor Low-Low-Low Water Level	≥ 18 in. above the TAF	4	A
[ ] 2	(5) Drywell High Pressure (Notes 4 & ~~7~~)	≤ 2.7 psig	~~4~~ LA1	A [C] LZ
2	Drywell High Pressure (Notes 7 & 8)	≤ 2.7 psig	2	A
2	Main Steam Line Tunnel High Radiation	≤ 3 x Normal Rated Full Power Background	4	E
2	Main Steam Line Low Pressure (Note 5)	≥ 825 psig	4	B
2	Main Steam Line High Flow	≤ 140% of Rated Steam Flow	4	G
8	Main Steam Line Leak Detection High Temperature	≤ 40°F above max ambient	16	B
4	Reactor Water Cleanup System Equipment Area High Temperature	≤ 40°F above max ambient	8	C
2	Condenser Low Vacuum (Note 6)	≥ 8" Hg. Vac	4	B

See ITS: 3.3.6.1

See ITS: 3.3.6.1

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add Table 3.3.6.2-1 Note (a) Applicability for Function 1 → M1

Table 3.3.6.2-1 Secondary Containment Isolation Instrumentation

Specification 3.3.6.2 (A1)

(A2) add ACTIONS Note

TABLE 3.2-1 (Cont'd)

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION REQUIREMENTS

NOTES FOR TABLE 3.2-1

(M1) (M7) [MODES 1, 2 and 3]

[APPLICABILITY] 1. Whenever Primary Containment integrity is required by Specification 3.7.A.2, there shall be two operable or tripped trip systems for each Trip Function, except as provided for below: (A9)

(LA2)

[ACTION A] a. For each Trip Function with one less than the required minimum number of operable instrument channels, place the inoperable instrument channel and/or its associated trip system in the tripped condition* within:

1) 12 hours for trip functions common to RPS instrumentation, and (A3) For Functions 1 and 2

2) 24 hours for trip functions not common to RPS instrumentation. see ITS: 3.3.6.1

[ACTION C] or, initiate the ACTION required by Table 3.2-1 for the affected trip function. (L2)

(L1)

b. For each Trip Function with two or more channels less than the required minimum number of operable instrument channels:

[ACTION B] 1) Within one hour, verify sufficient instrument channels remain operable or tripped* to maintain trip capability in the Trip Function, and (L1)

2) Within 6 hours, place the inoperable instrument channel(s) in one trip system and/or that trip system** in the tripped condition*, and

(A4)

[ACTION A] 3) Restore the inoperable instrument channel(s) in the other trip system to an operable status, or place the inoperable instrument channel(s) in the trip system and/or that trip system in the tripped condition* within:

(a) 12 hours for trip functions common to RPS instrumentation, and For Functions 1 and 2 (A3)

(b) 24 hours for trip functions not common to RPS instrumentation. see ITS: 3.3.6.1

[ACTION C] If any of these three conditions cannot be satisfied, initiate the ACTION required by Table 3.2-1 for the affected trip Function. (L2)

Asterisk shown on next page

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Table 3.3.6.2-1 Secondary Containment Isolation Instrumentation

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Specification 3.3.6.2

A1

TABLE 3.2-1 (Cont'd)

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION REQUIREMENTS

LA2

NOTES FOR TABLE 3.2-1 (cont'd)

- An inoperable instrument channel or trip system need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, if the inoperable instrument channel is not restored to operable status within the required time, the ACTION required by Table 3.2-1 for that Trip Function shall be taken.

- This action applies to that trip system with the greatest number of inoperable instrument channels. If both systems have the same number of inoperable instrument channels, the ACTION can be applied to either trip system.

LT

M6

2. When a channel, and/or the affected primary containment isolation valve, is placed in an inoperable status solely for performance of required instrumentation surveillances, entry into associated Limiting Conditions for Operation and required actions may be delayed as follows:

[SR Note 2]

See ITS 3.3.6.1

a) for up to 6 hours for Trip Functions utilizing a two-out-of-two-taken-once logic; or

[SR Note 2] b) for up to 6 hours for the remaining Trip Functions provided the associated Trip Function maintains PCIS initiation capability for at least one containment isolation valve in the affected penetration.

LA7

Secondary containment

3. Actions:

add ACTION C

L2

A. Place the reactor in the cold condition within 24 hours.
B. Isolate the main steam lines within eight hours.
C. Isolate Reactor Water Cleanup System within four hours.
D. Isolate shutdown cooling within four hours.
E. Isolate the main steam line drain valves, the recirculation loop sample valves, and the mechanical vacuum pump, within eight hours.
F. Isolate the affected penetration flow path(s) within one hour and declare the affected system inoperable.
G. Isolate the affected main steam line within eight hours.

See ITS 3.3.6.1

Table 3.3.6.2-1 Secondary Containment Isolation Instrumentation

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Specification 3.3.6.2

A1

TABLE 3.2-1 (Cont'd)

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION REQUIREMENTS

NOTES FOR TABLE 3.2-1 (cont'd)

4. These signals also start SGTS and initiate secondary containment isolation. LA4

5. Only required in run mode (interlocked with Mode Switch).

6. Only required in the run mode and turbine stop valves are open.

See ITS: 3.3.6.1

7. Instrumentation common to RPS. LA5

8. Trip Function utilizes a two-out-of-two-taken-once logic for isolation of both primary containment isolation valves on the hydrogen and oxygen sample, and gaseous and particulate sample supply and return lines.

See ITS 3.3.6.1

Secondary Containment Isolation Instrumentation

Specification 3.3.6.2 (A1)

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
[3.3.6.2] 3.2 STANDBY GAS TREATMENT SYSTEM (SBGTS)	[3.3.6.2] 4.2 STANDBY GAS TREATMENT SYSTEM (SBGTS)
Applicability:	**Applicability**
Applies to the SBGTS instrumentation.	Applies to the surveillance requirement of the instrumentation which activates the SBGTS.
Objective	**Objective**
To assure that the SBGTS is actuated with the proper signal.	To specify the instrument surveillance type and frequency.
Specifications	**Specifications**
[LCO 3.3.6.2] The limiting conditions for operation are given on Table 3.10-1.	The instrument surveillance requirements are given on Table 3.10-2. [SR Table Note 1]

add Applicability for Functions 3 and 4 (A10)

Specification 3.3.6.2

A1

Table 3.3.6.2-1 Secondary Containment Isolation Instrumentation

JAFNPP

Table 3.10-1

RADIATION MONITORING SYSTEMS THAT INITIATE AND/OR ISOLATE SYSTEMS

Minimum No. of Operable Instrument Channels per Trip System (Required)		Trip Function (add ACTIONS Note A2)	Trip Level Setting (Allowable Value)	Total Number of Instrument Channels Provided by Design (LA1)	Action
[3]	1(a)	Refuel Area Exhaust Monitor	(M2) add Allowable Value (b) (LA3)	2	(c) or (d) (A11) [C]
[9]	1(a)	Reactor Building Area Exhaust Monitors	(b)	2	(d)
	(j)	SJAE Radiation Monitors	≤ 500,000 μCi/sec	2	(e)
	1(a)	Turbine Building Exhaust Monitors	(b)	2	(f)
	1(a)	Radwaste Building Exhaust Monitors	(b)	2	(f)
	(k)	Main Control Room Ventilation	≤4 x 10^3 cpm[a]	1	(g)
	(h)	Mechanical Vacuum Pump Isolation	≤3 x Normal Full Power Background	4	(h)

See ITS: 3.7.5

See CTS RESS: 3.1

See ITS: 3.3.7.1

See ITS: 3.3.7.2

NOTES FOR TABLE 3.10-1

add ACTIONS (LB)

(a) A channel may be placed in an inoperable status for up to six hours during periods of required surveillance without placing the Trip System in the tripped condition provided the other OPERABLE channel is monitoring that Trip Function, that is, trip capability is maintained. (LA2)

[SR Table Note 2] [ACTION A] An inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, the inoperable channel shall be restored to operable status within 24 hours, or the indicated action shall be taken.

[RA C.1.1] (b) Trip level setting is in accordance with the methods and procedures of the ODCM. (LA3)

(c) Cease operation of the refueling equipment. [RA C.2.1] (A1)

[ACTION C] (d) Isolate secondary containment and start the SBGTS. (in one hour) (M3)

add proposed Required Actions C.1.2 and C.2.2 (L4)

(e) Bring the SJAE release rate below the trip level within 72 hours or isolate either the SJAE or all main steam lines within the next 12 hours.

See ITS: 3.7.5

add Table 3.3.6.2-1 Footnote (a) Applicability (M1)

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Specification 3.3.6.2

A1

Table 3.3.6.2-1 Secondary Containment Isolation Instrumentation

JAFNPP

TABLE 4.1-1

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENTATION TEST REQUIREMENTS

Trip Function	See ITS! 3.3.1.1	Group (Note 2)	CHANNEL Functional Test [SR 3.3.6.2.2]	Functional Test Frequency (Note 3) [SR 3.3.6.2.2] A5	[SR 3.3.6.2.1] Instrument Check Channel
Mode Switch in Shutdown		A	Place Mode Switch in Shutdown	R	NA
Manual Scram		A	Trip Channel and Alarm	Q	NA
RPS Channel Test Switch		A	Trip Channel and Alarm	W (Note 1)	NA
IRM High Flux		C	Trip Channel and Alarm (Note 4)	S/U and W (Note 5)	NA
IRM Inoperative		C	Trip Channel and Alarm (Note 4)	S/U and W (Note 5)	NA
APRM					
High Flux		B	Trip Output Relays (Note 4)	Q	NA
Inoperative		B	Trip Output Relays (Note 4)	Q	NA
Flow Biased High Flux		B	Trip Output Relays (Note 4)	Q	NA
High Flux in Startup or Refuel		C	Trip Output Relays (Note 4)	S/U and W (Note 5)	NA
Reactor High Pressure		B	Trip Channel and Alarm (Note 4)	Q	D
Drywell High Pressure		B	Trip Channel and Alarm (Note 4)	Q	D
Reactor Low Level		B	Trip Channel and Alarm (Note 4)	Q	D
High Water Level in Scram Discharge Instrument Volume		A	Trip Channel	Q (Note 6) A6	NA
High Water Level in Scram Discharge Instrument Volume		B	Trip Channel and Alarm (Note 4)	Q	D

See ITS: 3.3.1.1

[2] [1] [2] Q 92 days

[1] [1] 12 hours M4

[2] [1] [2] Q

See ITS: 3.3.1.1

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Specification 3.3.6.2

Table 3.3.6.2-1 Secondary Containment Isolation Instrumentation

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TABLE 4.1-1 (Cont'd)

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENTATION TEST REQUIREMENTS

Trip Function	Group (Note 2)	Functional Test	Functional Test Frequency (Note 3)	Instrument Check
Main Steam Line Isolation Valve Closure	A	Trip Channel and Alarm	Q	NA
Turbine Control Valve Fast Closure	A	Trip Channel and Alarm	Q	NA
Turbine First Stage Pressure Permissive	B	Trip Channel and Alarm (Note 4)	Q	D
Turbine Stop Valve Closure	A	Trip Channel and Alarm	Q	NA

See ITS: 3.3.1.1

NOTES FOR TABLE 4.1-1

1. The automatic scram contactors shall be exercised once every week by either using the RPS channel test switches or performing a functional test of any automatic scram function. If the contactors are exercised using a functional test of a scram function, the weekly test using the RPS channel test switch is considered satisfied. The automatic scram contactors shall also be exercised after maintenance on the contactors.

See ITS: 3.3.1.1

2. A description of the three groups is included in the Bases of this Specification.

3. Functional tests are not required on the part of the system that is not required to be operable or are tripped. If tests are missed on parts not required to be operable or are tripped, then they shall be performed prior to returning the system to an operable status.

A5

4. This instrumentation is exempted from the instrument channel test definition. This instrument channel functional test will consist of injecting a simulated electrical signal into the instrument channels.

A6

5. Weekly functional test required only during refuel and startup mode.

6. The functional test shall be performed utilizing a water column or similar device to provide assurance that damage to a float or other portions of the float assembly will be detected.

See ITS: 3.3.1.1

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Table 3.3.6.2-1, Secondary Containment Isolation Instrumentation

Specification 3.3.6.2 (A1)

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TABLE 4.1-2

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT CALIBRATION
MINIMUM CALIBRATION FREQUENCIES FOR REACTOR PROTECTION INSTRUMENT CHANNELS

Function

(A5)

Instrument Channel	Group (1)	Calibration	Frequency (2)
IRM High Flux	C	Comparison to APRM on Controlled Shutdowns	W
APRM High Flux Output Signal	B	Heat Balance	D
Flow Bias Signal	B	Internal Power and Flow Test with Standard Pressure Source	R
LPRM Signal	B		Every 1000 MWD/T average core exposure
[2] High Reactor Pressure	See ITS 3.3.1.1 → B	Standard Pressure Source (L6)	(Note 6)
[1] High Drywell Pressure	See ITS 3.3.1.1 → B	Standard Pressure Source	(Note 6)
Reactor Low Water Level	B	Standard Pressure Source	(Note 6)
High Water Level in Scram Discharge Instrument Volume	A	Water Column (Note 5)	R (Note 5)
High Water Level in Scram Discharge Instrument Volume	B	Standard Pressure Source	Q
Main Steam Line Isolation Valve Closure	A	(Note 4)	(Note 4)
Turbine First Stage Pressure Permissive	B	Standard Pressure Source	(Note 6)

[SR 3.3.6.2.4]
[SR 3.3.6.2.5]

See ITS 3.3.1.1

See ITS 3.3.1.1

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Amendment No. ~~42, 43, 62, 75, 89, 136, 183, 207, 233~~, 257

Specification 3.3.6.2

A1

TABLE 4.1-2 (Cont'd)

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT CALIBRATION
MINIMUM CALIBRATION FREQUENCIES FOR REACTOR PROTECTION INSTRUMENT CHANNELS

Instrument Channel	Group (1)	Calibration	Frequency (2)
Turbine Control Valve Fast Closure Oil Pressure Trip	A	Standard Pressure Source	R
Turbine Stop Valve Closure	A	(Note 4)	(Note 4)

See ITS: 3.3.1.1

NOTES FOR TABLE 4.1-2

See ITS: 3.3.1.1

1. A description of three groups is included in the Bases of this Specification.
2. Calibration test is not required on the part of the system that is not required to be operable or is tripped, but is required prior to return to service. A5
3. Deleted
4. Actuation of these switches by normal means will be performed once per 24 months.
5. Calibration shall be performed utilizing a water column or similar device to provide assurance that damage to a float or other portions of the float assembly will be detected.
6. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.

See ITS: 3.3.1.1

[SR 3.3.6.2.5]

[SR 3.3.6.2.4]

Specification 3.3.6.2

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Secondary Containment Isolation Instrumentation

JAFNPP 3.3.6.2-1

TABLE 4.2-P1(cont'd)

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION TEST AND CALIBRATION REQUIREMENTS

SR 3.3.6.2.6

See ITS: 3.6.2.3, 3.6.1.2, 3.6.4.3

Logic System Functional Test (Notes 1 & 9) A7	Frequency
1) Main Steam Line Isolation Valves Main Steam Line Drain Valves Reactor Water Sample Valves	R
2) RHR - Isolation Valve Control Shutdown Cooling Valves	R
3) Reactor Water Cleanup Isolation	R
4) Drywell Isolation Valves TIP Withdrawal Atmospheric Control Valves	R
[1, 2] 5) Standby Gas Treatment System Reactor Building Isolation	24 months
6) HPCI Subsystem Auto Isolation	R
7) RCIC Subsystem Auto Isolation	R

See ITS: 3.3.6.1

NOTE: See notes following Table 4.2-5. A1

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Specification 3.3.6.2

A1

~~NOTES FOR TABLES 4.2-1 THROUGH 4.2-5~~

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

See ITS: 3.4.5

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

See ITS: 3.3.2.1

4. Instrument checks are not required when these instruments are not required to be operable or are tripped.

See ITS: 3.3.2.1, 3.3.5.1, 3.3.5.2, 3.3.6.1

5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.

See ITS: 3.3.2.1, 3.3.5.1, 3.3.6.1, 3.3.5.2, 3.3.3.2

6. These instrument channels will be calibrated using simulated electrical signals once every three months.

See ITS: 3.3.2.1

7. Simulated automatic actuation shall be performed once per 24 months.

See ITS: 3.5.1, 3.5.2, 3.6.1.3, 3.6.4.2, 3.6.4.3

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

See ITS: 3.3.6.1

9. ~~The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.~~

A7

10. ~~(Deleted)~~

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.

See ITS: 3.3.6.1, 3.3.7.2

12. ~~(Deleted)~~

13. ~~(Deleted)~~

14. ~~(Deleted)~~

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.

See ITS 3.3.6.1, 3.3.5.1

16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

See ITS: 3.3.6.1

Amendment No. ~~24, 48, 57, 80, 181, 207, 227,~~ 233

Revision ~~B~~ F

Table 3.3.6.2-1
Secondary Containment Isolation Instrumentation

Specification 3.3.6.2

A1

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TABLE 3.10-2

MINIMUM TEST AND CALIBRATION FREQUENCY FOR RADIATION MONITORING SYSTEMS[a]

Function Instrument Channels	Instrument Check	Instrument Channel Functional Test[b]	Instrument Channel Calibration [SR 3.3.6.2.3]	Logic System Function Test[b][c] SR 3.3.6.2.6
Main Stack Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	--
Refuel Area Exhaust Monitors and Recorders	Daily (12 hours)	Quarterly	Quarterly – 3	--
Reactor Building Area Exhaust Monitors, Recorders, and Isolation	Daily (12 hours)	Quarterly	Quarterly – 3	Once per 24 Months
Turbine Building Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	--
Radwaste Building Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	--
SJAE Radiation Monitors/Offgas Line Isolation	Daily	Quarterly	Quarterly	Once per 24 Months
Main Control Room Ventilation Monitor	Daily	Quarterly	Quarterly	--
Mechanical Vacuum Pump Isolation[d]	--	--	--	Once per 24 Months
Liquid Radwaste Discharge Monitor/ Isolation[c][d][e][f]	Daily When Discharging	Quarterly	Quarterly	Once per 24 Months
Liquid Radwaste Discharge Flow Rate Measuring Devices[e]	Daily	Quarterly	Once per 18 Months	--
Liquid Radwaste Discharge Radioactivity Recorder[e]	Daily	Quarterly	Once per 18 Months	--
Normal Service Water Effluent	Daily	Quarterly	Quarterly	--
SBGTS Actuation	--	--	--	Once per 24 Months

[4] [3] LA4

[SR 3.3.6.2.6] [Functions 3, 4]

see CTS RETS 3.1

see CTS RETS; 3.1

see ITS: 3.3.2.5

see ITS: 3.3.7.1

see ITS: 3.3.2.2

See CTS RETS: 2.1

add SR 3.3.6.2.6 for Function 4 M5

Table 3.3.6.2-1 Secondary Containment Isolation Instrumentation

Specification 3.3.6.2 (A1)

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(A5)

NOTES FOR TABLE 3.10-2

(a) Functional tests, calibrations and instrument checks need not be performed when these instruments are not required to be operable or are tripped.

(b) Instrument checks shall be performed at least once per day during these periods when the instruments are required to be operable. (M4)

(c) A source check shall be performed prior to each release.

(d) Liquid radwaste effluent line instrumentation surveillance requirements need not be performed when the instruments are not required as the result of the discharge path not being utilized.

See CTS RETS 2.1

(e) An instrument channel calibration shall be performed with known radioactive sources standardized on plant equipment which has been calibrated with NBS traceable standards.

See ITS: 3.6.4.2, 3.6.4.3, CTS RETS 2.1, 3.1

(f) Simulated automatic actuation shall be performed once per 24 months. Where possible, all logic system functional tests will be performed using the test jacks. (A13)

(g) Refer to Appendix A for instrument channel functional test and instrument channel calibration requirements (Table 4.2-1). These requirements are performed as part of main steam high radiation monitor surveillances.

See ITS: 3.3.7.2

(h) The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems. (A7)

(i) This instrumentation is excepted from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel. These instrument channels will be calibrated using simulated electrical signals once every three months.

(A6)

CTS 3.3.6.2-2

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IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.6.2

Secondary Containment Isolation Instrumentation

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

ADMINISTRATIVE CHANGES

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

A2 A Note at the start of CTS Table 3.2-1 and CTS RETS Table 3.10-1 ("Separate Condition entry is allowed for each channel.") is proposed to be added to provide more explicit instructions for proper application for the new Actions for Technical Specification compliance. In conjunction with the proposed Specification 1.3 "Completion Times," this Note provides direction consistent with the intent of the Required Actions for inoperable Secondary Containment Isolation instrumentation channels, functions, or trip systems. It is intended that each Required Action be applied regardless of it having been applied previously for other inoperable Secondary Containment Isolation instrumentation channels, functions, or trip systems.

A3 CTS Table 3.2-1 Note 1.a.1) and 1.b.3.a) require inoperable channels to be placed in trip within 12 hours if they are common to RPS instrumentation. In the ITS 3.3.6.2 ACTION A Completion Times the specific Functions have been included (e.g., Function 1 and 2). These changes are considered administrative since the same Completion Times exist in the ITS. This change is consistent with NUREG-1433, Revision 1.

A4 The requirement to restore the channel to operable status in Table 3.2-1 Note 1.b.3 has been deleted since it is always an option. Since this change does not change any requirements this deletion is considered administrative, and is consistent with NUREG-1433, Revision 1.

A5 CTS Table 4.1-1 Note 3, Table 4.1-2 Note 2, and RETS Table 3.10-2 Note (a), that provide allowances to not require Instrument checks, Functional Tests and Calibration requirements (when these instruments are not required to be operable or are tripped) are being deleted. This explicit Note is not needed in ITS 3.3.6.2 since these allowances are included in ITS SR 3.0.1. SR 3.0.1 states that SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. In addition, the Note states that Surveillances do not have to be performed on inoperable equipment or variables outside specified limits. When equipment is declared inoperable, the Actions of this LCO require the equipment to be

ADMINISTRATIVE CHANGES

A5 (continued)

placed in the trip condition. In this condition, the equipment is still inoperable but has accomplished the required safety function. Therefore, the allowances in SR 3.0.1 and the associated actions provide adequate guidance with respect to when the associated surveillances are required to be performed and this explicit requirement is not retained. This change is consistent with NUREG-1433, Revision 1.

A6 CTS Table 4.1-1 Note 4 and RETS Table 3.10-2 Note (i), specify that the instrumentation channels are excepted from the instrumentation channel test definition. The instrumentation channel functional test will consist of injecting a simulated electrical signal into the instrument channels. This explicit allowance is not retained in ITS 3.3.6.2 since it is duplicative of the current and proposed CHANNEL FUNCTIONAL TEST definition in ITS Chapter 1.0. Since this change does not change any technical requirements, it is considered administrative. This change is consistent with NUREG-1433, Revision 1.

A7 Note 7 of Tables 4.2-1 through 4.2-5 and CTS RETS Table 3.10-2 Note (h) have been deleted. These Notes state that the logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems. Since the secondary containment isolation Functions do not include any time delay relays, this Note does not apply and its deletion is considered administrative.

A8 The quarterly Instrument Channel Functional Test required in CTS RETS Table 3.10-2 for the Refuel Area Exhaust and the Reactor Building Area Exhaust Monitors has been deleted since it is a duplication of the testing performed in accordance with the current and proposed quarterly Channel Calibration (ITS SR 3.3.6.2.3). Since the proposed Calibration will perform the same testing that is currently performed this change is considered administrative. This change is consistent with the format of NUREG-1433, Revision 1.

A9 The requirement in CTS Table 3.2-1 Note 1, "there shall be two operable or tripped trip systems for each Trip Function, except as provided below" has been deleted. The current requirements in CTS Table 3.2-1 Notes provide sufficient guidance to take when channels are inoperable. The ITS 3.3.6.2 LCO, the requirements in proposed Table 3.3.6.2-1, and the ACTIONS clearly define the appropriate requirements when channels are inoperable in the ITS. Since there is no technical change in deleting this portion of the Note, this change is considered administrative.

ADMINISTRATIVE CHANGES

A10 CTS RETS 3.8 requires the Standby Gas Treatment (SGT) System instrumentation in CTS RETS Table 3.10-1 to be Operable to support the SGT System. CTS 3.7.B.1 requires the SGT System to be Operable whenever secondary containment integrity is required (CTS 3.7.C.1). The CTS 3.7.C.1 Applicability is proposed to be reworded (see Discussion of Changes for ITS 3.6.4.1) to be consistent with the new definition of MODES and to have a positive statement as to when it is applicable, not when it is not applicable. CTS 3.7.C.1.a and 3.7.C.1.b form the MODES 1, 2, and 3 requirements, CTS 3.7.C.1.c forms a requirement during Core Alterations (Table 3.3.6.2-1, Footnote b), and CTS 3.7.C.1.d forms a requirement during the movement of irradiated fuel assemblies in the secondary containment (Table 3.3.6.2-1, Footnote b). Therefore, this change is purely a presentation preference adopted by the BWR Standard Technical Specifications, NUREG-1433, Revision 1.

A11 CTS RETS Table 3.10-1 Note (c) requires to stop handling the refueling equipment or Note (d) requires the isolation of the Secondary Containment and to start the Standby Gas Treatment (SGT) System when the requirements for the Refuel Area Exhaust Monitor are not met. The option to only stop handling the refueling equipment is not retained in the ITS since it does not provide adequate protection during all MODES of plant operation. If operating in MODE 1, stopping this operation (stop handling the refueling equipment) will not provide sufficient protection for all postulated events during power operation. The requirement that this equipment must be Operable during handling the refueling equipment is retained in the Applicability of ITS 3.3.6.2-1, Footnote b, consistent with the current Applicability requirements in CTS RETS 3.8 (see A10). ITS Table 3.3.6.2-1 requires this Function to be Operable during MODES 1, 2 and 3 and Footnote b requires this Function to be Operable during CORE ALTERATIONS and during movement of irradiated fuel assemblies in secondary containment. Therefore, the proposed Applicability will ensure the equipment is Operable during the conditions of postulated events. In addition, the ITS 3.3.6.2 ACTIONS will provide adequate compensatory actions when this instrumentation is inoperable. Changes to the actions in CTS RETS Table 3.10-1 Note (d) are discussed in M3 and L4, therefore, this change is considered administrative. This change is consistent with NUREG-1433, Revision 1.

A12 CTS Table 3.2-1 includes a "Trip Level Setting" column which includes the trip setting for each primary containment isolation system instrumentation functions as well as secondary containment instrumentation functions. In the ITS, the Secondary Containment Isolation Instrumentation Functions are included in Table 3.3.6.2-1 along with its associated "Allowable Value".

ADMINISTRATIVE CHANGES

A12 (continued)

The CTS "trip level settings" 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.

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 adquate 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 "trip level settings") between successive CHANNEL CALIBRATIONS. The CTS "trip settings" 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 "Trip Level Settings" or "Allowable Values" have been established consistent with the NYPA Engineering Standards Manual, IES-3A, "Instrument Loop Accuracy and Setpoint Calculation Methodology." The

RAI 3.3.6.1-2

ADMINISTRATIVE CHANGES

A12 (continued)

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 "Trip Level Setting" to "Allowable Value". Since the instrumentation will be declared inoperable at the same numerical value, this change is considered administrative. This change is consistent with NUREG-1433, Revision 1.

A13 The details in CTS RETS Table 3.10-2 Note (f) identifying how the Logic System Functional Test is to be performed (i.e., where possible using test jacks) has been deleted. The proposed definition for Logic System Functional Test provides the necessary guidance. Therefore, this explicit requirement is not necessary to ensure Operability. Accordingly, the change is a presentation preference adopted by the BWR Technical Specifications, NUREG-1433.

RAI 3.3.6.1-2

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 A new Applicability is proposed to be added (proposed ITS 3.3.6.2-1 Note a) for the Reactor Vessel Water Level - Low (Level 3) Function (proposed Function 1) of current Table 3.2-1. This Function will be required to be OPERABLE during operations with a potential for draining the reactor vessel (OPDRVs). This is an additional restriction on plant operation. OPDRVs could result in a vessel draindown event and subsequent release of radioactivity, such that the channels would be needed to isolate the secondary containment and start the SGT System. In addition, this Applicability has been added to the two secondary containment Functions defined in CTS RETS Table 3.10-1 (Refuel Area Exhaust Monitor and Reactor Building Area Exhaust Monitors) as indicated in Table 3.3.6.2-1 Functions 3 and 4. This proposed Applicability will ensure the Functions are Operable to mitigate accidents in the MODES and other specified conditions assumed in the accident analysis. These changes are additional restrictions on plant operation and have been added to enhance plant safety.

M1 CTS RETS Table 3.10-1 specifies that the setpoints of the Refuel Area Exhaust Monitor and Reactor Building Area Exhaust Monitor Functions are in accordance with the methods and procedures of the ODCM. The Allowable Values have been added for the current Functions of Table 3.10-1 (Refuel Area Exhaust Monitor and Reactor Building Area Exhaust Monitors) in accordance with the current Setpoint Methodology. The

TECHNICAL CHANGES - MORE RESTRICTIVE

M2 (continued)

Allowable Values are included in ITS Table 3.3.6.2-1 for Functions 3 and 4. Since the actual values will now be included in the ITS, this change is considered more restrictive.

M3 CTS RETS Table 3.10-1 Note (d) requires the isolation of the secondary containment and to start the SGT System when the associated instrumentation is found to be inoperable. A finite Completion Time of 1 hour in CTS RETS Table 3.10-1 Note (d) (ITS 3.3.6.2 Required Actions C.1.1 and C.2.1) is proposed to be provided to isolate the secondary containment and place the associated SGT subsystem in operation. Currently, no Completion Time is provided. This change is consistent with the BWR Standard Technical Specifications, NUREG-1433, Revision 1 and is considered more restrictive on plant operation but is added to enhance plant safety.

M4 The Frequencies for performance of Channel Checks is proposed to be changed to 12 hours from once per day (current Table 4.1-1, and CTS RETS Table 3.10-2). The Channel Check ensures once every 12 hours that a gross failure of instrumentation has not occurred. This Frequency is based on operating experience that demonstrates that Channel failure is rare. This change is consistent with NUREG-1433, Revision 1 and is considered more restrictive but is added to enhance plant safety.

M5 CTS RETS Table 3.10-2 does not include a Logic System Functional Test for the Refuel Area Exhaust Monitor. A LOGIC SYSTEM FUNCTIONAL TEST (ITS SR 3.3.6.2.6) has been added for ITS 3.3.6.2 Function 4 (Refueling Floor Exhaust Radiation-High). This surveillance is not currently required to be performed therefore this change is considered more restrictive on plant operation but is added to enhance plant safety.

M6 The allowance in CTS Table 3.2-1 Note 2 to place the affected primary containment isolation valves (in this case secondary containment isolation valves) in an inoperable status during the performance of instrumentation surveillances and delay entry into the associated Limiting Conditions for Operation and required action for 6 hours has been deleted. This change is consistent with the allowances in the reliability analysis of NEDC-31677P-A and NEDC-30851-P-A Supplement 2for BWR Isolation Instrumentation. These analyses only allow the instrumentation channel to be placed in an inoperable condition during the performance of a required Surveillance. This change is more restrictive on plant operation but necessary to ensure the secondary

TECHNICAL CHANGES - MORE RESTRICTIVE

M6 (continued)

containment penetrations will be isolated and at least one standby gas treatment subsystem is capable of initiation when necessary.

M7 The CTS Applicability of the Primary Containment Isolation Functions as described in CTS 3.2.A is whenever primary containment integrity is required. The Applicability identified in CTS Table 3.2-1 Note 1 is whenever Primary Containment integrity is required by Specification 3.7.A.2. The Applicability in CTS 3.7.A.2 is whenever the reactor is critical or when the reactor water temperature is above 212°F and fuel is in the reactor vessel. In addition, there is an exception in CTS 3.7.A.2, to not require primary containment integrity to be met during low power physics tests at atmospheric pressure and power levels not to exceed 5 MWt, however any change to this requirement is discussed in the Discussion of Changes for ITS 3.10.8. The scope of the current Applicability covers MODE 1, 3 and portions of MODE 2 operations and is also considered to include the secondary containment isolation function. The Applicability of all Functions in the ITS will include MODES 1, 2 and 3. This change is considered more restrictive since the Functions will be required to be Operable at all times in MODE 2 (which is consistent with current practice). Changes to the current Applicability are further discussed in M1 and A13. This change is consistent with NUREG-1433, Revision 1.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 The specific details related to the design in CTS Table 3.2-1 and CTS RETS Table 3.10-1 (e.g., column of "Total Number of Instrument Channels Provided by Design for Both Trip Systems") are proposed to be relocated to the Bases. Placing these details in the Bases provides assurance they will be maintained. The requirements of ITS 3.3.6.2 which require the secondary containment isolation instruments to be OPERABLE, the definition of OPERABILITY, and the proposed Required Action and Surveillances 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 (GENERIC)

LA2 The details of CTS Table 3.2-1 Note 1.a and Footnote (*), and CTS RETS Table 3.10-1 Footnote (a) concerning the placement of a channel or trip system in the trip condition if this would cause the Trip Function to occur are proposed to be relocated to the Bases. If placing the inoperable channel(s) in the tripped condition would cause an isolation, the Required Action of Condition A is not completed within the required Completion Time and Condition C would be required to be entered, as described in the Bases. In addition, if it is not desired to place a channel in trip even when placing it in trip does not result in an isolation, then ACTION C can also be entered. However, this case isconsistent with current allowances. 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.

LA3 The details of CTS RETS Table 3.10-1 Note (b) concerning the Bases (in accordance with methods of the ODCM) for the trip level settings of the Refuel Area Exhaust Monitor and the Reactor Building Area Exhaust Monitor are proposed to be relocated to the Bases. The new requirement to add the Allowable Value is adequate to ensure the OPERABILITY of the channels (see M2). 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.

LA4 The details in CTS Table 3.2-1 Note 4, that the signals also start SGT System and initiate secondary containment isolation, are proposed to be relocated to the Bases. In addition, the details in CTS RETS Table 3.10-2 that the Reactor Building Area Exhaust Monitor channel includes the isolation Function is proposed to be relocated to the Bases. These details for system Operability are not necessary to ensure the Secondary Containment Isolation instruments are Operable. The requirements of ITS 3.3.6.2, which require the Secondary Containment Isolation 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 the public health and safety. Changes to the Bases will be controlled by the provisions of the Bases Control Program described in Chapter 5 of the ITS.

LA5 The details in CTS Table 3.2-1 Note 7, that the signals are common to RPS, are proposed to be relocated to the Bases. The details of design are not necessary to ensure the Secondary Containment Isolation instruments are Operable. The requirements of ITS 3.3.6.2, which require the Secondary Containment Isolation instruments to be Operable,

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA5 (continued)

and the definition of Operability suffice. The Bases identifies which instruments are common to RPS, and those instruments which are common to RPS are identified in the ITS 3.3.6.2 ACTION A Completion Times to ensure the proper Required Actions are taken if the secondary containment instrumentation is found to be inoperable. As such, these details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the Bases Control Program described in Chapter 5 of the ITS.

LA6 The detail in CTS Table 3.2-1 that the Trip Level Setting of the Reactor Low Water Level Function (Items 1) is referenced from the Top of Active Fuel (TAF) is proposed to be relocated to the Bases. CTS 1.0.Z definition specifies that the Top of Active Fuel, corresponding to the top of the enriched fuel column of each fuel bundle, is located 352.5 inches above vessel zero, which is the lowest point in the insidebottom of the reactor pressure vessel. (See General Electric drawing No. 919D690BD). These details are also proposed to be relocated to the Bases. The requirement in ITS LCO 3.3.6.2.1 that the secondary containment isolation instrumentation for each Function in Table 3.3.6.2-1 shall be OPERABLE, the requirements in the Table including the Allowable Value for the Reactor Vessel Water Level - Low (Level 2) Function (Function 1), the definition of Operability, the proposed Actions, and Surveillance Requirements are adequate to ensure the instrumentation is properly maintained. In addition, the Bases includes a statement that the Reactor Vessel Water Level - Low (Level 2) Function Allowable Values is referenced from a level of water 352.56 inches above the lowest point in the inside bottom of the reactor pressure vessel and also corresponds to the top of a 144 inch fuel column. 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.

LA7 The detail in CTS Table 3.2-1 Note 2.b which defines primary containment isolation capability (for at least one containment isolation valve in the affected penetration) is proposed to be relocated to the Bases. The requirements of ITS 3.3.6.2 Surveillance Note 2 which requires isolation capability (in this case secondary containment isolation capability) to be maintained when a channel is placed in an inoperable status solely for performance of required Surveillances is sufficient to ensure the secondary containment penetrations will be isolated and at least one standby gas treatment subsystem will start if necessary during the

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA7 (continued)

performance of the Surveillance. The ITS Bases provides a detailed description of what is meant by isolation capability for each Function. As such, these details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the Bases Control Program described in Chapter 5 of the ITS.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 When more than one channel associated with a trip function is inoperable, CTS Table 3.2-1 Notes 1.b.2 and associated Footnote (**) requires action to be taken within 6 hours to place a channel in Trip or to take the required actions specified in the Table for the associated Function (Note 3.A). These actions must be taken even if secondary isolation capability is maintained. This requirement is not included in ITS 3.3.6.2. The allowance in Note 1.b.1 and proposed ITS 3.3.6.2 ACTION B to restore secondary isolation capability in one hour is adequate to ensure the time without automatic isolation capability is minimized. ITS ACTION A will still require inoperable Drywell Pressure and Reactor Vessel Water level channels to be restored or placed in trip within 12 hours.

L2 The action in CTS Table 3.2-1 Note 3.A requires the reactor to be placed in Cold Shutdown within 24 hours if the associated Required Actions associated with the Drywell Pressure and Reactor Vessel Water Level channels are not satisfied within the specified completions times. ITS 3.3.6.2 ACTION C will allow the conservative action of isolating the associated secondary containment penetration flow paths (ITS 3.3.6.2 Required Action C.1.1) and placing the associated SGT subsystems in operation (ITS 3.3.6.2 Required Action C.2.1) or declaring the associated features (SCIVs and SGT subsystems) inoperable (ITS 3.3.6.2 Required Action C.1.2. and C.2.2) which is preferable to initiating a shutdown as is currently required. Isolating the associated flow paths and starting the SGT subsystems performs the intended function of the instrumentation and allows operation to continue. This places the affected components in the condition assumed in the accident analysis. In addition, these proposed Required Actions are consistent with the CTS RETS Table 3.10-1, Note (d) actions, which provide the actions when another Secondary Containment Isolation Instrument Function is inoperable and untripped. Declaring the associated SCIVs or SGT subsystems inoperable is also acceptable since the Required Actions of proposed LCOs 3.6.4.2 and 3.6.4.3 provide appropriate ACTIONS for the inoperable components. The actions to shutdown the plant will

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 (continued)

essentially remain as an option, through the addition of proposed Required Actions C.1.2 and C.2.2. These Required Actions require declaring the associated secondary containment isolation valves and Standby Gas Treatment subsystem inoperable, which will ultimately result in shutting down the plant.

L3 Not Used.

L4 CTS RETS Table 3.10-1 Note (d) requires the isolation of the secondary containment and to start the Standby Gas Treatment (SGT) System when the instrumentation is found to be inoperable and not restored to operable status within 24 hours. New Required Actions have been added to CTS RETS Table 3.10-1 as an option the current action of Note (d) (ITS 3.3.6.2 Required Actions C.1.2 and C.2.2) to require declaring the affected components inoperable and taking the appropriate actions in the associated Secondary Containment Isolation Valve (SCIV) and SGT System Specification (ITS 3.6.4.2 and ITS 3.6.4.3, respectively) if the associated penetrations and SGT subsystems are not placed in the proper condition within 1 hour (M3). Since the instrumentation provide signals to SCIVs and SGT System (i.e., it supports SCIVs and SGT System OPERABILITY), it is appropriate that the proper action would be to declare these systems or components inoperable. The current requirements are overly restrictive, in that if the associated SCIVs and SGT subsystems were inoperable for other reasons, a much longer restoration time is provided.

L5 Not Used.

L6 Not Used.

L7 The requirement in CTS Table 4.1-1 to calibrate the alarm during the Channel Functional Test and the requirement in CTS RETS Table 3.10-2 that includes recorders within the definition of the instrument channel have been deleted. These components are not required to ensure the safety analysis assumptions are met. The requirement to include those portions of the channel which are needed to perform the required safety Function are included within the scope of the channels. The details of what the channel consists of is included in the Bases. The requirement that the associated channels in the ITS LCO 3.3.6.2 must be Operable are sufficient to ensure Operability of the required components. This change is consistent with NUREG-1433, Revision 1.

L8 CTS RETS Table 3.10-1 Note (1) requires both trip systems to have at least one operable or tripped channel. A new ACTION is proposed to be added to the CTS RETS Table 3.10-1 to allow 1 hour to restore isolation

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L8 (continued)

capability when one or more isolation Functions with isolation capability not maintained. ITS 3.3.6.2 ACTION B will allow one hour torestore isolation capability. This action is consistent with current actions for other secondary containment Functions in CTS Table 3.2-1 Note 1.b.1. This completion time will allow the operator time to evaluate and repair any discovered inoperabilities. The 1 hour Completion Time is acceptable because it minimizes risk while allowing time for restoration or tripping of channels.

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.6.2

Secondary Containment Isolation Instrumentation

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

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

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

   This change will allow additional time to repair inoperable channels as long as isolation capability is restored within 1 hour if more than one channel is inoperable for either the Reactor Vessel Water Level - Low (Level 3) or the Drywell Pressure - High Functions. These channels are not considered as initiators for any accidents previously analyzed. Therefore, this change does not significantly increase the probability of a previously analyzed accident. The proposed ACTION to limit the loss of secondary containment isolation capability to 1 hour is adequate due to the low probability of an event requiring this function in this small time period. The consequences of an accident due to this change will be the same as the consequences allowed by the existing requirements when isolation capability is lost. 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 effective time allowed to repair (an additional 6 hours) an inoperable channel is small and the time allowed to operate with the loss of isolation capability is still only one hour.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

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

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

   This change will not require the reactor to be placed in Cold Shutdown within 24 hours with inoperable or un-tripped channels as long as the safety function performed by the inoperable equipment is actuated or the associated equipment is declared inoperable. The secondary containment instrumentation, the secondary containment isolation valves (SCIVs) and the Standby Gas Treatment (SGT) System are not considered to be the initiator for any accidents previously analyzed. Therefore, this change does not significantly increase the probability of a previously analyzed accident. Placing the channels in the tripped condition or isolating the associated secondary containment penetration flowpaths and placing the associated SGT subsystems in operation fulfills the post-accident function of the isolation logic. Declaring the associated SCIVs or SGT subsystems inoperable is also acceptable since the Required Actions of proposed LCOs 3.6.4.2 and 3.6.4.3 provide appropriate ACTIONS for the inoperable components. 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 required safety function of the inoperable channels will be fulfilled. Declaring the associated SCIVs or SGT subsystems inoperable is also acceptable since the Required Actions of proposed LCOs 3.6.4.2 and 3.6.4.3 provide appropriate ACTIONS for the inoperable components.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

Not Used.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

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

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

   This change provides an allowance to declare the associated secondary containment isolation valves (SCIVs) or standby gas treatment (SGT) subsystems inoperable rather than to isolate the SCIVs and start the associated SGT subsystem. The SCIVs and the SGT subsystems are not considered as an initiator for any accidents previously analyzed. Therefore, this change does not significantly increase the probability of a previously analyzed accident. Declaring the associated SCIVs or SGT subsystems inoperable is acceptable since the Required Actions of proposed LCOs 3.6.4.2 and 3.6.4.3 provide appropriate ACTIONS for these inoperable components. The consequences of any accident previously evaluated will be bounded by those conditions where the Secondary Containment is inoperable for other reasons. 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.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

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

This change provides an allowance to declare the associated secondary containment isolation valves (SCIVs) or standby gas treatment (SGT) subsystems inoperable rather than to isolate the SCIVs and start the associated SGT subsystem. Declaring the associated SCIVs or SGT subsystems inoperable is also acceptable since the Required Actions of proposed LCOs 3.6.4.2 and 3.6.4.3 provide appropriate ACTIONS for the inoperable components. Secondary containment isolations instrumentation supports the operability of the SCIVs and the SGT System. Therefore, taking the actions of these Specifications will ensure action is taken promptly to restore these inoperable components. This change does not significantly reduce the margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L5 CHANGE

Not Used.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L6 CHANGE

Not Used.

RAI 3.3.6.2-2

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L7 CHANGE

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

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

   This change proposes to delete the requirement to include recorders and/or alarms within the scope of the channel definition. The proposed change does not increase the probability of an accident because these instruments are not assumed to initiate an accident. The proposed change provides assurance that the associated Secondary Containment Isolation Functions are tested consistent with the analysis assumptions. As a result, the consequences of an accident are not affected by this change. This change will not alter assumptions relative to the mitigation of an accident or transient event. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   This change will not physically alter the plant (no new or different types of equipment will be installed). The changes in methods governing normal plant operation and testing are consistent with the current safety analysis assumptions. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

   This change proposes to delete the requirement to include recorders and/or alarms within the scope of the channel definition. The proposed change still provides the necessary control of testing to ensure Operability of the Secondary Containment Isolation Instrumentation. The safety analysis assumptions will still be maintained, thus no question of safety exists. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L8 CHANGE

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

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

   This change will allow operation for 1 hour with inoperable channels in both trip systems. These channels of the isolation logic circuitry are not considered as an initiator for any accidents previously analyzed. Therefore, this change does not significantly increase the probability of a previously analyzed accident. The consequences of an accident during the 1 hour time are the same as the consequences of an accident during the current time provided to shutdown. 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?

   The 1 hour time period is consistent with the time currently allowed for other Secondary Containment Isolation Instrumentation. This Completion Time will allow the operator time to evaluate and repair any discovered inoperabilities. The 1 hour Completion Time is acceptable because it minimizes risk while allowing for restoration or tripping of channels. Therefore, this change does not involve a significant reduction in a margin of safety.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.6.2

Secondary Containment Isolation Instrumentation

MARKUP OF NUREG-1433, REVISION 1
SPECIFICATION

3.3 INSTRUMENTATION

3.3.6.2 Secondary Containment Isolation Instrumentation

[5.2.A] [RETS 3.8 LCO]

LCO 3.3.6.2 The secondary containment isolation instrumentation for each Function in Table 3.3.6.2-1 shall be OPERABLE.

[3.2.A] [T. 3.2-1 Note 1] [M1] [RETS Table 3.10-1 Note (a)] [A10]

APPLICABILITY: According to Table 3.3.6.2-1.

ACTIONS

[A2]

NOTE
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
[Table 3.2-1 Note 1.a Note 1.b.3)] [RETS Table 3.10-1 Note (a)] A. One or more channels inoperable.	A.1 Place channel in trip.	12 hours for Function 2 (s 1 and) AND 24 hours for Functions other than Function 2 (3 and 4)
[Table 3.2-1 Note 1.b.1)] [RETS T. 3.10-1] [L3] B. One or more automatic (CLBS) Functions with secondary containment isolation capability not maintained.	B.1 Restore secondary containment isolation capability.	1 hour
[Table 3.2-1 Note A] [L2] [RETS Table 3.10-1 Note d] [M3] [L4] C. Required Action and associated Completion Time of Condition A or B not met.	C.1.1 Isolate the associated (zone(s)) OR (secondary containment penetration flow path(s))	1 hour (PA2) (continued)

DBI

PA1 3.3.6.2-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.1.2 Declare associated secondary containment isolation valves inoperable.	1 hour
	AND	
	C.2.1 Place the associated standby gas treatment (SGT) subsystem(s) in operation.	1 hour
	OR	
	C.2.2 Declare associated SGT subsystem(s) inoperable.	1 hour

[RETS Table 3.10-1 Note d] [M3] [L4]

SURVEILLANCE REQUIREMENTS

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

[4.2.A] [RETS 3.8 SR]

1. Refer to Table 3.3.6.2-1 to determine which SRs apply for each Secondary Containment Isolation Function.

[Table 3.2-1 Note 2.b] [Table 3.10-1 Note (c) RETS]

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 secondary containment isolation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.6.2.1	Perform CHANNEL CHECK.	12 hours

[Table 4.1-1] [Table 3.10-2]

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.6.2.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.6.2.4	Calibrate the trip unit.	92 days
SR 3.3.6.2.3	Perform CHANNEL CALIBRATION.	92 days
SR 3.3.6.2.5	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.6.2.6	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months
SR 3.3.6.2.7	NOTE Radiation detectors may be excluded. Verify the ISOLATION SYSTEM RESPONSE TIME is within limits. Reviewer's Note: This SR is applied only to Functions of Table 3.3.6.2-1 with required response times not corresponding to DG start time.	[18] months on a STAGGERED TEST BASIS

Revision B

Table 3.3.6.2-1 (page 1 of 1)
Secondary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level – Low (Level 3)	1,2,3, (a)		SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5 SR 3.3.6.2.6 SR 3.3.6.2.7	≥ -47 inches
2. Drywell Pressure – High	1,2,3		SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5 SR 3.3.6.2.6 SR 3.3.6.2.7	≤ 1.92 psig
3. Reactor Building Exhaust Radiation – High	1,2,3, (a),(b)		SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.5 SR 3.3.6.2.6 SR 3.3.6.2.7	≤ 60 mR/hr
4. Refueling Floor Exhaust Radiation – High	1,2,3, (a),(b)		SR 3.3.6.2.1 SR 3.3.6.2.3 SR 3.3.6.2.4 SR 3.3.6.2.6 SR 3.3.6.2.7	≤ 20 mR/hr
5. Manual Initiation	1,2,3, [(a),(b)]	[1 per group]	SR 3.3.6.2.6	NA

(a) During operations with a potential for draining the reactor vessel.

(b) During [CORE ALTERATIONS and during] movement of irradiated fuel assemblies in [secondary] containment.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.6.2

Secondary Containment Isolation Instrumentation

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 Response time testing is not required in the current JAFNPP Technical Specification. Generic studies have been completed and show that response time changes (time increasing), that could impact safety, do not normally vary such that they would not be detected during other required surveillances (e.g., Channel Calibrations). Since the addition of these tests is a major burden to JAFNPP, with little gain in safety, the SRs associated with these tests have not been added for any test associated with instrumentation.

CLB2 The brackets have been removed from the CHANNEL FUNCTIONAL TEST Frequency and retained as 92 days consistent with CTS Table 4.1-1.

CLB3 SR 3.3.6.2.4 Surveillance Frequency has been modified to be consistent with the frequency in Table 4.1-2 Note 6 and approved in JAFNPP Technical Specification No. 89.

CLB4 The ISTS SR 3.3.6.2.6 bracketed Frequency has been changed from 18 months to 24 months to be consistent with the frequency in CTS Table 4.2-1, Item 5 and CTS RETS Table 3.10-2 as approved in License Amendment 248.

CLB5 This change deletes the word "automatic" from Condition B. This change is acceptable and is considered part of the current licensing basis of the JAFNPP since there are no "manual" secondary containment isolation initiation Functions applicable to the JAFNPP. Specifically, the manual initiation of secondary containment is not currently required by the JAFNPP licensing basis and is not credited in the safety analysis. Therefore, the deletion of this word is consistent with the removal of ISTS Function 5, titled "Manual Initiation" from ITS Table 3.3.6.2-1, titled "Secondary Containment Isolation Instrumentation." Accordingly, this change is consistent with the current licensing basis of the JAFNPP and is considered acceptable.

RAI 3.3.6.2-01

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

PA1 Not Used.

PA2 The brackets have been removed and the proper plant specific nomenclature has been provided.

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 Required Action A.1 of ISTS 3.3.6.2 specifies placing the inoperable channel in trip in 12 hours for Function 2 (Drywell Pressure-High) or in 24 hours for Functions other than Function 2. The 12 hour allowed outage time was determined to be acceptable for RPS channels in NEDC-30851P-A Supplement 2, "Technical Specifications Improvement Analysis for BWR Isolation Instrumentation common to RPS and ECCS Instrumentation," dated March 1989 at JAFNPP. At JAFNPP Function 2 of ITS 3.3.6.2 is common to RPS and as a result is provided with a 12 hour allowed outage time. Function 1 (Reactor Vessel Water Level-Low (Level 3)) of the ITS is also common to RPS, therefore, a 12-hour allowed outage time is appropriate for Function 1. The Completion Times for Required Action A.1 of ITS 3.3.6.2 have been revised accordingly.

DB2 The ITS 3.3.6.2 Surveillances have been re-ordered consistent with the current requirements in CTS Table 4.1-2 and CTS RETS Table 3.10-2. The Frequencies of the calibration surveillances (SR 3.3.6.2.3, SR 3.3.6.2.4, and SR 3.3.6.2.5) are consistent with the current setpoint methodology for the associated Functions. The appropriate SRs have been chosen for each applicable Function in Table 3.3.6.2-1.

DB3 The brackets have been removed and the proper number of channels included for each Function in Table 3.3.6.2-1. The values are consistent with the JAFNPP design. In all cases, all existing channels are included.

DB4 This change proposes to delete the Secondary Containment Isolation Manual Initiation Function. This Function is not applicable to JAFNPP. This change is based on the plant specific differences between JAFNPP and NUREG-1433, Revision 1.

DB5 The brackets have been removed and the proper plant specific values have been included.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

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

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 Not Used

X2 The brackets have been removed in the Applicability column of ITS Table 3.3.6.2.1 and the conditions retained consistent with the current requirements and as modified by M1.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.6.2

Secondary Containment Isolation Instrumentation

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.3 INSTRUMENTATION

B 3.3.6.2 Secondary Containment Isolation Instrumentation

BASES

BACKGROUND

The secondary containment isolation instrumentation automatically initiates closure of appropriate secondary containment isolation valves (SCIVs) and starts the Standby Gas Treatment (SGT) System. The function of these systems, in combination with other accident mitigation systems, is to limit fission product release during and following postulated Design Basis Accidents (DBAs) (Ref. 1). Secondary containment isolation and establishment of vacuum with the SGT System within the assumed time limits ensures that fission products that leak from primary containment following a DBA, or are released outside primary containment, or are released during certain operations when primary containment is not required to be OPERABLE are maintained within applicable limits.

The isolation instrumentation includes the sensors, relays, and switches that are necessary to cause initiation of secondary containment isolation. Most 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 secondary containment isolation signal to the isolation logic. Functional diversity is provided by monitoring a wide range of independent parameters. The input parameters to the isolation logic are (1) reactor vessel water level, (2) drywell pressure, (3) reactor building exhaust, and (4) refueling floor exhaust high radiation. Redundant sensor input signals from each parameter are provided for initiation of isolation. In addition, manual initiation of the logic is provided.

The outputs of the logic channels in a trip system are arranged into two one-out-of-two trip system logics. One trip system initiates isolation of one automatic isolation valve (damper) and starts one SGT subsystem while the other trip system initiates isolation of the other automatic isolation valve in the penetration and starts the other SGT subsystem. Each logic closes one of the two valves on each penetration and starts one SGT subsystem, so that operation of either logic isolates the secondary containment and provides for the necessary filtration of fission products.

(continued)

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DB1

INSERT BKGD-1

, trips the refuel floor exhaust, and the tank and equipment drain sump exhaust fans, and places the reactor building ventilation system in the recirculation mode of operation

INSERT BKGD-2

DB1

The outputs of the logic channels for reactor building ventilation exhaust and refueling ventilation exhaust radiation are arranged into two one-out-of-one trip system logics.

BASES (continued)

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

The isolation signals generated by the secondary containment isolation instrumentation are implicitly assumed in the safety analyses of References 1 and 2 to initiate closure of valves and start the SGT System to limit offsite and control room doses.

Refer to LCO 3.6.4.2, "Secondary Containment Isolation Valves (SCIVs)," and LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," Applicable Safety Analyses Bases for more detail of the safety analyses.

The secondary containment isolation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 3). Certain instrumentation Functions are retained for other reasons and are described below in the individual Functions discussion.

The OPERABILITY of the secondary containment isolation instrumentation is dependent on the OPERABILITY of the individual instrumentation channel Functions. Each Function must have the required number of OPERABLE channels with their setpoints set within the specified Allowable Values, as shown in Table 3.3.6.2-1. The actual setpoint is calibrated consistent with applicable setpoint methodology assumptions. A channel is inoperable if its actual trip setpoint is not within its required Allowable Value. Each channel must also respond within its assumed response time, where appropriate.

Allowable Values are specified for each Function specified in the Table. 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 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

Insert ASA

(continued)

DB3 INSERT ASA

The trip setpoints are derived from the analytical limits and account for all 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).

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BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

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.

In general, the individual Functions are required to be OPERABLE in the MODES or other specified conditions when SCIVs and the SGT System are required.

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

1. Reactor Vessel Water Level—Low (Low) Level 2

Low reactor pressure vessel (RPV) water level indicates that the capability to cool the fuel may be threatened. Should RPV water level decrease too far, fuel damage could result. An isolation of the secondary containment and actuation of the SGT System are initiated in order to minimize the potential for offsite dose release. The Reactor Vessel Water Level—Low (Low) Level 2 Function is one of the Functions assumed to be OPERABLE and capable of providing isolation and initiation signals. The isolation and initiation systems on Reactor Vessel Water Level—Low (Low) Level 2 support actions to ensure that any offsite releases are within the limits calculated in the safety analysis.

Reactor Vessel Water Level—Low (Low) Level 2 signals are initiated from level transmitters that sense the difference between the pressure due to a constant column of water (reference leg) and the pressure due to the actual water level (variable leg) in the vessel. Four channels of Reactor Vessel Water Level—Low (Low) Level 2 Function are available and are required to be OPERABLE to ensure that no single instrument failure can preclude the isolation function.

The Reactor Vessel Water Level—Low (Low) Level 2 Allowable Value was chosen to be the same as the High Pressure Coolant Injection/Reactor Core Isolation Cooling (HPCI/RCIC) Reactor Vessel Water Level—Low Low, Level 2 Allowable Value

add Insert Function 1

(continued)

Insert Function 1 DBI

The Allowable Value is the water level above a zero reference level which is 352.56 inches above the lowest point inside the RPV and is also at the top of a 144 inch fuel column (Ref. 8).

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1. Reactor Vessel Water Level—Low (Level 3)
(continued)

(LCO 3.3.5.1 and LCO 3.3.5.2), since this could indicate that the capability to cool the fuel is being threatened.

The Reactor Vessel Water Level—Low (Level 3) Function is required to be OPERABLE in MODES 1, 2, and 3 where considerable energy exists in the Reactor Coolant System (RCS); thus, there is a probability of pipe breaks resulting in significant releases of radioactive steam and gas. In MODES 4 and 5, the probability and consequences of these events are low due to the RCS pressure and temperature limitations of these MODES; thus, this Function is not required. In addition, the Function is also required to be OPERABLE during operations with a potential for draining the reactor vessel (OPDRVs) because the capability of isolating potential sources of leakage must be provided to ensure that offsite dose limits are not exceeded if core damage occurs.

2. Drywell Pressure—High

High drywell pressure can indicate a break in the reactor coolant pressure boundary (RCPB). An isolation of the secondary containment and actuation of the SGT System are initiated in order to minimize the potential of an offsite dose release. The isolation on high drywell pressure supports actions to ensure that any offsite releases are within the limits calculated in the safety analysis. However, the Drywell Pressure—High Function associated with isolation is not assumed in any FSAR accident or transient analyses. It is retained for the overall redundancy and diversity of the secondary containment isolation instrumentation as required by the NRC approved licensing basis.

High drywell pressure signals are initiated from pressure transmitters that sense the pressure in the drywell. Four channels of Drywell Pressure—High Functions are available and are required to be OPERABLE to ensure that no single instrument failure can preclude performance of the isolation function.

The Allowable Value was chosen to be the same as the Drywell Pressure—High Function Allowable Value

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

2. Drywell Pressure—High (continued)

(LCO 3.3.6.1) since this is indicative of a loss of coolant accident (LOCA).

The Drywell Pressure—High Function is required to be OPERABLE in MODES 1, 2, and 3 where considerable energy exists in the RCS; thus, there is a probability of pipe breaks resulting in significant releases of radioactive steam and gas. This Function is not required in MODES 4 and 5 because the probability and consequences of these events are low due to the RCS pressure and temperature limitations of these MODES.

3, 4. Reactor Building and Refueling Floor Exhaust Radiation—High

High secondary containment exhaust radiation is an indication of possible gross failure of the fuel cladding. The release may have originated from the primary containment due to a break in the RCPB or the refueling floor due to a fuel handling accident. When Exhaust Radiation—High is detected, secondary containment isolation and actuation of the SGT System are initiated to limit the release of fission products as assumed in the FSAR safety analyses (Ref.).

The Exhaust Radiation—High signals are initiated from radiation detectors that are located on the ventilation exhaust piping coming from the reactor building and the refueling floor zones, respectively. The signal from each detector is input to an individual monitor whose trip outputs are assigned to an isolation channel. Four channels of Reactor Building Exhaust Radiation—High Function and four channels of Refueling Floor Exhaust Radiation—High Function are available and are required to be OPERABLE to ensure that no single instrument failure can preclude the isolation function.

The Allowable Values are chosen to promptly detect gross failure of the fuel cladding.

and are set in accordance with the ODCM.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

3. 4. Reactor Building and Refueling Floor Exhaust Radiation—High (continued)

The Reactor Building and Refueling Floor Exhaust Radiation—High Functions are required to be OPERABLE in MODES 1, 2, and 3 where considerable energy exists; thus, there is a probability of pipe breaks resulting in significant releases of radioactive steam and gas. In MODES 4 and 5, the probability and consequences of these events are low due to the RCS pressure and temperature limitations of these MODES; thus, these Functions are not required. In addition, the Functions are also required to be OPERABLE during CORE ALTERATIONS, OPDRVs, and movement of irradiated fuel assemblies in the secondary containment, because the capability of detecting radiation releases due to fuel failures (due to fuel uncovery or dropped fuel assemblies) must be provided to ensure that offsite dose limits are not exceeded.

5. Manual Initiation

The Manual Initiation push button channels introduce signals into the secondary containment isolation logic that are redundant to the automatic protective instrumentation channels and provide manual isolation capability. There is no specific FSAR safety analysis that takes credit for this Function. It is retained for the overall redundancy and diversity of the secondary containment isolation instrumentation as required by the NRC approved licensing basis.

There are two push buttons for the logic, one manual initiation push button per trip system. There is no Allowable Value for this Function, since the channels are mechanically actuated based solely on the position of the push buttons.

Two channels of Manual Initiation Function are available and are required to be OPERABLE in MODES 1, 2, and 3, and during CORE ALTERATIONS, OPDRVs, and movement of irradiated fuel assemblies in the secondary containment. These are the MODES and other specified conditions in which the Secondary Containment Isolation automatic Functions are required to be OPERABLE.

(continued)

PA3

BASES (continued)

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 secondary containment isolation 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 secondary containment isolation 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 secondary containment isolation instrumentation channel.

A.1

DB5

1 and 3 and 4

DB4

6

7

Because of the diversity of sensors available to provide isolation signals and the redundancy of the isolation design, an allowable out of service time of 12 hours for Function 2, and 24 hours for Functions other than Function 2, has been shown to be acceptable (Refs. 6 and 7) to permit restoration of any inoperable channel to OPERABLE status. This out of service time is only acceptable provided the associated Function is still maintaining isolation capability (refer to Required Action B.1 Bases). If the inoperable channel cannot be restored to OPERABLE status within the allowable out of service time, the channel must be placed in the tripped condition per Required Action A.1. Placing the inoperable channel in trip would conservatively compensate for the inoperability, restore capability to accommodate a single failure, and allow operation to continue. Alternately, 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 isolation), Condition C must be entered and its Required Actions taken.

(continued)

BASES

ACTIONS (continued)

B.1

Required Action B.1 is intended to ensure that appropriate actions are taken if multiple, inoperable, untripped channels within the same Function result in a complete loss of automatic isolation capability for the associated penetration flow path(s) or a complete loss of automatic initiation capability for the SGT System. A Function is considered to be maintaining secondary containment isolation capability when sufficient channels are OPERABLE or in trip, such that one trip system will generate a trip signal from the given Function on a valid signal. This ensures that one of the two SCIVs in the associated penetration flow path and one SGT subsystem can be initiated on an isolation signal from the given Function. For the Functions with two one-out-of-two logic trip systems (Functions 1, 2, 3, and 4), this would require one trip system to have one channel OPERABLE or in trip. The Condition does not include the Manual Initiation Function (Function 5), since it is not assumed in any accident or transient analysis. Thus, a total loss of manual initiation capability for 24 hours (as allowed by Required Action A.1) is allowed.

The Completion Time is intended to allow the operator time to evaluate and repair any discovered inoperabilities. The 1 hour Completion Time is acceptable because it minimizes risk while allowing time for restoration or tripping of channels.

C.1.1, C.1.2, C.2.1, and C.2.2

If any Required Action and associated Completion Time of Condition A or B are not met, the ability to isolate the secondary containment and start the SGT System cannot be ensured. Therefore, further actions must be performed to ensure the ability to maintain the secondary containment function. Isolating the associated zone (closing the ventilation supply and exhaust automatic isolation dampers) and starting the associated SGT subsystem (Required Actions C.1.1 and C.2.1) performs the intended function of the instrumentation and allows operation to continue.

Alternately, declaring the associated SCIVs or SGT subsystem(s) inoperable (Required Actions C.1.2 and C.2.2) is also acceptable since the Required Actions of the

(continued)

BASES

ACTIONS

C.1.1, C.1.2, C.2.1, and C.2.2 (continued)

respective LCOs (LCO 3.6.4.2 and LCO 3.6.4.3) provide appropriate actions for the inoperable components.

One hour is sufficient for plant operations personnel to establish required plant conditions or to declare the associated components inoperable without unnecessarily challenging plant systems.

PA3

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.

As noted at the beginning of the SRs, the SRs for each Secondary Containment Isolation instrumentation Function are located in the SRs column of Table 3.3.6.2-1.

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 secondary containment isolation 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. (6) DB4 This Note is based on the reliability analysis (Refs. 8 and 9) (7) assumption of the average time required to perform channel surveillance. That analysis demonstrated the 6 hour testing allowance does not significantly reduce the probability that the SCIVs will isolate the associated penetration flow paths and that the SGT System will initiate when necessary.

SR 3.3.6.2.1

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 other

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.6.2.1 (continued)

channels. 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.

PA1 channel

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

SR 3.3.6.2.2

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the entire channel will perform the intended function. Insert SR 3.3.6.2.2 TA1

Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

The Frequency of 92 days is based on the reliability analysis of References 7 and 6. DB4

DB6

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SR 3.3.6.2.3 (4)

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 Table 3.3.6.2-1. If the trip setting is discovered to be less conservative than

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(continued)

Revision F

TA1

INSERT SR 3.3.6.2.2

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 3.3.6.2.[illegible] (continued)

accounted for in the appropriate setpoint methodology, but is not beyond the Allowable Value, 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 [illegible] days is based on the reliability analysis of References 6 and 8.

SR 3.3.6.2.[illegible] and SR 3.3.6.2.5

A 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.

The Frequencies of SR 3.3.6.2.[illegible] and SR 3.3.6.2.5 are based on the assumption of a 92 day and a [illegible] month calibration interval, respectively, in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.6.2.6

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required isolation logic for a specific channel. The system functional testing performed on SCIVs and the SGT System in LCO 3.6.4.2 and LCO 3.6.4.3, respectively, overlaps this Surveillance to provide complete testing of the assumed safety function.

The [illegible] 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.

move as indicated on previous page

accuracy and lower failure rates of the solid-state electronic Analog Transmitter/Trip System components

Insert SR 3.3.6.2.4 from previous page

While this Surveillance can be performed with the reactor at power for some Functions,

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.6.2.6 (continued)

Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency.

SR 3.3.6.2.7

This SR ensures that the individual channel response times are less than or equal to the maximum value assumed in the accident analysis. Testing is performed only on channels where the assumed response time does not correspond to the diesel generator (DG) start time. For channels assumed to respond within the DG start time, sufficient margin exists in the [10] second start time when compared to the typical channel response time (milliseconds) so as to assure adequate response without a specific measurement test. The instrument response times must be added to the SCIV closure times to obtain the ISOLATION SYSTEM RESPONSE TIME. ISOLATION SYSTEM RESPONSE TIME acceptance criteria are included in Reference 7.

A Note to the Surveillance states that the radiation detectors may be excluded from ISOLATION SYSTEM RESPONSE TIME testing. This Note is necessary because of the difficulty of generating an appropriate detector input signal and because the principles of detector operation virtually ensure an instantaneous response time. Response time for radiation detector channels shall be measured from detector output or the input of the first electronic component in the channel.

ISOLATION SYSTEM RESPONSE TIME tests are conducted on an 18 month STAGGERED TEST BASIS. The 18 month Frequency is consistent with the typical industry refueling cycle and is based on plant operating experience, which shows that random failures of instrumentation components causing serious response time degradation, but not channel failure, are infrequent occurrences.

REFERENCES

1. FSAR, Section [6.3].
2. FSAR, Chapter [15].
3. 10 CFR 50.36 (c)(2)(ii)

(continued)

BASES

REFERENCES (continued)

3. FSAR, Section [15.1.40].

4. FSAR, Sections [15.1.39 and 15.1.41].

5. NEDC-31677P-A, "Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation," July 1990.

6. NEDC-30851P-A Supplement 2, "Technical Specifications Improvement Analysis for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," March 1989.

7. FSAR, Section [7.3].

8. Drawing 11825-5.01-150, Rev D, Reactor Assembly Nuclear Boiler, GE Drawing 919D691BD.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.6.2

Secondary Containment Isolation Instrumentation

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 Response time testing is not required in the current JAFNPP Technical Specification. Generic studies have been completed and show that response time changes (time increasing), that could impact safety, do not normally vary such that they would not be detected during other required surveillances (e.g., Channel Calibrations). Since the addition of these tests is a major burden to JAFNPP, with little gain in safety, the SRs associated with these tests have not been added for any test associated with instrumentation. The Bases has been modified as required to reflect this change.

CLB2 SR 3.3.6.2.4 Surveillance Frequency has been modified to be consistent with the frequency in Table 4.1-2 Note 6 and approved in JAFNPP Technical Specification No. 89.

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

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

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

PA3 Reviewer's Note deleted.

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

PA5 Editorial change with no change in intent.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

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

DB2 This change proposes to delete the Secondary Containment Isolation Manual Initiation Function. This Function is not applicable to JAFNPP. This change is based on the plant specific differences between JAFNPP and NUREG-1433, Revision 1.

DB3 The plant specific description of the setpoint methodology has been provided.

DB4 The plant specific References have been provided.

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.3.6.2 - SECONDARY CONTAINMENT ISOLATION INSTRUMENTATION

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB5 Required Action A.1 of ISTS 3.3.6.2 specifies placing the inoperable channel in trip in 12 hours for Function 2 (Drywell Pressure-High) or in 24 hours for Functions other than Function 2. The 12 hour allowed outage time was determined to be acceptable for RPS channels in NEDC-30851P-A Supplement 2, "Technical Specifications Improvement Analysis for BWR Isolation Instrumentation common to RPS and ECCS Instrumentation," dated March 1989 at JAFNPP. At JAFNPP Function 2 of ITS 3.3.6.2 is common to RPS and as a result is provided with a 12 hour allowed outage time. Function 1 (Reactor Vessel Water Level-Low (Level 3)) of the ITS is also common to RPS, therefore, a 12-hour allowed outage time is appropriate for Function 1. The Completion Times for Required Action A.1 of ITS 3.3.6.2 have been revised accordingly.

DB6 The ITS 3.3.6.2 Surveillances have been re-ordered consistent with the current requirements in CTS Table 4.1-2 and CTS RETS Table 3.10-2. The Frequencies of the calibration surveillances (SR 3.3.6.2.3, SR 3.3.6.2.4, and SR 3.3.6.2.5) are consistent with the current setpoint methodology for the associated functions. The appropriate SRs have been chosen for each applicable Function in Table 3.3.6.2-1. The Bases has been modified as requried to reflect this change.

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-R3

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. The subsequent References have been renumbered, as applicable.

X2 The 18 month Frequency of SR 3.3.6.2.6 (LOGIC SYSTEM FUNCTIONAL TEST) has been increased to 24 months. The justification has been provided in L5. The Bases wording has been revised to reflect the plant specific design.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.6.2

Secondary Containment Isolation Instrumentation

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.3 INSTRUMENTATION

3.3.6.2 Secondary Containment Isolation Instrumentation

LCO 3.3.6.2 The secondary containment isolation instrumentation for each Function in Table 3.3.6.2-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.6.2-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Place channel in trip.	12 hours for Functions 1 and 2 AND 24 hours for Functions 3 and 4
B. One or more Functions with secondary containment isolation capability not maintained.	B.1 Restore secondary containment isolation capability.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met.	C.1.1 Isolate the associated secondary containment penetration flow path(s). OR	1 hour

(continued)

RAI 3.3.6.2-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.1.2 Declare associated secondary containment isolation valves inoperable. AND	1 hour
	C.2.1 Place the associated standby gas treatment (SGT) subsystem(s) in operation. OR	1 hour
	C.2.2 Declare associated SGT subsystem(s) inoperable.	1 hour

SURVEILLANCE REQUIREMENTS

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

1. Refer to Table 3.3.6.2-1 to determine which SRs apply for each Secondary Containment Isolation 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 secondary containment isolation capability.

SURVEILLANCE	FREQUENCY
SR 3.3.6.2.1 Perform CHANNEL CHECK.	12 hours

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.6.2.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.6.2.3	Perform CHANNEL CALIBRATION	92 day
SR 3.3.6.2.4	Calibrate the trip units.	184 days
SR 3.3.6.2.5	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.6.2.6	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

Table 3.3.6.2-1 (page 1 of 1)
Secondary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level – Low (Level 3)	1,2,3, (a)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5 SR 3.3.6.2.6	≥ 177 inches
2. Drywell Pressure – High	1,2,3	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5 SR 3.3.6.2.6	≤ 2.7 psig
3. Reactor Building Exhaust Radiation – High	1,2,3, (a),(b)	1	SR 3.3.6.2.1 SR 3.3.6.2.3 SR 3.3.6.2.6	≤ 24,800 cpm
4. Refueling Floor Exhaust Radiation – High	1,2,3, (a),(b)	1	SR 3.3.6.2.1 SR 3.3.6.2.3 SR 3.3.6.2.6	≤ 24,800 cpm

(a) During operations with a potential for draining the reactor vessel.

(b) During CORE ALTERATIONS and during movement of irradiated fuel assemblies in secondary containment.

B 3.3 INSTRUMENTATION

B 3.3.6.2 Secondary Containment Isolation Instrumentation

BASES

BACKGROUND

The secondary containment isolation instrumentation automatically initiates closure of appropriate secondary containment isolation valves (SCIVs), trips the refuel floor exhaust, and the tank and equipment drain sump exhaust fans, and places the reactor building ventilation system in the recirculation mode of operation and starts the Standby Gas Treatment (SGT) System. The function of these systems, in combination with other accident mitigation systems, is to limit fission product release during and following postulated Design Basis Accidents (DBAs) (Ref. 1). Secondary containment isolation and establishment of vacuum with the SGT System within the required time limits ensures that fission products that leak from primary containment following a DBA, or are released outside primary containment, or are released during certain operations when primary containment is not required to be OPERABLE are maintained within applicable limits.

The isolation instrumentation includes the sensors, logic circuits, relays, and switches that are necessary to cause initiation of secondary containment isolation. Most 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 secondary containment isolation signal to the isolation logic. Functional diversity is provided by monitoring a wide range of independent parameters. The input parameters to the isolation logic are (1) reactor vessel water level, (2) drywell pressure, (3) reactor building ventilation exhaust radiation, and (4) refueling floor ventilation exhaust radiation. Redundant sensor input signals from each parameter are provided for initiation of isolation.

The outputs of the logic channels for reactor water level and drywell pressure are arranged into two two-out-of-two trip system logics. The outputs of the logic channels for reactor building ventilation exhaust and refueling ventilation exhaust radiation are arranged into two one-out-of-one trip system logics. One trip system initiates isolation of one automatic isolation valve (damper)

(continued)

BASES

BACKGROUND (continued)

and starts one SGT subsystem while the other trip system initiates isolation of the other automatic isolation valve in the penetration and starts the other SGT subsystem. Each logic closes one of the two valves on each penetration and starts one SGT subsystem, so that operation of either logic isolates the secondary containment and provides for the necessary filtration of fission products.

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

The isolation signals generated by the secondary containment isolation instrumentation are implicitly assumed in the safety analyses of References 1 and 2 to initiate closure of valves and start the SGT System to limit offsite and control room doses.

Refer to LCO 3.6.4.2, "Secondary Containment Isolation Valves (SCIVs)," and LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," Applicable Safety Analyses Bases for more detail of the safety analyses.

The secondary containment isolation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 3). Certain instrumentation Functions are retained for other reasons and are described below in the individual Functions discussion.

The OPERABILITY of the secondary containment isolation instrumentation is dependent on the OPERABILITY of the individual instrumentation channel Functions. Each Function must have the required number of OPERABLE channels with their setpoints set within the specified Allowable Values, as shown in Table 3.3.6.2-1. The actual setpoint is calibrated consistent with applicable setpoint methodology assumptions. A channel is inoperable if its actual trip setpoint is not within its required Allowable Value.

Allowable Values are specified for each Function specified in the Table. Nominal trip setpoints are specified in the setpoint calculations. The trip setpoints are selected to ensure that the setpoints do not exceed the Allowable Value between CHANNEL CALIBRATIONS. Operation with a trip setpoint less conservative than the trip setpoint, but within its Allowable Value, is acceptable.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

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 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).

In general, the individual Functions are required to be OPERABLE in the MODES or other specified conditions when SCIVs and the SGT System are required.

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

1. Reactor Vessel Water Level – Low (Level 3)

Low reactor pressure vessel (RPV) water level indicates that the capability to cool the fuel may be threatened. Should RPV water level decrease too far, fuel damage could result. An isolation of the secondary containment and actuation of the SGT System are initiated in order to minimize the potential for release of radioactive material and of the resulting offsite and control room dose. The Reactor Vessel Water Level – Low (Level 3) Function is one of the Functions assumed to be OPERABLE and capable of providing isolation and initiation signals. The isolation and initiation systems on Reactor Vessel Water Level – Low (Level 3) support actions to ensure that any offsite releases are within the limits calculated in the safety analysis (Ref. 4).

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1. Reactor Vessel Water Level – Low (Level 3) (continued)

Reactor Vessel Water Level – Low (Level 3) signals are initiated from level transmitters that sense the difference between the pressure due to a constant column of water (reference leg) and the pressure due to the actual water level (variable leg) in the vessel. Four channels of Reactor Vessel Water Level – Low (Level 3) Function are available and are required to be OPERABLE to ensure that no single instrument failure can preclude the isolation function.

The Reactor Vessel Water Level – Low (Level 3) Allowable Value was chosen to be the same as the RPS level scram Allowable Value (LCO 3.3.1.1, "Reactor Protection System Instrumentation") to enable initiation of isolation at the earliest indication of a breach in the reactor coolant system, yet far enough below normal operational levels to avoid spurious isolation. The Allowable Value is the water level above a zero reference level which is 352.56 inches above the lowest point inside the RPV and is also at the top of a 144 inch fuel column (Ref. 8).

The Reactor Vessel Water Level – Low (Level 3) Function is required to be OPERABLE in MODES 1, 2, and 3 where considerable energy exists in the Reactor Coolant System (RCS); thus, there is a probability of pipe breaks resulting in significant releases of radioactive steam and gas. In MODES 4 and 5, the probability and consequences of these events are low due to the RCS pressure and temperature limitations of these MODES; thus, this Function is not required. In addition, the Function is also required to be OPERABLE during operations with a potential for draining the reactor vessel (OPDRVs) because the capability of isolating potential sources of leakage must be provided to ensure that offsite and control room dose limits are not exceeded if core damage occurs.

2. Drywell Pressure – High

High drywell pressure can indicate a break in the reactor coolant pressure boundary (RCPB). An isolation of the secondary containment and actuation of the SGT System are initiated in order to minimize the potential of an offsite and control room release. The Drywell Pressure – High

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

2. Drywell Pressure-High (continued)

Function is one of the Functions assumed to be OPERABLE and capable of providing isolation and initiating signals. The isolation and initiation systems on high drywell pressure supports actions to ensure that any offsite and control room releases are within the limits calculated in the safety analysis (Ref. 4).

High drywell pressure signals are initiated from pressure transmitters that sense the pressure in the drywell. Four channels of Drywell Pressure-High Functions are available and are required to be OPERABLE to ensure that no single instrument failure can preclude performance of the isolation function.

The Allowable Value was chosen to be the same as the RPS Drywell Pressure-High Function Allowable Value (LCO 3.3.1.1) since this is indicative of a loss of coolant accident (LOCA).

The Drywell Pressure-High Function is required to be OPERABLE in MODES 1, 2, and 3 where considerable energy exists in the RCS; thus, there is a probability of pipe breaks resulting in significant releases of radioactive steam and gas. This Function is not required in MODES 4 and 5 because the probability and consequences of these events are low due to the RCS pressure and temperature limitations of these MODES.

3, 4. Reactor Building and Refueling Floor Ventilation Exhaust Radiation-High

High secondary containment exhaust radiation is an indication of possible gross failure of the fuel cladding. The release may have originated from the primary containment due to a break in the RCPB or the refueling floor due to a refueling accident. When Exhaust Radiation-High is detected, secondary containment isolation and actuation of the SGT System are initiated to limit the release of fission products as assumed in the UFSAR safety analyses (Refs. 4 and 5).

The Exhaust Radiation-High signals are initiated from radiation detectors that are located on the ventilation

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

3, 4. Reactor Building and Refueling Floor Ventilation Exhaust Radiation–High (continued)

exhaust piping coming from the reactor building and the refueling floor zones, respectively. The signal from each detector is input to an individual monitor whose trip outputs are assigned to an isolation channel. Two channels of Reactor Building Ventilation Exhaust Radiation–High Function and two channels of Refueling Floor Ventilation Exhaust Radiation–High Function are available and are required to be OPERABLE to ensure that no single instrument failure can preclude the isolation function.

The Allowable Values are chosen to promptly detect gross failure of the fuel cladding and are set in accordance with the ODCM.

The Reactor Building and Refueling Floor Ventilation Exhaust Radiation–High Functions are required to be OPERABLE in MODES 1, 2, and 3 where considerable RCS energy exists; thus, there is a probability of pipe breaks resulting in significant releases of radioactive steam and gas. In MODES 4 and 5, the probability and consequences of these events are low due to the RCS pressure and temperature limitations of these MODES; thus, these Functions are not required. In addition, the Functions are also required to be OPERABLE during CORE ALTERATIONS, OPDRVs, and movement of irradiated fuel assemblies in the secondary containment, because the capability of detecting radiation releases due to fuel failures (due to fuel uncovery or dropped fuel assemblies) must be provided to ensure that offsite and control room dose limits are not exceeded.

ACTIONS

A Note has been provided to modify the ACTIONS related to secondary containment isolation 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 secondary containment isolation instrumentation channels

(continued)

BASES

ACTIONS (continued)

provide appropriate compensatory measures for separate inoperable channels. As such, a Note has been provided that allows separate Condition entry for each inoperable secondary containment isolation instrumentation channel.

A.1

Because of the diversity of sensors available to provide isolation signals and the redundancy of the isolation design, an allowable out of service time of 12 hours for Functions 1 and 2, and 24 hours for Functions 3 and 4, has been shown to be acceptable (Refs. 6 and 7) to permit restoration of any inoperable channel to OPERABLE status. This out of service time is only acceptable provided the associated Function is still maintaining isolation capability (refer to Required Action B.1 Bases). If the inoperable channel cannot be restored to OPERABLE status within the allowable out of service time, the channel must be placed in the tripped condition per Required Action A.1. Placing the inoperable channel in trip would conservatively compensate for the inoperability, restore capability to accommodate a single failure, and allow operation to continue. Alternately, 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 isolation), Condition C must be entered and its Required Actions taken.

B.1

Required Action B.1 is intended to ensure that appropriate actions are taken if multiple, inoperable, untripped channels within the same Function result in a loss of automatic isolation capability for the associated penetration flow path(s) or a loss of initiation capability for the SGT System. A Function is considered to be maintaining secondary containment isolation capability when sufficient channels are OPERABLE or in trip, such that one trip system will generate a trip signal from the given Function on a valid signal. This ensures that one of the two SCIVs in the associated penetration flow path and one SGT subsystem can be initiated on an isolation signal from the given Function. For the Functions with two two-out-of-two logic trip systems (Functions 1 and 2), this would require one trip system to have both channels OPERABLE

(continued)

BASES

ACTIONS

B.1 (continued)

or in trip. For Functions 3 and 4, this would require one trip system to have one OPERABLE or tripped channel.

The Completion Time is intended to allow the operator time to evaluate and repair any discovered inoperabilities. The 1 hour Completion Time is acceptable because it minimizes risk while allowing time for restoration or tripping of channels.

C.1.1, C.1.2, C.2.1, and C.2.2

If any Required Action and associated Completion Time of Condition A or B are not met, the ability to isolate the secondary containment and start the SGT System cannot be ensured. Therefore, further actions must be performed to ensure the ability to maintain the secondary containment function. Isolating the associated secondary containment penetration flow path(s) (closing the ventilation supply and exhaust automatic isolation dampers), and starting the associated SGT subsystem (Required Actions C.1.1 and C.2.1) performs the intended function of the instrumentation and allows operation to continue.

Alternately, declaring the associated SCIVs or SGT subsystem(s) inoperable (Required Actions C.1.2 and C.2.2) is also acceptable since the Required Actions of the respective LCOs (LCO 3.6.4.2 and LCO 3.6.4.3) provide appropriate actions for the inoperable components.

One hour is sufficient for plant operations personnel to establish required plant conditions or to declare the associated components inoperable without unnecessarily challenging plant systems.

SURVEILLANCE REQUIREMENTS

As noted at the beginning of the SRs, the SRs for each Secondary Containment Isolation instrumentation Function are located in the SRs column of Table 3.3.6.2-1.

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

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains secondary containment isolation 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 (Refs. 6 and 7) assumption of the average time required to perform channel surveillance. That analysis demonstrated the 6 hour testing allowance does not significantly reduce the probability that the SCIVs will isolate the associated penetration flow paths and that the SGT System will initiate when necessary.

SR 3.3.6.2.1

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 other channels. 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.

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

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.6.2.2

A CHANNEL FUNCTIONAL TEST is performed on each required 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.

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Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

The Frequency of 92 days is based on the reliability analysis of References 6 and 7.

SR 3.3.6.2.3 and SR 3.3.6.2.5

A 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.

The Frequencies of SR 3.3.6.2.3 and SR 3.3.6.2.5 are based on the assumption of a 92 day and a 24 month calibration interval, respectively, in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.6.2.4

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 Table 3.3.6.2-1. If the trip setting is discovered to be less conservative than accounted for in the appropriate setpoint methodology, but

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.6.2.4 (continued)

is not beyond the Allowable Value, performance is still within the requirements of the plant safety analysis. Underthese conditions, the setpoint must be readjusted to be equal to or more conservative than accounted for in the appropriate setpoint methodology.

The Frequency of 184 days is based on the reliability, accuracy and lower failure rates of the solid-state electronic Analog Transmitters/Trip System components.

SR 3.3.6.2.6

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required isolation logic for a specific channel. The system functional testing performed on SCIVs and the SGT System in LCO 3.6.4.2 and LCO 3.6.4.3, respectively, overlaps this Surveillance to provide complete testing of the assumed safety function.

While this Surveillance can be performed with the reactor at power for some Functions, 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 5.3.
2. UFSAR, Chapter 14.
3. 10 CFR 50.36(c)(2)(ii).
4. UFSAR, Section 14.6.1.3.
5. UFSAR, Section 14.6.1.4.
6. NEDC-31677P-A, Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation, July 1990.

(continued)

BASES

REFERENCES (continued)

7. NEDC-30851P-A, Supplement 2, Technical Specification Improvement Analysis For BWR Isolation Instrumentation Common To RPS And ECCS Instrumentation, March 1989.

8. Drawing 11825-5.01-15D, Rev. D, Reactor Assembly Nuclear Boiler, (GE Drawing 919D690BD).

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.7.1

MCRV System Instrumentation (CREVAS)

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

DISCUSSION OF CHANGES (DOCs) TO THE CTS

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

MARKUP OF NUREG-1433, REVISION 1, SPECIFICATION

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

MARKUP OF NUREG-1433, REVISION 1, BASES

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

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.7.1

MCRV System Instrumentation (CREVAS)

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

Specification 3.3.7.1 (A1)

JAFNPP

3.11	LIMITING CONDITIONS FOR OPERATION	4.11	SURVEILLANCE REQUIREMENTS
3.11	ADDITIONAL SAFETY RELATED PLANT CAPABILITIES	4.11	ADDITIONAL SAFETY RELATED PLANT CAPABILITIES
	Applicability:		Applicability:
	Applies to the operating status of the main control and relay rooms, and battery room ventilation and cooling. Applies to emergency service water system and intake deicing heaters.		Applies to the surveillance requirements for the main control and relay room, battery room ventilation systems, emergency service water and intake deicing heaters.
	Objective:		Objective:
	To assure the availability of the main control and relay room, and battery room ventilation systems, to assure the availability of the emergency service water system and intake deicing heaters, under the conditions for which the capability is an essential response to plant abnormalities.		To verify the operability or availability under conditions for which these capabilities are an essential response to plant abnormalities.
A.	Main Control Room Ventilation	A.	Main Control Room Ventilation
1.	The reactor shall not have a coolant temperature greater than 212 °F and fuel may not be handled unless both of the control room emergency ventilation air supply fans and fresh air filter trains are available for normal operation except that one emergency	1.	Each of the control room emergency ventilation* air supply fans and dampers shall be tested for operability every 3 months. The fresh air filter trains shall be tested once every 6 months as follows:
		a.	Pressure drop test across each filter and the filter system.

[Applicability] (M1)

See ITS: 3.7.3

Control Room Emergency Ventilation Air Supply (CREVAS) System Instrumentation (A1)

See ITS: 3.7.3
ITS Section: 5.5

Specification 3.3.7.1

A1

3.11 (cont'd)

ventilation air supply fan and/or filter may be out of service for 14 days.

See ITS 3.7.3

[LCO 3.3.7.1]

2. The main control room air radiation monitor shall be operable whenever the control room emergency ventilation air supply fans and filter trains are required to be operable by 3.11.A.1 or filtration of the control room ventilation intake air must be initiated.

M3

[ACTION A]

[APPLICABILITY]

M1

4.11 (cont'd)

b. Di-octylphtalate (DOP) test for particulate filter efficiency greater than 99% for particulate greater than 0.3 micron size.

c. Freon-112 test for charcoal filter bypass as a measure of filter efficiency of at least 99.5% for halogen removal.

2. At least once per 24 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release, that could adversely affect the ability of the charcoal to perform its intended function, in any ventilation zone communicating with the system, verify:

(1) Within 31 days after removal, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration to be less than or equal to 5 percent when tested in accordance with ASTM D3803-1989 at a temperature of 30 degrees C (86 degrees F), and a relative humidity of at least 95 percent.

(2) Within 31 days of completing 720 hours of charcoal adsorber operation, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration to be less than or equal to 5 percent when tested in accordance with ASTM D3803-1989 at a temperature of 30 degrees C (86 degrees F), and a relative humidity of at least 95 percent.

See ITS 3.7.3 & ITS Section 5.5

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Specification 3.3.7.1

[SR 3.3.7.1.2]

3.11 (cont'd)

3. The control room emergency ventilation system shall not be out of service for a period exceeding 3 days during normal reactor operation or refueling operations. In the event that the system is not returned to service within 3 days, the reactor shall be in cold shutdown within 24 hours and any handling of irradiated fuel, core alterations, and operations with a potential for draining the reactor vessel shall be suspended as soon as practicable

~~4. Not Used~~

see ITS 3.7.3

4.11 (cont'd)

3. Operability of the main control room air intake radiation monitor shall be tested once/3 months.

see ITS 3.7.3

4. Temperature transmitters and differential pressure switches shall be calibrated once per 24 months.

5. Main control room emergency ventilation air supply system capacity shall be tested once every 18 months to assure that it is ±10% of the design value of 1000 cfm.

~~B. DELETED~~

C. Battery Room Ventilation

Battery room ventilation shall be operable on a continuous basis whenever specification 3.9.E is required to be satisfied.

1. From and after the date that one of the battery room ventilation systems is made or found to be inoperable, its associated battery shall be considered to be inoperable for purposes of specification 3.9.E.

~~B. DELETED~~

C. Battery Room Ventilation

Battery room ventilation equipment shall be demonstrated operable once/week.

1. When it is determined that one battery room ventilation system is inoperable, the remaining ventilation system shall be verified operable and daily thereafter.

2. Temperature transmitters and differential pressure switches shall be calibrated once per 24 months.

see CTS 3/4.11.C

Specification 3.3.7.1

Control Room Emergency Ventilation Air Supply (CREVAS) System Instrumentation

A1

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.10 MAIN CONTROL ROOM VENTILATION RADIATION MONITOR	3.10 MAIN CONTROL ROOM VENTILATION RADIATION MONITOR
Applicability Applies to the emergency air supply treatment system to the main control room.	**Applicability** Applies to the instrumentation which monitors the control room supply air.
Objective To assure operability of the in-line radiation monitor and annunciator.	**Objective** To specify the instrument surveillance type and frequency.
Specifications	**Specifications**
The limiting conditions for operation are given on Table 3.10-1.	The instrument surveillance requirements are given on Table 3.10-2.

[LCO 3.3.7.1]

A8

A8

[SR 3.3.7.1.1]
[SR 3.3.7.1.2]

add Applicability

M1

Specification 3.3.7.1

JAFNPP

Table 3.10-1

RADIATION MONITORING SYSTEMS THAT INITIATE AND/OR ISOLATE SYSTEMS

Minimum No. of Operable Instrument Channels per Trip System	Trip Function	Trip Level Setting	Allowable Value	Total Number of Instrument Channels Provided by Design	Action	
1(a)	Refuel Area Exhaust Monitor	(b)		2	(c) or (d)	See ITS: 3.3.6.2
1(a)	Reactor Building Area Exhaust Monitors	(b)		2	(d)	
(j)	SJAE Radiation Monitors	≤ 500,000 μCi/sec		2	(e)	See ITS: 3.7.5
1(a)	Turbine Building Exhaust Monitors	(b)		2	(f)	See CTS RETS: 3.1
1(a)	Radwaste Building Exhaust Monitors	(b)		2	(f)	
(k)	Main Control Room Ventilation	≤4 x 10^3 cpm[a]	[LCO 3.3.7.1] (1)	2	(g) [A] M3	
(h)	Mechanical Vacuum Pump Isolation	≤3 x Normal Full Power Background		4	(h)	See ITS: 3.3.7.2

[LCO 3.3.7.1]

NOTES FOR TABLE 3.10-1

(a) A channel may be placed in an inoperable status for up to six hours during periods of required surveillance without placing the Trip System in the tripped condition provided the other OPERABLE channel is monitoring that Trip Function, that is, trip capability is maintained.
An inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, the inoperable channel shall be restored to operable status within 24 hours, or the indicated action shall be taken.

(b) Trip level setting is in accordance with the methods and procedures of the ODCM. → See ITS: 3.3.6.2 CTS RETS: 3.1

(c) Cease operation of the refueling equipment. → See ITS: 3.3.6.2

(d) Isolate secondary containment and start the SBGTS.

(e) Bring the SJAE release rate below the trip level within 72 hours or isolate either the SJAE or all main steam lines within the next 12 hours. → See ITS: 3.7.5

Specification 3.3.7.1

A1

Table 3.10-1 A8

RADIATION MONITORING SYSTEMS THAT INITIATE AND/OR ISOLATE SYSTEMS

NOTES FOR TABLE 3.10-1 (cont'd.)

(f) Refer to Appendix B LCO 3.1.c and LCO 3.1.d. — see CTS RETS 3.1

[ACTION A] (g) Control room isolation is manually initiated. — M3

(h) Uses same sensors as primary containment isolation on high main steam line radiation. Refer to Appendix A Table 3.2-1 for minimum number of operable instrument channels and action required. — see ITS: 3.3.7.2

(i) Conversion factor is 8.15 x 10⁷ cpm - 1μCi/cc. — A7

(j) See RETS LCO 3.5.b.1 and 3.5.b.2. — see ITS: 3.7.5

[SR Table Note] (k) A channel may be placed in an inoperable status for up to six hours during periods of required surveillance without placing the Trip Function in the tripped condition, or the indicated action shall be taken.

← add Required Action A.1 Completion Time and Required Action A.2 — M3

B Amendment No. ~~93, 127, 203, 211,~~ 249

Specification 3.3.7.1 (A1)

(AB)

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TABLE 3.10-2

MINIMUM TEST AND CALIBRATION FREQUENCY FOR RADIATION MONITORING SYSTEMS[a]

See ITS: 3.3.6.2, 3.3.7.2, 3.7.5, 3.6.4.2, 3.6.4.3

(A4)

Instrument Channels	Instrument Check[g] (M2) SR 3.3.7.1.[1]	Instrument Channel Functional Test[m]	Instrument Channel Calibration SR 3.3.7.1.2	Logic System Function Test[l][m]
Main Stack Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	--
Refuel Area Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	--
Reactor Building Area Exhaust Monitors, Recorders, and Isolation	Daily	Quarterly	Quarterly	Once per 24 Months
Turbine Building Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	--
Radwaste Building Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	--
SJAE Radiation Monitors/Offgas Line Isolation	Daily	Quarterly	Quarterly	Once per 24 Months
Main Control Room Ventilation Monitor	[1]- Daily (12 hours) (M2)	Quarterly (A4)	Quarterly -[2]	--
Mechanical Vacuum Pump Isolation[o]	--	--	--	Once per 24 Months
Liquid Radwaste Discharge Monitor/ Isolation[c][d][e][f]	Daily When Discharging	Quarterly	Quarterly	Once per 24 Months
Liquid Radwaste Discharge Flow Rate Measuring Devices[d]	Daily	Quarterly	Once per 18 Months	--
Liquid Radwaste Discharge Radioactivity Recorder[d]	Daily	Quarterly	Once per 18 Months	--
Normal Service Water Effluent	Daily	Quarterly	Quarterly	--
SBGTS Actuation	--	--	--	Once per 24 Months

See CTS RETS: 3.1

See ITS: 3.3.6.2, 3.6.4.2

See CTS RETS: 3.1

See ITS 3.7.5

See ITS: 3.3.7.2

See CTS RETS 2.1

See ITS 3.3.6.2, 3.6.4.3

Specification 3.3.7.1

A1

NOTES FOR TABLE 3.10-2

A5

(a) Functional tests, calibrations and instrument checks need not be performed when these instruments are not required to be operable or are tripped.

M2

(b) Instrument checks shall be performed at least once per day during these periods when the instruments are required to be operable.

(c) A source check shall be performed prior to each release.

(d) Liquid radwaste effluent line instrumentation surveillance requirements need not be performed when the instruments are not required as the result of the discharge path not being utilized.

(e) An instrument channel calibration shall be performed with known radioactive sources standardized on plant equipment which has been calibrated with NBS traceable standards.

See CTS RETS 2.1

(f) Simulated automatic actuation shall be performed once per 24 months. Where possible, all logic system functional tests will be performed using the test jacks.

ITS: 3.6.4.2, 3.6.4.3
CTS RETS 2.1, 3.1

(g) Refer to Appendix A for instrument channel functional test and instrument channel calibration requirements (Table 4.2-1). These requirements are performed as part of main steam high radiation monitor surveillances.

See ITS: 3.3.7.2

(h) The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

See ITS: 3.3.6.1, 3.3.6.2, 3.3.7.2, 3.7.5
CTS RETS: 2.1, 3.1

(i) This instrumentation is excepted from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel. These instrument channels will be calibrated using simulated electrical signals once every three months.

A6

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.7.1

MCRV System Instrumentation (CREVAS)

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.3.7.1 - CONTROL ROOM EMERGENCY VENTILATION AIR SUPPLY (CREVAS) SYSTEM INSTRUMENTATION

ADMINISTRATIVE CHANGES

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

A2 CTS RETS Table 3.10-1 includes a "Trip Level Setting" column. The setting for "Main Control Room Ventilation" radiation alarm is listed in this column. In the ITS, the Control Room Air Inlet Radiation–High channel "Allowable Value" is included in SR 3.3.7.1.2. The CTS "trip level setting" is considered the "Allowable Value" 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.

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 "trip level setting") between successive CHANNEL CALIBRATIONS. The CTS "trip level setting" and the "ITS Allowable Value" are both the TS limit value that is placed on the actual field setpoint. The Allowable Values is derived from the trip setpoint 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 Value

RAI 3.3.6.1-2

ADMINISTRATIVE CHANGES

A2 (continued)

includes 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 limit is derived from the limiting value of the process parameter obtained from the safety analysis or other appropriate documents.

The "Trip Level Setting" or "Allowable Value" has 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 Value" is 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 "Trip Level Setting" to "Allowable Value". Since the instrumentation will be declared inoperable at the same numerical value, this change is considered administrative. This change is consistent with NUREG-1433, Revision 1.

A3 Not Used.

A4 CTS RETS Table 3.10-2 requires both a channel calibration and a channel functional test on the CREVAS Air Inlet channel on a quarterly basis. The explicit requirement to perform a channel functional test is not included in the ITS 3.3.7.1 since the channel calibration in ITS SR 3.3.7.1.2 fulfills the requirements of the channel functional test. Since this change does not delete any testing, this change is considered administrative. This change is consistent with the format of NUREG-1433, Revision 1.

A5 CTS RETS Table 3.10-2 Note (a) specifies that Functional tests, calibrations and instrument checks need not be performed when these instruments are not required to be operable or are tripped. This explicit requirement is not retained in ITS 3.3.7.1 since the allowance is included in ITS SR 3.0.1. SR 3.0.1 states that SRs shall be met during the MODES or other specified conditions in the Applicability for

ADMINISTRATIVE CHANGES

A5 (continued)

individual LCOs, unless otherwise stated in the SR. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits. Therefore the CTS allowance is included in SR 3.0.1 and does not have to be repeated in the Specification. Since there are no technical changes as a result of this change it is considered administrative. This change is consistent with NUREG-1433, Revision 1.

A6 The allowance in CTS RETS Table 3.10-2 Note (i) to inject a simulated electrical signal into the measurement channel for the functional test is deleted since it is duplicative of current and proposed Channel Functional Test definition. This change is consistent with NUREG-1433, Revision 1.

A7 CTS RETS Table 3.10-1 Note (i) provides a conversion factor to convert the Main Control Room Ventilation Monitor reading of counts per minute (cpm) to microcuries per centimeter cubed (μCi/cc). This conversion factor is not retained in ITS 3.3.7.1. This conversion factor is an attempt to convert the cpm reading from the geiger counter Main control Room Ventilation radiation monitor to μCi/cc. It is essentially meaningless and is not really used for anything. Actual conversion factors vary with the isotopic content of the mixed nuclides being sampled. If there were a need for a μCi/cc reading, a portable sample would be taken and an actual μCi/cc determined. Since the trip level setting (< 4000 cpm) or Allowable Value is conservatively established to ensure the radiation exposure of control room personnel, through the duration of any one of the postulated accidents, does not exceed the limits set by GDC 19 of 10 CFR 50, Appendix A, there is no need for the conversion factor. Since this change does not change any existing requirements, it is considered administrative.

A8 CTS RETS 3.10 makes references to the requirements in CTS RETS Table 3.10-1 (limiting conditions of operations) and Table 3.10-2 (instrument surveillances). ITS 3.3.7.1 does not include a Table since there is only one Function credited for initiation of the Control Room Emergency Ventilation Air Supply (CREVAS) System. ITS LCO 3.3.7.1 requires the Control Room Air Inlet Radiation-High Function channel to be Operable and the Surveillance Requirements contained in CTS RETS Table 3.10-1 are included as SR 3.3.7.1 and SR 3.3.7.2. In addition, the requirements of CTS Table 3.10-1 (e.g., Trip Level Setting, Minimum No. of Operable Instrument Channels, etc) are also included within ITS 3.3.7.1 LCO and Surveillances. Since this change simply changes the format of presentation this change is considered administrative.

DISCUSSION OF CHANGES
ITS: 3.3.7.1 - CONTROL ROOM EMERGENCY VENTILATION AIR SUPPLY (CREVAS) SYSTEM INSTRUMENTATION

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 CTS 3.11.A.2 requires the main control room air radiation monitor to be Operable whenever the control room emergency ventilation air supply fans and filter train are required to be Operable in accordance with CTS 3.11.A.1. The CTS 3.11.A.1 Applicability is whenever the reactor coolant temperature is greater than 212°F and when fuel is being handled. CTS RETS 3.10 implies that the monitor should be Operable to support the Emergency Air Supply Treatment System. ITS 3.3.7.1 Applicability is during MODES 1, 2 and 3, during CORE ALTERATIONS and during movement of irradiated fuel assemblies in the secondary containment, and during operations with a potential for draining the reactor vessel. The Applicability in CTS 3.11.A.1 does not cover all of the ITS Modes and is therefore more restrictive. The CTS Applicability covers MODES 1, 3, portions of MODE 2 operations, during movement of irradiated fuel assemblies in the secondary containment, and during some Core Alterations (see change in Definition of Core Alterations in the Discussion of Changes for ITS: Chapter 1.0). Therefore, the new MODES in the ITS includes whenever the plant is in MODE 2, during control rod movement during refuel, and during operations with a potential for draining the reactor vessel. The change in Applicability is more restrictive but necessary to ensure the CREVAS System Instrumentation is Operable during evolutions with the potential for requiring the CREVAS System to maintain control room habitability. The change is consistent with NUREG-1433, Revision 1.

M2 The Frequency of the Channel Check requirement in Table 3.10-2 for the CREVAS Air Intake Radiation-High Function has been increased from once per day to once per 12 hours. This change is necessary to ensure that a gross failure of instrumentation has not occurred, and is consistent with NUREG-1433. It represents an additional restriction on plant operations but is added to enhance plant safety.

M3 CTS 3.11.A.2 requires the initiation of the Control Room Emergency Ventilation Air Supply (CREVAS) System in the isolate mode of operation, when the Control Room Air Intake Radiation channel is inoperable. In addition, CTS Table 3.10-1 Note (g) requires the same action. If these actions are not met, CTS 3.0.C must be entered and the plant must be in cold shutdown within 24 hours. ITS 3.3.7.1 ACTION A requires this same action (Required Action A.1) to place the CREVAS subsystem in the isolate mode, but also provides an option to declare both CREVAS subsystems inoperable (Required Action A.2). A Completion Time of 1 hour is provided to complete these actions.

The alternative action is necessary since it is the appropriate action if ITS 3.3.7.1 Required Action A.1 cannot be met. Declaring both CREVAS

DISCUSSION OF CHANGES
ITS: 3.3.7.1 - CONTROL ROOM EMERGENCY VENTILATION AIR SUPPLY (CREVAS) SYSTEM INSTRUMENTATION

TECHNICAL CHANGES - MORE RESTRICTIVE

M3 (continued)

subsystems inoperable will require entry into the ACTIONS of ITS 3.7.3, CREVAS System. The ACTIONS of ITS 3.7.3 will require entry into ITS LCO 3.0.3 if operating in MODES 1, 2 and 3. In addition, the ITS 3.7.3 ACTIONS will require the immediate suspension of movement of irradiated fuel assemblies in the secondary containment, suspension of CORE ALTERATIONS and to initiate action to suspend OPDRVs. These actions are consistent with the current default actions in CTS 3.11.A.3 when the CREVAS System is inoperable for any reason other than instrumentation inoperabilities.

This change is more restrictive since it provides an explicit Completion Time (1 hour) and in addition provides the appropriate actions to take during all conditions of the ITS 3.3.7.1 applicability (see M1). This change is necessary to ensure prompt action is taken when the control Room Air Intake Radiation channel is inoperable.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

None

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

None

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.7.1

MCRV System Instrumentation (CREVAS)

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.3.7.1 - CONTROL ROOM EMERGENCY VENTILATION AIR SUPPLY (CREVAS) SYSTEM INSTRUMENTATION

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

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

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.7.1

MCRV System Instrumentation (CREVAS)

MARKUP OF NUREG-1433, REVISION 1
SPECIFICATION

3.3 INSTRUMENTATION

3.3.7.1 [MCREC] Control Room Environmental Control (MCREC)] System Instrumentation

[RETS 3.11, A.2]
[RETS 3.10, LCO]
[RETS Table 3.10-1]

LCO 3.3.7.1 The [MCREC] System instrumentation for each Function in Table 3.3.7.1-1 shall be OPERABLE.

[RETS 3.11.A.1]
[RETS 3.11, A.2] [M1]

APPLICABILITY: According to Table 3.3.7.1-1.

ACTIONS

NOTE
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channels inoperable.	A.1 Enter the Condition referenced in Table 3.3.7.1-1 for the channel.	Immediately
B. As required by Required Action A.1 and referenced in Table 3.3.7.1-1.	B.1 Declare associated [MCREC] subsystem inoperable. AND B.2 Place channel in trip.	1 hour from discovery of loss of [MCREC] initiation capability in both trip systems 24 hours

(continued)

DB1

INSERT APPL

MODES 1, 2, AND 3,
During movement of irradiated fuel assemblies in secondary containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor vessel.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. As required by Required Action A.1 and referenced in Table 3.3.7.1-1.	C.1 Declare associated [MCREC] subsystem inoperable.	1 hour from discovery of loss of [MCREC] initiation capability in both trip systems
	AND	
	C.2 Place channel in trip.	6 hours
D. Required Action and associated Completion Time of Condition B or C not met.	D.1	
A. Channel inoperable	---------NOTE--------- Place in toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable. ----------	
	Place the associated [MCREC] subsystem(s) in the [pressurization] mode of operation.	1 hour
	OR	
	D.2 ---------NOTE--------- Only applicable to Function 3 channels. ----------	
	Isolate associated main steam line (MSL).	1 hour
	OR	

(continued)

[3.11.A.2] [RETS Table 3.10-1 Note (9)] [M3]

[MCREC] System Instrumentation 3.3.7.1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	Declare associated [MCREC] subsystem inoperable.	1 hour

SURVEILLANCE REQUIREMENTS

NOTES

1. Refer to Table 3.3.7.1-1 to determine which SRs apply for each [MCREC] 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 [MCREC] initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.7.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.7.1.2	Perform CHANNEL FUNCTIONAL TEST.	[92] days
SR 3.3.7.1.3	Calibrate the trip units.	[92] days
SR 3.3.7.1.4	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 4000 cpm.	[18] months
SR 3.3.7.1.5	Perform LOGIC SYSTEM FUNCTIONAL TEST.	[18] months

Revision F

Table 3.3.7.1-1 (page 1 of 1)
[Main Control Room Environmental Control] System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level – Low Low Low, Level 1	1,2,3,[a]	[2]	B	SR 3.3.7.1.1 SR 3.3.7.1.2 [SR 3.3.7.1.3] SR 3.3.7.1.4 SR 3.3.7.1.5	≥ [-113] inches
2. Drywell Pressure – High	1,2,3	[2]	B	SR 3.3.7.1.1 SR 3.3.7.1.2 [SR 3.3.7.1.3] SR 3.3.7.1.4 SR 3.3.7.1.5	≤ [1.92] psig
3. Main Steam Line Flow – High	1,2,3	[2 per MSL]	B	SR 3.3.7.1.1 SR 3.3.7.1.2 [SR 3.3.7.1.3] SR 3.3.7.1.4 SR 3.3.7.1.5	[138]% rated steam flow
4. Refueling Floor Area Radiation – High	1,2,3, [(a),(b)]	[1]	C	SR 3.3.7.1.1 SR 3.3.7.1.2 SR 3.3.7.1.4 SR 3.3.7.1.5	≤ [20] mR/hr
5. Control Room Air Inlet Radiation – High	1,2,3, (a),(b)	[1]	C	SR 3.3.7.1.1 SR 3.3.7.1.2 SR 3.3.7.1.4 SR 3.3.7.1.5	≤ [1] mR/hr

(a) During operations with a potential for draining the reactor vessel.

(b) During [CORE ALTERATIONS and during] movement of irradiated fuel assemblies in the [secondary] containment.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.7.1

MCRV System Instrumentation (CREVAS)

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.3.7.1 - CONTROL ROOM EMERGENCY VENTILATION AIR SUPPLY (CREVAS) SYSTEM INSTRUMENTATION

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 The 6 hour allowance in the Surveillance Table Note has been modified to allow this time to perform the required Surveillances even though initiation capability is not maintained. This is consistent with the current allowances.

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

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

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 Table 3.3.7.1-1 has been deleted since the only Function associated with the JAFNPP Control Room Emergency Ventilation Air Supply (CREVAS) System Instrumentation is one CREVAS Air Inlet Radiation-High Function channel. Changes have been made to the LCO, Applicability, ACTIONs and Surveillances to reflect this deletion and the JAFNPP specific design. ACTIONS and Surveillances have been renumbered, where applicable.

DB2 The calibration of the CREVAS Air Inlet Radiation-High channel is performed every 92 days instead of the 18 month Frequency of ISTS SR 3.3.7.1.4. This Frequency is consistent with JAFNPP current setpoint calculation methodology for this channel.

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: 3.3.7.1

MCRV System Instrumentation (CREVAS)

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.3 INSTRUMENTATION

B 3.3.7.1 Main Control Room Environmental Control (MCREC) System Instrumentation

BASES

BACKGROUND

The MCREC System is designed to provide a radiologically controlled environment to ensure the habitability of the control room for the safety of control room operators under all plant conditions. Two independent MCREC subsystems are each capable of fulfilling the stated safety function. The instrumentation and controls for the MCREC System automatically initiate action to pressurize the main control room (MCR) to minimize the consequences of radioactive material in the control room environment.

In the event of a loss of coolant accident (LOCA) signal (Reactor Vessel Water Level—Low Low Low, Level 1 or Drywell Pressure—High), Main Steam Line Flow—High, Refueling Floor Area Radiation—High, or Control Room Air Inlet Radiation—High signal, the MCREC System is automatically started in the pressurization mode. The air is then recirculated through the charcoal filter, and sufficient outside air is drawn in through the normal intake to maintain the MCR slightly pressurized with respect to the turbine building adjacent areas.

The MCREC System instrumentation has two trip systems, either of which can initiate both MCREC subsystems (Ref. 1). Each trip system receives input from each of the Functions listed above. The Functions are arranged as follows for each trip system. The Reactor Vessel Water Level—Low Low Low, Level 1 and Drywell Pressure—High are each arranged in a one-out-of-two taken twice logic (these signals are the same that start the low pressure Emergency Core Cooling Systems' (ECCS) subsystems). The Main Steam Line Flow—High is arranged in a one-out-of-four taken twice logic (each main steam line has two high flow inputs to the trip system). The Refueling Floor Area Radiation—High and Control Room Air Inlet Radiation—High are each arranged in a one-out-of-one logic. 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 MCREC System initiation signal to the initiation logic to an alarm in the control room.

(continued)

INSERT BKGD-1 (DB1)

provides an alarm so that manual action can be taken to place the CREVAS System in the isolate mode of operation

INSERT BKGD-2 (DB2)

drawn in from the air intake source and passes through one of two special filter trains each consisting of a prefilter, a high efficiency (HEPA) filter, two charcoal filters and a second HEPA filter. This air is then combined with recirculated air and directed to one of two control room ventilation fans and directed to the control room

INSERT BKGD-3 (DB3)

The CREVAS System instrumentation consists of a single trip system with one Control Room Air Inlet Radiation-High channel.

BASES (continued)

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

The ability of the MCREC System to maintain the habitability of the MCR is explicitly assumed for certain accidents as discussed in the FSAR safety analyses (Refs. 2, 3, and 4). MCREC System operation ensures that the radiation exposure of control room personnel, through the duration of any one of the postulated accidents, does not exceed the limits set by GDC 19 of 10 CFR 50, Appendix A.

MCREC System instrumentation satisfies Criterion 3 of the NRC Policy Statement.

The OPERABILITY of the MCREC System instrumentation is dependent upon the OPERABILITY of the individual instrumentation channel functions specified in Table 3.3.7.1-1. Each Function must have a required number of OPERABLE channels, with their setpoints within the specified Allowable Values, where appropriate. 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 MCREC System Function specified in the Table. 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 successive 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.

(continued)

DBG

INSERT ASA

The trip setpoint is derived from the analytical limit and accounts for all 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 setpoint derived in this manner provides adequate protection because all expected uncertainties are accounted 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 3.3.6.1-2

Revision F

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

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

1. Reactor Vessel Water Level—Low Low Low, Level 1

Low reactor pressure vessel (RPV) water level indicates that the capability of cooling the fuel may be threatened. A low reactor vessel water level could indicate a LOCA and will automatically initiate the MCREC System, since this could be a precursor to a potential radiation release and subsequent radiation exposure to control room personnel.

Reactor Vessel Water Level—Low Low Low, Level 1 signals are initiated from four level transmitters that sense the difference between the pressure due to a constant column of water (reference leg) and the pressure due to the actual water level (variable leg) in the vessel. Four channels of Reactor Vessel Water Level—Low Low Low, Level 1 Function are available (two channels per trip system) and are required to be OPERABLE to ensure that a single instrument failure can preclude MCREC System initiation. The Reactor Vessel Water Level—Low Low Low, Level 1 Allowable Value was chosen to be the same as the ECCS Reactor Vessel Water Level—Low Low Low, Level 1 Allowable Value (LCO 3.3.5.1, "ECCS Instrumentation").

The Reactor Vessel Water Level—Low Low Low, Level 1 Function is required to be OPERABLE in MODES 1, 2, and 3, and during operations with a potential for draining the reactor vessel (OPDRVs) to ensure that the control room personnel are protected during a LOCA. In MODES 4 and 5 at times other than OPDRVs, the probability of a vessel draindown event resulting in a release of radioactive material into the environment is minimal. In addition, adequate protection is performed by the Control Room Air Inlet Radiation—High Function. Therefore, this Function is not required in other MODES and specified conditions.

2. Drywell Pressure—High

High pressure in the drywell could indicate a break in the reactor coolant pressure boundary. A high drywell pressure

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

2. Drywell Pressure—High (continued)

signal could indicate a LOCA and will automatically initiate the MCREC System, since this could be a precursor to a potential radiation release and subsequent radiation exposure to control room personnel.

Drywell Pressure—High signals are initiated from four pressure transmitters that sense drywell pressure. Four channels of Drywell Pressure—High Function are available (two channels per trip system) and are required to be OPERABLE to ensure that no single instrument failure can preclude MCREC System initiation. The Drywell Pressure—High Allowable Value was chosen to be the same as the ECCS Drywell Pressure—High Allowable Value (LCO 3.3.5.1).

The Drywell Pressure—High Function is required to be OPERABLE in MODES 1, 2, and 3 to ensure that control room personnel are protected in the event of a LOCA. In MODES 4 and 5, the Drywell Pressure—High Function is not required since there is insufficient energy in the reactor to pressurize the drywell to the Drywell Pressure—High setpoint.

3. Main Steam Line Flow—High

High main steam line (MSL) flow could indicate a break in the MSL and will automatically initiate the MCREC System, since this could be a precursor to a potential radiation release and subsequent radiation exposure to control room personnel.

The Main Steam Line Flow—High signals are initiated from 16 transmitters that are connected to the four MSLs. Four channels of Main Steam Line Flow—High Function for each MSL (two channels per trip system) are available and required to be OPERABLE so that no single instrument failure will preclude MCREC System initiation.

The Allowable Value was chosen to be the same as the Primary Containment Isolation Main Steam Line Flow—High Allowable Value (LCO 3.3.6.1, "Primary Containment Isolation Instrumentation").

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

3. Main Steam Line Flow—High (continued)

The Main Steam Line Flow—High Function is required to be OPERABLE in MODES 1, 2, and 3 to ensure that control room personnel are protected during a main steam line break (MSLB) accident. In MODES 4 and 5, the reactor is depressurized; thus, MSLB protection is not required.

4. Refueling Floor Area Radiation—High

High radiation in the refueling floor area could be the result of a fuel handling accident. A refueling floor high radiation signal will automatically initiate the MCREC System, since this radiation release could result in radiation exposure to control room personnel.

The refueling floor area radiation equipment consists of two independent monitors and channels located in the refueling floor area. Two channels of Refueling Floor Area Radiation—High Function are available and are required to be OPERABLE to ensure that no single instrument failure can preclude MCREC System initiation. The Allowable Value was selected to ensure that the Function will promptly detect high activity that could threaten exposure to control room personnel.

The Refueling Floor Area Radiation—High Function is required to be OPERABLE in MODES 1, 2, and 3 and during movement of irradiated fuel assemblies in the secondary containment, CORE ALTERATIONS, and operations with a potential for draining the reactor vessel (OPDRVs), to ensure that control room personnel are protected during a LOCA, fuel handling event, or vessel draindown event. During MODES 4 and 5, when these specified conditions are not in progress (e.g., CORE ALTERATIONS), the probability of a LOCA or fuel damage is low; thus, the Function is not required.

5. Control Room Air Inlet Radiation—High

The control room air inlet radiation monitors measure radiation levels exterior to the inlet ducting of the MCR. A high radiation level may pose a threat to MCR personnel; thus, automatically initiating the MCREC System an alarm is provided in the control room so that the CREVAS System can be placed in the isolate mode of operation.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

5. Control Room Air Inlet Radiation—High, (continued) DOZ

The Control Room Air Inlet Radiation—High Function consists of two independent monitors. Two channels of Control Room Air Inlet Radiation—High are available and are required to be OPERABLE to ensure that no single instrument failure can preclude MCREC System initiation. The Allowable Value was selected to ensure protection of the control room personnel.

Move to page B 3.3-208 PA3

The Control Room Air Inlet Radiation—High Function is required to be OPERABLE in MODES 1, 2, and 3 and during CORE ALTERATIONS, OPDRVs, and movement of irradiated fuel assemblies in the secondary containment, to ensure that control room personnel are protected during a LOCA, fuel handling event, or vessel draindown event. During MODES 4 and 5, when these specified conditions are not in progress (e.g., CORE ALTERATIONS), the probability of a LOCA or fuel damage is low; thus, the Function is not required.

ACTIONS

PA4

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 MCREC System 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 MCREC System 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 MCREC System instrumentation channel.

DB2

(continued)

BASES

ACTIONS (continued)

A.1

Required Action A.1 directs entry into the appropriate Condition referenced in Table 3.3.7.1-1. The applicable Condition specified in the Table is Function dependent. Each time a channel is discovered inoperable, Condition A is entered for that channel and provides for transfer to the appropriate subsequent Condition.

B.1 and B.2

Because of the diversity of sensors available to provide initiation signals and the redundancy of the MCREC System design, an allowable out of service time of 24 hours has been shown to be acceptable (Refs. 5 and 6) to permit restoration of any inoperable channel to OPERABLE status. However, this out of service time is only acceptable provided the associated Function is still maintaining MCREC System initiation capability. A Function is considered to be maintaining MCREC System initiation capability when sufficient channels are OPERABLE or in trip such that one trip system will generate an initiation signal from the given Function on a valid signal. For Functions 1 and 2, this would require one trip system to have one channel per logic string OPERABLE or in trip (a logic string is the one-out-of-two portion of a one-out-of-two taken twice logic arrangement). For Function 3, this would require one trip system to have one channel per logic string, associated with each MSL, OPERABLE or in trip. In this situation (loss of MCREC System initiation capability), the 24 hour allowance of Required Action B.2 is not appropriate. If the Function is not maintaining MCREC System initiation capability, the MCREC System must be declared inoperable within 1 hour of discovery of the loss of MCREC System initiation capability in both trip systems.

The 1 hour Completion Time (B.1) is acceptable because it minimizes risk while allowing time for restoring or tripping of channels.

If the inoperable channel cannot be restored to OPERABLE status within the allowable out of service time, the channel must be placed in the tripped condition per Required Action B.2. Placing the inoperable channel in trip would

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

conservatively compensate for the inoperability, restore capability to accommodate a single failure, and allow operation to continue. Alternately, 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 initiation), Condition D must be entered and its Required Action taken.

C.1 and C.2

Because of the diversity of sensors available to provide initiation signals and the redundancy of the MCREC System design, an allowable out of service time of 6 hours is provided to permit restoration of any inoperable channel to OPERABLE status. However, this out of service time is only acceptable provided the associated Function is still maintaining MCREC System initiation capability. A Function is considered to be maintaining MCREC System initiation capability when sufficient channels are OPERABLE or in trip such that one trip system will generate an initiation signal from the given Function on a valid signal. For Functions 4 and 5, this would require one trip system to have one channel OPERABLE or in trip. In this situation (loss of MCREC System initiation capability), the 6 hour allowance of Required Action C.2 is not appropriate. If the Function is not maintaining MCREC System initiation capability, the MCREC System must be declared inoperable within 1 hour of discovery of the loss of MCREC System initiation capability in both trip systems.

The 1 hour Completion Time (C.1) is acceptable because it minimizes risk while allowing time for restoring or tripping of channels.

If the inoperable channel cannot be restored to OPERABLE status within the allowable out of service time, the channel must be placed in the tripped condition per Required Action C.2. Placing the inoperable channel in trip performs the intended function of the channel (starts both MCREC subsystems in the pressurization mode). Alternately, if it is not desired to place the channel in trip (e.g., as in the case where it is not desired to start the subsystem), Condition D must be entered and its Required Action taken.

(continued)

BASES

ACTIONS

C.1 and C.2 (continued)

The 6 hour Completion Time is based on the consideration that this Function provides the primary signal to start the MCREC System; thus, ensuring that the design basis of the MCREC System is met.

With any Required Action and associated Completion Time not met, the associated MCREC subsystem(s) must be placed in the pressurization mode of operation per Required Action A.1 to ensure that control room personnel will be protected in the event of a Design Basis Accident. The method used to place the MCREC subsystem(s) in operation must provide for automatically re-initiating the subsystem(s) upon restoration of power following a loss of power to the MCREC subsystem(s). As noted, if the toxic gas protection instrumentation is concurrently inoperable, then the MCREC subsystem(s) should be placed in the toxic gas mode instead of the pressurization mode. This provides proper protection of the control room personnel if both toxic gas instrumentation (not required by Technical Specifications) and radiation instrumentation are concurrently inoperable. Alternately, if a Function 3 channel is inoperable and untripped, the associated MSL may be isolated, since isolating the MSL performs the intended function of the MCREC System instrumentation. Alternately, if it is not desired to start the subsystem(s) ~~or isolate the MSL~~, the MCREC subsystem(s) ~~associated with inoperable, untripped~~ channels must be declared inoperable within 1 hour.

The 1 hour Completion Time is intended to allow the operator time to place the MCREC subsystem(s) in operation ~~or to isolate the associated MSLs if applicable~~. The 1 hour Completion Time is acceptable because it minimizes risk while allowing time for restoration ~~or tripping~~ of channels, for placing the associated MCREC subsystem(s) in operation, ~~for isolating the associated MSLs~~, or for entering the applicable Conditions and Required Actions for the inoperable MCREC subsystem(s).

(continued)

BASES (continued)

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.

As noted at the beginning of the SRs, the SRs for each MCREC System instrumentation Function are located in the SRs column of Table 3.3.7.1-1.

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 MCREC System 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 (Refs. 5 and 6) 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 MCREC System will initiate when necessary.

This Note is based on the low probability of an event requiring this Function during this time period and since many other alarms are available to indicate whether a design basis event has occurred.

SR 3.3.7.1.1

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 other channels. 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

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.7.1.1 (continued)

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 channel status during normal operational use of the displays associated with channels required by the LCO.

SR 3.3.7.1.2

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 the reliability analyses of References 5 and 6.

DB7

SR 3.3.7.1.3

The calibration of trip units provides a check of the actual trip setpoints. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology. The channel must be declared inoperable if the trip setting is discovered to be less conservative than the Allowable Value specified in Table 3.3.7.1-1. 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 92 days is based on the reliability analyses of References 5 and 6.

DB7

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.7.1.4

A 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.

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 3.3.7.1.5

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required initiation logic for a specific channel. The system functional testing performed in LCO 3.7.4, "Main Control Room Environmental Control (MCREC) System," overlaps this Surveillance to provide complete testing of the assumed safety function.

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.

REFERENCES

1. U FSAR, Figure [illegible]
2. U FSAR, Section 6.4.1.
3. U FSAR, Section 6.4.1.1.2.
4. U FSAR, Section Table 15.1.2B.
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. U FSAR, Section 14.8.2.
7. 10 CFR 50.36 (c) (2) (ii).

(continued)

BASES

REFERENCES (continued)

6. NEDC-31677P-A, "Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation," July 1990.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.7.1

MCRV System Instrumentation (CREVAS)

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.3.7.1 - CONTROL ROOM EMERGENCY VENTILATION AIR SUPPLY (CREVAS) SYSTEM INSTRUMENTATION

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 The 6 hour allowance in the Surveillance Table Note has been modified to allow this time to perform the required Surveillances even though initiation capability is not maintained. This is consistent with the current allowances.

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

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

PA2 Editorial change made with no change in intent.

PA3 The Bases have been revised to be consistent with other places in the Bases.

PA4 The Reviewer's Note has been deleted.

PA5 The brackets have been removed and the proper JAFNPP references have been incorporated.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The JAFNPP Control Room Emergency Ventilation Air Supply (CREVAS) System Instrumentation does not automatically initiate the CREVAS System. An alarm is provided to the control room when the setpoint is Air Inlet Monitor alarm setpoint has been exceeded so that manual action may be initiated. Therefore the Bases has been modified to reflect this design difference.

DB2 The only Function associated with the JAFNPP CREVAS System Instrumentation is one (1) CREVAS Air Inlet Radiation-High Function channel. Changes have been made to the Background, Applicable Safety Analysis, LCO, Applicability, and ACTIONs to reflect this design difference. Required Actions have been renumbered, as applicable to reflect this change.

DB3 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the JAFNPP CREVAS System design.

DB4 The JAFNPP CREVAS System instrumentation does not contain trip units. The channel description has been modified to reflect this design difference.

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.3.7.1 - CONTROL ROOM EMERGENCY VENTILATION AIR SUPPLY (CREVAS) SYSTEM INSTRUMENTATION

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB5 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the proper JAFNPP references.

DB6 The description of the setpoint calculation methodology has been revised to reflect the plant specific methodology.

DB7 The calibration of the CREVAS Air Inlet Radiation-High channel is performed every 92 days instead of the 18 month Frequency of ISTS SR 3.3.7.1.4. This Frequency is consistent with JAFNPP current setpoint calculation methodology for this channel. Since the CREVAS Air Inlet Radiation-High channel is the only Function associated with this Specification the other Surveillances are not required. In addition, since there is only one channel associated with this Function there is no need to perform a LOGIC SYSTEM FUNCTIONAL TEST. The Surveillances have been renumbered and deleted as required to reflect this change.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

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

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

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

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.7.1

MCRV System Instrumentation (CREVAS)

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.3 INSTRUMENTATION

3.3.7.1 Control Room Emergency Ventilation Air Supply (CREVAS) System Instrumentation

LCO 3.3.7.1 The Control Room Air Inlet Radiation–High channel shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3,
During movement of irradiated fuel assemblies in the secondary containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor vessel.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. Channel inoperable.	A.1	Place the CREVAS System in the isolate mode of operation.	1 hour
	OR		
	A.2	Declare both CREVAS subsystems inoperable.	1 hour

SURVEILLANCE REQUIREMENTS

----------NOTES----------
When the channel is placed in an inoperable status solely for performance of required Surveillances, entry into the Condition and Required Actions may be delayed for up to 6 hours.

SURVEILLANCE		FREQUENCY
SR 3.3.7.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.7.1.2	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 4000 cpm.	92 days

B 3.3 INSTRUMENTATION

B 3.3.7.1 Control Room Emergency Ventilation Air Supply (CREVAS) System Instrumentation

BASES

BACKGROUND

The CREVAS System is designed to provide a radiologically controlled environment to ensure the habitability of the control room for the safety of control room operators under all plant conditions. Two independent CREVAS subsystems are each capable of fulfilling the stated safety function. The instrumentation for the CREVAS System provides an alarm so that manual action can be taken to place the CREVAS System in the isolate mode of operation to pressurize the control room to minimize the infiltration of radioactive material into the control room environment.

In the event of a Control Room Air Inlet Radiation–High signal, the CREVAS System is manually started in the isolate mode. Air is then drawn in from the air intake source and passes through one of two special filter trains each consisting of a prefilter, a high efficiency (HEPA) filter, two charcoal filters and a second HEPA filter. This air is then combined with recirculated air and directed to one of two control room ventilation fans and directed to the control room to maintain the control room slightly pressurized with respect to the adjacent areas.

The CREVAS System instrumentation consists of a single trip system with one Control Room Air Inlet Radiation–High channel. The channel includes electronic equipment (e.g., detector, monitor and trip relay) that compares measured input signals with pre-established setpoints. When the setpoint is exceeded, the channel output relay actuates, which then outputs to an alarm in the control room.

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

The ability of the CREVAS System to maintain the habitability of the control room is explicitly assumed for certain accidents as discussed in the UFSAR safety analyses (Refs. 1, 2, 3, and 4) and further discussed in Reference 5. CREVAS System operation ensures that the radiation exposure of control room personnel, through the duration of any one of the postulated accidents, does not exceed the limits set by GDC 19 of 10 CFR 50, Appendix A.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

CREVAS System instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 6).

The OPERABILITY of the CREVAS System instrumentation is dependent upon the OPERABILITY of the Control Room Air Inlet Radiation-High Function. This Function must have one OPERABLE channel, with its setpoint within the specified Allowable Value. The 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.

An Allowable Value is specified for the Control Room Air Inlet Radiation-High Function in SR 3.3.7.1.2. A nominal trip setpoint is specified in the setpoint calculation. The nominal setpoint is selected to ensure that the setpoint does not exceed the Allowable Value between successive 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., control room air inlet radiation), and when the measured output value of the process parameter exceeds the setpoint, the associated device (e.g., output relay) changes state. The analytic limit is derived from the limiting value of the process parameters obtained from the safety analysis. The trip setpoint is derived from the analytical limit and accounts for all worst case instrumentation uncertainties (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 setpoint derived in this manner provides adequate protection because all expected uncertainties are accounted for. The Allowable Value is then derived from the trip setpoint 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 Value was selected to ensure protection of the control room personnel.

(RAI-3.3.6.1-1)

The control room air inlet radiation monitor measures radiation levels in the inlet ducting of the control room.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

A high radiation level may pose a threat to control room personnel; thus, an alarm is provided in the control room so that the CREVAS System can be placed in the isolate mode of operation.

The Control Room Air Inlet Radiation–High Function is required to be OPERABLE in MODES 1, 2, and 3 and during CORE ALTERATIONS, OPDRVs, and movement of irradiated fuel assemblies in the secondary containment, to ensure that control room personnel are protected during a LOCA, fuel handling event, or vessel draindown event. During MODES 4 and 5, when these specified conditions are not in progress (e.g., CORE ALTERATIONS), the probability of a LOCA or fuel damage is low; thus, the Function is not required.

ACTIONS

A.1 and A.2

With the Control Room Air Inlet Radiation–High Function inoperable one CREVAS subsystem must be placed in the isolate mode of operation per Required Action A.1 to ensure that control room personnel will be protected in the event of a Design Basis Accident. The method used to place the CREVAS subsystem in operation must provide for automatically re-initiating the subsystem upon restoration of power following a loss of power to the CREVAS subsystem. Alternately, if it is not desired to start a CREVAS subsystem, the CREVAS System must be declared inoperable within 1 hour.

The 1 hour Completion Time is intended to allow the operator time to place the CREVAS subsystem in operation. The 1 hour Completion Time is acceptable because it minimizes risk while allowing time for restoration of the channel, for placing one CREVAS subsystem in operation, or for entering the applicable Conditions and Required Actions for two inoperable CREVAS subsystems.

SURVEILLANCE REQUIREMENTS

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. Upon completion of the Surveillance, or expiration

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

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 low probability of an event requiring this Function during this time period and since many other alarms are available to indicate whether a design basis event has occurred.

SR 3.3.7.1.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

Channel 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 channel status during normal operational use of the displays associated with channels required by the LCO.

SR 3.3.7.1.2

A 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.

The Frequency is based upon the assumption of a 92 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

REFERENCES

1. UFSAR, Section 14.6.1.2.

(continued)

BASES

REFERENCES (continued)

2. UFSAR, Section 14.6.1.3.

3. UFSAR, Section 14.6.1.4.

4. UFSAR, Section 14.6.1.5.

5. UFSAR, Section 14.8.2.

6. 10 CFR 50.36(c)(2)(ii).

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.7.2

Condenser Air Removal Pump Isolation Instrumentation

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

DISCUSSION OF CHANGES (DOCs) TO THE CTS

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

MARKUP OF NUREG-1433, REVISION 1, SPECIFICATION

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

MARKUP OF NUREG-1433, REVISION 1, BASES

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

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.7.2

Condenser Air Removal Pump Isolation Instrumentation

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

Specification 3.3.7.2

(A1)

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.9 MECHANICAL VACUUM PUMP ISOLATION	3.9 MECHANICAL VACUUM PUMP ISOLATION
Applicability	**Applicability**
Applies to the mechanical pump isolation instrumentation.	Applies to the surveillance requirement which isolates the mechanical vacuum pump.
Objective	**Objective**
To assure operability of the trip circuitry.	To specify the instrument surveillance type and frequency.
Specifications (air removal)	**Specifications**
a. The mechanical vacuum pump shall be capable of being automatically isolated and secured by a signal of high radiation in the main steam line tunnel whenever the main steam isolation valves are open.	The instrument surveillance requirements are given on Table 3.10-2. (A1 3)
b. If the limits of Table 3.10-1 are not met, the vacuum pump shall be isolated. (A2)	

[3.3.7.2]

[LCO 3.3.7.2]

[APPLICABILITY]

(L1) Modes 1 and 2 with any air removal pumps in service

Cond Air Removal Pump Isolation Instrumentation

Specification 3.3.7.2

add Note to ACTIONS Table (A5)

(A1)

Table 3.10-1

RADIATION MONITORING SYSTEMS THAT INITIATE AND/OR ISOLATE SYSTEMS

Minimum No. of Operable Instrument Channels per Trip System (LA1)	Trip Function	Allowable Value (A1*) / Trip Level Setting	Total Number of Instrument Channels Provided by Design (A3)	Action	
1(a)	Refuel Area Exhaust Monitor	(b)	2	(c) or (d)	See ITS: 3.3.6.2
1(a)	Reactor Building Area Exhaust Monitors	(b)	2	(d)	See ITS: 3.7.5
(j)	SJAE Radiation Monitors	≤ 500,000 μCi/sec	2	(e)	
1(a)	Turbine Building Exhaust Monitors	(b)	2	(f)	See CTS RETS: 3.1
1(a)	Radwaste Building Exhaust Monitors	(b)	2	(f)	
(k)	Main Control Room Ventilation	≤4 x 10^3 cpm[a]	1	(g)	See ITS: 3.3.7.1
[LCO 3.3.7.2] (b) (A4)	Mechanical Vacuum Pump Isolation	[SR 3.3.7.2.2] ≤3 x Normal Full Power Background	[LCO 3.3.7.2] (4) (A3)	(b) (A4)	

NOTES FOR TABLE 3.10-1

(a) A channel may be placed in an inoperable status for up to six hours during periods of required surveillance without placing the Trip System in the tripped condition provided the other OPERABLE channel is monitoring that Trip Function, that is, trip capability is maintained.
An inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, the inoperable channel shall be restored to operable status within 24 hours, or the indicated action shall be taken.

(b) Trip level setting is in accordance with the methods and procedures of the ODCM. (See ITS: 3.3.6.2 CTS RETS: 3.1) (See ITS: 3.3.6.2 CTS RETS: 3.1)

(c) Cease operation of the refueling equipment. (See ITS: 3.3.6.2)

(d) Isolate secondary containment and start the SBGTS. (See ITS: 3.7.5)

(e) Bring the SJAE release rate below the trip level within 72 hours or isolate either the SJAE or all main steam lines within the next 12 hours.

(B)

Specification 3.3.7.2

Table 3.10-1

RADIATION MONITORING SYSTEMS THAT INITIATE AND/OR ISOLATE SYSTEMS

NOTES FOR TABLE 3.10-1 (cont'd.)

(f) Refer to Appendix B LCO 3.1.c and LCO 3.1.d. — See CTS RETS: 3.1

(g) Control room isolation is manually initiated. — See ITS: 3.3.7.1

(h) Uses same sensors as primary containment isolation on high main steam line radiation. Refer to Appendix A Table 3.2-1 for minimum number of operable instrument channels and action required. — A4

(i) Conversion factor is 8.15 x 10^7 cpm - 1μCi/cc. — See ITS: 3.3.7.1

(j) See RETS LCO 3.5.b.1 and 3.5.b.2. — See ITS 3.7.5

(k) A channel may be placed in an inoperable status for up to six hours during periods of required surveillance without placing the Trip Function in the tripped condition, or the indicated action shall be taken. — See ITS: 3.3.7.1

B

Specification 3.3.7.2

TABLE 3.2-1
PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION REQUIREMENTS

Minimum No. of Operable Instrument Channels Per Trip System (Notes 1 and 2)	Trip Function	Trip Level Setting	Total Number of Instrument Channels Provided by Design for Both Trip Systems	Action (Note 3)
2	Reactor Low Water Level (Notes 4 & 7)	≥ 177 in. above TAF	4	A
2	Reactor Low Water Level (Notes 7 & 8)	≥ 177 in. above TAF	2	A
1	Reactor High Pressure (Shutdown Cooling Isolation)	≤ 75 psig	2	D
2	Reactor Low-Low-Low Water Level	≥ 18 in. above the TAF	4	A
2	Drywell High Pressure (Notes 4 & 7)	≤ 2.7 psig	4	A
2	Drywell High Pressure (Notes 7 & 8)	≤ 2.7 psig	2	A
2	Main Steam Line Tunnel High Radiation	≤ 3 x Normal Rated Full Power Background	4	E
2	Main Steam Line Low Pressure (Note 5)	≥ 825 psig	4	B
2	Main Steam Line High Flow	≤ 140% of Rated Steam Flow	4	G
8	Main Steam Line Leak Detection High Temperature	≤ 40°F above max ambient	16	B
4	Reactor Water Cleanup System Equipment Area High Temperature	≤ 40°F above max ambient	8	C
2	Condenser Low Vacuum (Note 6)	≥ 8" Hg. Vac	4	B

Specification 3.3.7.2 (A1)

TABLE 3.2-1 (Cont'd) (A1)

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION REQUIREMENTS

add Note to ACTIONS (A5)

NOTES FOR TABLE 3.2-1

[Appli] 1. Whenever Primary Containment Integrity is required by Specification 3.7.A.2, there shall be two operable or tripped trip systems for each Trip Function, except as provided for below: (L1) (A11)

[ACTION A] a. For each Trip Function with one less than the required minimum number of operable instrument channels, place the inoperable instrument channel and/or its associated trip system in the tripped condition* within: (add Required Action A.2 Note) (A12)

1) 12 hours for trip functions common to RPS instrumentation, and (see ITS: 3.3.6.1)

2) 24 hours for trip functions not common to RPS instrumentation; (A6)

[ACTION C] or, initiate the ACTION required by Table 3.2-1 for the affected trip function. (Required Actions C.1, C.2 or C.3) (L1)

[ACTION B] b. For each Trip Function with two or more channels less than the required minimum number of operable instrument channels:

1) Within one hour, verify sufficient instrument channels remain operable or tripped* to maintain trip capability in the Trip Function, and

2) Within 6 hours, place the inoperable instrument channel(s) in one trip system and/or that trip system** in the tripped condition*, and (L2) (A12)

[ACTION A] 3) Restore the inoperable instrument channel(s) in the other trip system to an operable status, or place the inoperable instrument channel(s) in the trip system and/or that trip system in the tripped condition* within: (add Required Action A2 Note)

(a) 12 hours for trip functions common to RPS instrumentation, and (see ITS: 3.3.6.1)

(b) 24 hours for trip functions not common to RPS instrumentation. (A6)

[ACTION C] If any of these three conditions cannot be satisfied, initiate the ACTION required by Table 3.2-1 for the affected Trip Function. (Required Actions C.1, C.2, C.3) (L1)

Asterisk shown on next page

Specification 3.3.7.2 (A1)

TABLE 3.2-1 (Cont'd) (A1)

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION REQUIREMENTS

NOTES FOR TABLE 3.2-1 (cont'd)

(LA3)

[ACTION C]

* An inoperable instrument channel or trip system need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, if the inoperable instrument channel is not restored to operable status within the required time, the ACTION required by Table 3.2-1 for that Trip Function shall be taken. (Required Actions C.1, C.2, C.3) (L1)

(L2)

** This action applies to that trip system with the greatest number of inoperable instrument channels. If both systems have the same number of inoperable instrument channels, the ACTION can be applied to either trip system.

[NOTE to SRs]

2. When a channel, and/or the affected primary containment isolation valve, is placed in an inoperable status solely for performance of required instrumentation surveillances, entry into associated Limiting Conditions for Operation and required actions may be delayed as follows:

(see ITS: 3.3.6.1)

a) for up to 6 hours for Trip Functions utilizing a two-out-of-two-taken-once logic; or (see ITS: 3.3.6.1)

b) for up to 6 hours for the remaining Trip Functions provided the associated Trip Function maintains PCIS initiation capability for at least one containment isolation valve in the affected penetration.

condenser air removal pump isolation capability (A7)

3. Actions:

(see ITS 3.3.6.1)

A. Place the reactor in the cold condition within 24 hours.
B. Isolate the main steam lines within eight hours.
C. Isolate Reactor Water Cleanup System within four hours.
D. Isolate shutdown cooling within four hours.

[ACTION E]

E. Isolate the main steam line drain valves, the recirculation loop sample valves, and the mechanical vacuum pump, within eight hours. (L2) (L3)

condenser air removal

F. Isolate the affected penetration flow path(s) within one hour and declare the affected system inoperable.
G. Isolate the affected main steam line within eight hours.

(see ITS 3.3.6.1)

(L1)

add proposed Required Actions C.2 and C.3

Specification 3.3.7.2

JAFNPP

A1

TABLE 4.2.1

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

See ITS: 3.3.6.1

	Instrument Channel (Note 8)	Instrument Functional Test [SR 3.3.7.2]	Calibration Frequency SR 3.3.7.2.3	Instrument Check (Note 4) SR 3.3.7.2.1
1)	Reactor High Pressure (Shutdown Cooling Isolation)	Q	Q	NA
2)	Reactor Low-Low-Low Water Level	Q (Note 5)	R (Note 15)	D
3)	Main Steam High Temperature	Q (Note 5)	R (Note 15)	D
4)	Main Steam High Flow	Q (Note 5)	R (Note 15)	D
5)	Main Steam Low Pressure	Q (Note 5)	R (Note 15)	D
6)	RWCU Area High Temperature	Q	Q (Note 16)	NA
7)	Condenser Low Vacuum	Q (Note 5)	R (Note 15)	D
8)	Main Steam Line High Radiation	Q (Note 5)	R (Note 11) [SR 3.3.7.2.3]	D [SR 3.3.7.2.1]
9)	HPCI & RCIC Steam Line High Flow	Q (Note 5)	R (Note 15)	D
10)	HPCI & RCIC Steam Line/ Area High Temperature	Q (Note 5)	R (Note 15)	D
11)	HPCI & RCIC Steam Line Low Pressure	Q (Note 5)	R (Note 15)	D
12)	HPCI & RCIC High Exhaust Diaphragm Pressure	Q	Q	NA

See ITS: 3.3.6.1

See ITS: 3.3.6.1

A8

[SR 3.3.7.2.2]

M1 12 hours

NOTE: ~~See notes following Table 4.2.5.~~

Specification 3.3.7.2 (A1)

See ITS: 3.3.6.1

NOTES FOR TABLES 4.2-1 THROUGH 4.2-5

See ITS: 3.4.5

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

See ITS: 3.3.2.1

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.

See ITS: 3.3.6.1, 3.3.5.2, 3.3.5.1, 3.3.2.1

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

4. Instrument checks are not required when these instruments are not required to be operable or are tripped.

A9

5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.

See ITS: 3.3.2.1

6. These instrument channels will be calibrated using simulated electrical signals once every three months.

7. Simulated automatic actuation shall be performed once per 24 months.

See ITS: 3.5.1, 3.6.1.3, 3.6.4.2, 3.6.4.3

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

See ITS: 3.3.5.1, 3.3.6.1, 3.3.6.2

9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

10. (Deleted).

SR 3.3.7.2.3

LA2

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.

LA2

12. ~~(Deleted)~~

SR 3.3.7.2.2

13. ~~(Deleted)~~

14. ~~(Deleted)~~

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.

16. The quarterly calibration of the temperature sensor consists of compering the active temperature signal with a redundant temperature signal.

See ITS: 3.3.5.1, 3.3.5.2, 3.3.6.1

A15

SR 3.3.7.2.2 --- NOTE --- Radiation detectors are excluded --- Perform CHANNEL CALIBRATION

See ITS: 3.3.6.1

Specification 3.3.7.2

A1

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A13

TABLE 3.10-2

MINIMUM TEST AND CALIBRATION FREQUENCY FOR RADIATION MONITORING SYSTEMS[a]

See ITS: 3.3.7.1, 3.3.6.1, CTS/RETS 2.1, 3.1

Instrument Channels	Instrument Check[b]	Instrument Channel Functional Test[b]	Instrument Channel Calibration	Logic System Function Test[b][f][g] [SR 3.3.7.2.4]
Main Stack Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	--
Refuel Area Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	--
Reactor Building Area Exhaust Monitors, Recorders, and Isolation	Daily	Quarterly	Quarterly	Once per 24 Months
Turbine Building Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	--
Radwaste Building Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	--
SJAE Radiation Monitors/Offgas Line Isolation	Daily	Quarterly	Quarterly	Once per 24 Months
Main Control Room Ventilation Monitor	Daily	Quarterly	Quarterly	--
Mechanical Vacuum Pump Isolation[g]	--	--	--	Once per 24 Months [4]
Liquid Radwaste Discharge Monitor/ Isolation[c][d][e][f]	Daily When Discharging	Quarterly	Quarterly	Once per 24 Months
Liquid Radwaste Discharge Flow Rate Measuring Devices[d]	Daily	Quarterly	Once per 18 Months	--
Liquid Radwaste Discharge Radioactivity Recorder [d]	Daily	Quarterly	Once per 18 Months	--
Normal Service Water Effluent	Daily	Quarterly	Quarterly	--
SBGTS Actuation	--	--	--	Once per 24 Months

[SR 3.3.7.2.4]

See CTS RETS 3.1

See ITS: 3.3.6.2

See CTS RETS 3.1

See ITS: 3.3.5

See ITS 3.3.7.1

See CTS RETS: 2.1

See ITS: 3.3.6.2, 3.6.4.3

Specification 3.3.7.2.

A1

see CTS RETS 2.1, 3.1
ITS: 3.3.7.1
3.3.6.2
3.7.5

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NOTES FOR TABLE 3.10-2

(a) Functional tests, calibrations and instrument checks need not be performed when these instruments are not required to be operable or are tripped.

(b) Instrument checks shall be performed at least once per day during these periods when the instruments are required to be operable.

(c) A source check shall be performed prior to each release.

see CTS RETS: 2.1

(d) Liquid radwaste effluent line instrumentation surveillance requirements need not be performed when the instruments are not required as the result of the discharge path not being utilized.

(e) An instrument channel calibration shall be performed with known radioactive sources standardized on plant equipment which has been calibrated with NBS traceable standards.

actual

L4

L5

[SR 3.3.7.2.4] (f) Simulated automatic actuation shall be performed once per 24 months. Where possible, all logic system functional tests will be performed using the test jacks.

A9

(g) Refer to Appendix A for instrument channel functional test and instrument channel calibration requirements (Table 4.2-1). These requirements are performed as part of main steam high radiation monitor surveillances.

A10

(h) The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

(i) This instrumentation is excepted from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel. These instrument channels will be calibrated using simulated electrical signals once every three months.

see ITS: 3.3.6.2
3.3.7.1
3.7.5

CTS RETS: 2.1
3.1

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IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.3.7.2

Condenser Air Removal Pump Isolation Instrumentation

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.3.7.2 - CONDENSER AIR REMOVAL PUMP ISOLATION INSTRUMENTATION

ADMINISTRATIVE CHANGES

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

A2 The requirement in CTS RETS 3.9.b to isolate the vacuum pump (or air removal pump) when the limits of CTS RETS Table 3.10-1 have been exceeded has been deleted since the associated actions for the Main Steam Tunnel Radiation-High Function in CTS RETS Table 3.10-1 Note (h) along with its reference to CTS Appendix A Table 3.2-1 provide the appropriate actions. ITS 3.3.7.2 includes all of the applicable actions except as modified below. Since the removal of this requirement does not change any technical requirements this change is considered administrative.

A3 The current requirement in both CTS RETS Table 3.10-1 and CTS Table 3.2-1 to have a total of four OPERABLE channels for the Main Steam Tunnel Radiation-High Function is retained in ITS 3.3.7.2 LCO. Since the Main Steam Tunnel Radiation-High Function is the only function which isolates the air removal pumps this format has been chosen rather than the typical manner of presentation in the other proposed instrumentation LCOs. Therefore a Table is not included in the ITS and the requirements of the "Total Number of Instrument Channels Provided by Design" column has been included in ITS 3.3.7.2 LCO. Since there is no change in any technical requirements this change is considered administrative (see comment LA1).

A4 CTS RETS Table 3.10-1 Note (h) is being deleted since its cross-reference to CTS Appendix A Table 3.2-1 is not required since the details of both Tables as it relates to condenser air removal pump isolation will be incorporated into ITS 3.3.7.2. Since this change is only a change in format this change is considered administrative.

A5 A Note at the start of ITS 3.3.7.2 (CTS RETS Table 3.10-1 and CTS Table 3.2-1) Actions Table ("Separate Condition entry is allowed for each channel.") is proposed to be added to provide more explicit instructions for proper application for the new Actions for Technical Specification compliance. In conjunction with the proposed Specification 1.3 "Completion Times," this Note provides direction consistent with the intent of the Required Actions for inoperable primary containment isolation instrumentation channels, functions, or trip systems. It is

ADMINISTRATIVE CHANGES

A5 (continued)

intended that each Required Action be applied regardless of it having been applied previously for other inoperable Main Steam Tunnel High Radiation channels.

A6 Reference to those trip functions which are not common to RPS in CTS Table 3.2-1 Action Notes 1.a.2 and 1.b.3.b has been deleted since the Main Steam Tunnel Radiation-High Function is not common to RPS and since this function is the only function that is associated with ITS 3.3.7.2 (Condenser Air Removal Pump Isolation Instrumentation). Since this deletion does not change any requirements this change is considered administrative.

A7 The term PCIS initiation capability in CTS Table 3.2-1 Note 2.b has been changed to condenser air removal pump isolation capability since PCIS initiation capability is not important to ITS 3.3.7.2. This change has been made for clarification and therefore is considered administrative.

A8 The Instrument Functional Test identified in CTS Table 4.2-1 for Item 8 (Main Steam Line High Radiation) has been deleted since the requirements of the quarterly calibration tests of current and proposed surveillance (SR 3.3.7.2.2) are duplicative of these requirements. In addition, Note 5 of Table 4.2-1 through 4.2-5 has been deleted as it relates to the Main Steam Tunnel Radiation-High Function since the quarterly Functional test has been deleted. Since the quarterly calibration surveillance satisfies the requirements of the quarterly functional test this change is considered administrative.

A9 CTS RETS Table 3.10-1 Note (g) is being deleted since the reference to current Appendix A Table 4.2-1 is not required since the details of the Table are being included in ITS 3.3.7.2. Since this change is only a change in format this change is considered administrative.

A10 The CTS RETS Table 3.10-2 Note (h) requirement that the logic system functional test should include a calibration of time delay relays and timers necessary for proper functioning of the trip systems is deleted since the Main Steam Tunnel Radiation-High Function does not include any time delay relays or timers. This change is considered administrative, since there are no technical changes.

A11 The requirement in CTS Table 3.2-1 Note 1, "there shall be two operable or tripped trip systems for each Trip Function, except as provided below" has been deleted since the proposed LCO, and ACTIONS clearly define the appropriate requirements. Since there is no technical change

ADMINISTRATIVE CHANGES

A11 (continued)

in deleting this portion of the Note, this change is considered administrative.

A12 A Note has been added to the Actions of CTS Table 3.2-1. ITS 3.3.7.2 Required Action Note A.2 will not permit placing the channel in trip if the associated isolation valve is inoperable. This clarification has been made since there is no system specification for the condenser air removal pump isolation valves and therefore the appropriate ACTIONS associated with valve inoperabilites are included in this Specification. Since there are no changes in any technical requirements this change is considered administrative.

A13 CTS RETS 3.9 makes references to the requirements in CTS RETS Table 3.10-2 (instrument surveillances). ITS 3.3.7.2 does not include a Table since there is only one Function credited for the isolation of the Condenser Air Removal Pump. ITS LCO 3.3.7.2 requires the four channels of the Main Steam Tunnel Radiation-High Function for the condenser air removal pump isolation to be Operable. The Surveillance Requirement contained in CTS RETS Table 3.10-2 for "Mechanical Vacuum Pump Isolation" is included as SR 3.3.7.2.4 (the LOGIC SYSTEM FUNCTIONAL TEST including isolation valve actuation). Since this change simply changes the format of presentation this change is considered administrative.

A14 CTS Table 3.2-1 includes a "Trip Level Setting" column which includes the trip setting for each primary containment isolation system instrumentation functions. In addition, CTS RETS Table 3.10-1 includes a "Trip Level Setting" column which includes the trip setting for each radiation monitoring system that initiates and/or isolates systems. Both of these Tables include the "Trip Level Setting" for Main Steam Line Tunnel High Radiation Function which isolates the mechanical vacuum pump. In the ITS, the Condenser Air Removal Pump Isolation Instrumentation includes the "Allowable Value" for the Main Steam Tunnel Radiation-High Function in SR 3.3.7.2.2.

The CTS "trip level settings" 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

RAI 3.3.6.1-02

ADMINISTRATIVE CHANGES

A14 (continued)

action is expected to take place. The setpoints are compared to the actual process parameter and when the measureed 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.

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 adquate 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 "trip level settings" and the CTS "trip settings") between successive CHANNEL CALIBRATIONS. The CTS "trip level settings" 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 "Trip Level Settings" 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 "Trip Level Setting" to "Allowable Value". Since the

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ADMINISTRATIVE CHANGES

A14 (continued)

instrumentation will be declared inoperable at the same numerical value, this change is considered administrative. This change is consistent with NUREG-1433, Revision 1.

A15 A Note has been added to the current requirements in Note 11 for CTS Table 4.2-1 to 4.2-5 (ITS SR 3.3.7.2.2) which excludes the calibration of the radiation detectors associated with the Main Steam Line Radiation-High Function during the quarterly test (once every 3 months). Since the current requirements only require an instrument channel alignment (CHANNEL CALIBRATION) every 3 months using a current source this implies the radiation detector is excluded from this Surveillance. The radiation detector is currently being calibrated every 24 months in accordance with the same CTS Note. This calibration will be retained in the ITS as indicated in SR 3.3.7.2.3. This change simply represents a change in format and is therefore considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 The Frequency for performance of the Channel Check Surveillance of CTS Table 4.2-1 Function 8 is proposed to be changed from once per day to 12 hours (ITS SR 3.3.7.2.1). The Channel Check ensures once every 12 hours that a gross failure of instrumentation has not occurred. This change is consistent with NUREG-1433, Revision 1 which requires the SR to be performed every 12 hours. It represents an additional restriction on plant operations but added to enhance plant safety.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 The specific details relating to the design in CTS RETS Table 3.10-1 and Table 3.2-1 concerning the "Minimum No. of Operable Instrumentation Channels Per Trip System" are proposed to be relocated to the Bases. Placing these details in the Bases provides assurance they will be maintained. The requirements of ITS 3.3.7.2 which requires four channels of the Main Steam Tunnel Radiation-High Function for the condenser air removal pump isolation, the definition of OPERABILITY, and the proposed Required Action and Surveillances 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 (GENERIC)

LA2 The details in CTS Table 4.2-1 through 4.2-5 Note 11 concerning the methods to calibrate the Main Steam Tunnel Radiation channels (e.g., radiation source) is proposed to be relocated to the Bases. The requirements in ITS SR 3.3.7.2.2 and SR 3.3.7.2.3 are adequate to ensure the appropriate calibrations are performed. 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.

LA3 The details in CTS Table 3.2-1 Note (*) that an inoperable instrument channel or trip system need not be place in the tripped condition where this would cause the Trip Function to occur is proposed to be relocated to the Bases. The requirements in ITS 3.3.7.2 that the Main Steam Tunnel channels shall be Operable, the definition of Operability and the ITS ACTIONS will ensure the proper actions are taken. 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 RETS 3.9.a requires the mechanical vacuum pump capability to be automatically isolated and secured whenever the main steam isolation valves are open. In addition, CTS Table 3.2-1 requires the function to be operable whenever the primary containment integrity is required by CTS 3.7.A.2. The Applicability of ITS 3.3.7.2 will be during MODES 1 and 2 whenever any condenser air removal pump is in service. The Applicability in CTS RETS 3.9.a is very broad and includes MODES 1, 2, 3, 4 and 5 while the applicability of CTS Table 3.2-1 includes MODES 1, 2 and 3. In MODES 3 and 4 there is a very low probability for a need for this function to be OPERABLE since the likelihood of a Control Rod Drop Accident (CRDA) occurring is small since all control rods are supposed to be inserted. In MODES 1 and 2, if the condenser air removal pumps are not in service the air ejectors must pull condenser vacuum and therefore there is no untreated pathway through the main stack. The requirement to maintain the Function Operable in Mode 5 when the main steam isolation valves are open is not necessary since the reactor is depressurized and steam would not be discharged through the system. Since the objective of the condenser air removal pump trip is to minimize the consequences of a CRDA this change is acceptable. In addition, if the air removal pumps cannot be isolated in accordance with CTS Table 3.2-1 Action Note 3.E (ITS 3.3.7.2 Required Action C.1)

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 (continued)

alternative actions (ITS 3.3.7.2 Required Actions C.2 or C.3) are provided to place the plant outside the conditions of the proposed Applicability. These actions are to place the plant in MODE 3 or to isolate the main steam isolation valves, respectively. The proposed Applicability and default actions will ensure the instrumentation is Operable whenever condenser air removal pump isolation is required to ensure the offsite dose limits are not exceeded should a CRDA occur.

L2 When more than one channel associated with a trip function is inoperable, CTS Table 3.2-1 Notes 1.b.2 requires action to be taken within 6 hours to place inoperable instrument channel(s) in one trip system and/or that trip system in the tripped condition. These actions must be taken even if condenser air removal pump isolation capability is maintained. ITS 3.3.7.2 will not include this requirement as long as condenser air removal pump isolation capability is maintained. The requirement in ITS 3.3.7.2 to enter ACTION B when isolation capability cannot be maintained and to restore isolation capability within 1 hour is sufficient. The 1 hour Completion Time is consistent with CTS Table 3.2-1 Note 1.b.1. This change is consistent with changes made to other instrumentation Functions for Primary Containment Isolation Instrumentation in ITS 3.3.6.1 and is also considered acceptable for this application. ITS 3.3.7.2 ACTIONS A (CTS Table 3.2-1 Notes 1.a.2 and 1.b.3.b) will still require inoperable Main Steam Line Radiation channels to be restored or placed in trip within 24 hours. This Completion Time is considered acceptable. Along with this change CTS Table 3.2-1 Footnote (**) has been deleted since it no longer provides any pertinent guidance. With two channels inoperable in the same trip system isolation capability is lost, therefore entry into ACTION B will be required. If a channel is inoperable in each trip system, ACTION A applies and 24 hours is allowed to restore each channel to Operable status.

L3 CTS Table 3.2-1 Note 3.E requires the isolation of the mechanical vacuum pump (air removal) within 8 hours if the Required Actions and Completions Times are not met for inoperable Main Steam Tunnel Radiation channels. The allowance provided in ITS 3.3.7.2 ACTION C has extended this time to 12 hours since more time may be necessary to close the main steam isolation valves or to be in MODE 3 (These alternative actions were added as discussed in L1). This Completion Time is consistent with other LCOs which require the closure of the MSIVs or to be in MODE 3, therefore this extension is appropriate. This extension provides the necessary time to close the MSIVs in a controlled and orderly manner that is within the capabilities of the plant, assuming the minimum

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 (continued)

required equipment is Operable. This extra time reduces the potential for a plant transient that could challenge safety systems.

L4 The CTS RETS Table 3.10-2 Note (f) requires the actuation testing of condenser air removal pump isolation to be performed using a "simulated" signal. This allowance has been modified to allow an "actual" signal. This is reflected in ITS SR 3.3.7.2.4 which requires an isolation valve actuation but does not specify that it must be from a simulated signal. This allows satisfactory automatic system initiations to be used to fulfill the Surveillance Requirements. Operability is adequately demonstrated in either case since the Condenser air removal pump isolation valve cannot discriminate between "actual" or "simulated" signals.

L5 The details in CTS RETS Table 3.10-2 Note (f) identifying how the Logic System Functional Test is to be performed (i.e., where possible using test jacks) has been deleted. The proposed definition for Logic System Functional Test provides the necessary guidance therefore this explicit requirement is not necessary to ensure Operability. This change is consistent with NUREG-1433, Revision 1.

TECHNICAL CHANGES - RELOCATIONS

None