



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

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10 CFR 50.90

ATTN: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Sequoyah Nuclear Plant, Units 1 and 2
Facility Operating License Nos. DPR-77 and DPR-79
NRC Docket Nos. 50-327 and 50-328

Subject: **Sequoyah Nuclear Plant, Units 1 and 2 Technical Specifications
Conversion to NUREG-1431, Rev. 4.0 (SQN-TS-11-10) - Correction to
ITS 3.3.7, "Control Room Emergency Ventilation System (CREVS)
Actuation Instrumentation"**

- References:
1. TVA Letter to NRC, "Sequoyah Nuclear Plants, Units 1 and 2 Technical Specifications Conversion to NUREG-1431, Rev. 4.0 (SQN-TS-11-10)," dated November 22, 2013 (ADAMS Accession No. ML13329A881)
 2. TVA Letter to NRC, "Sequoyah Nuclear Plants, Units 1 and 2 Technical Specifications Conversion to NUREG-1431, Rev. 4.0 (SQN-TS-11-10) - Supplement 2," dated June 19, 2015 (ADAMS Accession No. ML15176A678)
 3. TVA Letter to NRC, "Sequoyah Nuclear Plants, Units 1 and 2 Technical Specifications Conversion to NUREG-1431, Rev. 4.0 (SQN-TS-11-10) - Supplement 3," dated July 24, 2015 (ADAMS Accession No. ML15176A404)
 4. TVA Letter to NRC, "Sequoyah Nuclear Plants, Units 1 and 2 Technical Specifications Conversion to NUREG-1431, Rev. 4.0 (SQN-TS-11-10) - Proposed License Conditions," dated August 5, 2015 (ADAMS Accession No. ML15218A185)

By letter dated November 22, 2013 (Reference 1), Tennessee Valley Authority (TVA) requested a license amendment to revise the current Technical Specifications for Sequoyah Nuclear Plant (SQN), Units 1 and 2, to the Improved Technical Specifications (ITS) consistent with the Improved Standard Technical Specifications described in NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 4.0. By letters dated June 19, 2015 (Reference 2), July 24, 2015 (Reference 3), and August 5, 2015 (Reference 4), TVA provided supplemental information to the ITS license amendment request (LAR).

The purpose of this letter is to provide a correction for a self-identified issue (SII) associated with ITS 3.3.7, Control Room Emergency Ventilation System (CREVS) Actuation Instrumentation.

Current Technical Specification (CTS) 3.3.3.1 requires, in part, the Radiation Monitoring Instrumentation shown in Table 3.3-6 to be OPERABLE during Applicable Modes. CTS Table 3.3-6, Instrument 2.c (Process Monitors, Control Room Isolation) is required OPERABLE during ALL MODES and during movement of irradiated fuel assemblies. CTS Table 3.3-6 does not contain a requirement for the automatic actuation logic and actuation relays associated with control room isolation. Additionally, CTS Table 4.3-3, Radiation Monitoring Instrumentation Surveillance Requirements, does not provide Surveillance Requirements (SRs) for the automatic actuation logic and actuation relays associated with control room isolation.

ITS 3.3.7 requires, in part, that the CREVS actuation instrumentation for each Function in Table 3.3.7-1 be OPERABLE during Applicable Modes or Other Specified Conditions. ITS Table 3.3.7-1 Function 2 provides requirements for two trains of Automatic Actuation Logic and Actuation Relays in MODES 1, 2, 3, 4, 5, 6 and during movement of irradiated fuel assemblies. Additionally, ITS Table 3.3.7-1 requires the following Surveillance Requirements for the Automatic Actuation Logic and Actuation Relays: an ACTUATION LOGIC TEST (SR 3.3.7.3); a MASTER RELAY TEST (SR 3.3.7.4); and a SLAVE RELAY TEST (SR 3.3.7.5).

This proposed change to the CTS to add requirements for the CREVS Automatic Actuation Logic and Actuation Relays Function was justified in Discussion of Change (DOC) M05. The addition of the proposed Surveillance Requirements was intended to verify the OPERABILITY of the Automatic Actuation Logic and Actuation Relays. This change was designated as more restrictive because additional functions are required in ITS than were required in the CTS. However, the existing CTS function of detecting Control Room Radiation in the Control Room Air Intakes does not use any logic, or master or slave relays to perform the intended function. Additionally, during MODES 5 and 6, the Engineering Safety Features Cabinet supporting all logic functions is de-energized.

SNQ proposes to restore the current licensing basis. This requires removal of the change annotated in DOC M05 and retention of the single function "Control Room Radiation, Control Room Air Intakes," as ITS Table 3.3.7-1 Function 2, which will be required OPERABLE in Modes 1, 2, 3, 4, 5, 6, and (a), where Footnote (a) states, "During movement of irradiated fuel assemblies, During CORE ALTERATIONS." Table 3.3.7-1, Function 2 will require the same tests, at the same frequency, as the CTS. This existing CTS function will ensure CREVS will actuate to terminate the supply of unfiltered outside air to the control room, initiate filtration, and pressurize the control room in the event of a design basis accident concurrent with a single failure.

Enclosure 1 contains mark-ups associated with ITS 3.3.7, "Control Room Emergency Ventilation System (CREVS) Actuation Instrumentation" to assist the NRC in their review of this self-identified issue.

Enclosure 2 contains a table delineating the specific pages associated with the proposed SII changes.

The information provided by this supplement to the original ITS LAR does not change the intent or the justification for the requested ITS license amendment. TVA has further determined that this supplement does not affect the basis for concluding that the proposed license amendment does not involve a Significant Hazards Consideration. As such, the 10 CFR 50.92 evaluation provided in the November 22, 2013, ITS LAR remains valid. In addition, the ITS LAR, including this supplement, continues to be exempt from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9).

There are no new regulatory commitments associated with this submittal. If there are any questions or if additional information is needed, please contact Mr. Tom Hess at 423-751-3487.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 31st day of August 2015.

Respectfully,



J.W. Shea
Vice President, Nuclear Licensing

Enclosure

cc: See Page 4

ENCLOSURE 1

**TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2**

**Sequoyah Nuclear Plant, Units 1 and 2 Technical Specifications Conversion to
NUREG-1431, Rev. 4.0 (SQN-TS-11-10) - Correction to ITS 3.3.7,
“Control Room Emergency Ventilation (CREVS) Actuation Instrumentation”**

ATTACHMENT 7

**ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION
SYSTEM (CREVS) ACTUATION INSTRUMENTATION**

**Current Technical Specification (CTS) Markup
and Discussion of Changes (DOCs)**

ITS

A01

ITS 3.3.7

3/4.3.3 MONITORING INSTRUMENTATION

CONTROL ROOM EMERGENCY VENTILATION (CREVS) ACTUATION

A02

~~RADIATION MONITORING~~ INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

CREVS actuation

A02

LCO 3.3.7

3.3.3.1 The ~~radiation monitoring~~ instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

Applicability

APPLICABILITY: As shown in Table 3.3-6.

Add proposed ACTIONS Note

A03

ACTION:

M01

- a. ~~With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.~~

CREVS actuation instrumentation

A02

- b. With one or more ~~radiation monitoring~~ channels inoperable, take the ACTION shown in Table 3.3-6.

M02

- c. ~~The provisions of Specification 3.0.3 are not applicable.~~

ACTION A,
ACTION B,
ACTION C,
ACTION D,
ACTION E

SURVEILLANCE REQUIREMENTS

CREVS actuation

A02

SR Table
Note

4.3.3.1 Each ~~radiation monitoring~~ instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ~~CHANNEL FUNCTIONAL TEST~~ operations for the MODES and at the frequencies shown in Table 4.3-3.

CHANNEL OPERATIONAL TEST (COT)

M03

Table 3.3.7-1

TABLE 3.3-6

CONTROL ROOM EMERGENCY VENTILATION (CREVS) ACTUATION

RADIATION MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	MEASUREMENT RANGE	ACTION
1. AREA MONITOR					
a. Fuel Storage Pool Area	1	*	≤ 151 mR/hr	10 ⁻¹ - 10 ⁴ mR/hr	26
2. PROCESS MONITORS					
a. Containment Purge Air	1	1, 2, 3, 4 & 6	≤ 8.5x 10 ⁻³ μCi/cc	10 - 10 ⁷ cpm	28
b. Containment					
i. Deleted					
ii. Particulate Activity					
RCS Leakage Detection	1	1, 2, 3 & 4	N/A	10 - 10 ⁷ cpm	27
c. Control Room Isolation	2	ALL MODES and during movement of irradiated fuel assemblies	≤ 400 cpm**	10 - 10 ⁷ cpm	29

* With fuel in the storage pool or building

and during CORE ALTERATIONS

Add proposed Table 3.3.7-1 Function 1

Add proposed Table 3.3.7-1 Function 2

Add proposed Table 3.3.7-1 Function 4

Footnote (b)** Equivalent to 1.0×10^{-5} $\mu\text{Ci/cc.}$

SEQUOYAH - UNIT 1

3/4 3-40

December 04, 2008
Amendment Nos. 12, 60, 112, 168, 256,
310, 322

TABLE 3.3-6 (Continued)

ACTION STATEMENTS

ACTION 26 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.

See ITS 3.3.8

ACTION 27 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1.

See ITS 3.4.15

ACTION 28 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.9 (MODE 6) and 3.3.2.1 (MODES 1, 2, 3, and 4).

See ITS 3.3.6

ACTION A ACTION 29 - a. With one channel inoperable, place the associated control room emergency ventilation system (CREVS) train in recirculation mode of operation within 7 days or be at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Add proposed ACTIONS D and E

M07

b. With two channels inoperable, ~~within 1 hour~~ initiate and maintain operation of one CREVS train in the recirculation mode of operation and enter the required Actions for one CREVS train made inoperable by inoperable CREVS actuation instrumentation.

Immediately

L01

Or

place both trains in the recirculation mode of operation ~~within one hour~~.

Immediately

L01

If the completion time of Action 29b cannot be met in Modes 1, 2, 3, and 4, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

If the completion time of Action 29b cannot be met during the movement of irradiated fuel assemblies, ~~suspend core alterations~~ and suspend movement of irradiated fuel assemblies.

L02

MHC003

Stet

If the completion time of Action 29b cannot be met in Modes 5 and 6, initiate action to restore one CREVS train.

Add proposed Required Actions for Table 3.3.7-1 Function 1

M04

ITS

A01

ITS 3.3.7

Table 3.3.7-1

TABLE 4.3-3

CONTROL ROOM EMERGENCY VENTILATION (CREVS) ACTUATION

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

COT

**CHANNEL
FUNCTIONAL
TEST****MODES FOR WHICH
SURVEILLANCE
REQUIRED****INSTRUMENT****CHANNEL
CHECK****CHANNEL
CALIBRATION****1. AREA MONITOR**a. Fuel Storage Pool
Area

S

R

Q

*

See ITS
3.3.8**2. PROCESS MONITORS**a. Containment Purge Air
Exhaust

S

R

Q

1, 2, 3, 4 & 6

See ITS
3.3.6

b. Containment

i. Deleted

ii. Particulate Activity

RCS Leakage
Detection

S

R

Q

1, 2, 3, & 4

See ITS
3.4.15c. Control Room
Isolation~~S~~ SR 3.3.7.1~~R~~ SR 3.3.7.2~~Q~~ SR 3.3.7.2**ALL MODES**In accordance with the Surveillance
Frequency Control Program

LA02

Add proposed SR 3.3.7.3 for Table 3.3.7-1 Function 1 at a Frequency of ~~18 months~~

M04

*With fuel in the storage pool or building.

See ITS
3.3.8Add proposed SR 3.3.7.3 for Table 3.3.7-1 Function 2 at a Frequency of ~~92 days on a STAGGERED TEST BASIS~~

M05

In accordance with the
Surveillance Frequency
Control Program

LA02

Add proposed SR 3.3.7.4 for Table 3.3.7-1 Function 2 at a Frequency of ~~92 days on a STAGGERED TEST BASIS~~

M05

In accordance with the
Surveillance Frequency
Control Program

LA02

Add proposed SR 3.3.7.5 for Table 3.3.7-1 Function 2 at a Frequency of ~~92 days~~

M05

SEQUOYAH - UNIT 1

3/4 3-42

December 04, 2008
Amendment Nos. 12, 112, 168, 220, 322

ITS

A01

ITS 3.3.7

INSTRUMENTATION3/4.3.3 MONITORING INSTRUMENTATION

CONTROL ROOM EMERGENCY VENTILATION (CREVS) ACTUATION

A02

RADIATION MONITORING INSTRUMENTATIONLIMITING CONDITION FOR OPERATION

CREVS actuation

A02

3.3.3.1 The ~~radiation monitoring~~ instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

Add proposed ACTIONS Note

A03

ACTION:

- a. ~~With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.~~

CREVS actuation instrumentation

A02

- b. With one or more ~~radiation monitoring~~ channels inoperable, take the ACTION shown in Table 3.3-6.

M02

- c. ~~The provisions of Specification 3.0.3 are not applicable.~~

SURVEILLANCE REQUIREMENTS

CREVS actuation

A02

4.3.3.1 Each ~~radiation monitoring~~ instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ~~CHANNEL FUNCTIONAL TEST~~ operations for the MODES and at the frequencies shown in Table 4.3-3.

CHANNEL OPERATIONAL TEST (COT)

M03

ITS

A01

ITS 3.3.7

Table 3.3.7-1

TABLE 3.3-6
RADIATION MONITORING INSTRUMENTATION

CONTROL ROOM EMERGENCY VENTILATION (CREVS) ACTUATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	MEASUREMENT RANGE	ACTION
1. AREA MONITOR					
a. Fuel Storage Pool Area	1	*	≤151 mR/hr	10 ⁻¹ - 10 ⁴ mR/hr	26
2. PROCESS MONITORS					
a. Containment Purge Air	1	1, 2, 3, 4 & 6	≤8.5 x 10 ⁻³ μCi/cc	10 - 10 ⁷ cpm	28
b. Containment					
i. Deleted					
ii. Particulate Activity					
RCS Leakage Detection	1	1, 2, 3 & 4	N/A	10 - 10 ⁷ cpm	27
c. Control Room Isolation	2	ALL MODES and during movement of irradiated fuel assemblies	≤ 400 cpm**	10 - 10⁷ cpm	29
<p>Function 3</p> <p>MHC003</p> <p>SII</p> <p>and during CORE ALTERATIONS</p> <p>Add proposed Table 3.3.7-1 Function 1</p> <p>Add proposed Table 3.3.7-1 Function 2</p> <p>Add proposed Table 3.3.7-1 Function 4</p> <p>* With fuel in the storage pool or building</p>					

Footnote (b)

** Equivalent to 1.0 x 10⁻⁵ μCi/cc.

TABLE 3.3-6 (Continued)

ACTION STATEMENTS

	ACTION 26 -	With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.	(See ITS 3.3.8)
	ACTION 27 -	With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1.	(See ITS 3.4.15)
	ACTION 28 -	With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.9 (MODE 6) and 3.3.2 (MODES 1, 2, 3, and 4).	(See ITS 3.3.6)
ACTION A	ACTION 29 -	a. With one channel inoperable, place the associated control room emergency ventilation system (CREVS) train in recirculation mode of operation within 7 days or be at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.	(M07)
ACTION C			(Add proposed ACTIONS D and E)
		b. With two channels inoperable, within 1 hour initiate and maintain operation of one CREVS train in the recirculation mode of operation and enter the required Actions for one CREVS train made inoperable by inoperable CREVS actuation instrumentation.	(Immediately) (L01)
ACTION B		Or	
		place both trains in the recirculation mode of operation within one hour .	(Immediately) (L01)
ACTION C		If the completion time of Action 29b cannot be met in Modes 1, 2, 3, and 4, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.	
ACTION D		If the completion time of Action 29b cannot be met during the movement of irradiated fuel assemblies, suspend core alterations and suspend movement of irradiated fuel assemblies.	(L02)
			(MHC003) (Stet)
ACTION E		If the completion time of Action 29b cannot be met in Modes 5 and 6, initiate action to restore one CREVS train.	
			(Add proposed Required Actions for Table 3.3.7-1 Function 1) (M04)

ITS

A01

ITS 3.3.7

Table 3.3.7-1

TABLE 4.3-3

CONTROL ROOM EMERGENCY VENTILATION (CREVS) ACTUATION

~~RADIATION MONITORING~~ INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A02

M03

COT

~~CHANNEL
FUNCTIONAL
TEST~~MODES FOR WHICH
SURVEILLANCE IS
REQUIRED

INSTRUMENT

CHANNEL
CHECKCHANNEL
CALIBRATION

1. AREA MONITOR

a. Fuel Storage Pool Area

S

R

Q

*

See ITS
3.3.8

2. PROCESS MONITORS

a. Containment Purge Air
Exhaust

S

R

Q

1, 2, 3, 4 & 6

See ITS
3.3.6

b. Containment

i. Deleted

ii. Particulate Activity

RCS Leakage
Detection

S

R

Q

1, 2, 3 & 4

See ITS
3.4.15

c. Control Room Isolation

~~S~~ SR 3.3.7.1~~R~~ SR 3.3.7.2~~Q~~ SR 3.3.7.2

ALL MODES

In accordance with the Surveillance
Frequency Control Program

LA02

Add proposed SR 3.3.7.1 for Table 3.3.7-1 Function 1 at a Frequency of ~~18 months~~

M04

~~Add proposed SR 3.3.7.3 for Table 3.3.7-1 Function 2 at a Frequency of 92 days on a STAGGERED TEST BASIS~~

M05

In accordance with the
Surveillance Frequency
Control Program

LA02

~~Add proposed SR 3.3.7.4 for Table 3.3.7-1 Function 2 at a Frequency of 92 days on a STAGGERED TEST BASIS~~

M05

* With fuel in the storage pool or building.

See ITS
3.3.8In accordance with the
Surveillance Frequency
Control Program

LA02

~~Add proposed SR 3.3.7.5 for Table 3.3.7-1 Function 2 at a Frequency of 92 days~~

M05

DISCUSSION OF CHANGES
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CREVS)
ACTUATION INSTRUMENTATION

ADMINISTRATIVE CHANGES

- A01 In the conversion of the Sequoyah Nuclear Plant (SQN) Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 4.0, "Standard Technical Specifications-Westinghouse Plants" (ISTS) and additional Technical Specification Task Force (TSTF) travelers included in this submittal.

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

- A02 CTS 3.3.3.1 requires, in part, the radiation monitoring instrumentation channels shown in Table 3.3-6 to be OPERABLE. CTS 3.3.3.1 ACTIONS a and b provide the Required Actions and associated Completion Time for when the radiation monitoring instrumentation is inoperable. CTS 4.3.3.1 requires, in part, that each radiation monitoring instrumentation channel be demonstrated OPERABLE. CTS Table 3.3-6 lists the instruments required to be OPERABLE, the Applicable MODES, and the appropriate ACTIONS to take for the Radiation Monitoring Instrumentation. ITS LCO 3.3.7 requires, in part, that the Control Room Emergency Ventilation System (CREVS) actuation instrumentation for each Function in Table 3.3.7-1 to be OPERABLE. ITS 3.3.7 ACTIONS A, B, C, D, and E provide the Required Actions and associated Completion Time for when the CREVS actuation instrumentation is inoperable. ITS SR 3.3.7.1, SR 3.3.7.2, SR 3.3.7.3, ~~SR 3.3.7.4, SR 3.3.7.5, SR 3.3.7.6, and SR 3.3.7.7~~ provide the testing requirements for each CREVS actuation instrument in Table 3.3.7-1. This changes the CTS by having a separate Specification for the CREVS actuation instrumentation, in lieu of including them in the Radiation Monitoring Instrumentation Specification.

SII

4

This change is acceptable because the technical requirements for the radiation monitoring instrumentation are maintained with the change in format. The CREVS Actuation Instrumentation continues to require the OPERABILITY of the radiation monitoring instrumentation. This change is designated as administrative because it does not result in a technical change to the CTS.

- A03 The ACTIONS for CTS 3.3.3.1 do not contain a specific Note that allows separate Condition entry for each instrument. ITS 3.3.7 ACTIONS contains a Note which states that separate Condition entry is allowed for each Function. This changes the CTS by specifically allowing separate Condition entry for each specified Function.

This change is acceptable because it clearly states the current requirement. The CTS considers each radiation monitoring instrument Function to be separate and independent. This change is designated as administrative because it does not result in a technical change to the CTS.

Insert 1



MHC003

INSERT 1

- SII A04 CTS 3.3.3.1 requires, in part, the Radiation Monitoring Instrumentation shown in Table 3.3-6 to be OPERABLE during Applicable Modes. CTS Table 3.3-6, Instrument 2.c, Process Monitors, Control Room Isolation, is required OPERABLE during ALL MODES and during the movement of irradiated fuel assemblies. ITS LCO 3.3.7 requires, in part, that the Control Room Emergency Ventilation System actuation instrumentation for each Function in Table 3.3.7-1 be OPERABLE during Applicable Modes or Other Specified Conditions. ITS Table 3.3.7-1, Function 3.a, Control Room Radiation, Control Room Air Intakes, is required OPERABLE in Modes 1, 2, 3, 4, 5, 6, and (a), where Footnote (a) states, "During movement of irradiated fuel assemblies, During CORE ALTERATIONS." This changes the CTS by specifying the Process Monitors, Control Room Isolation Instrumentation is required OPERABLE during CORE ALTERATIONS.
- MHC003
- 2

This change is acceptable because CORE ALTERATIONS can only be performed in MODE 6. CTS 3.3.3.1 requires the Process Monitors, Control Room Isolation, to be OPERABLE in MODE 6. This change is designated as administrative because it does not result in a technical change to the CTS.

DISCUSSION OF CHANGES
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CREVS)
ACTUATION INSTRUMENTATION

MORE RESTRICTIVE CHANGES

- M01 CTS 3.3.3.1 ACTION a requires that when a radiation monitor channel alarm/trip setpoint exceeds the value shown in Table 3.3-6, to adjust the setpoint within 4 hours or declare the channel inoperable. ITS 3.3.7 does not contain an ACTION for adjusting a setpoint that exceeds the required value. Instead, ITS 3.3.7 ACTION A requires that when one required radiation monitoring channel is inoperable (i.e., setpoint not within tolerance) to enter the applicable Required Actions immediately. This changes the CTS by not allowing adjustment of the setpoint in 4 hours before declaring the channel inoperable.

The purpose of CTS 3.3.3.1 ACTION a is to allow adjustment of the radiation monitor setpoint to within limits before declaring the channel inoperable. Although ITS does not include this allowance, restoration such that the LCO is met, is always an option. This change is acceptable because the channel requirements in ITS 3.3.7 will ensure that the required radiation monitoring channel is OPERABLE. The proposed ITS ACTION for when one channel is inoperable will ensure that the Required Actions and Completion Times used establish remedial measures that when taken minimize risk associated with continued operation. This change is designated as more restrictive because more stringent Required Actions and Completion Times are being applied in the ITS than were applied in the CTS.

- M02 CTS 3.3.3.1 ACTION c states that the provisions of Specification 3.0.3 are not applicable for the radiation monitoring instrumentation in CTS Table 3.3-6. ITS 3.3.7 does not contain this exception. This changes the CTS by not allowing an exception to CTS Specification 3.0.3.

CTS 3.0.3 requires the unit to be shut down when the requirements of the LCO and the associated ACTIONS are not satisfied. This change is acceptable because ITS 3.3.7 does not provide an exception to LCO 3.0.3 for the radiation monitoring instrumentation used for control room isolation. Eliminating the CTS 3.0.3 exemption ensures that the operators are provided guidance regarding actions to take in the event the required radiation monitoring instrumentation is inoperable and the associated ACTIONS are not satisfied within the required time periods. This change is designated as more restrictive because an explicit exception provided in the CTS is eliminated.

- M03 CTS 4.3.3.1 requires, in part, that the radiation monitoring instrumentation on Table 4.3-3 be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST. CTS Table 4.3-3 Instrument 2.c (Process Monitors – Control Room Isolation) requires a CHANNEL FUNCTIONAL TEST.
- SII 2.a ITS Table 3.3.7-1 Function 3 (Control Room Radiation – Control Room Air Intakes) requires the performance of ITS SR 3.3.7.2. ITS SR 3.3.7.2 requires the performance of a CHANNEL OPERATIONAL TEST (COT). This changes the CTS by requiring a COT instead of a CHANNEL FUNCTIONAL TEST.

This change is acceptable because the COT continues to perform tests similar to the current CHANNEL FUNCTIONAL TEST. The CTS defines a CHANNEL FUNCTIONAL TEST based on the type of channel. In CTS, a CHANNEL

DISCUSSION OF CHANGES
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CREVS)
ACTUATION INSTRUMENTATION

FUNCTIONAL TEST shall be: for Analog channels, the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY including alarm and/or trip functions; for Bistable channels, the injection of a simulated signal into the sensor to verify OPERABILITY including alarm and/or trip functions; and for Digital channels, the injection of a simulated signal into the channel as close to the sensor input to the process racks as practicable to verify OPERABILITY including alarm and/or trip functions. This does not include the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors as does the CHANNEL CALIBRATION. The COT provides similar tests with the addition that the COT includes adjustments, as necessary, of the required alarm, interlock, and trip setpoints required for channel OPERABILITY such that the setpoints are within the necessary range and accuracy. This change is designated as more restrictive because the ITS requires additional acceptance criteria that is not currently required in the CTS.

- M04 CTS Table 3.3-6 and CTS Table 4.3-3 do not contain requirements for a manual initiation of the CREVS actuation instrumentation. ITS Table 3.3.7-1 Function 1 contains the applicable MODES, Required Channels, and Surveillance Requirements for the manual initiation of CREVS. ITS 3.3.7 ACTIONS provide the compensatory actions to take when ITS Table 3.3.7-1 Function 1 is not satisfied. Additionally, ITS SR 3.3.7.6 has been added to provide the testing requirements for manual initiation of the CREVS. This changes the CTS by adding requirements for the manual initiation function of the CREVS.

3

SII

This change is acceptable because the manual initiation Function is necessary to ensure that the operator has manual initiation capability for CREVS at any time from the control room. Initiation of CREVS can be accomplished by manual initiation of Safety Injection. The safety injection function refers the operator to LCO 3.3.2 for all of the Safety Injection initiation functions and requirements. This change is designated as more restrictive because additional functions are required in the ITS than were in the CTS.

- M05 ~~CTS Table 3.3-6 Instrument 2.c does not contain a requirement for the Automatic Actuation Logic and Actuation Relays associated with the Control Room Isolation. CTS Table 4.3-3 Instrument 2.c does not provide Surveillance Requirements for Actuation Logic testing and Master and Slave relay testing of the Automatic Actuation Logic and Actuation Relays associated with the Control Room Isolation. ITS Table 3.3.7-1 Function 2 provides the requirements for the 2 trains of Automatic Actuation Logic and Actuation Relays in MODES 1, 2, 3, 4, 5, 6 and during movement of irradiated fuel assemblies. If one train of the Automatic Actuation Logic and Actuation Relays Function is inoperable, ACTION A specifies that one train of CREVS be placed in the recirculation mode in 7 days. If two trains of the Automatic Actuation Logic and Actuation Relays Function are inoperable, ACTION B specifies that one train of CREVS be placed in the recirculation mode immediately and the applicable Conditions are Required Actions for one CREVS train made inoperable by inoperable CREVS actuation instrumentation be entered immediately. Otherwise, both trains of CREVS are required to be placed in the recirculation mode immediately. If the Required~~

Not Used

SII

DISCUSSION OF CHANGES
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CREVS)
ACTUATION INSTRUMENTATION

SII

~~Actions and Completion Times of Condition A or B are not met in MODES 1, 2, 3, or 4, ACTION C specifies that the unit be placed in MODE 3 in 6 hours and MODE 5 in 36 hours. If the Required Actions and Completion Times of Condition A or B are not met during the movement of irradiated fuel assemblies, ACTION D specifies to immediately suspend the movement of fuel assemblies. If the Required Actions and Completion Times of Condition A or B are not met in MODES 5 or 6, ACTION E specifies to immediately initiate action to restore one CREVS train to OPERABLE status. Additionally, ITS Table 3.3.7-1 requires the following Surveillance Requirements for the Automatic Actuation Logic and Actuation Relays: an ACTUATION LOGIC TEST (SR 3.3.7.3) every 92 days on a STAGGERED TEST BASIS; a MASTER RELAY TEST (SR 3.3.7.4) every 92 days on a STAGGERED TEST BASIS; and a SLAVE RELAY TEST (SR 3.3.7.5) every 92 days. This changes the CTS by adding requirements for the CREVS Automatic Actuation Logic and Actuation Relays Function.~~

~~The Automatic Actuation Logic and Actuation Relays are required to support the OPERABILITY of the CREVS actuation instrumentation. Requiring two trains of Automatic Actuation Logic and Actuation Relays will ensure CREVS will actuate to terminate the supply of unfiltered outside air to the control room, initiate filtration, and pressurize the control room in the event of a design basis accident concurrent with a single failure. The specified Actions will ensure that the CREVS actuation instrumentation Function is accomplished or the unit is placed in a condition where the LCO requirements are not applicable. The addition of the proposed Surveillance Requirements will verify the OPERABILITY of the Automatic Actuation Logic and Actuation Relays. This change is designated as more restrictive because additional functions are required in the ITS than were in the CTS.~~

- M06 CTS 3.3.3.1 states, "The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE." Table 3.3-6 lists the radiation monitors required for the Control Room Isolation. ITS LCO 3.3.7 states, "The Control Room Emergency Ventilation System (CREVS) actuation instrumentation for each Function in Table 3.3.7-1 shall be OPERABLE." ITS Table 3.3.7-1 lists all required CREVS instrument functions which includes the Safety Injection signal. The ITS Table 3.3.7-1 specification of the Safety Injection signal includes a reference to the requirements for the Safety Injection signal being specified in ITS 3.3.2, Engineered Safety Feature Actuation (EFAS) instrumentation. This changes the CTS by specifying an additional instrumentation actuation function for the CREVS.

ITS 3.3.7 is a system related instrumentation specification that includes all the required instrumentation for the CREVS. The Safety Injection signal, although specified in ITS 3.3.2, EFAS instrumentation, provides an actuation of CREVS that is credited in the LOCA safety analysis. The proposed change provides a more complete listing of the required CREVS actuations in a single specification. If the Safety Injection Function is inoperable, such that only the CREVS function is affected, the less restrictive Actions of ITS 3.3.7 would be applicable. The other credited CREVS actuation instrumentation provides a complete list of required CREVS instrumentation with a common set of Actions to assure the plant is placed in a safe condition when the required instrumentation is

DISCUSSION OF CHANGES
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CREVS)
ACTUATION INSTRUMENTATION

inoperable. Thus, the proposed change ensures the control room doses after a design basis event are maintained within the required limits. This change is designated as more restrictive because additional functions are required in the ITS than were in the CTS.

- M07 CTS Table 3.3-6 ACTION 29a requires when one channel of the control room isolation instrumentation is inoperable and a CREVS train is not placed in the recirculation mode of operation within 7 days, to be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours in all MODES and during movement of irradiated fuel assemblies. ITS ACTION D requires when one channel of the control room isolation is inoperable (during movement of irradiated fuel assemblies) and a CREVS train is not placed in the recirculation mode of operation within 7 days, to immediately suspend movement of irradiated fuel assemblies. ITS ACTION E requires that when one channel of the control room isolation is inoperable and a CREVS train is not placed in the recirculation mode of operation within 7 days (in MODE 5 or 6) to initiate action to immediately restore one CREVS train to OPERABLE status. This changes the CTS by adding Required Actions if one channel of control room isolation is inoperable and a CREVS train is not placed in the recirculation mode of operation within 7 days when in MODE 5 or 6 and during movement of irradiated fuel assemblies.

CORE
ALTERATIONS and
suspend

MHC003

CORE
ALTERATIONS and
during

MHC003

The purpose of CTS Table 3.3-6 ACTION 29a is to provide the compensatory actions to take when one or more instrumentation channels of CREVS are inoperable. ITS 3.3.7 ACTIONS D and E provide new compensatory actions to take during the movement of irradiated fuel assemblies and in MODE 5 or 6. This change is acceptable because these compensatory actions are commensurate with the Applicable MODES of operation or other specified conditions. During the movement of irradiated fuel assemblies, suspending the movement of irradiated fuel assemblies alone will reduce the risk of an accident that would require CREVS actuation. Furthermore, because the requirements for MODES 5 and 6 are to ensure adequate isolation capabilities in the event of a fuel handling accident, ITS 3.3.7 ACTION E, to initiate action to restore one CREVS train to OPERABLE status, is the correct action to take. This change is considered more restrictive because additional Required Actions are being applied in ITS that were not applied in CTS.

CORE
ALTERATIONS and
suspending

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

- LA01 (*Type 1 – Removing Details of System Design and System Description, Including Design Limits*) CTS Table 3.3-6 for Radiation Monitoring Instrumentation has five columns stating various requirements for the radiation monitoring instruments. These columns are labeled "MINIMUM CHANNELS OPERABLE," "APPLICABLE MODES," "ALARM/TRIP SETPOINT," "MEASUREMENT

DISCUSSION OF CHANGES
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CREVS)
ACTUATION INSTRUMENTATION

RANGE," AND "ACTION." ITS Table 3.3.7-1 does not contain the column titled "MEASUREMENT RANGE." This changes the CTS by moving this information to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for the number of required channels, the Applicable MODES, the alarm/trip setpoint, and the appropriate Condition to enter if a required channel becomes inoperable. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA02 (Type 5 – Removal of SR Frequency to the Surveillance Frequency Control Program) CTS Table 4.3-3 Instrument 2.c requires a CHANNEL CHECK every shift (12 hours), a CHANNEL FUNCTIONAL TEST every quarter (92 days), and a CHANNEL CALIBRATION every refueling cycle (18 months). ITS SR 3.3.7.1, SR 3.3.7.2, SR 3.3.7.3, ~~SR 3.3.7.6, and SR 3.3.7.7~~ require similar Surveillances and specify the periodic Frequency as, "In accordance with the Surveillance Frequency Control Program." This changes the CTS by moving the specified Frequencies for this SR and associated Bases to the Surveillance Frequency Control Program. (See DOC M03 for discussion on changing the CHANNEL FUNCTIONAL TEST to a COT. ~~See DOC M05 for the addition of ITS SR 3.3.7.3, SR 3.3.7.4, and SR 3.3.7.5. See DOC M04 for the addition of ITS SR 3.3.7.6.)~~)

SII

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The removal of these details related to Surveillance Requirement Frequencies from the Technical Specifications is acceptable, because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The existing Surveillance Frequencies are removed from Technical Specifications and placed under licensee control pursuant to the methodology described in NEI 04-10. A new program (Surveillance Frequency Control Program) is being added to the Administrative Controls section of the Technical Specifications describing the control of Surveillance Frequencies. The surveillance test requirements remain in the Technical Specifications. The control of changes to the Surveillance Frequencies will be in accordance with the Surveillance Frequency Control Program. The Program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met. This change is designated as a less restrictive removal of detail change, because the Surveillance Frequencies are being removed from the Technical Specifications.

DISCUSSION OF CHANGES
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CREVS)
ACTUATION INSTRUMENTATION

LESS RESTRICTIVE CHANGES

- L01 *(Category 4 – Relaxation of Required Action)* CTS Table 3.3-6 ACTION 29b requires that when two channels of the Control Room Isolation instrumentation are inoperable, to initiate and maintain operation of one CREVS train in the recirculation mode of operation and enter the required Actions for one CREVS train made inoperable by inoperable CREVS actuation instrumentation within one hour or to place both trains in the recirculation mode of operation within one hour. ITS 3.3.7 ACTION B requires the same actions, but specifies the Completion Time as "Immediately." This changes the CTS by allowing additional time to complete ITS 3.3.7 ACTION B.

The purpose of CTS Table 3.3-6 ACTION 29b is to ensure that the CREVS will be able to perform its required safety function. This change is acceptable because the Required Actions have not changed, just the Completion Time. When the Completion Time of "Immediately" is used in the ITS, it requires that the Required Action should be pursued without delay and in a controlled manner. Depending on plant conditions, the Required Action could be completed within one hour or may take longer than one hour. The ITS 3.3.7 ACTION B Completion Time is acceptable because it will be completed without delay. This change is designated as less restrictive because less stringent Required Actions are being applied in ITS than were applied in CTS.

- L02 ~~*(Category 4 – Relaxation of Required Action)* CTS Table 3.3-6 ACTION 29b provides compensatory actions to take when the completion time of the specified actions cannot be met during the movement of irradiated fuel assemblies. One of the compensatory actions is to suspend core alterations. ITS 3.3.7 ACTION D does not require suspension of core alterations, but instead only requires the suspension of the movement of irradiated fuel assemblies. This changes the CTS by deleting the requirement to suspend core alterations.~~

MHC003

Not Used

~~The purpose of CTS Table 3.3-6 ACTION 29 is to reduce the risk of an accident that would require the CREVS to operate. CORE ALTERATIONS is defined in CTS 1.1, in part, as "the movement of any fuel, sources, reactivity control components, or other components affecting reactivity within the reactor vessel with the vessel head removed and fuel in the vessel." The accidents postulated to happen during core alterations, are fuel handling accidents, inadvertent criticality (due to control rod removal error or continuous control rod withdrawal error during refueling or boron dilution), and the inadvertent loading of, and subsequent operation with, a fuel assembly in an improper location. This change is acceptable because the only accident that can occur during CORE ALTERATIONS that results in a significant radioactive release is the fuel handling accident. ITS 3.3.7 Required Action D.1 requires the immediate suspension of movement of irradiated fuel assemblies, thereby reducing the risk of an accident that would require the actuation of CREVS. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.~~

**Improved Standard Technical Specifications (ISTS) Markup
and Justification for Deviations (JFDs)**

CTS

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.7A

1

3.3 INSTRUMENTATION

Ventilation

V

3.3.7A Control Room Emergency ~~Filtration~~ System (CREFS) Actuation Instrumentation
~~(Without Setpoint Control Program)~~

1

3.3.3.1

LCO 3.3.7 The CREFS actuation instrumentation for each Function in Table 3.3.7-1 shall be OPERABLE.

1

3.3.3.1
Applicability

APPLICABILITY: According to Table 3.3.7-1.

ACTIONS

NOTE

DOC A03

Separate Condition entry is allowed for each Function.

Table 3.3-6
ACTION 29a

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one channel or train inoperable.	A.1 <div>NOTE [Place in toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.]</div> <div>recirculation V Place one CREFS train in emergency [radiation protection] mode.</div>	7 days <div>1 3 } 2</div>
B. One or more Functions with two channels or two trains inoperable.	<div>NOTE [Place in the toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.]</div> <div>recirculation V B.1.1 Place one CREFS train in emergency [radiation protection] mode.</div> <div>AND</div>	Immediately <div>1 3 } 2</div>

Table 3.3-6
ACTION 29b

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p>B.1.2 Enter applicable Conditions and Required Actions for one CREFS train made inoperable by inoperable CREFS actuation instrumentation.</p> <p><u>OR</u></p> <p>B.2 Place both trains in emergency [radiation protection] mode.</p>	<p>Immediately</p> <p>Immediately</p>
C. Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.	<p>C.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>C.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>
D. Required Action and associated Completion Time for Condition A or B not met during movement of [recently] irradiated fuel assemblies	<p>D.1 Suspend movement of [recently] irradiated fuel assemblies.</p> <p><u>AND</u></p> <p>D.2 Suspend CORE ALTERATIONS</p> <p>, or during CORE ALTERATIONS.</p>	<p>Immediately</p> <p>Immediately</p>
E. [Required Action and associated Completion Time for Condition A or B not met in MODE 5 or 6.	<p>E.1 <input type="checkbox"/> Initiate action to restore one CREFS train to OPERABLE status.</p>	<p>Immediately]</p>

CTS

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.7A

1

SURVEILLANCE REQUIREMENTS

NOTE

4.3.3.1

Refer to Table 3.3.7-1 to determine which SRs apply for each CREFS Actuation Function.

1

Table 4.3-3
Instrument 2.c

SURVEILLANCE		FREQUENCY
SR 3.3.7.1	Perform CHANNEL CHECK.	[12 hours OR In accordance with the Surveillance Frequency Control Program]
SR 3.3.7.2	Perform COT.	[92 days OR In accordance with the Surveillance Frequency Control Program]
SR 3.3.7.3	Perform ACTUATION LOGIC TEST.	[31 days on a STAGGERED TEST BASIS OR In accordance with the Surveillance Frequency Control Program]

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Table 4.3-3
Instrument 2.c

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CTS

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

3.3.7A

V

1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.3.7.4 Perform MASTER RELAY TEST.	[31 days on a STAGGERED TEST BASIS OR In accordance with the Surveillance Frequency Control Program]
-----REVIEWER'S NOTE----- The Frequency of 92 days on a STAGGERED TEST BASIS is applicable to the actuation logic processed through the Relay or Solid State Protection System.	
<div>DOC M05</div> <div>SII</div> <div>3</div> <div>NOTE</div> This Surveillance is only applicable to the actuation logic of the ESFAS Instrumentation.	
Perform ACTUATION LOGIC TEST.	[92 days on a STAGGERED TEST BASIS OR In accordance with the Surveillance Frequency Control Program]

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SEQUOYAH UNIT 1

Westinghouse STS

3.3.7A-4

Amendment XXX

Rev. 4.0

3

CTS

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

3.3.7A

V

1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>REVIEWER'S NOTE</p> <p>The Frequency of 92 days on a STAGGERED TEST BASIS is applicable to the master relays processed through the Solid State Protection System.</p> <hr/> <p>SR 3.3.7.6 4 4</p> <p>NOTE</p> <p>This Surveillance is only applicable to the master relays of the ESFAS Instrumentation.</p> <hr/> <p>Perform MASTER RELAY TEST.</p>	<p>[92 days on a STAGGERED TEST BASIS</p> <p>OR</p> <p>In accordance with the Surveillance Frequency Control Program]</p>
<p>DOC M05</p> <p>SII</p> <p>SR 3.3.7.7 5 5</p> <p>Perform SLAVE RELAY TEST.</p>	<p>[[92] days</p> <p>OR</p> <p>In accordance with the Surveillance Frequency Control Program]</p>

SII

DOC M05

DOC M05

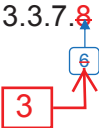
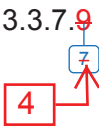
SII

CTS

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.7A

1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.7.8 	-----NOTE----- Verification of setpoint is not required. -----	[[18] months OR In accordance with the Surveillance Frequency Control Program }
	Perform TADOT.	
SR 3.3.7.9 	Perform CHANNEL CALIBRATION.	[[18] months OR In accordance with the Surveillance Frequency Control Program }

DOC M04

SII

Table 4.3-3
Instrument 2.c

SII

3

CTS

CREFS Actuation Instrumentation (~~Without Setpoint Control Program~~)

3.3.7A

1

Table 3.3.7-1 (page 1 of 1)
CREFS Actuation Instrumentation

1

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
1. Manual Initiation	1, 2, 3, 4, 5 , 6, (a)	2 trains	SR 3.3.7.8	NA
2. Automatic Actuation Logic and Actuation Relays	1, 2, 3, 4, 5, 6, (a)	2 trains	SR 3.3.7.3 SR 3.3.7.4 SR 3.3.7.5 SR 3.3.7.6 SR 3.3.7.7	NA
3. Control Room Radiation				
a. Control Room Atmosphere	1, 2, 3, 4 5, 6, (a)	[2]	SR 3.3.7.1 SR 3.3.7.2 SR 3.3.7.9	$\leq [2] \text{ mR/hr}$
b. Control Room Air Intakes	1, 2, 3, 4, 5 , 6, (a)	[2]	SR 3.3.7.1 SR 3.3.7.2 SR 3.3.7.9	$\leq [2] \text{ mR/hr}$
4. Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.			

(a) During movement of ~~recently~~ irradiated fuel assemblies

During CORE ALTERATIONS.

(b) Equivalent to $1.0 \times 10^{-5} \mu\text{Ci/cc.}$

3

CTS

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.7A

1

3.3 INSTRUMENTATION

Ventilation

V

3.3.7A Control Room Emergency ~~Filtration~~ System (CREFS) Actuation Instrumentation
~~(Without Setpoint Control Program)~~

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3.3.3.1

LCO 3.3.7 The CREFS actuation instrumentation for each Function in Table 3.3.7-1 shall be OPERABLE.

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3.3.3.1
Applicability

APPLICABILITY: According to Table 3.3.7-1.

ACTIONS

NOTE

DOC A03

Separate Condition entry is allowed for each Function.

Table 3.3-6
ACTION 29a

Table 3.3-6
ACTION 29b

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one channel or train inoperable.	A.1 <div>NOTE [Place in toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.]</div> <div>recirculation Place one CREFS train in emergency [radiation protection] mode.</div>	7 days
B. One or more Functions with two channels or two trains inoperable.	<div>NOTE [Place in the toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.]</div> <div>recirculation B.1.1 Place one CREFS train in emergency [radiation protection] mode.</div> <div>AND</div>	Immediately

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2

3

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p>B.1.2 Enter applicable Conditions and Required Actions for one CREFS train made inoperable by inoperable CREFS actuation instrumentation.</p> <p><u>OR</u></p> <p>B.2 Place both trains in emergency [radiation protection] mode.</p>	<p>Immediately</p> <p>Immediately</p>
C. Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.	<p>C.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>C.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>
D. Required Action and associated Completion Time for Condition A or B not met during movement of [recently] irradiated fuel assemblies.	<p>D.1 Suspend movement of [recently] irradiated fuel assemblies.</p> <p><u>AND</u></p> <p>D.2 Suspend CORE ALTERATIONS</p>	<p>Immediately</p> <p>Immediately</p>
E. Required Action and associated Completion Time for Condition A or B not met in MODE 5 or 6.	E.1 Initiate action to restore one CREFS train to OPERABLE status.	Immediately

CTS

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.7A

1

SURVEILLANCE REQUIREMENTS

4.3.3.1

-----NOTE-----
Refer to Table 3.3.7-1 to determine which SRs apply for each CREFS Actuation Function.

1

Table 4.3-3
Instrument 2.c

SURVEILLANCE		FREQUENCY
SR 3.3.7.1	Perform CHANNEL CHECK.	[12 hours OR In accordance with the Surveillance Frequency Control Program]
SR 3.3.7.2	Perform COT.	[92 days OR In accordance with the Surveillance Frequency Control Program]
SR 3.3.7.3	Perform ACTUATION LOGIC TEST.	[31 days on a STAGGERED TEST BASIS OR In accordance with the Surveillance Frequency Control Program]

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Table 4.3-3
Instrument 2.c

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CTS

CREFS Actuation Instrumentation (~~Without Setpoint Control Program~~)

3.3.7A

1

V

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.3.7.4 Perform MASTER RELAY TEST.	[31 days on a STAGGERED TEST BASIS OR In accordance with the Surveillance Frequency Control Program]
<p>-----REVIEWER'S NOTE-----</p> <p>The Frequency of 92 days on a STAGGERED TEST BASIS is applicable to the actuation logic processed through the Relay or Solid State Protection System.</p>	
<div> <div>SII</div> <div>DOC M05</div> <div> SR 3.3.7.5 <div>3</div> </div> </div> <p>NOTE</p> <p>This Surveillance is only applicable to the actuation logic of the ESFAS Instrumentation.</p> <p>Perform ACTUATION LOGIC TEST.</p>	[92 days on a STAGGERED TEST BASIS OR In accordance with the Surveillance Frequency Control Program]

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CTS

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

3.3.7A

1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>REVIEWER'S NOTE</p> <p>The Frequency of 92 days on a STAGGERED TEST BASIS is applicable to the master relays processed through the Solid State Protection System.</p> <p>SR 3.3.7.6 4 NOTE</p> <p>This Surveillance is only applicable to the master relays of the ESFAS Instrumentation.</p> <p>Perform MASTER RELAY TEST.</p>	<p>[92 days on a STAGGERED TEST BASIS</p> <p>OR</p> <p>In accordance with the Surveillance Frequency Control Program]</p>
<p>SR 3.3.7.7 5 Perform SLAVE RELAY TEST.</p>	<p>[[92] days</p> <p>OR</p> <p>In accordance with the Surveillance Frequency Control Program]</p>

DOC M05

SII

DOC M05

SII

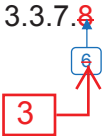
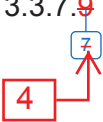
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CTS

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.7A

1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.7.8 	-----NOTE----- Verification of setpoint is not required. -----	[[18] months OR In accordance with the Surveillance Frequency Control Program }
	Perform TADOT.	
SR 3.3.7.9 	Perform CHANNEL CALIBRATION.	[[18] months OR In accordance with the Surveillance Frequency Control Program }

DOC M04

SII

Table 4.3-3
Instrument 2.c

SII

3

CTS

CREFS Actuation Instrumentation (~~Without Setpoint Control Program~~)

3.3.7A

V

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V

Table 3.3.7-1 (page 1 of 1)
CREFS Actuation Instrumentation

1

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
1. Manual Initiation	1, 2, 3, 4, 5 , 6, (a)	2 trains	SR 3.3.7.8	NA
2. Automatic Actuation Logic and Actuation Relays	1, 2, 3, 4, 5, 6, (a)	2 trains	SR 3.3.7.3 SR 3.3.7.4 SR 3.3.7.5 SR 3.3.7.6 SR 3.3.7.7	NA
3. Control Room Radiation				
a. Control Room Atmosphere	1, 2, 3, 4 5, 6, (a)	[2]	SR 3.3.7.1 SR 3.3.7.2 SR 3.3.7.9	$\leq [2] \text{ mR/hr}$
b. Control Room Air Intakes	1, 2, 3, 4, 5 , 6, (a)	[2]	SR 3.3.7.1 SR 3.3.7.2 SR 3.3.7.9	$\leq [2] \text{ mR/hr}$
4. Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.			

(a) During movement of ~~recently~~ irradiated fuel assemblies

During CORE ALTERATIONS.

(b) Equivalent to $1.0 \times 10^{-5} \mu\text{Ci/cc.}$

3

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CREVS)
ACTUATION INSTRUMENTATION

1. The type of Setpoint Control Program (Without Setpoint Control Program) and the Specification designator "A" are deleted since they are unnecessary. This information is provided in NUREG 1431, Rev. 4.0 to assist in identifying the appropriate Specification to be used as a model for the plant specific ITS conversion, but serves no purpose in the plant specific implementation. In addition, ISTS 3.3.7B (with Setpoint Control Program Specification) is not used and is not shown. Furthermore, the title of the Specification has been changed from "Control Room Emergency Filtration System (CREFS) Actuation Instrumentation" to "Control Room Emergency Ventilation System (CREVS) Actuation Instrumentation" since Sequoyah Nuclear Plant (SQN) does not have a CREFS.
2. The ISTS contains bracketed information and/or values that are generic to Westinghouse vintage plants. The brackets are removed and the proper plant specific information/value is inserted to reflect the current licensing basis.
3. Changes are made (additions, deletions, and/or changes) to the ISTS that reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.
4. ISTS SR 3.3.7.1, SR 3.3.7.2, ~~SR 3.3.7.5, SR 3.3.7.6, SR 3.3.7.7, SR 3.3.7.8, and SR 3.3.7.9~~ (ITS SR 3.3.7.1, SR 3.3.7.2, SR 3.3.7.3, ~~SR 3.3.7.4, SR 3.3.7.5, SR 3.3.7.6, and SR 3.3.7.7~~) provide two options for controlling the Frequencies of Surveillance Requirements. SQN is proposing to control the Surveillance Frequencies under the Surveillance Frequency Control Program. Additionally, the Frequency description which is being removed will be included in the Surveillance Frequency Control Program.
5. ~~The ACTUATION LOGIC TEST and MASTER RELAY TEST for SQN are processed through the Solid State Protection System. Since ISTS SR 3.3.7.5 and ISTS SR 3.3.7.6 are the appropriate Surveillance for the ACTUATION LOGIC TEST and MASTER RELAY TEST when they are processed through the Solid State Protection System, ISTS SR 3.3.7.3 and SR 3.3.7.4 have been deleted and the subsequent Surveillance Requirements have been renumbered.~~
6. The Reviewer's Note has been deleted. This information is for the NRC reviewer to be keyed into what is needed to meet this requirement. This Note is not meant to be retained in the final version of the plant specific submittal.

SII

Insert 1

MHC003

7. ISTS Table 3.3.7-1, Footnote (a) has been revised to state, "During movement of irradiated fuel assemblies, During CORE ALTERATIONS." ISTS 3.3.7A Condition D has been revised to state, "Required Action and associated Completion Time for Condition A or B not met during movement of irradiated fuel assemblies, or during CORE ALTERATIONS." ISTS 3.3.7A has been revised to add Required Action D.2 that states, "Suspend CORE ALTERATIONS," with an immediate Completion Time. CTS 3.3.3.1, Table 3.3-6, ACTION 29 requires, in part, the suspension of CORE ALTERATIONS if two channels of Process Monitors, Control Room Isolation Instrumentation are inoperable and one train of CREVS is not maintained in the recirculation mode of operation and the required Actions for one train of CREVS made inoperable by inoperable CREVS actuation instrumentation is not completed within 1 hour during the movement of irradiated fuel. ITS 3.3.7 has been revised to retain the CTS requirement to suspend CORE ALTERATIONS and specify the condition when the ACTION is applicable.

INSERT 1

SII

5. ISTS Table 3.3.7-1, Function 2 (Automatic Actuation Logic and Actuation Relays) and associated requirements have been deleted from ITS 3.3.7. The automatic actuation logic and actuation relays, at SQN, are processed through the Solid State Protection System and verified OPERABLE by surveillance testing required in ITS 3.3.2, ESFAS Instrumentation. Automatic isolation of the main control room associated with a high radiation signal from the Control Room Air Intake Radiation Monitors is not processed through the Solid State Protection System, and has no associated actuation logic, master relays, or slave relays. Therefore, ISTS SR 3.3.7.3, SR 3.3.7.4, SR 3.3.7.5, SR 3.3.7.6, and SR 3.3.7.7 have been deleted. Subsequent Surveillance Requirements and functions on Table 3.3.7-1 have been renumbered.

**Improved Standard Technical Specifications (ISTS) Bases
Markup and Bases Justification for Deviations (JFDs)**

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

B 3.3.7A

1

B 3.3 INSTRUMENTATION

B 3.3.7A Control Room Emergency ~~Filtration~~ System (CREFS) Actuation Instrumentation ~~(Without Setpoint Control Program)~~

1

BASES

BACKGROUND

The CREFS provides an enclosed control room environment from which the unit can be operated following an uncontrolled release of radioactivity. During normal operation, the ~~Auxiliary~~ Building Ventilation System provides control room ventilation. Upon receipt of an actuation signal, the CREFS initiates filtered ventilation and pressurization of the control room. This system is described in the Bases for LCO 3.7.10, "Control Room Emergency ~~Filtration~~ System."

The actuation instrumentation consists of redundant radiation monitors in the air intakes ~~s and control room area~~. A high radiation signal from any of ~~these~~ detectors will initiate both trains of the CREFS. The control room operator can also initiate CREFS trains by manual switches in the control room. The CREFS is also actuated by a safety injection (SI) signal. The SI Function is discussed in LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation."

APPLICABLE SAFETY ANALYSES

The control room must be kept habitable for the operators stationed there during accident recovery and post accident operations.

The CREFS acts to terminate the supply of unfiltered outside air to the control room, initiate filtration, and pressurize the control room. These actions are necessary to ensure the control room is kept habitable for the operators stationed there during accident recovery and post accident operations by minimizing the radiation exposure of control room personnel.

In MODES 1, 2, 3, and 4, the radiation monitor actuation of the CREFS is a backup for the SI signal actuation. This ensures initiation of the CREFS during a loss of coolant accident or ~~steam generator tube rupture~~.

The radiation monitor actuation of the CREFS in MODES 5 and 6, and during movement of ~~recently~~ irradiated fuel assemblies are the primary means to ensure control room habitability in the event of a fuel handling or ~~waste gas decay tank rupture~~ accident.

The CREFS actuation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

B 3.3.7A

1

BASES

LCO

The LCO requirements ensure that instrumentation necessary to initiate the CREFS is OPERABLE.

1

1. Manual Initiation

- V The LCO requires two channels OPERABLE. The operator can initiate the CREFS at any time by using either of two switches in the control room. This action will cause actuation of all components in the same manner as any of the automatic actuation signals.

1

The LCO for Manual Initiation ensures the proper amount of redundancy is maintained in the manual actuation circuitry to ensure the operator has manual initiation capability.

hand switch

Each channel consists of one ~~push button~~ and the interconnecting wiring to the actuation logic cabinet.

2

2. Automatic Actuation Logic and Actuation Relays

~~The LCO requires two trains of Actuation Logic and Relays OPERABLE to ensure that no single random failure can prevent automatic actuation.~~

5

- V ~~Automatic Actuation Logic and Actuation Relays consist of the same features and operate in the same manner as described for ESFAS Function 1.b., SI, in LCO 3.3.2. The applicable MODES and specified conditions for the CREFS portion of these functions are different and less restrictive than those specified for their SI roles. If one or more of the SI functions becomes inoperable in such a manner that only the CREFS function is affected, the Conditions applicable to their SI function need not be entered. The less restrictive Actions specified for inoperability of the CREFS Functions specify sufficient compensatory measures for this case.~~

+

+

+

SII

2 → 3. Control Room Radiation

5

The LCO specifies ~~two required Control Room Atmosphere Radiation Monitors and~~ two required Control Room Air Intake Radiation Monitors to ensure that the radiation monitoring instrumentation necessary to initiate the CREFS remains OPERABLE.

5

1

- S For sampling systems, channel OPERABILITY involves more than OPERABILITY of channel electronics. OPERABILITY ~~may also~~ require correct valve lineups, sample pump operation, ~~and filter motor operation, as well as detector OPERABILITY, if these supporting features are necessary for trip to occur under the conditions assumed by the safety analyses.~~ and

2

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

B 3.3.7A

1

BASES

LCO (continued)

SII

3

4. Safety Injection

5

Refer to LCO 3.3.2, Function 1, for all initiating Functions and requirements.

5, and 6,

APPLICABILITY

V

, and during CORE ALTERATIONS

MHC003

The CREFS Functions must be OPERABLE in MODES 1, 2, 3, 4, and during movement of ~~recently~~ irradiated fuel assemblies. ~~The Functions must also be OPERABLE in MODES [5 and 6] when required for a waste gas decay tank rupture accident,~~ to ensure a habitable environment for the control room operators.

1

4

2

5

The Applicability for the CREFS actuation on the ESFAS Safety Injection Functions are specified in LCO 3.3.2. Refer to the Bases for LCO 3.3.2 for discussion of the Safety Injection Function Applicability.

1

ACTIONS

The most common cause of channel inoperability is outright failure or drift of the ~~bistable or process module~~ sufficient to exceed the tolerance allowed by the unit specific calibration procedures. Typically, the drift is found to be small and results in a delay of actuation rather than a total loss of function. This determination is generally made during the performance of a COT, when the process instrumentation is set up for adjustment to bring it within specification. If the Trip Setpoint is less conservative than the tolerance specified by the calibration procedure, the channel must be declared inoperable immediately and the appropriate Condition entered.

2

A Note has been added to the ACTIONS indicating that separate Condition entry is allowed for each Function. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.7-1 in the accompanying LCO. The Completion Time(s) of the inoperable channel(s)/train(s) of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function.

A.1


V

Condition A applies to the actuation logic train Function of the CREFS, the radiation monitor channel Functions, and the manual channel Functions.

1

BASES

ACTIONS (continued)

If one train is inoperable, or one radiation monitor channel is inoperable in one or more Functions, 7 days are permitted to restore it to OPERABLE status. The 7 day Completion Time is the same as is allowed if one train of the mechanical portion of the system is inoperable. The basis for this Completion Time is the same as provided in LCO 3.7.10. If the  channel/train cannot be restored to OPERABLE status, one CREFS train must be placed in the **emergency radiation protection** mode of operation. This accomplishes the actuation instrumentation Function and places the unit in a conservative mode of operation.

recirculation

1

5

~~The Required Action for Condition A is modified by a Note that requires placing one CREFS train in the toxic gas protection mode instead of the [radiation protection] mode of operation if the automatic transfer to toxic gas protection mode is inoperable. This ensures the CREFS train is placed in the most conservative mode of operation relative to the OPERABILITY of the associated actuation instrumentation.~~

5

B.1.1, B.1.2, and B.2

Condition B applies to the failure of two CREFS actuation trains, two radiation monitor channels, or two manual channels. The first Required Action is to place one CREFS train in the **emergency [radiation protection]** mode of operation immediately. This accomplishes the actuation instrumentation Function that may have been lost and places the unit in a conservative mode of operation. The applicable Conditions and Required Actions of LCO 3.7.10 must also be entered for the CREFS train made inoperable by the inoperable actuation instrumentation. This ensures appropriate limits are placed upon train inoperability as discussed in the Bases for LCO 3.7.10.

recirculation



1

1

5

1

Alternatively, both trains may be placed in the **emergency [radiation protection]** mode. This ensures the CREFS function is performed even in the presence of a single failure.

recirculation



5

1

~~The Required Action for Condition B is modified by a Note that requires placing one CREFS train in the toxic gas protection mode instead of the [radiation protection] mode of operation if the automatic transfer to toxic gas protection mode is inoperable. This ensures the CREFS train is placed in the most conservative mode of operation relative to the OPERABILITY of the associated actuation instrumentation.~~

5

BASES

ACTIONS (continued)

C.1 and C.2

Condition C applies when the Required Action and associated Completion Time for Condition A or B have not been met and the unit is in MODE 1, 2, 3, or 4. The unit must be brought to a MODE in which the LCO requirements are not applicable. To achieve this status, the unit must be brought to MODE 3 within 6 hours and MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

D.1

and D.2

Condition D applies when the Required Action and associated Completion Time for Condition A or B have not been met when ~~recently~~ irradiated fuel assemblies are being moved. Movement of ~~recently~~ irradiated fuel assemblies must be suspended immediately to reduce the risk of accidents that would require CREFS actuation.

MHC003
or when CORE ALTERATIONS are being performed

and CORE ALTERATIONS

E.1

Condition E applies when the Required Action and associated Completion Time for Condition A or B have not been met in MODE 5 or 6. Actions must be initiated to restore the inoperable train(s) to OPERABLE status immediately to ensure adequate isolation capability in the event of a ~~waste gas decay tank rupture~~.

fuel handling accident

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that Table 3.3.7-1 determines which SRs apply to which CREFS Actuation Functions.

SR 3.3.7.1

Performance of the CHANNEL CHECK 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 two instrument channels could be an indication of excessive instrument drift in one of the channels or of 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.



BASES

SURVEILLANCE REQUIREMENTS (continued)

Agreement criteria are determined by the unit 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 sensor or the signal processing equipment has drifted outside its limit.

~~[The Frequency of 12 hours is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.~~

6

~~OR~~


The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

~~-----REVIEWER'S NOTE-----~~

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

7

SR 3.3.7.2

 A COT is performed on each required channel to ensure the entire channel will perform the intended function. This test verifies the capability of the instrumentation to provide the CREFS actuation. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable COT 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. There is a plant specific program which verifies that the instrument channel functions as required by verifying the as-left and as-found setting are consistent with those established by the setpoint methodology. ~~[The Frequency of 92 days is based on the known reliability of the monitoring equipment and has been shown to be acceptable through operating experience.~~

1

6

~~OR~~



BASES

SURVEILLANCE REQUIREMENTS (continued)

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REVIEWER'S NOTE

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

SR 3.3.7.3

~~SR 3.3.7.3 is the performance of an ACTUATION LOGIC TEST. The train being tested is placed in the bypass condition, thus preventing inadvertent actuation. Through the semiautomatic tester, all possible logic combinations, with and without applicable permissives, are tested for each protection function. In addition, the master relay coil is pulse tested for continuity. This verifies that the logic modules are OPERABLE and there is an intact voltage signal path to the master relay coils. [This test is performed every 31 days on a STAGGERED TEST BASIS. The Frequency is acceptable based on instrument reliability and industry operating experience.~~

OR

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

REVIEWER'S NOTE

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.7.4

~~SR 3.3.7.4 is the performance of a MASTER RELAY TEST. The MASTER RELAY TEST is the energizing of the master relay, verifying contact operation and a low voltage continuity check of the slave relay coil. Upon master relay contact operation, a low voltage is injected to the slave relay coil. This voltage is insufficient to pick up the slave relay, but large enough to demonstrate signal path continuity. [This test is performed every 31 days on a STAGGERED TEST BASIS. The Frequency is acceptable based on instrument reliability and industry operating experience.~~

~~OR~~

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

~~REVIEWER'S NOTE~~

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

SII

~~SR 3.3.7.5~~

~~SR 3.3.7.5 is the performance of an ACTUATION LOGIC TEST. The train being tested is placed in the bypass condition, thus preventing inadequate actuation. Through the semiautomatic tester, all possible logic combinations, with and without applicable permissives, are tested for each protection function. In addition, the master relay coil is pulse tested for continuity. This verifies that the logic modules are OPERABLE and there is an intact voltage signal path to the master relay coils. [This test is performed ever 92 days on a STAGGERED TEST BASIS. The Surveillance interval is justified in Reference 1.~~

~~OR~~

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

~~(Ref. 1)~~

~~KAB061~~

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

B 3.3.7A

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~REVIEWER'S NOTE~~

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

7

SII

~~The SR is modified by a Note stating that the Surveillance is only applicable to the actuation logic of the ESFAS Instrumentation.~~

2

~~[SR 3.3.7.6~~

2

5

~~SR 3.3.7.6 is the performance of a MASTER RELAY TEST. The MASTER RELAY TEST is the energizing of the master relay, verifying contact operation and a low voltage continuity check of the slave relay coil. Upon master relay contact operation, a low voltage is injected to the slave relay coil. This voltage is insufficient to pick up the slave relay, but large enough to demonstrate signal path continuity. [This test is performed every 92 days on a STAGGERED TEST BASIS. The Surveillance interval is justified in Reference 1.~~

6

OR

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

(Ref. 1)

KAB061

~~REVIEWER'S NOTE~~

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

7

~~The SR is modified by a Note stating that the Surveillance is only applicable to the master relays of the ESFAS Instrumentation.~~

2

2

BASES

SURVEILLANCE REQUIREMENTS (continued)

SII

~~SR 3.3.7.7~~

~~SR 3.3.7.7 is the performance of a SLAVE RELAY TEST. The SLAVE RELAY TEST is the energizing of the slave relays. Contact operation is verified in one of two ways. Actuation equipment that may be operated in the design mitigation MODE is either allowed to function or is placed in a condition where the relay contact operation can be verified without operation of the equipment. Actuation equipment that may not be operated in the design mitigation MODE is prevented from operation by the SLAVE RELAY TEST circuit. For this latter case, contact operation is verified by a continuity check of the circuit containing the slave relay. [This test is performed every [92] days. The Frequency is acceptable based on instrument reliability and industry operating experience.~~

OR

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

~~REVIEWER'S NOTE~~

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

SII

~~SR 3.3.7.8~~

SR 3.3.7.8 is the performance of a TADOT. This test is a check of the Manual Actuation Functions. Each Manual Actuation Function is tested up to, and including, the master relay coils. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT 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. In some instances, the test includes actuation of the end device (i.e., pump starts, valve cycles, etc.).

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

B 3.3.7A

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

The test also includes trip devices that provide actuation signals directly to the Solid State Protection System, bypassing the analog process control equipment. ~~[The Frequency of 18 months is based on the known reliability of the Function and the redundancy available, and has been shown to be acceptable through operating experience.~~

6

OR

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REVIEWER'S NOTE

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

7

The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions tested have no setpoints associated with them.

SII

Z

4

SR 3.3.7.9

5

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

There is a plant specific program which verifies that the instrument channel functions as required by verifying the as-left and as-found setting are consistent with those established by the setpoint methodology.

~~[The Frequency of 18 months is based on operating experience and is consistent with the typical industry refueling cycle.~~

6

OR

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

2

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

V

B 3.3.7A

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

REVIEWER'S NOTE

Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.

7

REFERENCES

1. ~~WCAP 15376, Rev. 0, October 2000.~~

None

5

stet

KAB061

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
B 3.3.7A

B 3.3 INSTRUMENTATION

B 3.3.7A Control Room Emergency Filtration System (CREFS) Actuation Instrumentation
~~(Without Setpoint Control Program)~~

BASES

BACKGROUND The CREFS provides an enclosed control room environment from which the unit can be operated following an uncontrolled release of radioactivity. During normal operation, the Auxiliary Building Ventilation System provides control room ventilation. Upon receipt of an actuation signal, the CREFS initiates filtered ventilation and pressurization of the control room. This system is described in the Bases for LCO 3.7.10, "Control Room Emergency Filtration System."

The actuation instrumentation consists of redundant radiation monitors in the air intakes ~~s and control room area~~. A high radiation signal from any of ~~these detectors~~ will initiate both trains of the CREFS. The control room operator can also initiate CREFS trains by manual switches in the control room. The CREFS is also actuated by a safety injection (SI) signal. The SI Function is discussed in LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation."

APPLICABLE SAFETY ANALYSES The control room must be kept habitable for the operators stationed there during accident recovery and post accident operations.

The CREFS acts to terminate the supply of unfiltered outside air to the control room, initiate filtration, and pressurize the control room. These actions are necessary to ensure the control room is kept habitable for the operators stationed there during accident recovery and post accident operations by minimizing the radiation exposure of control room personnel.

In MODES 1, 2, 3, and 4, the radiation monitor actuation of the CREFS is a backup for the SI signal actuation. This ensures initiation of the CREFS during a loss of coolant accident or ~~steam generator tube rupture~~.

The radiation monitor actuation of the CREFS in MODES 5 and 6, and during movement of ~~recently~~ irradiated fuel assemblies are the primary means to ensure control room habitability in the event of a fuel handling ~~or waste gas decay tank rupture~~ accident.

The CREFS actuation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

, and during CORE ALTERATIONS
MHC003

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

B 3.3.7A

1

BASES

LCO

The LCO requirements ensure that instrumentation necessary to initiate the CREFS is OPERABLE.

1

1. Manual Initiation

- V The LCO requires two channels OPERABLE. The operator can initiate the CREFS at any time by using either of two switches in the control room. This action will cause actuation of all components in the same manner as any of the automatic actuation signals.

1

The LCO for Manual Initiation ensures the proper amount of redundancy is maintained in the manual actuation circuitry to ensure the operator has manual initiation capability.

hand switch

Each channel consists of one ~~push button~~ and the interconnecting wiring to the actuation logic cabinet.

2

2. Automatic Actuation Logic and Actuation Relays

~~The LCO requires two trains of Actuation Logic and Relays OPERABLE to ensure that no single random failure can prevent automatic actuation.~~

SII

- V ~~Automatic Actuation Logic and Actuation Relays consist of the same features and operate in the same manner as described for ESFAS Function 1.b., SI, in LCO 3.3.2. The applicable MODES and specified conditions for the CREFS portion of these functions are different and less restrictive than those specified for their SI roles. If one or more of the SI functions becomes inoperable in such a manner that only the CREFS function is affected, the Conditions applicable to their SI function need not be entered. The less restrictive Actions specified for inoperability of the CREFS Functions specify sufficient compensatory measures for this case.~~

5

+

+

+

2

3. Control Room Radiation

5

The LCO specifies ~~two required Control Room Atmosphere Radiation Monitors and~~ two required Control Room Air Intake Radiation Monitors to ensure that the radiation monitoring instrumentation necessary to initiate the CREFS remains OPERABLE.

5

1

- S For sampling systems, channel OPERABILITY involves more than OPERABILITY of channel electronics. OPERABILITY may also require correct valve lineups, sample pump operation, and filter motor operation, as well as detector OPERABILITY, if these supporting features are necessary for trip to occur under the conditions assumed by the safety analyses.

and

2

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

B 3.3.7A

1

BASES

LCO (continued)

SII

3

4. Safety Injection

5

Refer to LCO 3.3.2, Function 1, for all initiating Functions and requirements.

5, and 6,

APPLICABILITY

V

, and during CORE ALTERATIONS

MHC003

The CREFS Functions must be OPERABLE in MODES 1, 2, 3, 4, and during movement of ~~recently~~ irradiated fuel assemblies. ~~The Functions must also be OPERABLE in MODES [5 and 6] when required for a waste gas decay tank rupture accident,~~ to ensure a habitable environment for the control room operators.

1

4

5

2

The Applicability for the CREFS actuation on the ESFAS Safety Injection Functions are specified in LCO 3.3.2. Refer to the Bases for LCO 3.3.2 for discussion of the Safety Injection Function Applicability.

1

ACTIONS

The most common cause of channel inoperability is outright failure or drift of the ~~bistable or process module~~ sufficient to exceed the tolerance allowed by the unit specific calibration procedures. Typically, the drift is found to be small and results in a delay of actuation rather than a total loss of function. This determination is generally made during the performance of a COT, when the process instrumentation is set up for adjustment to bring it within specification. If the Trip Setpoint is less conservative than the tolerance specified by the calibration procedure, the channel must be declared inoperable immediately and the appropriate Condition entered.

2

A Note has been added to the ACTIONS indicating that separate Condition entry is allowed for each Function. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.7-1 in the accompanying LCO. The Completion Time(s) of the inoperable channel(s)/train(s) of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function.

A.1

V


Condition A applies to the actuation logic train Function of the CREFS, the radiation monitor channel Functions, and the manual channel Functions.

1

2

BASES

ACTIONS (continued)

If one train is inoperable, or one radiation monitor channel is inoperable in one or more Functions, 7 days are permitted to restore it to OPERABLE status. The 7 day Completion Time is the same as is allowed if one train of the mechanical portion of the system is inoperable. The basis for this Completion Time is the same as provided in LCO 3.7.10. If the  channel/train cannot be restored to OPERABLE status, one CREFS train must be placed in the ~~emergency radiation protection~~ mode of operation. This accomplishes the actuation instrumentation Function and places the unit in a conservative mode of operation.

recirculation

1

5

~~The Required Action for Condition A is modified by a Note that requires placing one CREFS train in the toxic gas protection mode instead of the [radiation protection] mode of operation if the automatic transfer to toxic gas protection mode is inoperable. This ensures the CREFS train is placed in the most conservative mode of operation relative to the OPERABILITY of the associated actuation instrumentation.~~

5

B.1.1, B.1.2, and B.2

Condition B applies to the failure of two CREFS actuation trains, two radiation monitor channels, or two manual channels. The first Required Action is to place one CREFS train in the ~~emergency [radiation protection]~~ mode of operation immediately. This accomplishes the actuation instrumentation Function that may have been lost and places the unit in a conservative mode of operation. The applicable Conditions and Required Actions of LCO 3.7.10 must also be entered for the CREFS train made inoperable by the inoperable actuation instrumentation. This ensures appropriate limits are placed upon train inoperability as discussed in the Bases for LCO 3.7.10.

recirculation



1

1

5

1

Alternatively, both trains may be placed in the ~~emergency [radiation protection]~~ mode. This ensures the CREFS function is performed even in the presence of a single failure.

recirculation



5

1

~~The Required Action for Condition B is modified by a Note that requires placing one CREFS train in the toxic gas protection mode instead of the [radiation protection] mode of operation if the automatic transfer to toxic gas protection mode is inoperable. This ensures the CREFS train is placed in the most conservative mode of operation relative to the OPERABILITY of the associated actuation instrumentation.~~

5

BASES

ACTIONS (continued)

C.1 and C.2

Condition C applies when the Required Action and associated Completion Time for Condition A or B have not been met and the unit is in MODE 1, 2, 3, or 4. The unit must be brought to a MODE in which the LCO requirements are not applicable. To achieve this status, the unit must be brought to MODE 3 within 6 hours and MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

D.1

and D.2

Condition D applies when the Required Action and associated Completion Time for Condition A or B have not been met when ~~recently~~ irradiated fuel assemblies are being moved. Movement of ~~recently~~ irradiated fuel assemblies must be suspended immediately to reduce the risk of accidents that would require CREFS actuation.

E.1

Condition E applies when the Required Action and associated Completion Time for Condition A or B have not been met in MODE 5 or 6. Actions must be initiated to restore the inoperable train(s) to OPERABLE status immediately to ensure adequate isolation capability in the event of a ~~waste gas decay tank rupture~~.

fuel handling accident

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that Table 3.3.7-1 determines which SRs apply to which CREFS Actuation Functions.

SR 3.3.7.1

Performance of the CHANNEL CHECK 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 two instrument channels could be an indication of excessive instrument drift in one of the channels or of 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.



BASES

SURVEILLANCE REQUIREMENTS (continued)

Agreement criteria are determined by the unit 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 sensor or the signal processing equipment has drifted outside its limit.

~~[The Frequency of 12 hours is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.~~

6

~~OR~~

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

~~-----REVIEWER'S NOTE-----~~

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

7

SR 3.3.7.2

~~[~~ A COT is performed on each required channel to ensure the entire channel will perform the intended function. This test verifies the capability of the instrumentation to provide the CREFS actuation. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable COT 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. There is a plant specific program which verifies that the instrument channel functions as required by verifying the as-left and as-found setting are consistent with those established by the setpoint methodology. ~~[The Frequency of 92 days is based on the known reliability of the monitoring equipment and has been shown to be acceptable through operating experience.~~

1

6

~~OR~~



BASES

SURVEILLANCE REQUIREMENTS (continued)

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REVIEWER'S NOTE

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

SR 3.3.7.3

~~SR 3.3.7.3 is the performance of an ACTUATION LOGIC TEST. The train being tested is placed in the bypass condition, thus preventing inadvertent actuation. Through the semiautomatic tester, all possible logic combinations, with and without applicable permissives, are tested for each protection function. In addition, the master relay coil is pulse tested for continuity. This verifies that the logic modules are OPERABLE and there is an intact voltage signal path to the master relay coils. [This test is performed every 31 days on a STAGGERED TEST BASIS. The Frequency is acceptable based on instrument reliability and industry operating experience.~~

OR

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

REVIEWER'S NOTE

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~SR 3.3.7.4~~

~~SR 3.3.7.4 is the performance of a MASTER RELAY TEST. The MASTER RELAY TEST is the energizing of the master relay, verifying contact operation and a low voltage continuity check of the slave relay coil. Upon master relay contact operation, a low voltage is injected to the slave relay coil. This voltage is insufficient to pick up the slave relay, but large enough to demonstrate signal path continuity. [This test is performed every 31 days on a STAGGERED TEST BASIS. The Frequency is acceptable based on instrument reliability and industry operating experience.~~

~~OR~~

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

~~REVIEWER'S NOTE~~

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

SII

~~SR 3.3.7.5~~

~~SR 3.3.7.5 is the performance of an ACTUATION LOGIC TEST. The train being tested is placed in the bypass condition, thus preventing inadequate actuation. Through the semiautomatic tester, all possible logic combinations, with and without applicable permissives, are tested for each protection function. In addition, the master relay coil is pulse tested for continuity. This verifies that the logic modules are OPERABLE and there is an intact voltage signal path to the master relay coils. [This test is performed ever 92 days on a STAGGERED TEST BASIS. The Surveillance interval is justified in Reference 1.~~

~~OR~~

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

~~(Ref. 1)~~

~~KAB001~~

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

B 3.3.7A

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~REVIEWER'S NOTE~~

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

7

~~The SR is modified by a Note stating that the Surveillance is only applicable to the actuation logic of the ESFAS Instrumentation.~~

2

SII

~~[SR 3.3.7.6~~

2

5

~~SR 3.3.7.6 is the performance of a MASTER RELAY TEST. The MASTER RELAY TEST is the energizing of the master relay, verifying contact operation and a low voltage continuity check of the slave relay coil. Upon master relay contact operation, a low voltage is injected to the slave relay coil. This voltage is insufficient to pick up the slave relay, but large enough to demonstrate signal path continuity. [This test is performed every 92 days on a STAGGERED TEST BASIS. The Surveillance interval is justified in Reference 1.~~

6

OR

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

(Ref. 1)

KAB061

~~REVIEWER'S NOTE~~

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

7

~~The SR is modified by a Note stating that the Surveillance is only applicable to the master relays of the ESFAS Instrumentation.~~

2

2

BASES

SURVEILLANCE REQUIREMENTS (continued)

SII

~~SR 3.3.7.7~~

~~SR 3.3.7.7 is the performance of a SLAVE RELAY TEST. The SLAVE RELAY TEST is the energizing of the slave relays. Contact operation is verified in one of two ways. Actuation equipment that may be operated in the design mitigation MODE is either allowed to function or is placed in a condition where the relay contact operation can be verified without operation of the equipment. Actuation equipment that may not be operated in the design mitigation MODE is prevented from operation by the SLAVE RELAY TEST circuit. For this latter case, contact operation is verified by a continuity check of the circuit containing the slave relay. [This test is performed every [92] days. The Frequency is acceptable based on instrument reliability and industry operating experience.~~

OR

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

REVIEWER'S NOTE

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

SII

~~SR 3.3.7.8~~

SR 3.3.7.8 is the performance of a TADOT. This test is a check of the Manual Actuation Functions. Each Manual Actuation Function is tested up to, and including, the master relay coils. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT 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. In some instances, the test includes actuation of the end device (i.e., pump starts, valve cycles, etc.).

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~

B 3.3.7A

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

The test also includes trip devices that provide actuation signals directly to the Solid State Protection System, bypassing the analog process control equipment. ~~[The Frequency of 18 months is based on the known reliability of the Function and the redundancy available, and has been shown to be acceptable through operating experience.~~

6

OR

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REVIEWER'S NOTE

~~Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.~~

7

The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions tested have no setpoints associated with them.

Z

4

SII

SR 3.3.7.9

5

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

There is a plant specific program which verifies that the instrument channel functions as required by verifying the as-left and as-found setting are consistent with those established by the setpoint methodology.

~~[The Frequency of 18 months is based on operating experience and is consistent with the typical industry refueling cycle.~~

6

OR

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

2

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
B 3.3.7A

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

REVIEWER'S NOTE
Plants controlling Surveillance Frequencies under a Surveillance
Frequency Control Program should utilize the appropriate Frequency
description, given above, and the appropriate choice of Frequency in the
Surveillance Requirement.

7

REFERENCES

1. ~~WCAP-15376, Rev. 0, October 2000.~~

None

5

stet

KAB061

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.7 BASES, CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CREVS)
ACTUATION INSTRUMENTATION

1. The type of Setpoint Control Program (Without Setpoint Control Program) and the Specification designator "A" are deleted since they are unnecessary. This information is provided in NUREG 1431, Rev. 4.0 to assist in identifying the appropriate Specification to be used as a model for the plant specific ITS conversion, but serves no purpose in the plant specific implementation. In addition, ISTS B 3.3.7B (with Setpoint Control Program Specification) is not used and is not shown. Furthermore, the title of the Specification has been changed from "Control Room Emergency Filtration System (CREFS) Actuation Instrumentation" to "Control Room Emergency Ventilation System (CREVS) Actuation Instrumentation" since Sequoyah Nuclear Plant (SQN) does not have a CREFS.
2. Changes are made (additions, deletions, and/or changes) to the ISTS Bases that reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.
3. Changes are made to be consistent with changes made to other Specifications.
4. The ISTS contains bracketed information and/or values that are generic to Westinghouse vintage plants. The brackets are removed and the proper plant specific information/value is inserted to reflect the current licensing basis.
5. Changes are made to be consistent with changes made to the Specification.
6. ISTS SR 3.3.7.1, SR 3.3.7.2, ~~SR 3.3.7.5, SR 3.3.7.6, SR 3.3.7.7~~, SR 3.3.7.8, and SR 3.3.7.9 Bases provide two options for controlling the Frequencies of Surveillance Requirements. SQN is proposing to control the Surveillance Frequencies under the Surveillance Frequency Control Program. Additionally, the Frequency description which is being removed will be included in the Surveillance Frequency Control Program.
7. The Reviewer's Note has been deleted. This information is for the NRC reviewer to be keyed into what is needed to meet this requirement. This Note is not meant to be retained in the final version of the plant specific submittal.

SII

Specific No Significant Hazards Considerations (NSHCs)

**DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CREVS)
ACTUATION INSTRUMENTATION**

There are no specific No Significant Hazards Considerations for this Specification.

ENCLOSURE 2

**TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2**

SQN Self-Identified Issue

Enclosure 2

SQN Self Identified Issue

During the NRC staff's review process, the staff had multiple requests for additional information (RAIs). In order to provide responses to the RAIs, SQN staff reviewed the SQN ITS conversion numerous times. As a result of the review, an issue was identified by SQN requiring revisions to the originally submitted ITS LAR. The table below provides information concerning the justification for the required revisions, the ITS section affected by the required revisions, and the location in the original LAR where the revisions occur.

Justification	Section	Page #
ITS Section 3.3.7 contains Function 2, Automatic Actuation Logic and Actuation Relays for the Control Room Emergency Ventilation Actuation Instrumentation. The automatic actuation logic and actuation relays (master and slave relays) are verified by surveillance testing required in ITS 3.3.2, ESFAS Instrumentation. Automatic isolation of the main control room associated with the high radiation signal from the Control Room Air Intake Radiation Monitors has no associated actuation logic, master or slave relays, therefore Function 2 and the associated requirements have been deleted. JFD 5 has been revised to describe the change to ISTS. The 3.3.7 Bases have been revised to delete Function 2 and its associated requirements.	ITS 3.3.7 (Units 1 & 2)	Enclosure 2, Volume 8, pages 970, 972, 974, 976-980, 982, 988-991, 995-999a, 1002-1003, 1008-1011, 1014-1015, 1020-1023, and 1025 of 1148