KAB-066

BASES

SURVEILLANCE REQUIREMENTS	SR 3.9.8.1 Prior to CORE ALTERATIONS, the reactor must be determined to be subcritical for greater than or equal to 100 hours by verifying the date and time that the reactor achieved subcritical conditions.
REFERENCES	1. UFSAR, Section 15.5.6.

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INSERT 4 (continued)

KAB-066

B 3.9 REFUELING OPERATIONS

B 3.9.8 Decay Time

BASES

BACKGROUND	The primary purpose of the decay time requirement is to ensure that the fission product inventories assumed in the fuel handling accident analysis are met. As soon as the reactor is subcritical, the quantity of fission products in the core decreases as the fission products undergo natural radioactive decay. As long as the reactor remains subcritical, this decrease will continue and the radiation levels will also decrease.
APPLICABLE SAFETY ANALYSES	The fuel handling accident is the postulated event of concern in MODE 6 during fuel handling operations (Ref. 1). It establishes the minimum decay time. It is assumed that all of the fuel rods in the equivalent of one fuel assembly are damaged to the extent that all the gap activity in the rods is released. The damaged fuel assembly is assumed to be the assembly with the highest fission product inventory. The fission product inventories are those assumed to be present 100 hours after the reactor becomes subcritical. The decay time satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii).
LCO	The LCO requires that the reactor be subcritical for at least 100 hours prior to commencing CORE ALTERATIONS. The requirement to be subcritical for greater than or equal to 100 hours ensures that the fission product radioactivity has undergone natural radioactive decay and that the consequences of a fuel handling accident will be within the bounds of the safety analysis.
APPLICABILITY	This LCO applies during CORE ALTERATIONS, since the potential for a release of fission products exists.
ACTIONS	A.1 With the reactor subcritical for less than 100 hours, there shall be no operations involving CORE ALTERATIONS. This will preclude a fuel handling accident with fuel containing more fission product radioactivity than assumed in the safety analysis. The immediate Completion Time is consistent with the required times for actions to be performed without delay and in a controlled manner.

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KAB-066

BASES

SURVEILLANCE REQUIREMENTS	SR 3.9.8.1 Prior to CORE ALTERATIONS, the reactor must be determined to be subcritical for greater than or equal to 100 hours by verifying the date and time that the reactor achieved subcritical conditions.
REFERENCES	1. UFSAR, Section 15.5.6.

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INSERT 4 (continued)

KAB066

JUSTIFICATION FOR DEVIATIONS
ITS 3.9.8 BASES, DECAY TIME

1. None.

Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS

ITS 3.9.8 **~~CTS 3/4.9.3~~, DECAY TIME**

KAB-066

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 Issues

Enclosure 2
SQN Self Identified Issues

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, several issues were identified by SQN requiring revisions to the originally submitted ITS LAR. The table below provides information concerning justifications for the required revisions, ITS sections affected by the required revisions, and the location in the original LAR where the revisions occur.

Justification	Section	Page #
CTS Section 3.3.1 Reactor Trip System Instrumentation, Table 4.3-1 added surveillances to the overtemperature ΔT function to verify the f(ΔI) input, however, the overpower ΔT function also contains an f(ΔI) input. Therefore, ITS Table 3.3.1-1 Function 7 will require performance of SR 3.3.1.3 and SR 3.3.1.6 to verify the f(ΔI) input to the overpower ΔT function. Associated changes were made to DOC A18 and M18. The ASA, SR 3.3.1.3, and 3.3.1.6 Bases sections for ITS 3.3.1 Reactor Trip Instrumentation were also changed. JFD 2 indicators, JFD 15 and corresponding indicators were added to describe the change to ISTS.	ITS 3.3.1 (Units 1 & 2)	Enclosure 2, Volume 8, pages 15, 39, 61, 73, 118, 150, 163, 186, 226, 228, 264, 304, and 306 of 1148
CTS Section 2.2.1 Reactor Trip System Instrumentation Setpoints, Table 2.2-1 overtemperature ΔT and overpower ΔT formulas with certain variables/constants were originally proposed for relocation to the COLR and discussed in DOC LA09. These variables/constants will be retained in ITS 3.3.1, Table 3.3.1-1 as part of the Note 1 and 2 formulas. Associated changes were made to add JFD 3 indicators and delete DOC LA09 and related indicators. This change maintains CTS.	ITS 3.3.1 (Unit 1 & 2)	Enclosure 2, Volume 8, pages 23-26, 48-50, 80-81, 125, 127, 157, and 159 of 1148
Added clarifying information found in the ITS 3.3.2 Bases for the Actions section to ITS 3.3.1 Bases associated with Required Channels in Table 3.3.1-1 specified on a "per" basis.	ITS 3.3.1 Bases (Unit 1 & 2)	Enclosure 2, Volume 8, pages 205 and 283 of 1148

Enclosure 2
SQN Self Identified Issues

Correction to ITS 3.3.1 ASA, LCO, Applicability Bases to move the word “and” in the “P-6” bulleted list and added JFD 2 indicators. - Editorial	ITS 3.3.1 Bases (Unit 1 & 2)	Enclosure 2, Volume 8, pages 199 and 277 of 1148
Correction to DOC L01 to reference the correct ITS LCO number. - Editorial	ITS 3.7.5 (DOC L01)	Enclosure 2, Volume 12, page 152 of 704
Correction to DOC L01 to add the word “for.” - Editorial	ITS 3.7.7 (DOC L01)	Enclosure 2, Volume 12, page 235 of 704
Correction to DOC A03. - Editorial	ITS 3.7.8 (DOC A03)	Enclosure 2, Volume 12, page 264 of 704
Correction to ITS 3.7.8 Bases to replace the word “decay” with “residual” and the word “train” with “loop.” - Editorial	ITS 3.7.8 Bases (Unit 1 & 2)	Enclosure 2, Volume 12, pages 278 and 285 of 704
Correction to ITS SR 3.7.13.1 Bases to reference the correct SR for refueling canal level. Modified Bases Insert 2 to reflect CLB for the FHA.	ITS 3.7.13 Bases (Unit 1 & 2)	Enclosure 2, Volume 12, pages 518, 518a, 521, and 521a of 704
Revised CTS/ITS markups to delete addition of ITS SR 3.8.1.9 Note 2, ITS SR 3.8.1.10 Note 1, and ITS SR 3.8.1.14 Note 2. DOC M04 and JFD 9 revised to reflect Note deletions. Corresponding changes made to ITS 3.8.1 Bases. This change maintains CTS.	ITS 3.8.1 (Unit 1 & 2)	Enclosure 2, Volume 13, pages 9, 10, 17, 18, 26, 61, 62, 66, 85, 86, 90, 95, 96, 130, 132, 139, 180, 182, and 189 of 638
Corrected JFD 7 and associated indicators added in RAI VKG026 Response Attachment 2 to JFD 10.	ITS 3.8.1 (Unit 1 & 2)	Enclosure 2, Volume 13, pages 47, 51, 71, 75 and 96 of 638
Correction to DOC M01 to reference the correct CTS number. - Editorial	ITS 3.8.6 (DOC M01)	Enclosure 2, Volume 13, page 423 of 638
Correction to ITS 3.9.3 ACTIONS A.1 and A.2 Bases to keep the word “and” in the second sentence. - Editorial	ITS 3.9.3 Bases (Unit 1 & Unit 2)	Enclosure 2, Volume 14, pages 90 and 96 of 236
Correction to DOC L01 changing the Note 1 time from one hour to 15 minutes to match the changes made to the ITS LCO 3.9.6. - Editorial	ITS 3.9.6 (DOC L01)	Enclosure 2, Volume 14, page 184 of 236

ENCLOSURE 3

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

SQN ITS Conversion RAI Database

ITS NRC Questions

Id	**193**
NRC Question Number	**KAB069**
Category	**Technical**
ITS Section	**AST**
ITS Number	
DOC Number	
JFD Number	
JFD Bases Number	
Page Number(s)	
NRC Reviewer Supervisor	**Roger Pederson**
Technical Branch POC	**Mark Blumberg**
Conf Call Requested	**N**

NRC Question

RAI ARCB2-4 (in response to KAB-044)

The proposed change modifies the operability requirements of the Auxiliary Building Gas Treatment System (ABGTS) actuation instrumentation (ITS 3.3.8) and the ABGTS (ITS 3.7.12). Section 9.4.2.2.1 of the Updated Final Safety Analysis (UFSAR) states that the Auxiliary Building ventilation system is designed to limit the release of radioactivity to the environment during all weather conditions. Section 6.2.3.1.3 of the UFSAR states that the design basis of the ABGTS is to reduce the concentration of radioactive nuclides in air releases from the Auxiliary Building Secondary Containment Enclosures (ABSCE) to the environs during accidents to levels sufficiently low to keep the site boundary dose rate below the 10 CFR 100 guideline value [10 CFR 50.67 for the FHA].

The proposed technical specification changes allow the ABGTS actuation instrumentation and ABGTS to be inoperable and therefore, there are no technical specification controls to assure that the systems will function. The FHA analysis should consider whether operation of or failure to operate these systems could create a more limiting release point than the auxiliary building exhaust assumed in Calculation LTR-CRA-02-219, Revision 1. The operation of the non-safety related auxiliary building ventilation system is not credible in the accident analysis and cannot be assumed to maintain negative pressure in the auxiliary building and route airborne releases through the auxiliary building exhaust. The flow can no longer assume to occur into the building and the leakage can occur from

openings in the ABSCE.

Please justify that the assumed release point from the ABSCE exhaust is the limiting release point for offsite and control room doses or provide the limiting atmospheric dispersion factor (X/Q value) for the release from a FHA from the ABSCE. If a revised limiting X/Q value is provided, please update the doses analysis in Calculation LTR-CRA-02-219 to utilize the revised X/Q value.

Attach File 1	
Attach File 2	
Issue Date	**9/30/2014**
Added By	**Khadijah Hemphill**
Date Modified	
Modified By	
Date Added	**9/30/2014 4:05 PM**
Notification	**Mark Blumberg Scott Bowman Kristy Bucholtz Michelle Conner Khadijah Hemphill Andrew Hon Lynn Mynatt Ray Schiele Roger Scott**

Licensee Response/NRC Response/NRC Question Closure

Id	**414**
NRC Question Number	**KAB069**
Select Application	**Licensee Response**
Attachment 1	
Attachment 2	
Response Statement	**In response to KAB-069, "Sequoyah Nuclear Plants, Units 1 and 2 Technical Specifications Conversion to NUREG-1431, Rev 4.0 (SQN-TS-11-10) – Supplement 1" (ADAMS Accession No. ML14350B364), was submitted to the NRC for review on December 16, 2014. Attachment 1 of the supplement, "LTR-CRA-02-219, Revision 2: Radiological Consequences of Fuel Handling Accidents for the Sequoyah Nuclear Plant Units 1 and 2," provided a copy of the revised Westinghouse report transmitting the updated Sequoyah Nuclear Plant (SQN) radiological consequences analysis associated with a design basis fuel handling accident (FHA). The analysis indicated that the Auxiliary Building (AB) vent stack is the limiting release point in evaluating the radiological consequences to personnel in the main control room (MCR) following a design basis FHA. Paragraph 2.3, "Results", of the SQN FHA analysis establishes that an FHA inside containment and an FHA in the AB have the same offsite dose since the accident occurring in these different locations does not change the amount of activity released over the two-hour period. Attachment 2 of the supplement, "Fauske Report No. FAI/14-0989, Revision 2: Calculation of Atmospheric Dispersion Factors for Sequoyah Nuclear Plant," provided the calculation of the atmospheric dispersion (χ/Q) value for the AB vent stack source location used in calculating the radiological consequences to personnel in the MCR following a design basis FHA.** **Although previous revisions of LTR-CRA-02-219 assumed the SQN AB vent stack as the point source radioactivity release, the MCR χ/Q value cited was based on a point release from the Unit 2 main steam valve vault. Therefore, the MCR χ/Q value for the 0-2 hour release for a design basis FHA was increased from 1.80E−3 sec/m^3 to 2.56E−3 sec/m^3 to accurately reflect the MCR χ/Q value associated with a radioactivity release from the AB vent stack.**

Because the resulting χ/Q was determined to be higher at the MCR normal intake location than the MCR emergency intake location, the MCR normal intake is considered the limiting receptor location even though the Control Room Emergency Ventilation System (CREVS) is assumed to be in service within 5 minutes following event initiation.

In the AB, there are two HVAC systems that can take suction from the fuel handling area. During normal fuel handling operation, a fuel handling area exhaust fan is in operation and provides an unfiltered exhaust via the AB stack. If the Auxiliary Building Gas Treatment System (ABGTS) is in operation, the normal ventilation flow path via the AB stack is isolated and ABGTS would provide a filtered exhaust via the Shield Building (SB) vent. However, with no ABGTS in operation, the release point for the FHA in the AB would be the unfiltered exhaust via the AB stack. The MCR χ/Q value for the AB stack is more conservative than the MCR χ/Q value for the SB stack because the distance between the AB stack and the MCR intakes is shorter than the distance between the SB vent and the MCR intakes. Therefore the normal ventilation system flow path exhausting via the AB stack is considered the bounding assumption when HVAC is in operation.

With no HVAC in operation, the normal ventilation exhaust flow path via the AB stack is isolated by dampers that fail closed on loss of power or on loss air. The FHA analysis takes no credit for the operation of ABGTS, therefore, the flow path for ABGTS filtered exhaust via the SB vent is assumed to be inoperable and isolated. Therefore, with no HVAC in operation there is no motive force for the dispersion of radioactive material. The most significant penetration in the AB from the fuel handling area to the outside atmosphere is the railroad bay door. A radiological release from the railroad bay door is farther away from either of the MCR intakes than the AB stack and thus the radiological consequences to the MCR are bounded by a release from the AB stack. Other potential exhaust points in the AB that are closer than the AB stack to either MCR intake are in the 480V transformer rooms and the 125V battery rooms. These rooms contain power roof exhausters. However, the radioactive material would need to travel through several rooms in order to be exhausted to the outside atmosphere. Additionally, these potential release pathways have multiple barriers (i.e. fire doors) that are normally closed and controlled. With no active motive force and with controlled barriers in place requiring additional controls to breech, these

potential release pathways are effectively restricted. Therefore, with no HVAC in operation, there is no credible release pathway that produces a higher MCR dose consequence as compared to the AB vent release point.

Response Date/Time	**1/2/2015 9:45 PM**
Closure Statement	
Question Closure Date	
Notification	**Mark Blumberg Scott Bowman Kristy Bucholtz Margaret Chernoff Michelle Conner Robert Elliott Ravinder Grover Matthew Hardgrove Khadijah Hemphill Andrew Hon Lynn Mynatt Amrit Patel Ray Schiele**
Added By	**Michelle Conner**
Date Added	**1/2/2015 8:46 PM**
Date Modified	
Modified By	

Licensee Response/NRC Response/NRC Question Closure

Id	**429**
NRC Question Number	**KAB069**
Select Application	**Licensee Response**
Attachment 1	**Attachment 1 for Amended Response.pdf** (1MB)
Attachment 2	
Response Statement	

Based on discussions held during a public meeting with NRC Staff on January 15, 2015, concerning TVA's response to RAI KAB069, posted on January 2, 2015, TVA will supplement the response to RAI KAB069. Specifically, ITS 3.3.8, Auxiliary Building Gas Treatment System (ABGTS) Actuation Instrumentation and ITS 3.7.12, ABGTS will be revised as follows:

The Mode of Applicability for ITS 3.3.8 and ITS 3.7.12 will be revised. For ITS 3.3.8 the Mode of Applicability for ITS Table 3.3.8-1, Function 1 (Spent Fuel Pool Radiation Monitor) will be revised from "During movement of recently irradiated fuel assemblies in the auxiliary building," to "With fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies." For ITS 3.7.12 the Mode of Applicability will be revised from, "MODES 1, 2, 3, and 4, During movement of recently irradiated fuel assemblies in the auxiliary building," to "MODES 1, 2, 3, and 4, During movement of irradiated fuel assemblies, With fuel stored in the spent fuel pool." This change is made to ensure that ABGTS will be OPERABLE during all MODES that could involve an accident associated with an irradiated fuel assembly. The associated Discussion of Changes (DOCs), Justification for Deviations (JFDs), Bases and CTS and ISTS markups will be revised to reflect these changes. (Enclosure 2, Volume 8, pages 1031, 1033, 1035, 1037, 1041-1044, 1050, 1055-1056, 1062, 1064, 1073 and 1075) (Enclosure 2, Volume 12, pages 429, 433, 435-436, 438-440, 443, 446-448, 450, 452-454, 456, 458, 460, 462-464, 466-467, 469-475, 477-478, and 480-481)

ISTS Table 3.3.8-1, Function 1, Manual Initiation, will be deleted from ITS Table 3.3.8-1 along with the corresponding Surveillance Requirement. CTS 3.3.3.1 does not require Manual

Initiation. The associated DOCs, JFDs, Bases and CTS and ISTS markups will be revised to reflect these changes. (Enclosure 2, Volume 8, pages 1031-1040, 1043, 1048-1050, 1053-1056, 1060-1061, 1063, 1066-1067, 1071-1072, 1074, 1077-1078 and 1080)

ITS 3.3.8 ACTION A which requires placing one train of ABGTS in service within 7 days if one manual initiation channel is inoperable will be revised. The revised ITS 3.3.8 ACTION A will require adjusting the trip setpoint to within limit within 4 hours if the required radiation monitoring channel is inoperable due to the trip setpoint not within limit. This change reflects, in part, CTS 3.3.3.1, Action a. Additionally, ITS ACTION B which requires, in part, immediately placing one train of ABGTS in operation if two manual initiation channels or one required radiation monitoring channel is inoperable will be revised. ITS 3.3.8 ACTION B will require immediate entry into the applicable Conditions and Required Actions of ITS LCO 3.7.12 if one required radiation monitoring channel is inoperable for reasons other than Condition A or the Required Actions and associated Completion Time of Condition A is not met. ITS LCO 3.7.12 provides the necessary compensatory actions to stop activities that could result in a fuel handling accident. The associated DOCs, JFDs, Bases and CTS and ISTS markups will be revised to reflect these changes. (Enclosure 2, Volume 8, pages 1030, 1032, 1034, 1036, 1039, 1046-1047, 1051-1052, 1056, 1063-1064 and 1074-1075)

ISTS 3.7.13 does not provide a Condition or Required Action to address fuel stored in the spent fuel pool without an OPERABLE train of ABGTS. CTS 3.9.12, Action a, requires, in part, suspending crane operation with loads over the spent fuel pit with no ABGTS train OPERABLE and irradiated fuel is in the storage pool. Therefore, ITS 3.7.12, ACTION E will be added to immediately suspend all crane operation with loads over the spent fuel pool with the required train of ABGTS inoperable. Retention of CTS 3.9.12, Action a, will ensure that during conditions when there is no ABGTS train OPERABLE, actions are taken to stop activities that could result in a fuel handling accident involving fuel stored in the spent fuel pool. A Note is added to ITS 3.7.12 Condition E that allows crane operation associated with the main hoist on the auxiliary building crane to continue. The associated DOCs, JFDs, Bases and CTS and ISTS markups will be revised to reflect these changes.

(Enclosure 2, Volume 12, pages 429, 433, 436, 444, 448, 454, 458, 466-467 and 477-478)

The Bases for ITS 3.3.8 and ITS 3.7.12 will be revised to address the extension of the auxiliary building secondary containment enclosure (ABSCE) boundary to include the Shield Building and Containment Building during the plant operational situations when the containment building is open to the auxiliary building (i.e., during refueling outages with an open equipment hatch). The Bases and ITS markups will be revised to reflect these changes. (Enclosure 2, Volume 8, pages 1058, 1062, 1069, 1073) (Enclosure 2, Volume 12, pages 461 and 472)

This supplemental response will ensure that ABGTS is OPERABLE for all conditions that would require the ABSCE boundary to be intact. The ABSCE boundary is required to ensure that for any fuel handling accident (FHA), the subsequent release of radioactive material does not exceed the main control room dose calculated in Revision 2 of the Radiological Consequences of FHA for the Sequoyah Nuclear Plants Units 1 and 2, LTR-CRA-02-219.

Attachment 1 contains the draft revised changes to the ITS submittal.

Response Date/Time	**2/25/2015 2:35 PM**
Closure Statement	
Question Closure Date	
Notification	**Mark Blumberg** **Scott Bowman** **Kristy Bucholtz** **Michelle Conner** **Khadijah Hemphill** **Andrew Hon** **Lynn Mynatt** **Roger Scott**
Added By	**Scott Bowman**
Date Added	**2/25/2015 1:36 PM**
Date Modified	
Modified By	

ITS

A01

ITS 3.3.8

3/4.3.3 MONITORING INSTRUMENTATION

Auxiliary Building Gas Treatment System (ABGTS) ACTUATION

A02

~~RADIATION MONITORING~~ INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

Auxiliary Building Gas Treatment System (ABGTS) actuation

A02

LCO 3.3.8

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.

ACTION:

STET

inoperable due to

Action A

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.~~

M01

ACTION B

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

ACTIONS Note ~~1~~

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

ABGTS 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)

M02

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ITS A01 ITS 3.3.8

Table 3.3.8-1

TABLE 3.3-6

Auxiliary Building Gas Treatment System (ABGTS) A02

~~RADIATION MONITORING~~ INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	~~MEASUREMENT RANGE~~	ACTION
~~Add proposed Table 3.3.8-1 Function 1~~ M03					
1. AREA MONITOR					
Function ~~2~~ 1 a. Fuel ~~Storage~~ Spent Pool Area	1 (b)	*	≤ 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

A01 LA01 M04

See ITS 3.3.6

See ITS 3.4.15

See ITS 3.3.7

Add proposed Table 3.3.8-1 Function ~~3~~ 2 M05

Add proposed Table 3.3.8-1 Footnote (b) M04

Applicability * ~~With fuel in the storage pool or building~~

~~During movement of recently irradiated fuel assemblies in the auxiliary building~~ ~~L01~~

** Equivalent to 1.0 x 10^{-5} μCi/cc.

See ITS 3.3.7

With fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies M08

TABLE 3.3-6 (Continued)

ACTION STATEMENTS

~~Add proposed ACTION Note 2~~ ~~A03~~

Add proposed ACTION B M06

ACTION B 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.~~

~~Add proposed ACTION C for Function 2~~ ~~M07~~

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 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.

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.

Or

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

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.

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

See ITS 3.3.7

~~Add proposed ACTIONS A, B, C, and D for Function 1~~ ~~M03~~

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A01

ITS — ITS 3.3.8

Table 3.3.8-1

TABLE 4.3-3

Auxiliary Building Gas Treatment System (ABGTS) — A02

~~RADIATION MONITORING~~ INSTRUMENTATION SURVEILLANCE REQUIREMENTS

COT — M02

~~Add proposed SR 3.3.8.3 for Table 3.3.8-1 Function 1 at a Frequency of 18 months~~ — ~~M03~~

In accordance with the Surveillance Frequency Control Program — LA02

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	~~CHANNEL FUNCTIONAL TEST~~	MODES FOR WHICH SURVEILLANCE REQUIRED
1. AREA MONITOR				
Function ~~2~~ 1 a. Fuel ~~Storage~~ Spent Pool Area	~~S~~ SR 3.3.8.1	~~R~~ SR 3.3.8.~~4~~ 3	~~Q~~ SR 3.3.8.2	*
2. PROCESS MONITORS				
a. Containment Purge Air Exhaust	S	R	Q	1, 2, 3, 4 & 6
b. Containment				
i. Deleted				
ii. Particulate Activity				
RCS Leakage Detection	S	R	Q	1, 2, 3, & 4
c. Control Room Isolation	S	R	Q	ALL MODES

A01

See ITS 3.3.6

See ITS 3.4.15

See ITS 3.3.7

*~~With fuel in the storage pool or building~~.

~~During movement of recently irradiated fuel assemblies in the auxiliary building~~ — ~~L01~~

With fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies — M08

ITS A01 ITS 3.3.8

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

Auxiliary Building Gas Treatment System (ABGTS) Actuation A02

~~RADIATION MONITORING~~ INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

Auxiliary Building Gas Treatment System (ABGTS) actuation A02

LCO 3.3.8 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.

ACTION:

inoperable due to

STET

Action A 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.~~ M01

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

ACTIONS Note ~~1~~ c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

ABGTS 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) M02

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ITS (A01) ITS 3.3.8

Table 3.3.8-1

TABLE 3.3-6
~~RADIATION MONITORING~~ INSTRUMENTATION
Auxiliary Building Gas Treatment System (ABGTS) (A02)

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	~~MEASUREMENT RANGE~~ (LA01)	ACTION
1. AREA MONITOR ~~Add proposed Table 3.3.8-1 Function 1~~ (~~M03~~)					
Function ~~2~~ [1] a. Spent (A01) Fuel ~~Storage~~ Pool Area	1 (b) (M04)	*	≤151 mR/hr	~~10^{-1} - 10^{4} mR/hr~~ (LA01)	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 (See ITS 3.3.6)
b. Containment					
i. Deleted					
ii. Particulate Activity					(See ITS 3.4.15)
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 (See ITS 3.3.7)

Add proposed Table 3.3.8-1 Function ~~3~~ [2] (M05)

Add proposed Table 3.3.8-1 Footnote (b) (M04)

Applicability * ~~With fuel in the storage pool or building~~ ~~During movement of recently irradiated fuel assemblies in the auxiliary building~~ (~~L01~~)

With fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies (M08)

** Equivalent to 1.0 x 10^{-5} µCi/cc. (See ITS 3.3.7)

ITS

A01

ITS 3.3.8

TABLE 3.3-6 (Continued)

ACTION STATEMENTS

A03 ~~Add proposed ACTION Note 2~~

Add proposed ACTION B M06

ACTION B

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~~.

~~Add proposed ACTION C for Function 2~~ ~~M07~~

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 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.

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.

Or

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

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.

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

See ITS 3.3.7

~~Add proposed ACTIONS A, B, C, and D for Function 1~~ ~~M03~~

A01

ITS | ITS 3.3.8

Table 3.3.8-1

TABLE 4.3-3

Auxiliary Building Gas Treatment System (ABGTS) — A02

~~RADIATION MONITORING~~ INSTRUMENTATION SURVEILLANCE REQUIREMENTS

COT — M02

Add proposed SR 3.3.8.3 for Table 3.3.8-1 Function 1 at a Frequency of ~~18 months~~ — ~~M03~~

In accordance with the Surveillance Frequency Control Program — LA02

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	~~CHANNEL FUNCTIONAL TEST~~	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. AREA MONITOR				
Function ~~2~~ 1 a. Spent Fuel ~~Storage~~ Pool Area	~~S~~ SR 3.3.8.1	~~R~~ SR 3.3.8.~~4~~ 3	~~Q~~ SR 3.3.8.2	*
2. PROCESS MONITORS (A01)				
a. Containment Purge Air Exhaust	S	R	Q	1, 2, 3, 4 & 6
b. Containment				
i. Deleted				
ii. Particulate Activity				
RCS Leakage Detection	S	R	Q	1, 2, 3 & 4
c. Control Room Isolation	S	R	Q	ALL MODES

See ITS 3.3.6

See ITS 3.4.15

See ITS 3.3.7

* ~~With fuel in the storage pool or building~~.

~~During movement of recently irradiated fuel assemblies in the auxiliary building~~ — ~~L01~~

With fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies — M08

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DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) 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 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 MODE, and the appropriate ACTIONS to take for inoperable Radiation Monitoring Instrumentation. CTS Table 4.3-3 provides the Surveillance Requirements for the Radiation Monitoring Instrumentation. ITS LCO 3.3.8 requires that the Auxiliary Building Gas Treatment System (ABGTS) Actuation Instrumentation for each Function in Table 3.3.8-1 to be OPERABLE. ITS 3.3.8 ACTIONS A~~,~~ and B~~, C, and D~~ provide the Required Actions and associated Completion Time for when the ABGTS actuation instrumentation is inoperable. ITS SR 3.3.8.1, SR 3.3.8.2, ~~SR 3.3.8.3,~~ and SR 3.3.8.~~4~~3 provide the testing requirements for each ABGTS actuation instrument in Table 3.3.8-1. ITS Table 3.3.8-1 lists the instruments that are required to be OPERABLE, the Applicable MODE, and the appropriate ACTIONS to take for inoperable ABGTS instrumentation. This changes the CTS by having a separate Specification for the ABGTS actuation instrumentation in lieu of including it in the Radiation Monitoring Instrumentation Specifications.

This change is acceptable because the technical requirements for the Radiation Monitoring Instrumentation are maintained with the change in format. The ABGTS 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 Note allowing separate Condition entry for each Function. ITS 3.3.8 ACTIONS Note 2 states that separate Condition entry is allowed for each Function. This changes the CTS by specifically allowing separate Condition entry for each Function in ITS Table 3.3.8-1.~~

~~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.~~

DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) ACTUATION INSTRUMENTATION

<u>MORE RESTRICTIVE CHANGES</u>

Condition A allows 4 hours

; however, entry into ITS 3.3.8 Condition A requires declaring the channel inoperable

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 3.3.8 ~~does not contain an ACTION~~ for adjusting a setpoint that exceeds the required valued. ~~Instead, ITS 3.3.8 ACTION B 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.

contains this allowance after declaring the channel inoperable and entering ITS 3.3.8 Condition A.

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 3.3.8 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.

the required

M02 CTS 4.3.3.1 requires, in part, that the Radiation Monitoring Instrumentation on Table 4.3-3 be demonstrated OPERABLE by performance of CHANNEL FUNCTIONAL TEST. CTS Table 4.3-3 Instrument 1.a (Area Monitor – Fuel
1
Storage Pool Area) requires a CHANNEL FUNCTIONAL TEST. ITS Table 3.3.8-1 Function 2 (Spent Fuel Pool Area Radiation Monitor) requires the performance of ITS SR 3.3.8.2. ITS SR 3.3.8.2 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 a test similar to the current CHANNEL FUNCTIONAL TEST. CTS defines a CHANNEL FUNCTIONAL TEST based on the type of channel. In CTS a CHANNEL 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 a similar test and 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 required in the CTS.

DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) ACTUATION INSTRUMENTATION

Not Used

M03 CTS 3.3.3.1 does not contain a requirement for the manual initiation of ABGTS. ITS Table 3.3.8-1 Function 1 requires two channels of manual initiation for ABGTS to be OPERABLE in MODES 1, 2, 3, and 4 and during movement of recently irradiated fuel assemblies in the auxiliary building. ITS Table 3.3.8-1 Function 1 also requires performance of SR 3.3.8.3. ITS SR 3.3.8.3 requires performance of a TADOT every 18 months. (See DOC LA02 for the discussion related to moving the Surveillance Frequency to the Surveillance Frequency Control Program.) Additionally, ITS SR 3.3.8.3 contains a Note stating that verification of the setpoint is not required. Furthermore, ITS 3.3.8 contains compensatory actions to take if one or both ABGTS manual initiation channels are inoperable. ITS 3.3.8 ACTION A requires, in part, that with one manual initiation channel inoperable, to place one ABGTS train in operation. ITS 3.3.8 ACTION B requires, in part, that with two manual initiation channels inoperable, to place one train of ABGTS in operation immediately and to immediately enter the applicable Conditions and Required Actions of LCO 3.7.12. ITS 3.3.8 ACTION C requires that when the Required Action and associated Completion Time for Condition A or B are not met during movement of recently irradiated fuel assemblies in the auxiliary building, to immediately suspend movement of recently irradiated fuel assemblies in the auxiliary building. ITS 3.3.8 ACTION D requires that when the Required Action and associated Completion Time for Condition A or B are not met in MODE 1, 2, 3, or 4, to be in MODE 3 in 6 hours and in MODE 5 in 36 hours. This changes the CTS by requiring a new Function, Applicability, ACTIONS and Surveillance Requirement for the manual initiation of ABGTS.

The purpose the ABGTS manual initiation is to allow the operator to initiate ABGTS at any time. This change is acceptable because the addition of ABGTS manual initiation requirements will ensure that proper redundancy is maintained. This change is designated as more restrictive because additional requirements are being added to the ITS that were not required in the CTS.

M04 CTS Table 3.3-6 Minimum Channels OPERABLE column requires one channel for Functional Unit 1.a (Area Monitor, Fuel Storage Pool Area). ITS Table 3.3.8-1 Required Channels column requires one channel OPERABLE for Function ~~2~~ 1 (Spent Fuel Pool Area Radiation Monitor) modified by footnote (b) that states the Required Channel shall be associated with the ABGTS train required OPERABLE by LCO 3.7.12. This changes the CTS by specifying that the required Spent Fuel Pool Area Radiation Monitor shall be associated with the OPERABLE ABGTS train.

The purpose of CTS Table 3.3-6 Functional Unit 1.a (Area Monitor, Fuel Storage Pool Area) is to provide an indication of abnormal radiation levels and actuate ABGTS if necessary. This change is acceptable because it ensures the required radiation monitoring channel is associated with the OPERABLE ABGTS train. Thus if the radiation monitor's setpoint is exceeded a train of ABGTS will be available to start to mitigate any potential release. This change is designated as more restrictive because additional limitations are placed on what constitutes a required channel.

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DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) ACTUATION INSTRUMENTATION

M05 CTS 3.3.3.1 states that the Radiation Monitoring Instrumentation channels shown in Table 3.3-6 shall be OPERABLE. CTS Table 3.3-6 lists the radiation monitor required for the fuel storage pool area. ITS LCO 3.3.8 states that the ABGTS actuation instrumentation for each Function in Table 3.3.8-1 shall be OPERABLE. ITS Table 3.3.8-1 lists the required ABGTS instrument Functions which includes Containment Isolation – Phase A (Function ~~3~~). ITS Table 3.3.8-1 Function ~~3~~ provides a statement referring to LCO 3.3.2, "ESFAS Instrumentation," Function 3.a for all initiation functions and requirements. This changes the CTS by specifying an additional instrumentation actuation Function for the ABGTS.

2

The purpose of CTS 3.3.3.1 and Table 3.3-6 is to specify the required Functions and instrumentation to ensure the ABGTS actuates as assumed in the accident analysis. The Containment Isolation – Phase A signal from the ESFAS provides an actuation of ABGTS that is credited in the loss of coolant accident. This change is acceptable because it will result in a more complete listing of the Functions that actuate ABGTS. The inclusion of the Containment Isolation – Phase A signal with the other credited ABGTS instrumentation provides a complete list of the required ABGTS instrumentation with a common set of Actions to assure the unit is placed in a safe condition when the required instrumentation is inoperable. Therefore, the proposed change ensures the radioactive materials in the Auxiliary Building Secondary Containment Enclosure atmosphere following an accident are filtered and adsorbed prior to being exhausted to the environment. This change is designated as more restrictive because more ABGTS actuation instrumentation will be required in ITS than was required in CTS.

1

or with fuel stored in the spent fuel pool.

M06 CTS Table 3.3-6 "MINIMUM CHANNELS OPERABLE" column, for Instrument 1.a, only requires one Area Monitor – Fuel Storage Pool Area channel to be OPERABLE with fuel in the storage pool or building. CTS Table 3.3-6 ACTION 26 applies when the number of OPERABLE channels is less than required by the Minimum Channels OPERABLE requirement. ACTION 26 requires the performance of an area survey of the monitored area with portable monitoring instrumentation at least once per 24 hours. ITS Table 3.3.8-1 Function ~~2~~ requires one Spent Fuel Pool Area Radiation Monitor to be OPERABLE during movement of irradiated fuel assemblies ~~in the auxiliary building~~. ITS 3.3.8 ACTION B requires that when one required channel is inoperable, ~~to place one ABGTS train in operation and to~~ enter the applicable Conditions and Required Action for LCO 3.7.12 for one train made inoperable by inoperable actuation instrumentation. This changes the CTS by requiring more stringent ACTIONS for the inoperable channel~~s~~. (See DOC ~~L01~~ for a discussion on the change to the Applicability.)

for reasons other than addressed in Condition A or the Required Action and associated Completion Time of Condition A not met

radiation monitoring

immediately

required

M08

suspend activities such that a fuel handling accident cannot occur.

the

The purpose of the Spent Fuel Pool Area Radiation Monitor is to provide indication of high radiation in the Fuel Storage Pool area. This change is acceptable because when ~~one~~ required Spent Fuel Pool Area Radiation Monitor channel is inoperable~~, placing the ABGTS in operation accomplishes the Spent Fuel Pool Area Radiation Monitor instrument function. Additionally~~, entering the Conditions and Required Actions for the ABGTS Specification (ITS 3.7.12) will ~~allow 7 days to restore one inoperable ABGTS train to OPERABLE status~~. This

DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) ACTUATION INSTRUMENTATION

change is designated as more restrictive because more stringent Required Actions and Completion Times are required in the ITS than were required in the CTS.

M07 Not Used ~~CTS 3.3.3.1, Table 3.3-6, ACTION 26, is associated with Functional Unit 1.a (Area Monitor, Fuel Storage Pool Area) and requires that with the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, to perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours. ITS 3.3.8 ACTION C requires if the Required Action and associated Completion Time for Condition B, one required radiation monitor inoperable, is not met during movement of recently irradiated fuel assemblies in the auxiliary building, to immediately suspend movement of recently irradiated fuel assemblies in the auxiliary building. This changes the CTS by adding explicit Required Actions to exit the MODE of Applicability if remedial action cannot be completed within the allotted time.~~

~~The purpose of Required Actions is to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. This change is acceptable because it provides Required Actions to exit the MODE of Applicability that must be taken if the time allotted to establish the required remedial measures or complete the repair of inoperable features is exceeded. This change is designated as more restrictive because more stringent Required Actions and Completion Times are required in the ITS than were required in the CTS.~~

M08 See Insert 1

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 Instrumentation. These columns are labeled "MINIMUM CHANNELS OPERABLE," "APPLICABLE MODES," ALARM/TRIP SETPOINT," "MEASUREMENT RANGE," AND "ACTION." ITS Table 3.3.8-1 does not contain the "MEASUREMENT RANGE" column. This changes the CTS by moving the information of the "MEASUREMENT RANGE" column 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

Insert 1

M08 CTS 3.3.3.1, Table 3.3-6, Instrument 1.a (Area Monitor - Fuel Storage Pool Area) and CTS Table 4.3-3 Instrument 1.a (Area Monitor - Fuel Storage Pool Area) state that the requirements of the Fuel Storage Pool Area Monitors are applicable when there is fuel in the storage pool or building. CTS 3.9.12 requires that one train of ABGTS shall be be OPERABLE whenever irradiated fuel is in the storage pool. CTS 3.9.4 requires that one train of ABGTS is OPERABLE during movement of irradiated fuel within the containment. An OPERABLE train of ABGTS also requires the actuation signal to be OPERABLE. ITS Table 3.3.8-1 Function 1 (Spent Fuel Pool Area Radiation Monitor) states that the Applicable MODE is with fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies. This changes CTS by adding an additional requirement to have the required Spent Fuel Pool Area Radition Monitor to be OPERABLE anytime there is movement of irradiated fuel assemblies.

The purpose of CTS Table 3.3-6 Functional Unit 1.a is to ensure that the Fuel Storage Pool Area Monitors are OPERABLE to start equipment necessary to mitigate the consequences of a fuel handling accident. This change is acceptable because it changes the Mode of Applicability to include the potential fuel handling accident that could occur while moving irradiated fuel assemblies. Therefore, the proposed change ensures that any postulated fuel handling accident will be monitored by an OPERABLE instrument channel. This change is designated as more restrictive because the Mode of Applicability required for ITS has increased over what was required in CTS.

DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) ACTUATION INSTRUMENTATION

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 1.a 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). ~~In addition, SR 3.3.8.3 has been added for ITS Table 3.3.8-1 Function 1 with a Frequency of 18 months as discussed in DOC M03.~~ ITS SR 3.3.8.1, SR 3.3.8.2, ~~SR 3.3.8.3,~~ and SR 3.3.~~8.4~~ 3 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 these SRs and associated Bases to the Surveillance Frequency Control Program.

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.

LESS RESTRICTIVE CHANGES

L01 Not Used

(Category 2 – Relaxation of Applicability) CTS Table 3.3-6 Instrument 1.a (Area Monitor – Fuel Storage Pool Area) and CTS Table 4.3-3 Instrument 1.a (Area Monitor – Fuel Storage Pool Area) state that the requirements of the Fuel Storage Pool Area Monitors are applicable when there is fuel in the storage pool or building. ITS Table 3.3.8-1 Function 2 states that the Applicable MODE is during movement of recently irradiated fuel assemblies in the auxiliary building. This changes the CTS by only requiring the Spent Fuel Pool Monitors to be OPERABLE when there is a potential for a fuel handling accident in the auxiliary building (i.e., during movement of recently irradiated fuel assemblies in the auxiliary building).

DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) ACTUATION INSTRUMENTATION

~~The purpose of CTS Table 3.3-6 Functional Unit 1.a is to ensure that the Fuel Storage Pool Area Monitors are OPERABLE to mitigate the consequences of a fuel handling accident. This change is acceptable because the requirements continue to ensure that the structures, system and components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The Sequoyah Nuclear Plant (SQN) fuel handling analysis for the auxiliary building has been analyzed using the methodology from Regulatory Guide 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors." The SQN fuel handling analysis assumes, in part, that the accident occurs 100 hours after a plant shutdown, radioactive decay during the interval between shutdown and placement of the first spent fuel assembly into the spent fuel pool is taken into account, and a single fuel assembly is damaged with acceptable results. The ITS Bases define a recently irradiated fuel assembly as having occupied part of a critical reactor within the previous 100 hours. Therefore, the ITS imposes the controls on the ABGTS Actuation Instrumentation during movement of recently irradiated fuel assemblies in the auxiliary building. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.~~

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CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1

3.3.8~~A~~

3.3 INSTRUMENTATION

3.3.8~~A~~ ~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (~~FBACS~~ ABGTS) Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1

3.3.3.1 LCO 3.3.8 The ~~FBACS~~ ABGTS actuation instrumentation for each Function in Table 3.3.8-1 shall be OPERABLE. 1

3.3.3.1 Applicability APPLICABILITY: According to Table 3.3.8-1.

ACTIONS

--NOTE~~S~~-- 9

3.3.3.1 ACTION c ~~1.~~ LCO 3.0.3 is not applicable.

~~DOC A03~~ ~~2. Separate Condition entry is allowed for each Function.~~ 9

CONDITION	REQUIRED ACTION	COMPLETION TIME
M01 DOC ~~M03~~ 3.3.3.1 Action a A. One ~~or more Functions~~ ~~manual initiation~~ required radiation monitoring ~~with one~~ channel ~~or train~~ inoperable due to trip setpoint not within limit.	A.1 ~~Place one FBACS ABGTS train in operation.~~ Adjust setpoint to within limit	~~7 days~~ 4 hours 9 ~~2~~ ~~4~~ 10
~~DOC M03~~ B. ~~One or more Functions~~ ~~Two manual initiation~~ ~~with two~~ ~~channels~~ ~~or two trains~~ ~~inoperable.~~ STET ~~OR~~ 3.3.3.1 ACTION b Table 3.3-6 ACTION 26 One required radiation monitoring channel inoperable for reasons other than Condition A OR DOC M06 Required Action and associated Completion Time of Condition A not met.	~~B.1.1~~ ~~Place one FBACS train in operation. ABGTS~~ ~~AND~~ B.~~1.~~2 Enter applicable Conditions and Required Actions of LCO 3.7.~~13~~ 12, "~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (~~FBACS~~ ABGTS)," for one required train made inoperable by inoperable actuation instrumentation. ~~OR~~ ~~B.2 Place both trains in emergency [radiation protection] mode.~~	~~Immediately~~ 9 ~~3~~ ~~4~~ ~~2~~ Immediately ~~2~~ ~~3~~ 4 1 11 ~~Immediately~~ 3

CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.8~~A~~

ACTIONS (continued)

	CONDITION	REQUIRED ACTION		COMPLETION TIME	
~~DOC M03~~ ~~DOC M07~~	~~C. Required Action and associated Completion Time for Condition A or B not met during movement of [recently] irradiated fuel assemblies in the fuel auxiliary building.~~	~~C.1~~	~~Suspend movement of [recently] irradiated fuel assemblies in the fuel auxiliary building.~~	~~Immediately~~	~~5~~ ~~2~~ 12 ~~5~~ ~~2~~
~~DOC M03~~	~~D. [Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.~~	~~D.1~~	~~Be in MODE 3.~~	~~6 hours~~	~~5~~ 5 ~~5~~
		~~AND~~			
		~~D.2~~	~~Be in MODE 5.~~	~~36 hours]~~	

SURVEILLANCE REQUIREMENTS

---NOTE---

4.3.3.1 Refer to Table 3.3.8-1 to determine which SRs apply for each ~~FBACS~~ ABGTS Actuation Function. 1

	SURVEILLANCE		FREQUENCY	
Table 4.3-3 Instrument 1.a	SR 3.3.8.1	Perform CHANNEL CHECK.	~~[12 hours~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~	6 6

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CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.8~~A~~ (1)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
Table 4.3-3 Instrument 1.a — SR 3.3.8.2	Perform COT.	~~[92 days~~ (6) ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ (6)
~~SR 3.3.8.3~~	~~[Perform ACTUATION LOGIC TEST.~~	~~[31 days on a STAGGERED TEST BASIS~~ ~~OR~~ ~~In accordance with the Surveillance Frequency Control Program]]~~ (5)
~~DOC M03~~ — SR 3.3.8.~~4~~ 3	-------------------------------NOTE------------------------------- Verification of setpoint is not required. --- Perform TADOT.	~~[[18] months~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ (13)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
Table 4.3-3 Instrument 1.a — SR 3.3.8.~~5~~ 4 [3]	Perform CHANNEL CALIBRATION.	~~[[18] months~~ 5 6 ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 6

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CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.8~~A~~ 1

Table 3.3.8-1 (page 1 of 1)
~~FBACS~~ ABGTS Actuation Instrumentation 1

FUNCTION	APPLICABLE MODES OR SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT	
~~DOC M03~~ ~~1. Manual Initiation~~	~~[1,2,3,4], (a)~~	~~2~~	~~SR 3.3.8.4~~ ~~3~~	~~NA~~	13 ~~5~~
~~2. [Automatic Actuation Logic and Actuation Relays~~	~~1,2,3,4, (a)~~	~~2 trains~~	~~SR 3.3.8.3~~	~~NA]~~	5
Table 3.3-6 Instrument 1.a [1] ~~3~~ 2. Spent Fuel Pool Area ~~Building~~ Radiation Monitor					5 4
~~a. Gaseous~~	~~[1,2,3,4],~~ (a)	~~[2]~~ 1 (b)	SR 3.3.8.1 SR 3.3.8.2 SR 3.3.8.~~5~~ ~~4~~ [3]	≤ ~~[2]~~ 151 mR/hr	5 7 8
~~b. Particulate~~	~~[1,2,3,4], (a)~~	~~[2]~~	~~SR 3.3.8.1~~ ~~SR 3.3.8.2~~ ~~SR 3.3.8.5~~	~~≤ [2] mR/hr~~	

(a) ~~During movement of [recently] irradiated fuel assemblies in the fuel building~~ ~~auxiliary~~. 14 ~~5~~ ~~4~~

With fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies.

DOC M04 (b) Required Channel shall be associated with the ABGTS train required OPERABLE per LCO 3.7.12 2

DOC M05 [2]

~~3.~~	Containment Isolation - Phase A	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 3.a for all initiation functions and requirements.

3.3 INSTRUMENTATION

3.3.8~~A~~ ~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (~~FBACS~~ ABGTS) Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1

3.3.3.1 LCO 3.3.8 The ~~FBACS~~ ABGTS actuation instrumentation for each Function in Table 3.3.8-1 shall be OPERABLE. 1

3.3.3.1 Applicability APPLICABILITY: According to Table 3.3.8-1.

ACTIONS

--~~NOTES~~--

3.3.3.1 ACTION c ~~1.~~ LCO 3.0.3 is not applicable. 9

~~DOC A03~~ ~~2. Separate Condition entry is allowed for each Function.~~ 9

CONDITION	REQUIRED ACTION	COMPLETION TIME
M01 DOC ~~M03~~ A. One ~~or more Functions with one~~ ~~manual initiation~~ required radiation monitoring channel ~~or train~~ inoperable due to trip setpoint not within limit.	A.1 ~~Place one FBACS~~ ~~ABGTS~~ ~~train in operation.~~ Adjust setpoint to within limit.	~~7 days~~ 4 hours 9 ~~2~~ ~~1~~ 10
~~DOC M03~~ B. ~~One or more Functions with two~~ ~~Two manual initiation~~ ~~channels or two trains inoperable.~~ STET ~~OR~~ One required radiation monitoring channel inoperable for reasons other than Condition A. 3.3.3.1 ACTION b Table 3.3-6 ACTION 26 OR DOC M06 Required Action and associated Completion Time of Condition A not met.	~~B.1.1~~ ~~Place one FBACS~~ ~~ABGTS~~ ~~train in operation.~~ ~~AND~~ B.~~1.~~2 Enter applicable Conditions and Required Actions of LCO 3.7.~~13~~ 12, "~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (~~FBACS~~ ABGTS)," for one required train made inoperable by inoperable actuation instrumentation. ~~OR~~ ~~B.2 Place both trains in emergency [radiation protection] mode.~~	~~Immediately~~ 9 ~~3~~ ~~1~~ ~~2~~ Immediately ~~2~~ ~~3~~ 4 1 11 ~~Immediately~~ 3

CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.8~~A~~

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
~~DOC M03~~ ~~DOC M07~~ ~~C. Required Action and associated Completion Time for Condition A or B not met during movement of [recently] irradiated fuel assemblies in the ~~fuel~~ auxiliary building.~~	~~C.1 Suspend movement of [recently] irradiated fuel assemblies in the ~~fuel~~ auxiliary building.~~	~~Immediately~~ 5 2 12 5 2
~~DOC M03~~ ~~D. [Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.~~	~~D.1 Be in MODE 3.~~ ~~AND~~ ~~D.2 Be in MODE 5.~~	~~6 hours~~ ~~36 hours]~~ 5 5 5

SURVEILLANCE REQUIREMENTS

---NOTE---

4.3.3.1 Refer to Table 3.3.8-1 to determine which SRs apply for each ~~FBACS~~ ABGTS Actuation Function. 1

SURVEILLANCE	FREQUENCY
Table 4.3-3 Instrument 1.a SR 3.3.8.1 Perform CHANNEL CHECK.	~~[12 hours~~ ~~OR~~ 6 In accordance with the Surveillance Frequency Control Program] 6

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY	
Table 4.3-3 Instrument 1.a	SR 3.3.8.2 Perform COT.	~~[92 days~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~	6 6
	~~SR 3.3.8.3 [Perform ACTUATION LOGIC TEST.~~	~~[31 days on a STAGGERED TEST BASIS~~ ~~OR~~ ~~In accordance with the Surveillance Frequency Control Program]]~~	5
~~DOC M03~~	~~SR 3.3.8.4~~ 3 ~~-----NOTE-----~~ ~~Verification of setpoint is not required.~~ ~~----------~~ ~~Perform TADOT.~~	~~[[18] months~~ ~~OR~~ ~~In accordance with the Surveillance Frequency Control Program]~~	~~5~~ ~~6~~ 13 ~~6~~

CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.8~~A~~

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
Table 4.3-3 Instrument 1.a	SR 3.3.8.~~5~~ ~~4~~ 3 Perform CHANNEL CALIBRATION.	~~[[18] months~~ 5 6 ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 6

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CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.8~~A~~

Table 3.3.8-1 (page 1 of 1)
~~FBACS~~ ABGTS Actuation Instrumentation 1

FUNCTION	APPLICABLE MODES OR SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT	
~~DOC M03~~ ~~1. Manual Initiation~~	~~[1,2,3,4], (a)~~	~~2~~	~~SR 3.3.8.4~~ 3	~~NA~~	13 ~~5~~
~~2. [Automatic Actuation Logic and Actuation Relays~~	~~1,2,3,4, (a)~~	~~2 trains~~	~~SR 3.3.8.3~~	~~NA]~~	5
Table 3.3-6 Instrument 1.a [1] ~~3~~ 2. Spent Fuel Pool Area ~~Building~~ Radiation Monitor					5 4
~~a. Gaseous~~	~~[1,2,3,4],~~ (a)	~~[2]~~ 1 (b)	SR 3.3.8.1 SR 3.3.8.2 SR 3.3.8.~~5~~ ~~4~~ [3]	≤ ~~[2]~~ 151 mR/hr	5 7
~~b. Particulate~~	~~[1,2,3,4], (a)~~	~~[2]~~	~~SR 3.3.8.1~~ ~~SR 3.3.8.2~~ ~~SR 3.3.8.5~~	~~≤ [2] mR/hr~~	8

(a) ~~During movement of [recently] irradiated fuel assemblies in the fuel~~ ~~auxiliary~~ ~~building.~~ 14 ~~5~~ ~~4~~

With fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies.

DOC M04 (b) Required Channel shall be associated with the ABGTS train required OPERABLE per LCO 3.7.12 2

DOC M05 [2] ~~3.~~ Containment Isolation - Phase A — Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 3.a for all initiation functions and requirements.

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) 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 3.3.8B (with Setpoint Control Program Specification) is not used and is not shown. Furthermore, the title of the Specification has been changed from "Fuel Building Air Cleanup System (FBACS) Actuation Instrumentation" to "Auxiliary Building Gas Treatment System (ABGTS) Actuation Instrumentation" since Sequoyah Nuclear Plant (SQN) does not have an FBACS.

2. 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.

3. ISTS 3.3.8 Required Action B.2 provides an option of placing both trains of the FBACS in the emergency [radiation protection] mode immediately when one or more Functions in ISTS Table 3.3.8-1 with two channels or two trains are inoperable. ITS 3.3.8 does not contain this Required Action since the ABGTS does not have an emergency mode of operation. ~~Furthermore, ISTS 3.3.8 Required Actions B.1.1 and B.1.2 have been renumbered as ITS 3.3.8 Required Actions B.1 and B.2 to reflect the removal of the ISTS option. Additionally, the "AND" logic connector has been moved to the correct position due to the deletion of ISTS 3.3.8 Required Action B.2.~~

4. Changes are made to be consistent with changes made to ISTS LCO 3.7.13. The Title and the number for this specification were changed and are reflected in ITS 3.3.8.

5. The ISTS contains bracketed information and/or values that are generic to Westinghouse vintage plants. The brackets are removed, the proper plant specific information/value is inserted or deleted to reflect the current licensing basis, and subsequent items are renumbered as required.

6. ISTS SR 3.3.8.1, SR 3.3.8.2, ~~SR 3.3.8.4~~, and SR 3.3.8.5 (ITS SR 3.3.8.1, SR 3.3.8.2, ~~SR 3.3.8.3~~, and SR 3.3.8.~~4~~3) provide two options for controlling the Frequencies of Surveillance Requirements. SQN is proposing to control the Surveillance Frequencies under the Surveillance Frequency Control Program.

7. ISTS Table 3.3.8-1 Function 3 specifies two Gaseous Radiation Monitors (Function 3.a) and two Particulate Radiation Monitors (Function 3.b) for the Fuel Storage Radiation Function. ITS Table 3.3.8-1 Function ~~2~~ 1 only requires one Spent Fuel Pool Area Radiation Monitor for Table 3.3.8-1 Function ~~2~~ 1. This change is acceptable because the fuel storage pool area radiation monitor is the monitor used in the current licensing bases for the ABGTS actuation.

8. Changes are made to ISTS Table 3.3.8-1 to reflect that the ABGTS receives a signal from Containment Isolation – Phase A which is part of ITS 3.3.2, "Engineered Safety Features Actuation System (ESFAS) Instrumentation."

Add Insert 1

Insert 1

9. ISTS Table 3.3.8-1 contains requirements for three FBACS (ABGTS) actuation instrumentation functions, Function 1 - Manual Initiation, Function 2 - Automatic Actuation Logic and Actuation Relays, and Function 3 - Fuel Building Radiation. ITS Table 3.3.8-1 has been revised to delete ISTS 3.3.8A Functions 1 and 2 (See JFDs 5 and 13 concerning the deletion of the functions). Therefore, ISTS 3.3.8A has been revised to delete ACTIONS NOTE 2 and revise Conditions A and B to address ITS Table 3.3.8-1, Function 1, Spent Fuel Pool Area Radiation Monitor. This change is acceptable because the current licensing basis does not require the Manual Initiation or Automatic Actuation Logic and Actuation Relays Function.

10. ISTS 3.3.8A ACTION A requires placing one train of the FBACS (ABGTS) in operation within 7 days if one or more Functions with one channel or train are inoperable. ITS 3.3.8 ACTION A requires adjusting the trip setpoint to within limit within 4 hours if the required radiation monitoring channel is inoperable due to the trip setpoint not within limit. The revised Required Action allows 4 hours to adjust the trip setpoint within limit before requiring entry into ITS 3.3.8 Condition B. CTS 3.3.3.1 Action a allows 4 hours to adjust the radiation monitoring trip setpoint to within limit before declaring the channel inoperable. If the trip setpoint is not within limit, the channel is inoperable and ITS 3.3.8 Required Action A.1 provides compensatory actions commensurate with actions required by the current licensing basis.

11. ISTS 3.3.8A ACTION B requires immediately placing one train of FBACS (ABGTS) in operation or entering the applicable Conditions and Required Actions of LCO 3.7.13 (ITS LCO 3.7.12) for one train made inoperable by inoperable actuation instrumentation if one or more Functions with two channels or two trains are inoperable. ITS 3.3.8 ACTION B has been revised to require immediately entering the applicable Conditions and Required Actions of LCO 3.7.12, "Auxiliary Building Gas Treatment System (ABGTS)," for one required train made inoperable by inoperable actuation instrumentation if one required radiation monitoring channel is inoperable for reasons other than Condition A or the Required Actions and associated Completion Time of Condition A is not met. The required spent fuel pool radiation monitor provides indication of a release associated with a fuel handling accident. This change is acceptable because LCO 3.7.12 provides compensatory actions to stop activities that could result in a fuel handling accident.

12. ISTS 3.3.8A Condition C has been deleted. ITS 3.3.8 Conditions A and B have been revised to provide compensatory actions required during the movement of irradiated fuel assemblies. Therefore, this Condition is not required.

13. ISTS Table 3.3.8-1 Function 1, Manual Initiation, and the associated Surveillance Requirement, ISTS 3.3.8.4 (Perform TADOT) are deleted. CTS does not require a manual initiation function for ABGTS actuation instrumentation. Therefore, this change is acceptable because it maintains the current licensing basis.

14. ISTS Table 3.3.8-1 requires Function 3 (ITS 3.3.8 Function 1 - Spent Fuel Pool Area Radiation Monitor) OPERABLE in MODES [1,2,3,4] (a), where Footnote (a) is during the movement of [recently] irradiated fuel assemblies in the fuel building. ITS Table 3.3.8-1, Function 1 is only required OPERABLE in MODE (a). ITS Table 3.3.8-1, Footnote (a) has been revised to state, "With fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies." The required spent fuel pool radiation monitor provides indication of a release associated with a fuel handling accident. Therefore, the Mode of Applicability has been changed to reflect the conditions when a fuel handling accident can occur whether it is dropping an irradiated fuel assembly or dropping a heavy object on irradiated fuel in the spent fuel pool.

B 3.3 INSTRUMENTATION

B 3.3.8A ~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (~~FBACS~~ ABGTS) Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1

BASES

BACKGROUND

The ~~FBACS~~ ABGTS ensures that radioactive materials in the ~~fuel~~ auxiliary building atmosphere following a fuel handling accident ~~[~~involving handling ~~recently~~ irradiated fuel~~]~~ or a loss of coolant accident (LOCA) are filtered and adsorbed prior to exhausting to the environment. The system is described in the Bases for LCO 3.7.~~13~~ 12, "~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (ABGTS)." The system initiates filtered ventilation of ~~the fuel building~~ INSERT 1 automatically following receipt of a spent fuel pool area high radiation signal ~~(gaseous or particulate)~~ or a ~~safety injection (SI)~~ Containment Phase A Isolation signal. Initiation may also be performed manually as needed from the main control room. 1 2 3 4

High ~~gaseous and particulate~~ area radiation, ~~each~~ monitored by either of two monitors, provides ~~FBACS~~ ABGTS initiation. Each ~~FBACS~~ ABGTS train is initiated by high radiation detected by a channel dedicated to that train. ~~There are a total of two channels, one for each train. Each channel contains a gaseous and particulate monitor.~~ High radiation detected by ~~any~~ the required monitor or ~~an SI~~ Containment Phase A Isolation signal from the Engineered Safety Features Actuation System (ESFAS) initiates ~~fuel~~ auxiliary building isolation and starts the ~~FBACS~~ ABGTS. These actions function to prevent exfiltration of contaminated air by initiating filtered ventilation, which imposes a negative pressure on the ~~fuel building~~ Auxiliary Building Secondary Containment Enclosure (ABSCE). During plant operations with the containment open to the auxiliary building, the ABSCE boundary is extended to include the area inside the containment building and the shield building. ~~Since the radiation monitors include an air sampling system, various components such as sample line valves, sample line heaters, sample pumps, and filter motors are required to support monitor OPERABILITY.~~ 4 1 4 1 4

APPLICABLE SAFETY ANALYSES

The ~~FBACS~~ ABGTS ensures that radioactive materials in the ~~fuel building~~ ABSCE atmosphere following a fuel handling accident ~~[~~involving handling ~~recently~~ irradiated fuel~~]~~ or a LOCA are filtered and adsorbed prior to being exhausted to the environment. This action reduces the radioactive content in the ~~fuel~~ auxiliary building exhaust following a LOCA or fuel handling accident so that offsite doses remain within the limits specified in 10 CFR 100 (Ref. 1) for LOCA or 10 CFR 50.67 (Ref. 2) for fuel handling accident. 1 4 2 4 4

The ~~FBACS~~ ABGTS actuation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). 1

LCO

The LCO requirements ensure that instrumentation necessary to initiate the ~~FBACS~~ ABGTS is OPERABLE. 1

1

BASES

LCO (continued)

~~1. Manual Initiation~~

~~The LCO requires two channels OPERABLE. The operator can initiate the FBACS 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.~~ ~~ABGTS~~ ~~INSERT 2~~

~~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.~~

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

~~1~~ ~~4~~ 5 ~~4~~

~~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.~~

~~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 FBACS 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 FBACS function is affected, the Conditions applicable to their SI function need not be entered. The less restrictive Actions specified for inoperability of the FBACS functions specify sufficient compensatory measures for this case.~~

5

1

~~3~~ 2. Spent Fuel ~~Building~~ Pool Area Radiation

5 4

The LCO specifies ~~two required Gaseous~~ one Spent Fuel Pool Area Radiation Monitor channel~~s and two required Particulate Radiation Monitor channels~~ to ensure that the radiation monitoring instrumentation necessary to initiate the ~~FBACS~~ ABGTS remains OPERABLE. INSERT 3

4

1 4

For sampling systems, channel OPERABILITY involves more than OPERABILITY of channel electronics. OPERABILITY may also require correct valve lineups, sample pump operation, filter motor operation, detector OPERABILITY, if these supporting features are necessary for actuation to occur under the conditions assumed by the safety analyses. INSERT 4

5

4 1

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~~4~~ ~~**INSERT 2**~~

~~one of two sets of manual initiation hand switches in the control room. Each Auxiliary Building Isolation (ABI) manual hand switch will initiate its respective train of ABGTS.~~

4 **INSERT 3**

One radiation monitor is dedicated to each train of ABGTS.

5 **INSERT 4**

The measurement range for the Spent Fuel Pool Area Monitors is 10^{-1} to 10^{4} mR/hr.

The Required Channels value is modified by a footnote stating that the Required Channel shall be associated with the ABGTS train required OPERABLE per LCO 3.7.12. This ensures a valid actuation signal will start a train of ABGTS.

2 ~~3~~. Containment Isolation - Phase A

Refer to LCO 3.3.2, Function 3.a., for all initiating Functions and requirements.

BASES

LCO (continued)

Only the Trip Setpoint is specified for each ~~FBACS~~ ABGTS Function in the LCO. The Trip Setpoint limits account for instrument uncertainties, which are defined in ~~the Unit Specific Setpoint Calibration~~ TI-18, Radiation Monitoring Procedure (Ref. ~~2~~ 3). 1 4

APPLICABILITY

The ~~manual~~ automatic ~~FBACS~~ ABGTS initiation must be OPERABLE ~~in MODES [1, 2, 3, and 4]~~ and when moving ~~[recently]~~ irradiated fuel assemblies in the ~~fuel building,~~ ~~auxiliary~~ to ensure the ~~FBACS~~ ABGTS operates to remove fission products associated with leakage after a LOCA or a fuel handling accident ~~[~~involving ~~handling recently~~ irradiated fuel~~]~~. The automatic ~~FBACS~~ ABGTS actuation instrumentation is ~~also~~ required to be OPERABLE in MODES ~~[~~1, 2, 3, and 4~~]~~ to remove fission products caused by post LOCA Emergency Core Cooling Systems leakage and is addressed in LCO 3.3.2. 1 2 4 1 1 2 4 5

High radiation initiation of the ~~FBACS~~ ABGTS must be OPERABLE in any MODE during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ ~~auxiliary~~ or storage of fuel assemblies in the spent fuel pool to ensure automatic initiation of the ~~FBACS~~ ABGTS when the potential for ~~the limiting~~ a fuel handling accident exists. ~~[Due to radioactive decay, the FBACS instrumentation is only required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days~~ ~~100 hours~~~~).]~~ 1 2 4 1 2 1 2

~~While in MODES 5 and 6 without fuel handling [involving handling recently irradiated fuel] in progress, the FBACS~~ ~~ABGTS~~ ~~instrumentation need not be OPERABLE since a fuel handling accident [involving handling recently irradiated fuel] cannot occur.~~
High radiation initiation of ABGTS for a fuel handling accident will ensure the auxiliary building secondary containment enclosure (ABSCE) boundary is established such that the release point for the fission products will correspond to the release point assumed in the fuel handling accident accident analysis. ~~1~~ ~~2~~ 5

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 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. 4

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since ~~recently~~ irradiated fuel assembly movement and fuel assembly storage in the spent fuel pool can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving ~~recently~~ irradiated fuel assemblies or storing while in MODE 5 or 6, LCO 3.0.3 would not specify any action. If moving ~~recently~~ irradiated fuel assemblies or fuel storage while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, 3, or 4 would require the unit to be shutdown unnecessarily. 5 5

BASES

ACTIONS (continued)

~~A second Note has been added to the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.8-1 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

Condition A applies to the ~~actuation logic train function of the Solid State Protection System (SSPS), the radiation monitor functions, and the manual function.~~ area radiation monitor being inoperable solely due to the trip setpoint not within limits. Condition A applies to the failure of ~~a single~~ the required radiation monitor ~~actuation logic train, radiation monitor channel, or manual channel~~. If ~~one channel or train~~ the required channel is inoperable, a period of ~~7 days~~ 4 hours is allowed to adjust the setpoint and restore it to OPERABLE status. If the ~~train~~ channel cannot be restored to OPERABLE status, the Required Action and associated Completion Time of Condition B would apply. ~~one FBACS ABGTS train must be placed in operation. This accomplishes the actuation instrumentation function and places the unit in a conservative mode of operation. 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 time is the same as that provided in LCO 3.7.~~~~13~~ ~~12~~.

~~B.1.1~~, ~~and~~ ~~B.1.2, B.2~~ B.1

~~Condition B applies to the failure of two FBACS actuation logic trains, two~~ ~~one reqired~~ ~~radiation monitors, or two manual channels. The Required Action is to place one FBACS ABGTS train in 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 3.7.13~~ ~~12~~ ~~must also be entered for the FBACS ABGTS train made inoperable by the inoperable actuation instrumentation. This ensures appropriate limits are placed on train inoperability as discussed in the Bases for LCO 3.7.13~~ ~~12~~.

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

or the required channel is inoperable for reasons other than the trip setpoint not within limit.

BASES

ACTIONS (continued)

or movement of loads over the spent fuel pool

~~C~~.1 B

Condition ~~C~~ B applies when the Required Action and associated Completion Time for Condition A ~~or B~~ have S not been met ~~and [recently] irradiated fuel assemblies are being moved in the fuel building.~~ auxiliary

Entry into the applicable Conditions and Required Actions of LCO 3.7.12 will require that movement

~~Movement~~ of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building must~~ auxiliary be suspended immediately to eliminate the potential for events that could require ~~FBACS~~ ABGTS actuation.

~~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 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.~~

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that table 3.3.8-1 determines which SRs apply to which ~~FBACS~~ ABGTS Actuation Functions.

SR 3.3.8.1

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.

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.

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.~~
~~---]~~

8

~~SR 3.3.8.3~~

~~[SR 3.3.8.3 is the performance of an ACTUATION LOGIC TEST. All possible logic combinations, with and without applicable permissives, are tested for each protection function. [The actuation logic is tested every 31 days on a STAGGERED TEST BASIS. The Frequency is based on the known reliability of the relays and controls and the multichannel redundancy available, and has been shown to be acceptable through 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.~~
~~---]]~~

5

~~SR 3.3.8.4~~ 3

~~SR 3.3.8.4~~ 3 ~~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~~

~~5~~ ~~5~~ 5

4 1

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BASES

SURVEILLANCE REQUIREMENTS (continued)

~~refueling interval with applicable extensions. In some instances, the test includes actuation of the end device (e.g., pump starts, valve cycles, etc.).~~ ~~[The Frequency of 18 months is based on operating experience and is consistent with the typical industry refueling cycle.~~ 5 ~~7~~

~~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.~~
~~---]~~ 8

~~The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions tested have no setpoints associated with them.~~ 5

3

SR 3.3.8.~~5~~ 4 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.~~ 7

~~OR~~

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

B 3.3 INSTRUMENTATION

B 3.3.8A ~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (~~FBACS~~ ABGTS) Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1

BASES

BACKGROUND

The ~~FBACS~~ ABGTS ensures that radioactive materials in the ~~fuel~~ auxiliary building atmosphere following a fuel handling accident ~~[~~involving handling ~~recently~~ irradiated fuel~~]~~ or a loss of coolant accident (LOCA) are filtered and adsorbed prior to exhausting to the environment. The system is described in the Bases for LCO 3.7.~~13~~ 12, "~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (ABGTS)." The system initiates filtered ventilation of ~~the fuel building~~ spent fuel pool area automatically following receipt of a high radiation signal ~~(gaseous or particulate)~~ or a ~~safety injection (SI)~~ Containment Phase A Isolation signal. Initiation may also be performed manually as needed from the main control room. INSERT 1 1 2 3 4

High ~~gaseous and particulate~~ area radiation, ~~each~~ monitored by either of two monitors, provides ~~FBACS~~ ABGTS initiation. Each ~~FBACS~~ ABGTS train is initiated by high radiation detected by a channel dedicated to that train. ~~There are a total of two channels, one for each train. Each channel contains a gaseous and particulate monitor.~~ High radiation detected by ~~any~~ the required monitor or ~~an SI~~ Containment Phase A Isolation signal from the Engineered Safety Features Actuation System (ESFAS) initiates ~~fuel~~ auxiliary building isolation and starts the ~~FBACS~~ ABGTS. These actions function to prevent exfiltration of contaminated air by initiating filtered ventilation, which imposes a negative pressure on the ~~fuel building~~ Auxiliary Building Secondary Containment Enclosure (ABSCE). During plant operations with the containment open to the auxiliary building, the ABSCE boundary is extended to include the area inside the containment building and the shield building. ~~Since the radiation monitors include an air sampling system, various components such as sample line valves, sample line heaters, sample pumps, and filter motors are required to support monitor OPERABILITY.~~ 4 1 4 1 4

APPLICABLE SAFETY ANALYSES

The ~~FBACS~~ ABGTS ensures that radioactive materials in the ~~fuel building~~ ABSCE atmosphere following a fuel handling accident ~~[~~involving handling ~~recently~~ irradiated fuel~~]~~ or a LOCA are filtered and adsorbed prior to being exhausted to the environment. This action reduces the radioactive content in the ~~fuel~~ auxiliary building exhaust following a LOCA or fuel handling accident so that offsite doses remain within the limits specified in 10 CFR 100 (Ref. 1) for LOCA or 10 CFR 50.67 (Ref. 2) for fuel handling accident. 1 4 2 4 4

The ~~FBACS~~ ABGTS actuation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). 1

LCO

The LCO requirements ensure that instrumentation necessary to initiate the ~~FBACS~~ ABGTS is OPERABLE. 1

BASES

LCO (continued)

~~1. Manual Initiation~~

~~The LCO requires two channels OPERABLE. The operator can initiate the FBACS 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.~~ ~~ABGTS~~ ~~INSERT 2~~ ~~1~~ ~~4~~ 5

~~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.~~

~~Each channel consists of one push button hand switch and the interconnecting wiring to the actuation logic cabinet.~~ ~~4~~

~~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.~~

~~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 FBACS 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 FBACS function is affected, the Conditions applicable to their SI function need not be entered. The less restrictive Actions specified for inoperability of the FBACS functions specify sufficient compensatory measures for this case.~~ 5

1 ~~3~~ ~~2~~. Spent Fuel ~~Building~~ Pool Area Radiation 5 4

The LCO specifies ~~two required~~ one ~~Gaseous~~ Spent Fuel Pool Area Radiation Monitor channel~~s and two required Particulate Radiation Monitor channels~~ to ensure that the radiation monitoring instrumentation necessary to initiate the ~~FBACS~~ ABGTS remains OPERABLE. INSERT 3 4 1 4

For sampling systems, channel OPERABILITY involves more than OPERABILITY of channel electronics. OPERABILITY may also require correct valve lineups, sample pump operation, filter motor operation, detector OPERABILITY, if these supporting features are necessary for actuation to occur under the conditions assumed by the safety analyses. INSERT 4 5

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4 ~~**INSERT 2**~~

~~one of two sets of manual initiation hand switches in the control room. Each Auxiliary Building Isolation (ABI) manual hand switch will initiate its respective train of ABGTS.~~

4 **INSERT 3**

One radiation monitor is dedicated to each train of ABGTS.

5 **INSERT 4**

The measurement range for the Spent Fuel Pool Area Monitors is 10^{-1} to 10^{4} mR/hr.

The Required Channels value is modified by a footnote stating that the Required Channel shall be associated with the ABGTS train required OPERABLE per LCO 3.7.12. This ensures a valid actuation signal will start a train of ABGTS.

2 ~~3.~~ Containment Isolation - Phase A

Refer to LCO 3.3.2, Function 3.a., for all initiating Functions and requirements.

BASES

LCO (continued)

Only the Trip Setpoint is specified for each ~~FBACS~~ ABGTS Function in the LCO. The Trip Setpoint limits account for instrument uncertainties, which are defined in ~~the Unit Specific Setpoint Calibration~~ TI-18, Radiation Monitoring Procedure (Ref. ~~2~~ 3). 1 4

APPLICABILITY

The ~~manual~~ ABGTS ~~FBACS~~ automatic initiation must be OPERABLE ~~in MODES [1, 2, 3, and 4]~~ and when moving ~~[recently]~~ irradiated fuel assemblies in the ~~fuel building,~~ auxiliary to ensure the ~~FBACS~~ ABGTS operates to remove fission products associated with leakage after a LOCA or a fuel handling accident [involving ~~handling recently~~ irradiated fuel]. The automatic ~~FBACS~~ ABGTS actuation instrumentation is ~~also~~ required to be OPERABLE in MODES [1, 2, 3, and 4] to remove fission products caused by post LOCA Emergency Core Cooling Systems leakage and is addressed in LCO 3.3.2. 1 2 4 1 1 2 4 5

High radiation initiation of the ~~FBACS~~ ABGTS must be OPERABLE in any MODE during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ auxiliary or storage of fuel assemblies in the spent fuel pool to ensure automatic initiation of the ~~FBACS~~ ABGTS when the potential for ~~the limiting~~ a fuel handling accident exists. ~~[Due to radioactive decay, the FBACS instrumentation is only required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days~~ ~~100 hours~~).] High radiation initiation of ABGTS for a fuel handling accident will ensure the auxiliary building secondary containment enclosure (ABSCE) boundary is established such that the release point for the fission products will correspond to the release point assumed in the fuel handling accident accident analysis. 1 2 4 1 2 1 2

~~While in MODES 5 and 6 without fuel handling [involving handling recently irradiated fuel] in progress, the FBACS~~ ~~ABGTS~~ ~~instrumentation need not be OPERABLE since a fuel handling accident [involving handling recently irradiated fuel] cannot occur.~~ ~~1~~ ~~2~~ 5

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 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. 4

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since ~~recently~~ irradiated fuel assembly movement and fuel assembly storage in the spent fuel pool can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving ~~recently~~ irradiated fuel assemblies or storing while in MODE 5 or 6, LCO 3.0.3 would not specify any action. If moving ~~recently~~ irradiated fuel assemblies or fuel storage while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, 3, or 4 would require the unit to be shutdown unnecessarily. 5 5

BASES

ACTIONS (continued)

~~A second Note has been added to the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.8-1 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.~~ 5

A.1

Condition A applies to the ~~actuation logic train function of the Solid State Protection System (SSPS), the radiation monitor functions, and the manual function.~~ area radiation monitor being inoperable solely due to the trip setpoint not within limits. Condition A applies to the failure of ~~a single actuation logic train, radiation monitor channel, or manual channel.~~ the required radiation monitor. If ~~one channel or train~~ the required channel is inoperable, a period of ~~7 days~~ 4 hours is allowed to adjust the setpoint and restore it to OPERABLE status. If the ~~train~~ channel cannot be restored to OPERABLE status, ~~one FBACS~~ ABGTS ~~train must be placed in operation. This accomplishes the actuation instrumentation function and places the unit in a conservative mode of operation. 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 time is the same as that provided in LCO 3.7.13~~ ~~12~~. the Required Action and associated Completion Time of Condition B would apply. 5 ~~1~~ ~~3~~

~~B.1.1, B.1.2, B.2~~ ~~and~~ 5

~~Condition B applies to the failure of two FBACS actuation logic trains, two radiation monitors, or two manual channels. The Required Action is to place one FBACS train in 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 3.7.13 must also be entered for the FBACS train made inoperable by the inoperable actuation instrumentation. This ensures appropriate limits are placed on train inoperability as discussed in the Bases for LCO 3.7.13.~~ ~~one reqired~~ ~~ABGTS~~ ~~12~~ ~~ABGTS~~ ~~12~~ ~~5~~ ~~1~~ 5 ~~3~~ 1 ~~3~~

~~Alternatively, both trains may be placed in the emergency [radiation protection] mode. This ensures the FBACS Function is performed even in the presence of a single failure.~~ 5

BASES

ACTIONS (continued)

B
~~C~~.1

or the required channel is inoperable for reasons other than the setpoint not within limit.

S

or movement of loads over the spent fuel pool

Condition ~~C~~ B applies when the Required Action and associated Completion Time for Condition A ~~or B~~ have not been met ~~and [recently] irradiated fuel assemblies are being moved in the fuel building.~~ 2 auxiliary
~~Movement~~ of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel~~ auxiliary building must be suspended immediately to eliminate the potential for events that could require ~~FBACS~~ ABGTS actuation. 4 2 1

Entry into the applicable Conditions and Required Actions of LCO 3.7.12 will require that movement

~~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 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.~~ 5

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that table 3.3.8-1 determines which SRs apply to which ~~FBACS~~ ABGTS Actuation Functions. 6 1

SR 3.3.8.1

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.

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.

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.~~
~~---]~~

8

~~SR 3.3.8.3~~

~~[SR 3.3.8.3 is the performance of an ACTUATION LOGIC TEST. All possible logic combinations, with and without applicable permissives, are tested for each protection function. [The actuation logic is tested every 31 days on a STAGGERED TEST BASIS. The Frequency is based on the known reliability of the relays and controls and the multichannel redundancy available, and has been shown to be acceptable through 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.~~
~~---]]~~

5

~~SR 3.3.8.~~~~4~~ 3 ~~5~~

~~SR 3.3.8.~~~~4~~ 3 ~~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~~ ~~5~~

5

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~refueling interval with applicable extensions. In some instances, the test includes actuation of the end device (e.g., pump starts, valve cycles, etc.).~~
~~[The Frequency of 18 months is based on operating experience and is consistent with the typical industry refueling cycle.~~ 5 ~~7~~

~~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.~~
~~-----]~~ 8

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

3

SR 3.3.8.~~5~~ 4 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.~~ 7

~~OR~~

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

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.8 BASES, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) 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 3.3.8B (with Setpoint Control Program Specification) is not used and is not shown. Furthermore, the title of the Specification has been changed from "Fuel Building Air Cleanup System (FBACS) Actuation Instrumentation" to "Auxiliary Building Gas Treatment System (ABGTS) Actuation Instrumentation" since Sequoyah Nuclear Plant (SQN) does not have an FBACS.

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 to be consistent with changes made to ISTS LCO 3.7.13. The Title and the number for this specification were changed and are reflected in the Bases of ITS B 3.3.8.

4. 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.

5. Changes are made to be consistent with changes made to the Specification.

6. Typographical/grammatical error corrected.

3

7. ISTS SR 3.3.8.1, SR 3.3.8.2, ~~SR 3.3.8.4~~, and SR 3.3.8.5 (ITS SR 3.3.8.1, SR 3.3.8.2, ~~SR 3.3.8.3~~, and SR 3.3.8.4) 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.

8. 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.

ITS A01 ITS 3.7.12

REFUELING OPERATIONS

3/4.9.12 AUXILIARY BUILDING GAS TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.7.12 Note 2 — 3.9.12 One auxiliary building gas treatment filter train shall be OPERABLE. M02

Applicability — APPLICABILITY: ~~Whenever irradiated fuel is in the storage pool.~~ stored spent fuel STET or d ~~L06~~ During movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~.

ACTION: irradiated assemblies

~~Add proposed Required Action D.1~~ ~~L06~~

ACTION D.1, ACTION E.1 — a. With no auxiliary building gas treatment filter train OPERABLE, ~~suspend all operations involving movement of fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one auxiliary building gas treatment filter train is restored to OPERABLE status~~. STET M02 L08

ACTIONS Note — b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS ~~L06~~

SR 3.7.12.1, SR 3.7.12.3 — 4.9.12 The above required auxiliary buildings gas treatment filter train shall be demonstrated OPERABLE:

In accordance with the Surveillance Frequency Control Program LA02

L03

SR 3.7.12.1 — a. ~~At least once per 31 days on a STAGGERED TEST BASIS~~ by initiating, ~~from the control room, flow through the HEPA filters and charcoal adsorbers~~ and verifying that the system operates for at least 10 hours with the heaters on. LA03

Add proposed SR 3.7.12.2 A02

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978 (except for the provisions of ANSI N510 Sections 8 and 9), and the system flow rate is 9000 cfm ± 10%.

2. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than 2.5% when tested in accordance with ASTM D3803-1989 at a temperature of 30°C (86°F) and a relative humidity of 70%.

3. Verifying a system flow rate of 9000 cfm ± 10% during system operations when tested in accordance with ANSI N510-1975.

See ITS 5.5.9

REFUELING OPERATIONS

3/4.9.12 AUXILIARY BUILDING GAS TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.7.12 Note 2 — 3.9.12 One auxiliary building gas treatment filter train shall be OPERABLE.

Applicability — APPLICABILITY: ~~Whenever irradiated fuel is in the storage pool.~~ STET irradiated stored spent fuel or d During movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. M02 ~~L06~~ ~~L06~~

ACTION:

Add proposed Required Action D.1

a. With no auxiliary building gas treatment filter train OPERABLE, ~~suspend all operations involving movement of fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one auxiliary building gas treatment filter train is restored to OPERABLE status~~. (ACTION D.1, ACTION E.1) assemblies STET M02 L08

b. The provisions of Specification 3.0.3 are not applicable. (ACTIONS Note) STET

SURVEILLANCE REQUIREMENTS

SR 3.7.12.1, SR 3.7.12.3 — 4.9.12 The above required auxiliary building gas treatment filter train shall be demonstrated OPERABLE:

In accordance with the Surveillance Frequency Control Program LA02 L03 LA03

SR 3.7.12.1 — a. ~~At least once per 31 days on a STAGGERED TEST BASIS~~ by initiating, ~~from the control room, flow through the HEPA filters and charcoal adsorbers~~ and verifying that the system operates for at least 10 hours with the heaters on.

Add proposed SR 3.7.12.2 A02

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978 (except for the provisions of ANSI N510 Sections 8 and 9), and the system flow rate is 9000 cfm $\pm$ 10%.

2. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than 2.5% when tested in accordance with ASTM D3803-1989 at a temperature of 30°C (86° F) and a relative humidity of 70%.

3. Verifying a system flow rate of 9000 cfm $\pm$ 10% during system operation when tested in accordance with ANSI N510-1975.

See ITS 5.5.9

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DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

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 4.7.8.b and CTS 4.9.12.b specify the ABGTS Surveillances to be performed after any structural maintenance on the HEPA filter or charcoal adsorber housings, or following painting, fire or chemical release in any ventilation zone communicating with the system. CTS 4.7.8.c and CTS 4.9.12.c specify the ABGTS Surveillance to be performed after every 720 hours of charcoal adsorber operation. CTS 4.7.8.d.4 and CTS 4.9.12.d.3 specify the ABGTS Surveillance to be performed to verify the heaters dissipate the proper wattage. CTS 4.7.8.e and CTS 4.9.12.e specify the ABGTS Surveillances to be performed after each complete or partial replacement of a HEPA filter bank. CTS 4.7.8.f and CTS 4.9.12.f specify the ABGTS Surveillances to be performed after complete or partial replacement of a charcoal adsorber bank. ITS SR 3.7.12.2 requires performing required ABGTS filter testing in accordance with the Ventilation Filter Testing Program (VFTP). CTS 4.7.8 and 4.9.12 do not include a VFTP, however the aforementioned CTS Surveillance Requirements will be implemented in the VFTP located in ITS 5.5.9. This changes the CTS by requiring testing in accordance with the VFTP, whose requirements are being moved to ITS 5.5.9.

This change is acceptable because filter testing requirements are being moved to the VFTP as part of ITS 5.5.9, and ITS SR 3.7.12.2 references the VFTP for performing these tests. This change is designated as administrative because it does not result in technical changes to the CTS.

, anytime fuel is stored in the spent fuel pool,

A03 CTS 4.7.8.d.2 requires verification that the auxiliary building gas treatment filter trains start on a containment Phase A isolation test signal in MODES 1, 2, 3 and 4. CTS 4.9.12.d.2 requires verification that the auxiliary building gas treatment filter trains start on a high radiation signal from the fuel pool radiation monitoring system whenever irradiated fuel is in the storage pool. ITS SR 3.7.12.3 requires verification that each ABGTS train actuates on an actual or simulated actuation signal in MODES 1, 2, 3 and 4 and during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. ITS SR 3.7.12.3 is modified by two Notes. Note 1 specifies an actual or simulated actuation on Containment Phase A isolation signal is only required to be met in MODES 1, 2, 3 and 4. Note 2 specifies an actual or simulated actuation on fuel storage pool area high radiation signal is only required to be met during the movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building.~~ This changes the CTS by adding Notes to the ABGTS train actuation Surveillance to clarify that the associated actuation signals are only required to actuate the ABGTS trains during the specified conditions that they are relied upon to provide fission product removal. (See

or whenever fuel is stored in the spent fuel pool.

DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

DOC L07 for a discussion of specifying that the actuation signal may be either actual or simulated. See DOC ~~L06~~ M02 for a discussion on limiting the Applicability to the conditions during which a fuel handling accident is postulated to occur.)

The purpose of CTS 3.7.8 is to ensure the ABGTS trains are OPERABLE during the plant conditions that a loss of coolant accident is postulated to occur (MODES 1, 2, 3 and 4). The purpose of CTS 3.9.12 is to ensure that radioactive material that is released from an irradiated fuel assembly during a fuel handling accident is processed through filtration prior to release to the atmosphere (during the movement of ~~recently~~ irradiated fuel assemblies or whenever fuel is stored in the spent fuel pool ~~in the auxiliary building~~). ITS 3.7.12 combines CTS 3.7.8 and 3.9.12 into one Specification with an Applicability of MODES 1, 2, 3 and 4, anytime fuel is stored in the spent fuel pool, and during the movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. This results in the need to specify the plant conditions in which each actuation signal is required to actuate ABGTS to mitigate the associated accident. The plant conditions under which each ABGTS actuation signal is required to be OPERABLE is addressed in ITS 3.3.8 ~~remains unchanged between CTS and ITS~~. This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

M01 CTS 4.7.8.d.3 requires verification that each ABGTS train ~~system~~ can maintain the spent fuel storage area and the ESF pump rooms at a pressure equal to or less than - 0.25 inches water gauge relative to the outside atmosphere while maintaining a total system flow of 9,000 cfm plus or minus 10% every 18 months in MODES 1, 2, 3 and 4. ITS SR 3.7.12.4 requires the same verification every 18 months on a STAGGERED TEST BASIS in MODES 1, 2, 3 and 4, anytime fuel is stored in the spent fuel pool, and during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. This changes the CTS by adding a Surveillance Requirement to verify the ABGTS can maintain a negative pressure at the required flow rate during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. (See DOC L05 for the discussion regarding the change of the testing Frequency to "on a STAGGERED TEST BASIS." See DOC LA02 for the discussion regarding movement of the Surveillance Frequency to the Surveillance Frequency Control Program.)

or with fuel stored in the spent fuel pool.

This change is acceptable because the ABGTS is required to be OPERABLE during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. The Surveillance Requirement is required to verify that the ABGTS can perform its required safety function during this Applicability. This change is designated as more restrictive because an additional Surveillance Requirement is being required that was not in the CTS.

See insert 1

RELOCATED SPECIFICATIONS

None

Insert 1

M02 CTS 3.9.12 states that the requirements of the ABGTS are applicable “Whenever irradiated fuel is in the storage pool.” CTS 3.9.12 ACTION a requires when no ABGTS is OPERABLE, suspend all operations involving movement of fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one ABGTS train is restored to an OPERABLE status. ITS 3.7.12 states, in part, that the requirements of the ABGTS are applicable “During movement of irradiated fuel assemblies or with fuel stored in the spent fuel pool.” ITS 3.7.12 ACTION D requires when one required ABGTS train is inoperable during movement of irradiated fuel assemblies, to immediately suspend movement of irradiated fuel assemblies. ITS 3.7.12 ACTION E requires when one required ABGTS train is inoperable with fuel stored in the spend fuel pool to suspend all crane operation with loads over the spent fuel pool. This changes CTS by increasing the ABGTS Specification applicability to when there is a potential for a fuel handling accident (i.e., during movement of irradiated fuel assemblies or whenever fuel is stored in the spent fuel pool.

The purpose of CTS 3.9.12 is to ensure the ABGTS is OPERABLE to mitigate the consequences of a fuel handling accident. This change is acceptable because the requirements continue to ensure that the structures, system and components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The Sequoyah Nuclear Plant (SQN) fuel handling analysis has been analyzed using the methodology from Regulatory Guide 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors." The SQN fuel handling analysis assumes, in part, that the accident occurs greater than 100 hours after a plant shutdown, radioactive decay during the interval between shutdown and placement of the first spent fuel assembly into the spent fuel pool is taken into account, and a single fuel assembly is damaged. The ITS imposes the controls on the ABGTS during movement of irradiated fuel assemblies and anytime fuel is stored in the spent fuel pool. This change is designated as more restrictive because the LCO requirements are applicable in more operating conditions than in the CTS.

DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

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.

LA03 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.8.a requires each auxiliary building gas treatment filter train to be demonstrated OPERABLE by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the system operated for at least 10 hours with the heaters on. CTS 4.9.12.a requires each auxiliary building gas treatment filter train to be demonstrated OPERABLE by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the system operated for at least 10 hours with the heaters on. ITS SR 3.7.12.1 requires operation of each ABGTS for greater than or equal to 15 continuous minutes with the heaters on. This changes the CTS by moving the statement that the test is initiated from the control room and with flows through the HEPA filter and charcoal adsorber train to the Bases. (See DOC L04 for the discussion related to the reduction in the amount of time each ABGTS train is required to be operated.)

train

The removal of these details for performing a Surveillance Requirement from the Technical Specifications is acceptable because this type of information is not necessary to be includes in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirements to operate each ABGTS train with the heaters on. Also, this change is acceptable because these types of details 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 procedural details for meeting Technical Specifications are being removed from the Technical Specifications.

LA04 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 4.7.8.d.2 requires verification that the filter trains start on a Containment Phase A Isolation test signal. CTS 4.9.12.d.2 requires verification that the filter train starts on a high radiation signal from the fuel pool radiation monitoring system. ITS 3.7.12.3 requires verification that each ABGTS train actuates on an actual or simulated actuation signal. This changes the CTS by moving the details of the test signal to the Bases. (See DOC L07 for a discussion of specifying that the actuation signal may be either actual or simulated.)

The purpose of CTS 4.7.8.d.2 and 4.9.12.d.2 is to verify that each ABGTS train operates correctly upon a receipt of an actuation signal. The removal of the details regarding the actuation signal used, 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

during the conditions that require ABGTS to perform its safety function

DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

adequate protection of public health and safety. ITS 3.7.12 retains the requirement that ~~two~~ ABGTS trains are required to be OPERABLE. Also, this change is acceptable because these types of details 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.

LA05 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.8.d.3 requires verification that the ABGTS system maintains the spent fuel storage area and the ESF pump rooms at a pressure equal to or more negative than minus 1/4 inch water gage relative to the outside atmosphere while maintaining a total system flow of 9000 cfm plus or minus 10%. ITS 3.7.12.4 requires verification that the ABGTS train can maintain a pressure greater than or equal to -0.25 inches water gauge with respect to atmospheric pressure at a flow rate greater than or equal to 8,100 and less than or equal to 9,900 cfm. This changes the CTS by moving the statement that the system maintains the spent fuel storage area and the ESF pump rooms at the specified pressure to the Bases.

The removal of these details for performing a Surveillance Requirement 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 requirements to verify the ABGTS train can maintain a pressure greater than or equal to -0.25 inches water gauge with respect to atmospheric pressure at a flow rate of greater than or equal to 8,100 and less than or equal to 9,900 cfm. Also, this change is acceptable because these types of procedural details 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 procedural details for meeting Technical Specifications are being removed from the Technical Specifications.

<u>LESS RESTRICTIVE CHANGES</u>

L01 *(Category 1 – Relaxation of LCO Requirements)* CTS 3.7.8 requires two ABGTS trains to be OPERABLE. ITS LCO 3.7.12 includes the same ABGTS OPERABILITY requirements but is modified by Note 1, which states "The Auxiliary Building Secondary Containment Enclosure (ABSCE) boundary may be opened intermittently under administrative control." This changes the CTS by allowing the ABSCE boundary to be opened under administrative controls when the ABGTS is required to be OPERABLE.

The purpose of CTS 3.7.8 is to maintain the air pressure in the auxiliary building below atmospheric, reduce the concentration of nuclides in air releases from the Auxiliary Building Secondary Containment Enclosure (ABSCE), and to minimize the spread of airborne radioactivity within the Auxiliary Building following an

DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

accidental release in the fuel handling areas. ITS LCO 3.7.12 Note 1 will allow the ABSCE boundary to be opened under administrative controls when the ABGTS is required to be OPERABLE. This change is acceptable because the administrative controls are described in the Bases. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for auxiliary building isolation is indicated. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

L02 *(Category 4 – Relaxation of Required Action)* CTS 3.7.8 ACTION contains compensatory actions to take when one auxiliary building gas treatment filter train is inoperable in MODES 1, 2, 3 and 4. CTS 3.7.8 does not contain compensatory actions to take when both auxiliary building gas treatment filter trains are inoperable. Therefore, CTS 3.0.3 would be entered for two auxiliary building gas treatment filter trains inoperable. CTS 3.0.3 requires action to be initiated within one hour to be in HOT STANDBY (equivalent to ITS MODE 3) in the following 6 hours, to be in HOT SHUTDOWN (equivalent to ITS MODE 4) in the following 6 hours, and to be in COLD SHUTDOWN (equivalent to ITS MODE 5) in the subsequent 36 hours. ITS 3.7.12 ACTIONS contain a Note stating LCO 3.0.3 is not applicable. ITS 3.7.12 ACTION B states with two ABGTS trains inoperable due to an inoperable Auxiliary Building Secondary Containment Enclosure (ABSCE) boundary in MODE 1, 2, 3, or 4 to restore the auxiliary building boundary to OPERABLE status within 24 hours. Additionally, ITS 3.7.12 ACTION C states, in part, when two ABGTS trains are inoperable for reasons other than Condition B (i.e., an inoperable ABSCE boundary) or if the Required Action and associated Completion Time of Condition B is not met in MODE 1, 2, 3, or 4 to be in MODE 3 within 6 hours and to be in MODE 5 within 36 hours. This changes the CTS by not requiring entry into LCO 3.0.3 when two ABGTS trains are inoperable in MODE 1, 2, 3, or 4, and adds compensatory actions to take when two ABGTS trains are inoperable in MODE 1, 2, 3, or 4.

or with fuel stored in the spent fuel pool

or fuel can be stored in the spent fuel pool

ITS 3.7.12 is applicable during movement of ~~recently~~ irradiated fuel assemblies in addition to MODE 1, 2, 3, or 4. Since the movement of ~~recently~~ irradiated fuel assemblies can occur in MODES 1, 2, 3, and 4, it is necessary to add an ACTIONS Note stating that LCO 3.0.3 is not applicable because the movement of fuel is independent of reactor operations. This change is acceptable because ITS 3.7.12 ACTIONS B and C will provide compensatory measures to take when two trains of ABGTS are inoperable in MODE 1, 2, 3, or 4. ITS 3.7.12 ACTION B applies when two ABGTS trains are inoperable because of an inoperable ABSCE boundary in MODE 1, 2, 3, or 4 and provides 24 hours to restore the inoperable auxiliary building boundary to OPERABLE status. During these 24 hours, compensatory measures will be taken to protect plant personnel from potential hazards, and preplanned compensatory measures will be in place to address both the intentional and unintentional inoperability of the ABSCE boundary. Furthermore, the 24 hour Completion Time is based on the low probability of a DBA occurring during this time period and the compensatory measures that will be taken. ITS 3.7.12 ACTION C applies when the Required Action and associated Completion Time of Condition B is not met or when two ABGTS trains

or storage

DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

Not Used

L06 *(Category 2 – Relaxation of Applicability)* CTS 3.9.12 states that the requirements of the ABGTS are applicable "Whenever irradiated fuel is in the storage pool." CTS 3.9.12 ACTION a requires when no ABGTS is OPERABLE, suspend all operations involving movement of fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one ABGTS train is restored to an OPERABLE stratus. ITS 3.7.12 states, in part, that the requirements of the ABGTS are applicable "During movement of recently irradiated fuel assemblies in the auxiliary building." ITS 3.7.12 ACTION D requires when two ABGTS trains are inoperable during movement of recently irradiated fuel assemblies in the auxiliary building immediately to suspend movement of recently irradiated fuel assemblies in the auxiliary building. This changes the CTS by restricting the ABGTS Specification to only when there is a potential for a fuel handling accident (i.e., during movement of recently irradiated fuel assemblies in the auxiliary building).

The purpose of CTS 3.9.12 is to ensure the ABGTS is OPERABLE to mitigate the consequences of a fuel handling accident in the auxiliary building. This change is acceptable because the requirements continue to ensure that the structures, system and components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The Sequoyah Nuclear Plant (SQN) fuel handling analysis for the auxiliary building has been analyzed using the methodology from Regulatory Guide 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors." The SQN fuel handling analysis assumes, in part, that the accident occurs within 100 hours after a plant shutdown, radioactive decay during the interval between shutdown and placement of the first spent fuel assembly into the spent fuel pool is taken into account, and a single fuel assembly is damaged. Additionally, a fuel handling accident is only assumed to occur when a recently irradiated fuel assembly is being moved. Therefore, the ITS imposes the controls on the ABGTS during movement of recently irradiated fuel assemblies in the auxiliary building. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

L07 *(Category 6 – Relaxation of Surveillance Requirement Acceptance Criteria)* CTS 4.7.8.d.2 requires verification that the filter trains start on a Containment Phase A Isolation test signal. CTS 4.9.12.d.2 requires verification that the filter train starts on a high radiation signal from the fuel pool radiation monitoring system. ITS SR 3.7.12.3 requires verification that each ABGTS train actuates on an actual or simulated actuation signal. This changes the CTS by specifying that the actuation signal may be either actual or simulated. (See DOC LA04 for a discussion of moving the details of the test signal to the Bases.)

The purpose of CTS 4.7.8.d.2 and 4.9.12.d.2 is to verify that each ABGTS train operates correctly upon a receipt of an actuation signal. This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its safety function. Equipment cannot discriminate between an "actual" or "simulated" signal; therefore, the results of testing are unaffected by the type of signal used to initiate the test.

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DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

L08 *(Category 4 - Relaxation of Required Action)* CTS 3.9.12 ACTION a contains compensatory actions to, in part, suspend crane operation with loads over the spent fuel pit until at least one ABGTS train is restored to OPERABLE status. ITS 3.7.12 ACTION E contains a Note stating that crane operations using the main hoist on the Auxiliary Building crane may continue. This changes CTS by allowing operations with loads over the spent fuel pool with the main hoist on the auxiliary building crane to continue without having one ABGTS train OPERABLE.

ITS 3.7.12 is applicable anytime fuel is stored in the spent fuel pool to ensure that the assumptions made for the fuel handling accident are maintained. With no OPERABLE ABGTS train, activities involving loads over the spent fuel pool are prohibited such that a load cannot be dropped onto the fuel stored in the storage pool. The Note allows loads using the main hoist on the auxiliary building crane to be used over the spent fuel pool because the main hoist is a single failure proof crane meeting the requirements of NUREG-0554 and NUREG-0612. Dropping loads from a single failure proof crane are not considered creditable accidents, therefore crane operation with the main hoist may continue with no ABGTS train OPERABLE. This change is designated as less restrictive because the less stringent requirements are being applied to ITS than were applied to the CTS.

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CTS

ABGTS ~~FBACS~~
3.7.~~13~~ 12 1

3.7 PLANT SYSTEMS

3.7.~~13~~ 12 ~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System ~~(FBACS)~~ ABGTS 1

3.7.8 LCO 3.7.~~13~~ 12 Two ~~FBACS~~ ABGTS trains shall be OPERABLE. 1

DOC L01 3.9.12
---NOTE S---
1. The ~~fuel building~~ Auxiliary Building Secondary Containment Enclosure (ABSCE) boundary may be opened intermittently under administrative control. 3 2
INSERT 1

3.7.8 Applicability, 3.9.12 Applicability
APPLICABILITY: ~~[~~MODES 1, 2, 3, and 4, ~~]~~ 4 3
During movement of ~~[recently]~~ irradiated fuel assemblies ~~in the~~ ~~fuel~~ ~~auxiliary~~ ~~building~~.
,
With fuel stored in the spent fuel pool. 7

ACTIONS

DOC L02, 3.9.12 ACTION b
---NOTE---
LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ~~FBACS~~ ABGTS train inoperable ~~.~~ In MODE 1, 2, 3, or 4	A.1 Restore ~~FBACS~~ ABGTS train to OPERABLE status.	7 days
B. Two ~~FBACS~~ ABGTS trains inoperable due to inoperable ~~fuel building~~ ABSCE boundary ~~in MODE 1, 2, 3, or 4.~~	B.1 Restore ~~fuel building~~ ABSCE boundary to OPERABLE status.	24 hours

3.7.8 ACTION (Condition A) 1 2

DOC L02 (Condition B) 1 3

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CTS 3.7.12

2

INSERT 1

3.9.12 2. Only one ABGTS train is required to be OPERABLE during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~.

or with fuel stored in the spent fuel pool. 7

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CTS

ABGTS ~~FBACS~~ 1

3.7.~~13~~ 12

ACTIONS (continued)

	CONDITION	REQUIRED ACTION	COMPLETION TIME	
3.7.8 ACTION	C. ~~[~~Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3.	6 hours	4
		AND		
		C.2 Be in MODE 5.	36 hours ~~]~~	4
	OR			
DOC L02	Two ~~FBACS~~ ABGTS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.			1
	~~D. Required Action and associated Completion Time [of Condition A] not met during movement of [recently] irradiated fuel assemblies in the fuel building.~~	~~D.1 Place OPERABLE FBACS train in operation.~~	~~Immediately~~	2
		~~OR~~		
		~~D.2 Suspend movement of [recently] irradiated fuel assemblies in the fuel building.~~	~~Immediately~~	
3.9.12 ACTION a	~~E~~ D. ~~Two FBACS trains~~ One required ABGTS inoperable during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ auxiliary.	~~E~~ D.1 Suspend movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ auxiliary.	Immediately	2 1 4 4 3 3
3.9.12 ACTION a L08	E. One required ABGTS train inoperable with fuel stored in the spent fuel pool.	E.1 -------------NOTE------------ Crane operations using the main hoist on the Auxiliary Building crane may continue. --------------------------------- Suspend all crane operation with loads over the spent fuel pool.	Immediately	7

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6

INSERT 2

DOC A03

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

1. Actual or simulated actuation on Containment Phase A isolation signal only required to be met in MODES 1, 2, 3 and 4.

2. Actual or simulated actuation on fuel storage pool area high radiation signal only required to be met during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~ or whenever fuel is stored in the spent fuel pool.

7

CTS

ABGTS ~~FBACS~~
3.7.~~13~~ 12 1

3.7 PLANT SYSTEMS

3.7.~~13~~ 12 Auxiliary Building Gas Treatment ~~Fuel Building Air Cleanup~~ System ABGTS ~~(FBACS)~~ 1

3.7.8 LCO 3.7.~~13~~ 12 Two ABGTS ~~FBACS~~ trains shall be OPERABLE. 1

DOC L01 3.9.12
-----------------------------------NOTES-----------------------------------
1. The Auxiliary Building Secondary Containment Enclosure (ABSCE) ~~fuel building~~ boundary may be opened intermittently under administrative control. 3 2

INSERT 1

3.7.8 Applicability, 3.9.12 Applicability
APPLICABILITY: ~~[~~MODES 1, 2, 3, and 4, ~~]~~
During movement of ~~[recently]~~ irradiated fuel assemblies in the auxiliary ~~fuel building.~~ , 4 3
With fuel stored in the spent fuel pool. 7

ACTIONS

DOC L02, 3.9.12 ACTION b
-----------------------------------NOTE-----------------------------------
LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
3.7.8 ACTION: A. One ABGTS ~~FBACS~~ train inoperable In MODE 1, 2, 3, or 4.	A.1 Restore ABGTS ~~FBACS~~ train to OPERABLE status.	7 days 1 2
DOC L02: B. Two ABGTS ~~FBACS~~ trains inoperable due to inoperable ABSCE ~~fuel building~~ boundary ~~in~~ MODE 1, 2, 3, or 4.	B.1 Restore ABSCE ~~fuel building~~ boundary to OPERABLE status.	24 hours 1 3

2

INSERT 1

3.9.12 2. Only one ABGTS train is required to be OPERABLE during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~.

or with fuel stored in the spent fuel pool. 7

CTS

ABGTS ~~FBACS~~ 1
3.7.~~13~~ 12

ACTIONS (continued)

	CONDITION	REQUIRED ACTION	COMPLETION TIME	
3.7.8 ACTION	C. ~~[~~Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3.	6 hours	4
		AND		
		C.2 Be in MODE 5.	36 hours ~~]~~	4
	OR			
DOC L02	Two ~~FBACS~~ ABGTS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.			1
	~~D. Required Action and associated Completion Time [of Condition A] not met during movement of [recently] irradiated fuel assemblies in the fuel building.~~	~~D.1 Place OPERABLE FBACS train in operation.~~	~~Immediately~~	2
		~~OR~~		
		~~D.2 Suspend movement of [recently] irradiated fuel assemblies in the fuel building.~~	~~Immediately~~	
3.9.12 ACTION a	~~E~~ D. ~~Two FBACS trains~~ One required ABGTS trains inoperable during movement of ~~[recently]~~ irradiated fuel assemblies in the ~~fuel~~ auxiliary building.	~~E~~ D.1 Suspend movement of ~~[recently]~~ irradiated fuel assemblies in the ~~fuel~~ auxiliary ~~building~~.	Immediately	2 1 4 4 3 3
3.9.12 ACTION a L08	E. One required ABGTS train inoperable with fuel stored in the spent fuel pool.	E.1 -------------NOTE------------ Crane operations using the main hoist on the Auxiliary Building crane may continue. -------------------------------- Suspend all crane operation with loads over the spent fuel pool.	Immediately	7

6

INSERT 2

DOC A03

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

1. Actual or simulated actuation on Containment Phase A isolation signal only required to be met in MODES 1, 2, 3 and 4.

2. Actual or simulated actuation on fuel storage pool area high radiation signal only required to be met during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~.

----

or whenever fuel is stored in the spent fuel pool. 7

JUSTIFICATION FOR DEVIATIONS
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

1. Sequoyah Nuclear Plant (SQN) design does not include the ISTS 3.7.12, "Emergency Core Cooling System (ECCS) Pump Room Exhaust Air Cleanup System (PREACS)." Therefore, ISTS 3.7.13, "Fuel Building Air Cleanup System (FBACS)" has been renumbered as ITS 3.7.12. Additionally, SQN refers to the Fuel Building Air Cleanup System (FBACS) as the Auxiliary Building Gas Treatment System (ABGTS).

2. ISTS 3.7.13 ACTION A has been revised to only apply in MODES 1, 2, 3, or 4 and ACTION D has been deleted, as the SQN current licensing basis only credits one train of ABGTS to mitigate a fuel handling accident involving ~~the movement of recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. Therefore, the only applicable ACTION for the required ABGTS train being inoperable during the movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~ is ISTS 3.7.13 ACTION E (ITS 3.7.12 ACTION D).

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. 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. ISTS SR 3.7.13.1, SR 3.7.13.3 and SR 3.7.13.4 (ITS SR 3.7.12.1, SR 3.7.12.3 and SR 3.7.12.4, respectively) provides two options for controlling the Frequencies of Surveillance Requirements. SQN is proposing to control the Surveillance Frequencies under the Surveillance Frequency Control Program.

6. Changes made for consistency with the Applicability of the ABGTS actuation functions provided in ITS 3.3.8.

7. ISTS 3.7.13 is not applicable whenever fuel is stored in the spent fuel pool. To mitigate the consequences of a fuel handling accident involving fuel stored in the spent fuel pool, the Applicability of ISTS 3.7.13 (ITS 3.7.12) has been revised to include anytime fuel is stored in the spent fuel storage pool. ITS 3.7.12 ACTION E.1 has been added to suspend all crane operation with loads over the spent fuel pool in the event that there is no OPERABLE ABGTS. A NOTE has been added to the Required Actions of ITS 3.7.12 Condition E to allow crane operation using the main hoist on the Auxiliary Building crane. The main hoist on the Auxiliary Building crane is a single failure proof crane meeting the requirements of NUREG-0554 and NUREG-0612.

ABGTS ~~FBACS~~ 1
B 3.7.~~13~~ 12

B 3.7 PLANT SYSTEMS

B 3.7.~~13~~ 12 Auxiliary Building Gas Treatment ~~Fuel Building Air Cleanup~~ System (ABGTS ~~FBACS~~) 1

BASES

BACKGROUND

The ABGTS ~~FBACS~~ filters airborne radioactive particulates from the area of the fuel pool following a fuel handling accident or loss of coolant accident (LOCA). ~~The FBACS, in conjunction with other normally operating systems, also provides environmental control of temperature and humidity in the fuel pool area.~~ 1 2

The ABGTS ~~FBACS~~ consists of two independent and redundant trains. Each train consists of a heater, a prefilter ~~or demister~~, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan. Ductwork, valves or dampers, and instrumentation also form part of the system~~, as well as demisters, functioning to reduce the relative humidity of the airstream~~. ~~A second bank of HEPA filters follows the adsorber section to collect carbon fines and provide backup in case the main HEPA filter bank fails. The downstream HEPA filter is not credited in the analysis, but serves to collect charcoal fines, and to back up the upstream HEPA filter should it develop a leak.~~ The system initiates filtered ventilation of the auxiliary ~~fuel handling~~ building following receipt of a high radiation signal. INSERT 1 1 2

The ABGTS ~~FBACS~~ is a standby system~~, parts of which may also be operated during normal plant operations~~. Upon receipt of the actuating signal, normal air discharge~~s~~ from ~~the building, the~~ auxiliary ~~fuel handling~~ building is isolated~~,~~ and the stream of ventilation air discharges through the system filter trains. ~~The prefilters or demisters remove any large particles in the air, and any entrained water droplets present, to prevent excessive loading of the HEPA filters and charcoal adsorbers.~~ 1 2

The ABGTS ~~FBACS~~ is discussed in the U FSAR, Sections ~~[~~6.2.3 ~~5.1], [9.4.5]~~, 5.3 and ~~[~~15.~~7.4]~~ (Refs. 1~~, 2,~~ and 2 ~~3~~, respectively) because it may be used for ~~normal, as well as~~ post accident~~,~~ and atmospheric cleanup functions. 1 2 3

APPLICABLE SAFETY ANALYSES

The ABGTS ~~FBACS~~ design basis is established by the consequences of ~~the limiting~~ Design Basis Accident~~s~~ (DBA~~s~~) a LOCA during MODES 1, 2, 3, and 4, and a fuel handling accident during operations involving irradiated fuel assemblies. ~~, which is a fuel handling accident [involving handling recently irradiated fuel]. The analysis of the fuel handling accident, given in Reference 3, assumes that all fuel rods in an assembly are damaged.~~ The analysis of the LOCA, given in Reference 2, assumes that radioactive materials leaked from the Emergency Core Cooling System (ECCS) are filtered and adsorbed by the ABGTS ~~FBACS~~. The analysis of the fuel handling accident, given in Reference 3, assumes that the auxiliary building secondary containment enclosure (ABSCE) boundary is intact to ensure the releases from the auxiliary and containment buildings are consistent with the dose consequence analysis, no credit is taken for filtration by the ABGTS. ~~The DBA analysis of the fuel handling accident assumes that only one train of the FBACS is functional due to a single failure that disables the other train. The accident analysis accounts for the reduction in airborne radioactive~~ 1 2 3

2

INSERT 1

from the fuel handling area radiation monitors, a high radiation signal from the train-specific Auxiliary Building exhaust vent monitor, a Phase A containment isolation signal from either reactor, or a high temperature signal from the Auxiliary Building air intakes

. During plant operations with the containment open to the auxiliary building, the Auxiliary Building Secondary Containment Enclosure (ABSCE) boundary is extended to include the area inside the containment building and the shield building.

ABGTS ~~FBACS~~ 1
B 3.7.~~13~~ 12

BASES

APPLICABLE SAFETY ANALYSES (continued)

~~material provided by the one remaining train of this filtration system.~~ The amount of fission products available for release from the auxiliary ~~fuel handling~~ building is determined for a fuel handling accident and for a LOCA. ~~[Due to radioactive decay, FBACS~~ ~~ABGTS~~ ~~is only required to isolate during fuel handling accidents involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days~~ ~~100 hours~~~~).]~~ These assumptions and the analysis follow the guidance provided in Regulatory Guide 1.4 (Ref. 4) for a LOCA and Regulatory Guide ~~1.25~~ 1.183 (Ref. ~~4~~ ~~3~~ 5) for the fuel handling accident.

The ABGTS ~~FBACS~~ satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Two independent and redundant trains of the ABGTS ~~FBACS~~ are required to be OPERABLE to ensure that at least one train is available, assuming a single failure that disables the other train, coincident with a loss of offsite power. Total system failure could result in the atmospheric release from the auxiliary ~~fuel handling~~ building exceeding the 10 CFR 100 (Ref. ~~5~~ ~~4~~ 6) limits in the event of a LOCA ~~fuel handling accident [involving handling recently irradiated fuel]~~. INSERT 2

The ABGTS ~~FBACS~~ is considered OPERABLE when the individual components necessary to control exposure in the auxiliary ~~fuel handling~~ building are OPERABLE in both trains. An ABGTS ~~FBACS~~ train is considered OPERABLE when its associated:

a. Fan is OPERABLE,

b. HEPA filter and charcoal adsorber are not excessively restricting flow, and are capable of performing their filtration function, and

c. Heater, ~~demister,~~ ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

The LCO is modified by two Notes. Note 1 allows ~~a Note allowing~~ the Auxiliary Building Secondary Containment Enclosure (ABSCE) ~~fuel building~~ boundary to be opened intermittently under administrative controls. For entry and exit through doors the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for auxiliary ~~fuel~~ building isolation is indicated.

INSERT 3

2

INSERT 2

One train of the ABGTS is required to be OPERABLE to mitigate the consequences of a fuel handling accident involving ~~handling recently~~ irradiated fuel to limit releases to the environment to within the 10 CFR 50.67 limits.

4

INSERT 3

Note 2 specifies that only one ABGTS train is required to be OPERABLE during the movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~.

or with fuel stored in the spent fuel pool.

With fuel stored in the spent fuel pool, one train of ABGTS is required to be OPERABLE to mitigate the consequences that could occur involving irradiated fuel stored in the fuel storage pool.

to provide fission product removal associated with ECCS leaks due to a LOCA

BASES

APPLICABILITY

In MODE 1, 2, 3, or 4, the ~~FBACS~~ ABGTS is required to be OPERABLE to provide fission product removal associated with ECCS leaks due to a LOCA and leakage from containment and annulus. 1

In MODE 5 or 6, the ~~FBACS~~ ABGTS is not required to be OPERABLE since the ECCS is not required to be OPERABLE. 1 2

one train of

During movement of ~~[recently]~~ irradiated fuel ~~in the~~ ~~fuel handling area~~ auxiliary building, the ~~FBACS~~ ABGTS is required to be OPERABLE to alleviate the consequences of a fuel handling accident. 3 1 2

ACTIONS

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since irradiated fuel assembly movement can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, 3, or 4 would require the unit to be shutdown unnecessarily. 4

or fuel storage in the spent fuel pool

storing or

or storage

A.1

With one ~~FBACS~~ ABGTS train inoperable, in MODE 1, 2, 3, or 4 action must be taken to restore OPERABLE status within 7 days. During this period, the remaining OPERABLE train is adequate to perform the ~~FBACS~~ ABGTS function. The 7 day Completion Time is based on the risk from an event occurring requiring the inoperable ~~FBACS~~ ABGTS train, and the remaining ~~FBACS~~ ABGTS train providing the required protection. 4 1

B.1

~~-----------------------------------REVIEWER'S NOTE-------------------------~~
~~Adoption of Condition B is dependent on a commitment from the licensee to have guidance available describing compensatory measures to be taken in the event of an intentional and unintentional entry into Condition B.~~
~~--~~ 5

If the ~~fuel building~~ ABSCE boundary is inoperable in MODE 1, 2, 3, or 4, the ~~FBACS~~ ABGTS trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE ~~fuel building~~ ABSCE boundary within 24 hours. During the period that the ~~fuel building~~ ABSCE boundary is inoperable, appropriate compensatory measures ~~[~~consistent with the intent, as 1 3

 1

BASES

ACTIONS (continued)

D ~~E~~.1 4

When ~~two~~ the required trains~~s~~ of ~~the FBACS are~~ ABGTS is inoperable during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ ~~auxiliary~~, action must be taken to place the unit in a condition in which the LCO does not apply. Action must be taken immediately to suspend movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ ~~auxiliary~~. This does not preclude the movement of fuel to a safe position. 4 2 4 3 ~~1~~ 3 4 ~~1~~ 4

Insert 7

SURVEILLANCE REQUIREMENTS

SR 3.7.~~13~~ 12.1 1

Standby systems should be checked periodically to ensure that they function properly. As the environmental and normal operating conditions on this system are not severe, testing each train once every month provides an adequate check on this system.

INSERT 4 ~~Monthly heater operation dries out any moisture accumulated in the charcoal from humidity in the ambient air. [Systems with heaters must be operated for ≥10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥15 minutes to demonstrate the function of the system.] [The 31 day Frequency is based on the known reliability of the equipment and the two train redundancy available.~~ TSTF-522 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.~~
~~-----]~~ 5

~~[~~ SR 3.7.~~13~~ 12.2 3

This SR verifies that the required ~~FBACS~~ ABGTS testing is performed in accordance with the ~~[~~Ventilation Filter Testing Program (VFTP)~~]~~. The ~~[~~VFTP~~]~~ includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the ~~[~~VFTP~~]~~. ~~]~~ 2 3 3

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TSTF-522

INSERT 4

Operation [with heaters on] for ≥ 15 continuous minutes demonstrates OPERABILITY of the system. Periodic operation ensures that [heater failure,] blockage, fan or motor failure, or excessive vibration can be detected for corrective action. 3 3

Operation will be demonstrated by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train. 2

4 Insert 7

E.1

When the required train of ABGTS is inoperable with fuel stored in the spent fuel pool, action must be taken prevent the possibility of an accident involving irradiated fuel stored in the spent fuel pool. Suspending all crane operation with loads over the spent fuel pool will eliminate the possibility of dropping a load onto fuel assemblies stored in the spent fuel pool. The NOTE allows operation of the main hoist on the Auxiliary Building crane during this condition due to the main hoist meeting the requirements of NUREG-0554 and NUREG-0612 for a single failure proof crane.

4 6

INSERT 5

The SR is modified by two Notes that specify when verification of ABGTS actuation for each actuation signal is required to be met. ABGTS actuation on a Containment Phase A isolation signal is required to be met in MODES 1, 2, 3 and 4. ABGTS actuation on fuel storage pool area high radiation signal is required to be met during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building.~~

and with fuel stored in the spent fuel pool

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.~~
~~--~~]

5

~~[SR 3.7.13.5~~

~~Operating the FBACS filter bypass damper is necessary to ensure that the system functions properly. The OPERABILITY of the FBACS filter bypass damper is verified if it can be closed. [An [18] month Frequency is consistent with Reference 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.~~
~~--~~]]

4

REFERENCES

1. U FSAR, Section ~~[6.5.1]~~ 6.2.3. 2 3

~~2. FSAR, Section [9.4.5].~~ 3

2 ~~3~~. U FSAR, Section ~~[15.7.4]~~ 15.5.3. 2 3

5 3 ~~4~~. Regulatory Guide ~~1.25~~ 1.183. 2

6 4 ~~5~~. 10 CFR 100. 2

4 ~~6. Regulatory Guide 1.52, Rev. [2].~~ Regulatory Guide 1.4

3 ~~7. NUREG-0800, Section 6.5.1, Rev. 2, July 1981.~~ UFSAR, Section 15.5.6

~~6~~ 2

B 3.7 PLANT SYSTEMS

B 3.7.~~13~~ 12 Auxiliary Building Gas Treatment ~~Fuel Building Air Cleanup~~ System (ABGTS ~~FBACS~~) 1

BASES

BACKGROUND

The ABGTS ~~FBACS~~ filters airborne radioactive particulates from the area of the fuel pool following a fuel handling accident or loss of coolant accident (LOCA). ~~The FBACS, in conjunction with other normally operating systems, also provides environmental control of temperature and humidity in the fuel pool area.~~ 1 2

The ABGTS ~~FBACS~~ consists of two independent and redundant trains. Each train consists of a heater, a prefilter ~~or demister~~, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan. Ductwork, valves or dampers, and instrumentation also form part of the system~~, as well as demisters, functioning to reduce the relative humidity of the airstream~~. ~~A second bank of HEPA filters follows the adsorber section to collect carbon fines and provide backup in case the main HEPA filter bank fails. The downstream HEPA filter is not credited in the analysis, but serves to collect charcoal fines, and to back up the upstream HEPA filter should it develop a leak.~~ The system initiates filtered ventilation of the auxiliary ~~fuel handling~~ building following receipt of a high radiation signal. INSERT 1 1 2

The ABGTS ~~FBACS~~ is a standby system~~, parts of which may also be operated during normal plant operations~~. Upon receipt of the actuating signal, normal air discharge~~s~~ from ~~the building,~~ the auxiliary ~~fuel handling~~ building is isolated~~,~~ and the stream of ventilation air discharges through the system filter trains. ~~The prefilters or demisters remove any large particles in the air, and any entrained water droplets present, to prevent excessive loading of the HEPA filters and charcoal adsorbers.~~ 1 2

The ABGTS ~~FBACS~~ is discussed in the UFSAR, Sections ~~[~~6.2.3 ~~5.1], [9.4.5]~~, 5.3 and ~~[~~15.5.3 ~~7.4]~~ (Refs. 1 and 2 ~~, 2, and 3~~, respectively) because it may be used for ~~normal, as well as~~ post accident~~,~~ atmospheric cleanup functions. 1 2 3

APPLICABLE SAFETY ANALYSES

The ABGTS ~~FBACS~~ design basis is established by the consequences of ~~the limiting~~ Design Basis Accident~~s~~ (DBA~~s~~)~~, which is a fuel handling accident [involving handling recently irradiated fuel]. The analysis of the fuel handling accident, given in Reference 3 2, assumes that all fuel rods in an assembly are damaged.~~ a LOCA during MODES 1, 2, 3, and 4, and a fuel handling accident during operations involving irradiated fuel assemblies. The analysis of the LOCA, given in Reference 2, assumes that radioactive materials leaked from the Emergency Core Cooling System (ECCS) are filtered and adsorbed by the ABGTS ~~FBACS~~. The analysis of the fuel handling accident, given in Reference 3, assumes that the auxiliary building secondary containment enclosure (ABSCE) boundary is intact to ensure the releases from the auxiliary and containment buildings are consistent with the dose consequence analysis, no credit is taken for filtration by the ABGTS. ~~The DBA analysis of the fuel handling accident assumes that only one train of the FBACS is functional due to a single failure that disables the other train. The accident analysis accounts for the reduction in airborne radioactive~~ 1 2 3

2

INSERT 1

from the fuel handling area radiation monitors, a high radiation signal from the train-specific Auxiliary Building exhaust vent monitor, a Phase A containment isolation signal from either reactor, or a high temperature signal from the Auxiliary Building air intakes

. During plant operations with the containment open to the auxiliary building, the ABSCE boundary is extended to include the area inside the containment building and the shield building.

BASES

APPLICABLE SAFETY ANALYSES (continued)

~~material provided by the one remaining train of this filtration system.~~ The amount of fission products available for release from the ~~fuel handling~~ auxiliary building is determined for a fuel handling accident and for a LOCA. ~~[Due to radioactive decay, FBACS~~ ~~ABGTS~~ ~~is only required to isolate during fuel handling accidents involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days~~ ~~100 hours~~~~).]~~ These assumptions and the analysis follow the guidance provided in Regulatory Guide 1.4 (Ref. 4) for a LOCA and Regulatory Guide ~~1.25~~ 1.183 (Ref. ~~4~~ ~~3~~ 5) for the fuel handling accident.

The ~~FBACS~~ ABGTS satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

2 1 3 ~~1~~ 3 2 1

LCO

Two independent and redundant trains of the ~~FBACS~~ ABGTS are required to be OPERABLE to ensure that at least one train is available, assuming a single failure that disables the other train, coincident with a loss of offsite power. Total system failure could result in the atmospheric release from the ~~fuel handling~~ auxiliary building exceeding the 10 CFR 100 (Ref. ~~5~~ ~~4~~ 6) limits in the event of a ~~fuel handling accident [involving handling recently irradiated fuel]~~ LOCA.

INSERT 2

1 1 2 2

The ~~FBACS~~ ABGTS is considered OPERABLE when the individual components necessary to control exposure in the ~~fuel handling~~ auxiliary building are OPERABLE in both trains. An ~~FBACS~~ ABGTS train is considered OPERABLE when its associated:

1

a. Fan is OPERABLE,

b. HEPA filter and charcoal adsorber are not excessively restricting flow, and are capable of performing their filtration function, and

c. Heater, ~~demister,~~ ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained. 1

The LCO is modified by ~~a Note allowing~~ two Notes. Note 1 allows the ~~fuel building~~ Auxiliary Building Secondary Containment Enclosure (ABSCE) boundary to be opened intermittently under administrative controls. For entry and exit through doors the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for ~~fuel~~ auxiliary building isolation is indicated. 1 1 4

INSERT 3

2

INSERT 2

One train of the ABGTS is required to be OPERABLE to mitigate the consequences of a fuel handling accident involving ~~handling recently~~ irradiated fuel to limit releases to the environment to within the 10 CFR 50.67 limits.

4

INSERT 3

Note 2 specifies that only one ABGTS train is required to be OPERABLE during the movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~.

or with fuel stored in the spent fuel pool.

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With fuel stored in the spent fuel pool, one train of ABGTS is required to be OPERABLE to mitigate the consequences that could occur involving fuel stored in the fuel storage pool.

to provide fission product removal associated with ECCS leaks due to a LOCA

BASES

APPLICABILITY

In MODE 1, 2, 3, or 4, the ~~FBACS~~ ABGTS is required to be OPERABLE to provide fission product removal associated with ECCS leaks due to a LOCA and leakage from containment and annulus. 1

In MODE 5 or 6, the ~~FBACS~~ ABGTS is not required to be OPERABLE since the ECCS is not required to be OPERABLE. 1 2

one train of

During movement of ~~[recently]~~ irradiated fuel ~~in the fuel handling area~~ ~~auxiliary building~~, the ~~FBACS~~ ABGTS is required to be OPERABLE to alleviate the consequences of a fuel handling accident. 3 1 2

ACTIONS

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since irradiated fuel assembly movement or fuel storage in the spent fuel pool can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. ~~If~~ storing or moving irradiated fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not specify any action. ~~If~~ storing or moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement or storage is independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, 3, or 4 would require the unit to be shutdown unnecessarily. 4

A.1

With one ~~FBACS~~ ABGTS train inoperable in MODE 1, 2, 3, or 4, action must be taken to restore OPERABLE status within 7 days. During this period, the remaining OPERABLE train is adequate to perform the ~~FBACS~~ ABGTS function. The 7 day Completion Time is based on the risk from an event occurring requiring the inoperable ~~FBACS~~ ABGTS train, and the remaining ~~FBACS~~ ABGTS train providing the required protection. 4 1

B.1

~~-----------------------------------REVIEWER'S NOTE-----------------------------~~
~~Adoption of Condition B is dependent on a commitment from the licensee to have guidance available describing compensatory measures to be taken in the event of an intentional and unintentional entry into Condition B.~~
~~---~~ 5

If the ~~fuel building~~ ABSCE boundary is inoperable in MODE 1, 2, 3, or 4, the ~~FBACS~~ ABGTS trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE ~~fuel building~~ ABSCE boundary within 24 hours. During the period that the ~~fuel building~~ ABSCE boundary is inoperable, appropriate compensatory measures ~~[~~consistent with the intent, as 1 3

BASES

ACTIONS (continued)

~~E~~ D.1

When ~~two~~ the required train~~s~~ of ~~the FBACS are~~ ABGTS is inoperable during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ auxiliary, action must be taken to place the unit in a condition in which the LCO does not apply. Action must be taken immediately to suspend movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ auxiliary. This does not preclude the movement of fuel to a safe position.

Insert 7

SURVEILLANCE REQUIREMENTS

SR 3.7.~~13~~ 12.1

Standby systems should be checked periodically to ensure that they function properly. As the environmental and normal operating conditions on this system are not severe, testing each train once every month provides an adequate check on this system.

INSERT 4 ~~Monthly heater operation dries out any moisture accumulated in the charcoal from humidity in the ambient air. [Systems with heaters must be operated for ≥10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥15 minutes to demonstrate the function of the system.] [The 31 day Frequency is based on the known reliability of the equipment and the two train redundancy available.~~

~~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.~~
~~-----]~~

~~[~~ SR 3.7.~~13~~ 12.2

This SR verifies that the required ~~FBACS~~ ABGTS testing is performed in accordance with the ~~[~~Ventilation Filter Testing Program (VFTP)~~]~~. The ~~[~~VFTP~~]~~ includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the ~~[~~VFTP~~]~~. ~~]~~

1 4 4 2 4 3 1 3 4 1 4 1 TSTF-522 6 5 3 2 3 3

TSTF-522

INSERT 4

Operation ~~[~~with heaters on~~]~~ for ≥ 15 continuous minutes demonstrates OPERABILITY of the system. Periodic operation ensures that ~~[~~heater failure,~~]~~ blockage, fan or motor failure, or excessive vibration can be detected for corrective action. 3 3

Operation will be demonstrated by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train. 2

4 Insert 7

E.1

When the required train of ABGTS is inoperable with fuel stored in the spent fuel pool, action must be taken prevent the possibility of an accident involving fuel stored in the spent fuel pool. Suspending all crane operation with loads over the spent fuel pool will eliminate the possibility of dropping a load onto fuel assemblies stored in the spent fuel pool. The NOTE allows operation of the main hoist on the Auxiliary Building crane during this condition due to the main hoist meeting the requirements of NUREG-0554 and NUREG-0612 for a single failure proof crane.

6

INSERT 5

The SR is modified by two Notes that specify when verification of ABGTS actuation for each actuation signal is required to be met. ABGTS actuation on a Containment Phase A isolation signal is required to be met in MODES 1, 2, 3 and 4. ABGTS actuation on fuel storage pool area high radiation signal is required to be met during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~.

and with fuel stored in the spent fuel pool

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.~~
~~-----~~]

5

[~~SR 3.7.13.5~~

~~Operating the FBACS filter bypass damper is necessary to ensure that the system functions properly. The OPERABILITY of the FBACS filter bypass damper is verified if it can be closed. [An [18] month Frequency is consistent with Reference 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.~~
~~-----~~]]

4

REFERENCES

1. U FSAR, Section ~~[6.5.1]~~ 6.2.3. 2 3

~~2. FSAR, Section [9.4.5].~~ 3

~~3~~ 2. U FSAR, Section ~~[15.7.4]~~ 15.5.3. 2 3

5 ~~4~~ 3. Regulatory Guide ~~1.25~~ 1.183. 2

6 ~~5~~ 4. 10 CFR 100. 2

4 ~~6. Regulatory Guide 1.52, Rev. [2].~~ Regulatory Guide 1.4

3 ~~7. NUREG-0800, Section 6.5.1, Rev. 2, July 1981.~~ UFSAR, Section 15.5.6

~~6~~ 2

Licensee Response/NRC Response/NRC Question Closure

Id	**460**
NRC Question Number	**KAB069**
Select Application	**NRC Question Closure**
Attachment 1	
Attachment 2	
Response Statement	
Response Date/Time	
Closure Statement	**The licensee's response to KAB069 was superseded by the response to MHC006. This is stated in the MHC006 response and was confirmed by the licensee in the public teleconference on July 1, 2015.** **Therefore, the NRC staff focused its review on the response to MHC006 and discontinued the review of the response to KAB069. Refer to MHC006 for further detail.**
Question Closure Date	**7/1/2015**
Notification	**Mark Blumberg** **Scott Bowman** **Margaret Chernoff** **Michelle Conner** **Khadijah Hemphill** **Andrew Hon** **Lynn Mynatt** **Ray Schiele** **Roger Scott**
Added By	**Khadijah Hemphill**
Date Added	**7/1/2015 3:48 PM**
Date Modified	
Modified By	

ITS NRC Questions

Id	**207**
NRC Question Number	**MHC003**
Category	**Technical**
ITS Section	**3.7**
ITS Number	**3.7.13**
DOC Number	
JFD Number	
JFD Bases Number	
Page Number(s)	
NRC Reviewer Supervisor	**Undine Shoop**
Technical Branch POC	**Mark Blumberg**
Conf Call Requested	**N**
NRC Question	**Movement of irradiated fuel, movement of fresh fuel over irradiated fuel, and loads other than fuel (i.e. tools and casks not covered by the heavy loads program) over irradiated fuel can create a source term if a fuel handling accident occurs (FHA). These potential source terms appear to be considered by the proposed Limiting Condition for Operation (LCO) 3.7.13, "Spent Fuel Pool Water Level," stated Applicability and Required Actions, but not by the other proposed Technical Specifications stated Applicability and Required Actions which are credited for an FHA in the Spent Fuel Pool (i.e. LCO 3.3.7, 3.3.8, 3.7.10, 3.7.12, 3.8.2, 3.8.8 and 3.8.10).** **These proposed Technical Specifications do not appear to align with the credited mitigation features for the FHA in the Spent Fuel Pool. Please either justify how the proposed Applicability and Required Actions align with the FHA in the Spent Fuel Pool, or make them consistent with the Applicability and Required Actions for LCO 3.7.13.**
Attach File 1	
Attach File 2	
Issue Date	**4/7/2015**
Added By	**Khadijah Hemphill**
Date Modified	

Modified By	
Date Added	**4/7/2015 3:43 PM**
Notification	**Mark Blumberg** **Scott Bowman** **Margaret Chernoff** **Michelle Conner** **Khadijah Hemphill** **Andrew Hon** **Lynn Mynatt** **Ray Schiele** **Roger Scott**

Licensee Response/NRC Response/NRC Question Closure

Id	**445**
NRC Question Number	**MHC003**
Select Application	**NRC Response**
Attachment 1	**Sequoyah_ITS_Followup_RAI_for_MHC003_and_004 Rev 1.docx** (25KB)
Attachment 2	
Response Statement	**After several meetings with the licensee, it has been made apparent that questions MHC003 and MHC004 may require further clarification. This NRC Response is a combination of original RAIs MHC003 and MHC004. Please see attachment 1.**
Response Date/Time	**5/4/2015 6:00 PM**
Closure Statement	
Question Closure Date	
Notification	**Ray Schiele**
Added By	**Khadijah Hemphill**
Date Added	**5/4/2015 2:50 PM**
Date Modified	**5/5/2015 11:22 AM**
Modified By	**Ray Schiele**

Sequoyah ITS Conversion
Follow-up RAI for MHC003 and MHC004 (posted on MHC003)

RAI 1A
The application proposed changes to Technical Specification Limiting Condition for Operation (LCO) 3.3.6 and 3.9.4 that are based on the generic changes including those in TSTF Traveler 51, "Revise Containment Requirements During Handling Irradiated Fuel and Core Alterations, Revision 2 (ADAMS Accession No. ML040400343).

TSTF-51 in part states:

> *The addition of the term "recently" associated with handling irradiated fuel in all of the containment function Technical Specification requirements is only applicable to those licensees who have demonstrated by analysis* [emphasis added] *that after sufficient radioactive decay has occurred, off-site doses resulting from a fuel handling accident remain below the Standard Review Plan limits (well within 10 CFR 100)* [or well within10 CFR 50.67].

Standard Review Plan (SRP) 15.0.1, "Radiological Consequence Analyses Using Alternative Source Terms," (ADAMS Accession No. ML003734190) states:

> *The methodology and assumptions for calculating the radiological consequences should reflect the regulatory positions of RG-1.183.*

Appendix B of Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," (ADAMS Accession Number ML003716792), Regulatory Position 1.1 states:

> *The number of fuel rods damaged during the accident should be based on a conservative analysis that considers the most limiting case. This analysis should consider parameters such as the weight of the dropped heavy load or the weight of a dropped fuel assembly (plus any attached handling grapples), the height of the drop, and the compression, torsion, and shear stresses on the irradiated fuel rods. Damage to adjacent fuel assemblies, if applicable (e.g., events over the reactor vessel), should be considered.*

In addition, the applicable safety analysis section in the Improved Technical Specifications (ITS) bases for Technical Specification 3.9.4 states that fuel handling accidents analyzed in RG 1.183, include dropping a single irradiated fuel assembly and handling tool or a heavy object[1] onto other irradiated fuel assemblies.

[1] "Object" rather than load is consistent with the terminology in the current and proposed Technical Specifications (See current Technical Specifications 3.9.11 and 3.9.12 and proposed Technical Specification 3.7.12 and 3.7.13).

Sequoyah has voluntarily requested a change to its licensing basis fuel handling accident and technical specifications. Sequoyah's revised fuel handling accident analysis[2] credits 23 feet of water over the damaged fuel and only assumes the drop of an irradiated fuel assembly.

During the movement of objects other than a recently irradiated fuel assembly (for example during movement of new fuel assemblies or other objects over the reactor core) the proposed Technical Specifications LCO 3.9.4 and 3.9.7 are not Applicable. Regulatory Guide 1.183, Regulatory Position 5.1.2 states that credit for Engineered Safeguard Features may be taken for accident mitigation features that are classified as safety-related and are required to be operable by technical specifications. The revised analysis does not provide an analysis with the containment penetrations open, no credit for refueling cavity water and the drop of an object other than a recently irradiated fuel assembly onto an irradiated fuel assembly (consistent with the above described Regulatory Positions 1.1 and 5.1.2 and the Bases for Technical Specification 3.9.4).

Given that the licensee voluntarily has requested a change to its licensing basis, please show how the proposed revised fuel handling accident analysis meets or bounds Regulatory Guide 1.183, Regulatory Position 1.1. To clarify, how does the revised analysis determine the most limiting case and how does the fuel handling analysis show that the limiting case is not the drop of a fuel assembly or object other than a recently irradiated fuel assembly?

RAI 1B

Consistent with the SRP and RG, as described above, provide an analysis of the drop a fuel assembly, or other heavy object allowed over the reactor core without credit for the refueling water and the containment penetrations open. Alternatively, change the Applicability of Technical Specification LCO 3.9.7 to include "during the movement of fuel assemblies and objects[3] over the reactor core."

RAI 1C

Title 10 of the Code of Federal Regulations (10 CFR) 50.36, "Technical Specifications," (2)(b) states that the Technical Specifications are derived from the safety analyses. 10 CFR 50.36(B)(2)(ii) states:

> *A technical specification limiting condition [LCO] for operation of a nuclear reactor must be established for each item meeting one or more of the following criteria:*
>
> *Criterion 2. A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.*

---

[2] "LTR-CRA-02-219, Revision 2: Radiological Consequences of Fuel Handling Accidents for the Sequoyah Nuclear Plant Units 1 and 2" (provided in the letter entitled "Sequoyah Nuclear Plants, Units 1 and 2 TS Conversion to NUREG-1431, Rev 4.0 (SQN-TS-11-10) - Supplement 1," dated December 16, 2014 (ADAMS Accession No. ML14350B364). The revision includes the following changes: 1) revise the Main Control Room Atmospheric Dispersion Factor (χ/Q) to reflect the Auxiliary Building release, 2) delete the source term associated with tritium producing burnable absorber rods (TPBARs), 3) use a linear source term release rate for a FHA inside the containment, and 4) establish a limiting containment purge isolation time by performing timing sensitivity evaluations.

[3] Objects not moved by a single failure proof crane and covered under the "Heavy Loads" program.

Several proposed Technical Specification LCOs do not appear to be derived from the revised fuel handling accident analysis (LTR-CRA-02-219, Revision 2) used to justify the voluntary changes to proposed Technical Specification LCO's 3.3.6 and 3.9.4. For example in proposed TS 3.3.7 if two trains of the control room emergency ventilation system are inoperable due to an inoperable control room boundary, Actions must be taken immediately to suspend activities that could result in a release of radioactivity. The only Action proposed is to stop the movement of irradiated fuel assemblies, despite the fact that dropped fuel assemblies and objects other than an irradiated fuel assembly can cause a release of radioactivity. In other words, the movement of fuel assemblies and objects other than irradiated fuel assemblies could continue without any trains of control room emergency ventilation systems operable. No analysis has been provided to show why these operations are less limiting than the proposed fuel handling analysis.

Given that the Technical Specifications are supposed to be derived from the safety analysis and operating restrictions that are the initial condition of a design basis analysis (Criterion 2) are to be in Technical Specifications demonstrate how the proposed Actions of Technical Specifications derived from the fuel handling accident align with the safety analysis.

Justify the Actions for those Technical Specification LCO's derived from the fuel handling accident analysis inside and outside of containment (which includes ITS LCO's 3.3.6, 3.3.7, 3.3.8, 3.7.10, 3.7.12, 3.7.13, 3.8.2, 3.8.8, 3.8.10, 3.9.4, 3.9.7 and 3.9.8) by either: 1) providing additional fuel handling accident analyses that determine the consequences of a fuel handling accident assuming no credit for systems allowed to be inoperable during the movement of fuel or heavy objects not restricted by the proposed Actions of these Technical Specifications or 2) modify the Actions of these proposed Technical Specification LCO's to provide operational restrictions to suspend activities that could result in a release of radioactivity. The Actions considered should include: 1) stop movement of recently irradiated fuel, 2) stop movement of irradiated fuel, 3) stop movement of fuel, and 4) movement of "heavy objects" over irradiated fuel).

Licensee Response/NRC Response/NRC Question Closure

Id	**459**
NRC Question Number	**MHC003**
Select Application	**Licensee Response**
Attachment 1	**Draft Response to RAI MHC003.pdf** (55KB)
Attachment 2	
Response Statement	**See Attachment 1 for the SQN response to RAI MHC003.**
Response Date/Time	**5/29/2015 5:30 PM**
Closure Statement	
Question Closure Date	
Notification	**Mark Blumberg** **Scott Bowman** **Kristy Bucholtz** **Margaret Chernoff** **Michelle Conner** **Robert Elliott** **Khadijah Hemphill** **Andrew Hon** **Lynn Mynatt** **Ray Schiele**
Added By	**Michelle Conner**
Date Added	**5/29/2015 4:31 PM**
Date Modified	
Modified By	

PART 1A NRC Question
"Given that the licensee voluntarily has requested a change to its licensing basis, please show how the proposed revised fuel handling accident analysis meets or bounds Regulatory Guide 1.183, Regulatory Position 1.1. To clarify, how does the revised analysis determine the most limiting case and how does the fuel handling analysis show that the limiting case is not the drop of a fuel assembly or object other than a recently irradiated fuel assembly?"

PART 1A Response to "*Given that the licensee voluntarily has requested a change to its licensing basis*"

1. On November 22, 2013, the Tennessee Valley Authority (TVA) requested a license amendment to revise the Current Technical Specifications (CTS) 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. The license amendment request (LAR) included the mark-ups reflecting the design basis fuel handling accident (FHA) and associated dose consequence analyses of record. However, SQN did not request a change to the definition of the design basis FHA or to the assumptions used in the dose consequences analysis using an alternative source term (AST). The LAR did propose changes to four technical specifications consistent with NUREG-1431 to allow these requirements to only be applicable when moving "recently" irradiated fuel. The changes were associated with the Mode of Applicability for the following:
    a. ITS 3.3.6 Containment Ventilation Isolation (CVI) Instrumentation
    b. ITS 3.3.8 Auxiliary Building Gas Treatment System (ABGTS) Instrumentation
    c. ITS 3.7.12 Auxiliary Building Gas Treatment System (ABGTS)
    d. ITS 3.9.4 Containment Penetrations

2. On May 19, 2014 the NRC posted RAI KAB044 that stated, "*Please confirm that you are requesting the NRC staff to extend the review performed in license amendment 288/278 to this requested change in Sequoyah's conversion. Note that request is a beyond scope change and will be reviewed by the associated technical branch.*"

3. SQN responded to the RAI KAB044 stating:

    In response to KAB044, SQN requests that the NRC staff extend their review performed in support of license amendments 288 and 278 for SQN, Units 1 and 2, to proposed changes in the SQN ITS conversion. Specifically, SQN requests NRC review and approval for ITS Specifications that have revised the Mode of Applicability to include the term, "recently," with the current AST analysis as the basis for using the term, "recently."

    NRC approval for the use of an alternative source term (AST) for the SQN Design Basis Fuel Handling Accident (FHA) is contained in the Safety Evaluation (SE) dated October 28, 2003 (ML033030206). The FHA SE states: With this approval, the selected characteristics of the AST and TEDE criteria become the design basis for the DBA FHA within the containment and outside containment. The FHA SE also states: Additionally, the NRC staff finds that the EAB, LPZ and control room doses will continue to comply with the applicable regulatory criteria without credit being taken for containment isolation if the irradiated fuel has been allowed to decay for 100 hours prior to being moved. Therefore, at the time of the NRC review and approval of the AST submittal, NRC acknowledged that the AST FHA analysis did not credit containment isolation, with the above proviso on irradiated fuel. This

analysis was revised under the provisions and bounds of the 50.59 process in 2012 to support removal of the purge isolation function.

4. During the September 16, 2014 public meeting with the NRC, SQN presented information to support the current licensing basis that was reflected in the ITS submittal and the response provided to RAI KAB044.

5. On September 30, 2014 the NRC posted RAI KAB071 (RAI ARCB2-7 (in response to KAB044)) which stated:

   Please justify that the 1.80E-3 sec/m3 X/Q value used in Calculation LTR-CRA-02-219, Revision 1, to model FHA releases inside containment beyond 300 seconds bounds all potential containment release pathways (such as the containment equipment door, airlocks, and penetrations) or provide a revised limiting X/Q value for all containment release pathways. ***If a revised limiting X/Q value is provided, please update the doses analysis in Calculation LTR-CRA-02-219 to utilize the revised X/Q value****.*

6. In response to RAI KAB071, following clarification calls and meetings with the NRC, SQN provided a revised limiting atmospheric dispersion factor, χ/Q value, for all containment release pathways in a letter; "Sequoyah Nuclear Plants, Units 1 and 2 Technical Specifications Conversion to NUREG-1431, Rev 4.0 (SQN-TS-11-10) - Supplement 1," dated December 16, 2014 (ADAMS Accession No. ML14350B364). Attachment 1 of the supplement provided the revised Westinghouse report, "LTR-CRA-02-219 Revision 2: Radiological Consequences of Fuel Handling Accidents for the Sequoyah Nuclear Plant Units 1 and 2."

As described above, the original SQN ITS submittal did not request a change to the design basis FHA or the associated dose consequence analysis of record. Supplement 1 was provided to facilitate the NRC staff review of the proposed changes for adopting the term "recently." The changes made to the assumptions used in the FHA dose consequences were based on ongoing discussions with the NRC staff regarding the SQN FHA radiological consequences analysis of record provided in response to RAI KAB044.

PART 1A Response to "*how does the fuel handling analysis show that the limiting case is not the drop of a fuel assembly or object other than a* ***recently irradiated fuel assembly****?*"

SQN previously addressed the NRC's concerns regarding the term "recently irradiated" in the response to RAI KAB066. The NRC posted KAB066 on September 30, 2014 which stated:

> *"For the proposed change please provide an FHA analysis that evaluates the dropping of loads allowed over irradiated fuel assemblies (i.e. sources, new fuel, tools, reactivity control components) onto irradiated fuel assemblies. The analysis should only credit those safety systems required to be operable as required by technical specification. Provide the inputs, assumptions and methodology used, and the results. Provide a justification for any assumptions made. Although it is not required the staff has found it more efficient if the licensee's calculation is provided. A calculation may not need to be performed if Sequoyah chooses to limit the movement of loads over irradiated fuel prior to the decay time assumed in the accident analysis. If this option is chosen, please provide the appropriate licensing changes."*

SQN evaluated the NRC's concern and in turn proposed a response that addressed the concern of loads over and movement of recently irradiated fuel. SQN's response to RAI KAB066, in part, was as follows:

- The SQN fuel handling accident (FHA) dose consequences analysis is based on damage to an irradiated fuel assembly that has met a decay time of 100 hours and a decontamination factor (DCF) of 200 that is applied to the overall iodine inventory release to the pool. The SQN ITS license amendment request, as submitted, does not provide a specific technical specification to verify that fuel assemblies decay for 100 hours prior to movement.

- CTS 3.9.3, Decay Time, will be retained in ITS as ITS 3.9.8, Decay Time. CTS
- 3.9.3 Applicability will be revised to, "During CORE ALTERATIONS." The Frequency for CTS 4.9.3 will be revised to, "Prior to CORE ALTERATIONS."

- The changes to ITS 3.9.8 and the addition of the definition for CORE ALTERATION provide an explicit requirement that the decay time of the reactor be greater than or equal to 100 hours prior to commencing of CORE ALTERATIONS. In a letter dated November 7, 2013, (ADAMS Accession No. ML13246A358), the NRC stated a concern with CORE ALTERATIONS prior to the assumed decay time. Specifically, the NRC's concerns were associated with related changes with the following Technical Specification Task Force (TSTF) changes:

    1. TSTF-51, Revision 2, "Revise Containment Requirements during Handling Irradiated Fuel and Core Alterations," approved on November 1, 1999 (ADAMS Accession No. ML993190284), and

    2. TSTF-471, Revision 1, "Eliminate Use of Term Core Alterations in Actions and Notes," approved on December 7, 2006 (ADAMS Accession No. ML062860320).

- In this letter the NRC stated, "The NRC staff is concerned that a dropped source, fuel assembly, or component (or any other item allowed to be moved by CORE ALTERATIONS) could damage or break a fuel assembly creating a radioactive source term. Additionally, a dropped source, component, or fuel assembly could add reactivity if it is dropped over or in the vicinity of other fuel." Therefore, SQN will limit CORE ALTERATIONS to a decay time of ≥ 100 hours.

PART 1A Response to "*how does the fuel handling analysis show that* ***the limiting case is not the drop of a fuel assembly or object*** *other than a recently irradiated fuel assembly?*"

The design basis FHA for SQN is discussed in the Safety Evaluation Report (SER), NUREG-0011 March 1979, Section 15.4.2, Fuel Handling Accident. In the March 1979 SER, the staff assumed that all the fuel rods in one fuel assembly with the maximum amount of radioactivity were damaged. The design basis FHA has not been revised since March 1979. While the definition of the design basis FHA has remained unchanged, there have been changes to the SQN Technical Specifications in an attempt to more closely align the requirements in the TS to the accident analysis. Additionally, in 2003, SQN was approved to change the dose consequences for the FHA to the AST methodology.

The design basis FHA for SQN assumes the drop of an irradiated fuel assembly resulting in the rupture of the cladding of all fuel rods in the dropped assembly[1]. The SQN FHA does not

[1]NRC Safety Evaluation for SQN Amendment 260 (U1) and 251 (U2) [ADAMS Accession No. ML003745655]. "Since the only accident postulated to occur during core alterations that results in a significant release of radioactivity, and thus the need for containment integrity, is the Fuel Handling Accident (FHA). The proposed requirements omitting core alterations do not affect mitigation of an FHA because the movement of irradiated fuel provisions are maintained in TS."

postulate the drop of any object onto irradiated fuel. Therefore, consistent with SQN's current licensing basis, the dose consequences associated with SQN's design basis FHA have been provided to the staff in response to RAI KAB044 and in Supplement 1 to the SQN ITS Conversion LAR. Supplement 1 describes how the input assumptions and methodology used in the SQN design basis FHA radiological consequences analysis using an AST are consistent with those described in RG 1.183.

Part 1B of NRC Question

Consistent with the SRP and RG, as described above, provide an analysis of the drop a fuel assembly, or other heavy object allowed over the reactor core without credit for the refueling water and the containment penetrations open. Alternatively, change the Applicability of Technical Specification LCO 3.9.7 to include "during the movement of fuel assemblies and objects over the reactor core."

Response to Part 1B

The design basis FHA for SQN assumes the drop of an irradiated fuel assembly resulting in the rupture of the cladding of all fuel rods in the dropped assembly[2]. The SQN FHA does not postulate the drop of any object onto fuel seated in the reactor vessel. Therefore, consistent with SQN's current licensing basis, the dose consequences associated with SQN's design basis FHA have been provided to the staff in response to RAI KAB044 and in Supplement 1 to the SQN ITS Conversion LAR.

Because SQN's FHA DBA involves only dropping a fuel assembly during refueling and does not assume dropping an object onto irradiated fuel, the FHA can only occur during the movement of irradiated fuel. Therefore, the Mode of Applicability for ITS 3.9.7 is adequate to protect the health and safety of the public during the conditions when an FHA can occur.

The CTS and ITS Reactor Water Level LCO statement, Mode of Applicability, and Actions are derived from the design basis fuel handling accident and align with the fuel handling accident safety analysis. CTS 3.9.10 Reactor Vessel Water Level requires that "At least 23 feet of water shall be maintained over the top of the reactor pressure vessel flange." CTS 3.9.10 Applicability is "During movement of irradiated fuel assemblies within containment." ITS 3.9.7 Refueling Cavity Water Level requires that "Refueling cavity water level shall be maintained ≥ 23 ft above the top of reactor vessel flange." ITS 3.9.7 Applicability is "During movement of irradiated fuel assemblies within containment." As such, current licensing basis has been retained in the conversion of CTS 3.9.10 to ITS 3.9.7.

[2]NRC Safety Evaluation for SQN Amendments 166 (U1) and 156 (U2) [ADAMS Accession No. ML013320006]. "The accident analysis that is related to the requirement to maintain 23 feet of water above the reactor vessel [sic] flange is the fuel handling accident that results in major damage to an irradiated fuel assembly. The cause of this accident is postulated as the dropping of an irradiated fuel assembly, resulting in the rupture of the cladding of all fuel rods in the assembly.

Part 1C NRC Question
Title 10 of the Code of Federal Regulations (10 CFR) 50.36, "Technical Specifications," (2)(b) states that the Technical Specifications are derived from the safety analyses. 10 CFR 50.36(B)(2)(ii) states:

A technical specification limiting condition [LCO] for operation of a nuclear reactor must be established for each item meeting one or more of the following criteria:

Criterion 2. A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Several proposed Technical Specification LCOs do not appear to be derived from the revised fuel handling accident analysis (LTR-CRA-02-219, Revision 2) used to justify the voluntary changes to proposed Technical Specification LCO’s 3.3.6 and 3.9.4. For example in proposed TS 3.3.7 if two trains of the control room emergency ventilation system are inoperable due to an inoperable control room boundary, Actions must be taken immediately to suspend activities that could result in a release of radioactivity. The only Action proposed is to stop is the movement of irradiated fuel assemblies, despite that fact that dropped fuel assemblies and objects other than an irradiated fuel assembly can cause a release of radioactivity. In other words, the movement fuel assemblies and objects other than irradiated fuel assemblies could continue without any trains of control room emergency ventilation systems operable. No analysis has been provided to show why these operations are less limiting than the proposed fuel handling analysis.

Given that the Technical Specifications are supposed to be derived from the safety analysis and operating restrictions that are the initial condition of a design basis analysis (Criterion 2) are to be in Technical Specifications demonstrate how the proposed Actions of Technical Specifications derived from the fuel handling accident align with the safety analysis.

Justify the Actions for those Technical Specification LCO's derived from the fuel handling accident analysis inside and outside of containment (which includes ITS LCO's 3.3.6, 3.3.7, 3.3.8, 3.7.10, 3.7.12, 3.7.13, 3.8.2, 3.8.8, 3.8.10, 3.9.4, 3.9.7 and 3.9.8) by either: 1) providing additional fuel handling accident analyses that determine the consequences of a fuel handling accident assuming no credit for systems allowed to be inoperable during the movement of fuel or heavy objects not restricted by the proposed Actions of these Technical Specifications or 2) modify the Actions of these proposed Technical Specification LCO's to provide operational restrictions to suspend activities that could result in a release of radioactivity. The Actions considered should include: 1) stop movement of recently irradiated fuel, 2) stop movement of irradiated fuel, 3) stop movement of fuel, and 4) movement of "heavy objects" over irradiated fuel).

Part 1C Response

The SQN Improved Technical Specifications (ITS) are derived from the safety analysis for the associated design basis accidents.

The design basis FHA for SQN assumes the drop of an irradiated fuel assembly resulting in the rupture of the cladding of all fuel rods in the dropped assembly. The SQN FHA does not postulate the drop of any object onto fuel seated in the spent fuel pool or in the reactor vessel. Therefore, the movement of any object over irradiated fuel does not meet 10 CFR 50.36 Criterion 2 because it is not considered an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier[3].

Movement of objects over irradiated fuel seated in the spent fuel pool or in the reactor cavity, other than irradiated fuel, does not meet any of the 10 CFR 50.36 criteria for inclusion into the Technical Specifications. The four criterion of 10 CFR 50.36 were evaluated during the transition of standardized technical specifications from NUREG-0452 to NUREG-1431. As a result, the NUREG-0452 TS applicability of "Whenever irradiated fuel assemblies are in the storage pool" was modified in MERITS to what is found today in NUREG-1431 as "during the movement of irradiated fuel." For example, the change in the mode of applicability to such specifications as "Fuel Storage Pool Water Level" and "Storage Pool Air Cleanup System" was based on the "justification of change" stating, in part, that the dropping of an irradiated fuel assembly during handling is the design basis accident. MERITS concluded that the Applicability should be when the design basis accident is assumed to occur: the handling of irradiated fuel.

Given the SQN FHA DBA involves only dropping an irradiated fuel assembly and does not assume dropping an object onto irradiated fuel, the FHA can only occur during the movement of irradiated fuel. Therefore, the Actions for ITS LCO's 3.3.6, 3.3.7, 3.3.8, 3.7.10, 3.7.12, 3.7.13, 3.8.2, 3.8.8, 3.8.10, 3.9.4, 3.9.7 and 3.9.8 are appropriate and provide adequate measures to protect the health and safety of the public.

[3]NRC Safety Evaluation for SQN Amendments 204 (U1) and 194 (U2) [ADAMS Accession No. 9506290065]. "Even though a fuel handling event is considered to be a design basis accident, Criterion 2 does not apply. For the Chapter 15 (SRP Section 15.7.4) fuel handling accident analysis, one of the initial conditions is that only one fuel assembly is involved in the accident."

Licensee Response/NRC Response/NRC Question Closure

Id	**462**
NRC Question Number	**MHC003**
Select Application	**Licensee Response**
Attachment 1	**MHC003 Response 2 Attachment 1 Rev1.pdf** (7MB)
Attachment 2	
Response Statement	

Based on discussions with the NRC, TVA acknowledges that the NRC staff has on-going generic industry concerns related, in part, to TSTF-51 and TSTF-471 as documented in the Anthony J. Mendiola letter, dated November 7, 2013 (ADAMS Accession No. ML13246A358). Therefore, TVA is superseding the response to RAI KAB044 in this response to state that TVA is not requesting the NRC staff to extend the review performed in License Amendment 288 (Unit 1) and 278 (Unit 2) to the requested changes in the SQN ITS conversion.

For that reason, TVA is retaining the CTS mode of applicability of "during the movement of irradiated fuel" for ITS 3.3.6, 3.3.8, and 3.7.12. The CTS mode of applicability for ITS 3.9.4 is retained as "During movement of recently irradiated fuel assemblies within the containment" for the Containment Building Equipment Hatch. The CTS mode of applicability for ITS 3.9.4 is retained as "During movement of irradiated fuel assemblies within the containment" for the Containment Building Airlock Doors and Penetrations. The retention of the CTS mode of applicability for ITS 3.3.8 and ITS 3.7.12 are included in the Attachment 1 response to MHC006. The retention of the CTS mode of applicability for ITS 3.3.6 and ITS 3.9.4 is included in Attachment 1 of this response.

Additionally, TVA is withdrawing Supplement 1 (Reference) to the ITS conversion that was submitted to facilitate the NRC staff review of these proposed changes. Withdrawing the information provided by Supplement 1 to the ITS LAR does not change the intent or the justification for the requested ITS license amendment. TVA has also determined that withdrawing Supplement 1 does not affect the basis for concluding that the proposed ITS LAR does not involve a Significant Hazards Consideration.

Consistent with the above, FSAR Section 15.5.6 for the Fuel Handling Accident Dose Consequences will be revised to reflect the Radiological Consequences of Fuel Handling Accidents for the Sequoyah Nuclear Plant Units 1 and 2, Rev. 0 that was submitted in LAR TVA-SQN-TS-02-08, dated January 14, 2003 (ADAMS Accession No. ML033030206), and approved by issuance of Amendments 288 (Unit 1) and Amendment 278 (Unit 2), dated October 23, 2003 (ADAMS Accession No. ML033070057).

TVA reviewed the ITS conversion RAI database for the effect associated with the withdrawal of Supplement 1 on previously closed RAIs. The review identified three RAI responses that reference Supplement 1: KAB067, KAB071, and MHC007. The questions and answers (Q&A) found in KAB067 and KAB071 are directly related to Supplement 1. The withdrawal of Supplement 1 and the subsequent ITS changes related to TSTF-51 and TSTF-471 render the Q&As in KAB067 and KAB071 unnecessary. The response to RAI MHC007 references Supplement 1; however, withdrawing Supplement 1 does not change the technical justification provided in the response, nor does it change the accuracy of the information provided.

Based on the staff's generic industry concerns related to TSTF-51 and TSTF-471 that deletes the term "CORE ALTERATIONS," TVA has performed a review of the CTS and ITS. As a result of the review and discussions with the staff, TVA will retain the term "CORE ALTERATIONS" in the following ITS sections:

ITS 1.1 Definitions (Reference the response to RAI KAB066 Attachment 1)
ITS 3.3.7 CREVS Instrumentation (included in Attachment 1 of this response)
ITS 3.8.2 AC Sources - Shutdown (included in Attachment 1 of this response)
ITS 3.9.3 Nuclear Instrumentation (Reference the response to RAI MHC001 Attachment 1)

The response to RAI KAB066 addressed the NRC's concern regarding decay time by proposing ITS 3.9.8 and the addition of the definition for CORE ALTERATIONS. ITS 3.9.8 Decay Time provides an explicit requirement that the decay time of the reactor be greater than or equal to 100 hours prior to the commencement of CORE ALTERATIONS.

TVA also reviewed the ITS conversion RAI database for closed RAIs that contained the term "recently." The review identified the following list of additional closed RAIs that have Q&As associated with technical specifications that contained the term "recently" in the original ITS LAR:

- **KAB045**
- **KAB046**
- **KAB047**
- **KAB068**
- **KAB069 (superseded by MHC006)**
- **KAB070**
- **MHC006 (Attachment 1 of MHC006 is superseded as described in this RAI response and its associated attachment)**
- **RPG-001 (Attachment 1 of RPG-001 was superseded by MHC006)**
- **RPG-002**
- **RPG-014**

Based on TVA's evaluation of the affected RAIs listed above, the only RAIs modified in Attachment 1 of this response that change technical justifications are KAB068 and MHC006. Specifically, the following changes are included in MHC003 Attachment 1:

- **KAB068: TVA is retaining the wording originally submitted in ITS 3.9.4 based on the withdrawal of Supplement 1 and the restoration of the Radiological Consequences of Fuel Handling Accidents for the Sequoyah Nuclear Plants Units 1 and 2, Rev. 0.**

- **MHC006: TVA is superseding the MHC006 response only as it pertains to the ITS 3.7.12 Action E.1 Note "Crane operations using the main hoist on the Auxiliary Building crane may continue." Based on discussions with the NRC staff, TVA is deleting the Action E.1 Note as part of TVA's restoration of CTS requirements reflected in ITS 3.7.12. The changes are reflected in Attachment 1 of this response and include CTS/ITS markups and conforming changes (deletion of L08, revision of JFD 7, and bases changes).**

The changes made in Attachment 1 of this response are identified

with the following:

- **Blue boxes indicate changes made that revise the response to RAI MHC006**
- **Magenta boxes indicate additional self-identified changes associated with the response to RAI KAB045**
- **Green boxes indicate changes made as part of this response.**

Reference: 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 1," dated December 16, 2014. (ADAMS Accession No. ML14350B364)

Response Date/Time	**7/2/2015 4:50 PM**
Closure Statement	
Question Closure Date	
Notification	**Mark Blumberg Scott Bowman Kristy Bucholtz Margaret Chernoff Michelle Conner Robert Elliott Ravinder Grover Matthew Hamm Khadijah Hemphill Andrew Hon Lynn Mynatt Ray Schiele**
Added By	**Michelle Conner**
Date Added	**7/2/2015 3:53 PM**
Date Modified	
Modified By	

ATTACHMENT 6

ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

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

ITS | A01 | ITS 3.3.6

INSTRUMENTATION

Containment Ventilation Isolation — A02

3/4.3.2 ~~ENGINEERED SAFETY FEATURE ACTUATION SYSTEM~~ INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

Containment Ventilation Isolation — A02

LCO 3.3.6 3.3.2.1 ~~The Engineered Safety Feature Actuation System (ESFAS)~~ instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE ~~with their trip setpoints set consistent with the values shown in the Nominal Trip Setpoint column of Table 3.3-4~~. A03

Applicability APPLICABILITY: As shown in Table 3.3-3.

ACTION:

Containment Ventilation Isolation — A02

ACTION A a. With an ~~ESFAS~~ instrumentation channel or interlock trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status ~~with the trip setpoint adjusted consistent with the Nominal Trip Setpoint value~~. A03

ACTION A b. With an ~~ESFAS~~ instrumentation channel or interlock inoperable, take the ACTION shown in Table 3.3-3.

Containment Ventilation Isolation — A02

SURVEILLANCE REQUIREMENTS

Containment Ventilation Isolation — A02

SR Note 4.3.2.1.1 Each ~~ESFAS~~ 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 4.3-2.

ACTUATION LOGIC TEST / COT / TADOT — M01

4.3.2.1.2 The logic for the interlocks shall be demonstrated OPERABLE during the automatic actuation logic test. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation. See ITS 3.3.2

SR 3.3.6.8 4.3.2.1.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be verified to be within the limit ~~at least once per 18 months. Each verification shall include at least one train such that both trains are verified at least once per 36 months and one channel per function such that all channels are verified at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3~~. A04

~~18 months on a STAGGERED TEST BASIS~~ — A05

In accordance with the Surveillance Frequency Control Program — LA01

Add proposed SR 3.3.6.8 Note — L01

ITS A01 ITS 3.3.6

Table 3.3.6-1

TABLE 3.3-3 (Continued)

Containment Ventilation Isolation A02

~~ENGINEERED SAFETY FEATURE ACTUATION SYSTEM~~ INSTRUMENTATION

LA02

FUNCTIONAL UNIT	~~TOTAL NO. OF CHANNELS~~	~~CHANNELS TO TRIP~~	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
b. Phase "B" Isolation					
1) Manual	2	1**	2	1, 2, 3, 4	20
2) Automatic Actuation Logic	2	1	2	1, 2, 3, 4	15
3) Containment Pressure-High-High	4	2	3	1, 2, 3	18
c. Containment Ventilation Isolation	~~2~~	~~1~~	2	1, 2, 3, 4	19
Function 1 1) Manual					
Function 2 2) Automatic Isolation Logic	~~2~~	~~1~~	2	1, 2, 3, 4	15
Function 3 3) Containment Purge Air Exhaust Monitor Radioactivity-High	~~2~~	~~1~~	1	1, 2, 3, 4	19

See ITS 3.3.2

LA02

LA02

**Two switches must be operated simultaneously for actuation.

See ITS 3.3.2

Add proposed Function 4. M02

ITS A01 ITS 3.3.6

TABLE 3.3-3 (Continued)

TABLE NOTATION

\# Trip function may be bypassed in this MODE below P-11 (Pressurizer Pressure Block of Safety Injection) setpoint.

\## Trip function automatically blocked above P-11 and may be blocked below P11 when Safety Injection on Steam Line Pressure-Low is not blocked.

See ITS 3.3.2

Add proposed ACTIONS Note. A06

ACTION STATEMENTS

ACTION A

ACTION 15 - With the number of OPERABLE Channels ~~one~~ less than the Total Number of Channels, ~~be in at least HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1 provided the other channel is OPERABLE.~~ L02

Add proposed Required Action A.1 L02

ACTION 16 - Deleted.

ACTION 17 - With the number of OPERABLE Channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 6 hours.

b. The Minimum Channels OPERABLE requirements is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.2.1.1.

See ITS 3.3.2

ACTION 18 - With the number of OPERABLE Channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition within 6 hours and the Minimum Channels OPERABLE requirement is met; one additional channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1.

ACTION A

ACTION 19 - With less than the Minimum Channels OPERABLE, ~~operation may continue provided the containment purge supply and exhaust valves are maintained closed~~.

Add proposed Required Action A.1 M03

ACTION 20 - With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

See ITS 3.3.2

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ITS A01 ITS 3.3.6

Table 3.3.6-1

TABLE 3.3-4 (Continued)

Containment Ventilation Isolation A02

~~ENGINEERED SAFETY FEATURE ACTUATION SYSTEM~~ INSTRUMENTATION TRIP SETPOINTS

A03

FUNCTIONAL UNIT	~~NOMINAL~~ TRIP SETPOINT	~~ALLOWABLE VALUES~~	
2. CONTAINMENT SPRAY			
a. Manual Initiation	Not Applicable	Not Applicable	See ITS 3.3.2
b. Automatic Actuation Logic	Not Applicable	Not Applicable	See ITS 3.3.2
c. Containment Pressure--High-High	2.81 psig	≤ 2.9 psig	
3. CONTAINMENT ISOLATION			
a. Phase "A" Isolation			
1. Manual	Not Applicable	Not Applicable	See ITS 3.3.2
2. From Safety Injection Automatic Actuation logic	Not Applicable	Not Applicable	See ITS 3.3.2
b. Phase "B" Isolation			
1. Manua1	Not Applicable	Not Applicable	See ITS 3.3.2
2. Automatic Actuation Logic	Not Applicable	Not Applicable	See ITS 3.3.2
3. Containment Pressure--High-High	2.81 psig	≤ 2.9 psig	
c. Containment Ventilation Isolation			
Function 1 — 1. Manual	Not Applicable	~~Not Applicable~~	A03
Function 2 — 2. Automatic Isolation Logic	Not Applicable	~~Not Applicable~~	A03

ITS A01 ITS 3.3.6

Table 3.3.6-1

TABLE 3.3-4 (Continued)

Containment Ventilation Isolation A02

~~ENGINEERED SAFETY FEATURE ACTUATION SYSTEM~~ INSTRUMENTATION TRIP SETPOINTS

A03

FUNCTIONAL UNIT	~~NOMINAL~~ TRIP SETPOINT	~~ALLOWABLE VALUES~~
Function 3 — 3. Containment Purge Air Exhaust Monitor Radioactivity-High	≤ 8.5 x 10^{-3} μCi/cc	~~≤ 8.5 x 10^-3 μCi/cc~~
4. STEAM LINE ISOLATION		
a. Manual	Not Applicable	Not Applicable
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. Containment Pressure--High-High	2.81 psig	≤ 2.9 psig
d. Steam Line Pressure--Low	600 psig steam line pressure (Note 1)	≥ 592.2 psig steam line pressure (Note 1)
e. Negative Steam Line Pressure Rate—High	100.0 psi (Note 2)	≤ 107.8 psi (Note 2)
5. TURBINE TRIP AND FEEDWATER ISOLATION		
a. Steam Generator Water level-- High-High	81% of narrow range instrument span each steam generator	≤ 81.7% of narrow range instrument span each steam generator
b. Automatic Actuation Logic	N.A.	N.A.

See ITS 3.3.2

ITS A01 ITS 3.3.6

Table 3.3.6-1

TABLE 4.3-2 (Continued)

Containment Ventilation Isolation A02

~~ENGINEERED SAFETY FEATURE ACTUATION SYSTEM~~ INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

ACTUATION LOGIC TEST / COT / TADOT M01

KAB043

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	~~CHANNEL FUNCTIONAL TEST~~	MODES FOR WHICH SURVEILLANCE IS REQUIRED
3. CONTAINMENT ISOLATION				
a. Phase "A" Isolation				
1) Manual	N.A.	N.A.	R	1, 2, 3, 4
2) From Safety Injection Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3, 4
b. Phase "B" Isolation				
1) Manual	N.A.	N.A.	R	1, 2, 3, 4
2) Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3, 4
3) Containment Pressure-- High-High	S	R	Q	1, 2, 3
c. Containment Ventilation Isolation				
Function 1 — 1) Manual	N.A.	N.A.	~~R~~ SR 3.3.6.6	1, 2, 3, 4
Function 2 — 2) Automatic Isolation Logic	N.A.	N.A.	~~M(1)~~ SR 3.3.6.2	1, 2, 3, 4
Function 3 — 3) Containment Purge Air Exhaust Monitor Radio-activity-High	~~S~~ SR 3.3.6.1	~~R~~ SR 3.3.6.7	~~Q~~ SR 3.3.6.4	1, 2, 3, 4

See ITS 3.3.2

L03

~~92 days on a STAGGERED TEST BASIS~~

In accordance with the Surveillance Frequency Control Program LA01

Add proposed SR 3.3.6.3 with a Frequency of ~~92 days on a STAGGERED TEST BASIS~~ for ITS Table 3.3.6-1 Function 2 M04

Add proposed SR 3.3.6.5 with a of Frequency of ~~every 18 months~~ for ITS Table 3.3.6-1 Function 2 M04

In accordance with the Surveillance Frequency Control Program LA01

Add proposed SR 3.3.6.6 Note A07

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TABLE 4 .3-2 (Continued)

TABLE NOTATION

In accordance with the Surveillance Frequency Control Program LA01

~~92 days on a STAGGERED TEST BASIS~~ L03

SR 3.3.6.2 ~~(1) Each train or logic channel shall be tested at least every 62 days on a STAGGERED TEST BASIS.~~

(2) The total interlock function shall be demonstrated OPERABLE during CHANNEL CALIBRATION testing of each channel affected by interlock operation.

See ITS 3.3.2

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ITS A01 ITS 3.3.6

3/4.3.3 MONITORING INSTRUMENTATION

~~RADIATION MONITORING~~ INSTRUMENTATION

Containment Ventilation Isolation A02

LIMITING CONDITION FOR OPERATION

Containment Ventilation Isolation A02

LCO 3.3.6 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~~.

A03

Applicability APPLICABILITY: As shown in Table 3.3-6.

ACTION:

M05

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.~~

Containment Ventilation Isolation A02

ACTION A
ACTION B

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

M06

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

SURVEILLANCE REQUIREMENTS

Containment Ventilation Isolation A02

SR 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~~ COT operations for the MODES and at the frequencies shown in Table 4.3-3.

M01

ITS

A01

ITS 3.3.6

Table 3.3.6-1

TABLE 3.3-6

Containment Ventilation Isolation

A02

~~RADIATION MONITORING~~ INSTRUMENTATION

A03

LA03

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	2 ~~1~~	1, 2, 3, 4 ~~& 6~~ During movement of ~~recently~~ irradiated fuel assemblies within containment	≤ 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

See ITS 3.3.8

A08

LA03

L04

Function 3

MHC003

revised to reflect changes made in KAB045

See ITS 3.4.15

See ITS 3.3.7

* With fuel in the storage pool or building

See ITS 3.3.8

** Equivalent to 1.0 x 10^{-5} μCi/cc.

See ITS 3.3.7

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

ITS

A01

ITS 3.3.6

Table 3.3.6-1

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

During movement of ~~recently~~ irradiated fuel assemblies within containment

L04

MHC003

ACTION B

ACTION A

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).

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.

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.

Or

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

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.

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

See ITS 3.3.7

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ITS A01 ITS 3.3.6

Table 3.3.6-1

TABLE 4.3-3

Containment Ventilation Isolation A02

~~RADIATION MONITORING INSTRUMENTATION~~ SURVEILLANCE REQUIREMENTS

COT M01

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	~~CHANNEL FUNCTIONAL TEST~~	MODES FOR WHICH SURVEILLANCE REQUIRED	
1. AREA MONITOR					
a. Fuel Storage Pool Area	S	R	Q	*	See ITS 3.3.8
2. PROCESS MONITORS					MHC003 During movement of ~~recently~~ irradiated fuel assemblies within containment L04
Function 3 a. Containment Purge Air Exhaust	~~S~~ SR 3.3.6.1	~~R~~ SR 3.3.6.7	~~Q~~ SR 3.3.6.4	1, 2, 3, 4 ~~& 6~~	In accordance with the Surveillance Frequency Control Program LA01
b. Containment					See ITS 3.4.15
i. Deleted					
ii. Particulate Activity					
RCS Leakage Detection	S	R	Q	1, 2, 3, & 4	
c. Control Room Isolation	S	R	Q	ALL MODES	See ITS 3.3.7

*With fuel in the storage pool or building. See ITS 3.3.8

In accordance with the Surveillance Frequency Control Program LA01

Add proposed SR 3.3.6.3 with a Frequency of ~~92 days on a STAGGERED TEST BASIS~~ for ITS Table 3.3.6-1 Function 2 M04

Add proposed SR 3.3.6.5 with a of Frequency ~~every 18 months~~ for ITS Table 3.3.6-1 Function 2 M04

In accordance with the Surveillance Frequency Control Program LA01

ITS A01 ITS 3.3.6

REFUELING OPERATIONS

INSTRUMENTATION A02

3/4.9.9 CONTAINMENT VENTILATION ISOLATION ~~SYSTEM~~

LIMITING CONDITION FOR OPERATION

instrumentation A02

LCO 3.3.6 3.9.9 The Containment Ventilation isolation ~~system~~ shall be OPERABLE.

MHC003

Applicability APPLICABILITY: During movement of irradiated fuel within the containment.

~~recently~~ ~~L04~~

ACTION:

instrumentation A02

ACTION B With the Containment Ventilation isolation ~~system~~ inoperable, close each of the Ventilation penetrations providing direct access from the containment atmosphere to the outside atmosphere. ~~The provisions of Specification 3.0.3 are not applicable.~~ M06

A02

~~92 days~~ for containment radiation monitors L05

In accordance with the Surveillance Frequency Control Program LA01

~~18 months~~ for manual initiation L05

SURVEILLANCE REQUIREMENTS

instrumentation ~~L06~~

~~SR 3.3.6.2~~, SR 3.3.6.4 ~~SR 3.3.6.3~~ ~~SR 3.3.6.5~~ ~~SR 3.3.6.6~~ KAB045

4.9.9 The Containment Ventilation isolation ~~system~~ shall be demonstrated OPERABLE ~~within 100 hours prior to the start of~~ and at least once per ~~7 days~~ during movement of irradiated fuel within containment by verifying that Containment Ventilation isolation occurs on manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels.

See ITS 3.9.4

STET KAB045

~~recently~~ ~~L04~~

change to KAB045 markup

MHC003 KAB045

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ITS (A01) ITS 3.3.6

INSTRUMENTATION

3/4.3.2 ~~ENGINEERED SAFETY FEATURE ACTUATION SYSTEM~~ Containment Ventilation Isolation INSTRUMENTATION (A02)

LIMITING CONDITION FOR OPERATION

LCO 3.3.6 3.3.2 ~~The Engineered Safety Feature Actuation System (ESFAS)~~ Containment Ventilation Isolation instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE ~~with their trip setpoints set consistent with the values shown in the Nominal Trip Setpoint column of Table 3.3-4~~. (A02) (A03)

Applicability APPLICABILITY: As shown in Table 3.3-3.

ACTION:

ACTION A a. With an ~~ESFAS~~ Containment Ventilation Isolation instrumentation channel or interlock trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status ~~with the trip setpoint adjusted consistent with the Nominal Trip Setpoint value~~. (A02) (A03)

ACTION A b. With an ~~ESFAS~~ Containment Ventilation Isolation instrumentation channel or interlock inoperable, take the ACTION shown in Table 3.3-3. (A02)

SURVEILLANCE REQUIREMENTS

SR Note 4.3.2.1.1 Each ~~ESFAS~~ Containment Ventilation Isolation instrumentation channel and interlock shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ~~CHANNEL FUNCTIONAL TEST~~ ACTUATION LOGIC TEST / COT / TADOT operations for the MODES and at the frequencies shown in Table 4.3-2. (A02) (M01)

4.3.2.1.2 The logic for the interlocks shall be demonstrated OPERABLE during the automatic actuation logic test. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation. (See ITS 3.3.2)

SR 3.3.6.8 4.3.2.1.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be verified to be within the limit ~~at least once per 18 months. Each verification shall include at least one train such that both trains are verified at least once per 36 months and one channel per function such that all channels are verified at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3~~ ~~18 months on a STAGGERED TEST BASIS~~ In accordance with the Surveillance Frequency Control Program. (A04) (A05) (LA01)

Add proposed SR 3.3.6.8 Note (L01)

ITS A01 ITS 3.3.6

Table 3.3.6-1

TABLE 3.3-3 (Continued)

Containment Ventilation Isolation A02

~~ENGINEERED SAFETY FEATURE ACTUATION SYSTEM~~ INSTRUMENTATION

LA02

FUNCTIONAL UNIT	~~TOTAL NO. OF CHANNELS~~	~~CHANNELS TO TRIP~~	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
3. CONTAINMENT ISOLATION					
b. Phase "B" Isolation					
1) Manual	2	1**	2	1, 2, 3, 4	20
2) Automatic Actuation Logic	2	1	2	1, 2, 3, 4	15
3) Containment Pressure-High-High	4	2	3	1, 2, 3	18
c. Containment Ventilation Isolation					
Function 1 — 1) Manual	~~2~~	~~1~~	2	1, 2, 3, 4	19
Function 2 — 2) Automatic Isolation Logic	~~2~~	~~1~~	2	1, 2, 3, 4	15
Function 3 — 3) Containment Purge Air Exhaust Monitor Radioactivity-High	~~2~~	~~1~~	1	1, 2, 3, 4	19

See ITS 3.3.2

LA02

** Two switches must be operated simultaneously for actuation.

See ITS 3.3.2

Add proposed Function 4. M02

ITS A01 ITS 3.3.6

TABLE 3.3-3 (Continued)

TABLE NOTATION

\# Trip function may be bypassed in this MODE below P-11 (Pressurizer Pressure Block of Safety Injection) setpoint.

\## Trip function automatically blocked above P-11 and may be blocked below P-11 when Safety Injection on Steam Line Pressure-Low is not blocked.

See ITS 3.3.2

Add proposed ACTIONS Note. A06

ACTION STATEMENTS

ACTION A

ACTION 15 - With the number of OPERABLE Channels ~~one~~ less than the Total Number of Channels, ~~be in HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1 provided the other channel is OPERABLE.~~ L02

Add proposed Required Action A.1 L02

ACTION 16 - Deleted.

ACTION 17 - With the number of OPERABLE Channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 6 hours.

b. The Minimum Channels OPERABLE requirements is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.2.1.1.

See ITS 3.3.2

ACTION 18 - With the number of OPERABLE Channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition within 6 hours and the Minimum Channels OPERABLE requirement is met; one additional channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1.

ACTION A

ACTION 19 - With less than the Minimum Channels OPERABLE, ~~operation may continue provided the containment purge supply and exhaust valves are maintained closed~~.

Add proposed Required Action A.1 M03

ACTION 20 - With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

See ITS 3.3.2

ITS A01 ITS 3.3.6

Table 3.3.6-1

TABLE 3.3-4 (Continued)

Containment Ventilation Isolation A02

~~ENGINEERED SAFETY FEATURE ACTUATION SYSTEM~~ INSTRUMENTATION TRIP SETPOINTS

A03

FUNCTIONAL UNIT	~~NOMINAL~~ TRIP SETPOINT	~~ALLOWABLE VALUES~~
2. CONTAINMENT SPRAY		
a. Manual Initiation	Not Applicable	Not Applicable
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. Containment Pressure--High-High	2.81 psig	≤2.9 psig
3. CONTAINMENT ISOLATION		
a. Phase "A" Isolation		
1. Manual	Not Applicable	Not Applicable
2. From Safety Injection Automatic Actuation logic	Not Applicable	Not Applicable
b. Phase "B" Isolation		
1. Manual	Not Applicable	Not Applicable
2. Automatic Actuation Logic	Not Applicable	Not Applicable
3. Containment Pressure--High-High	2.81 psig	≤2.9 psig
c. Containment Ventilation Isolation		
Function 1 — 1. Manual	Not Applicable	~~Not Applicable~~
Function 2 — 2. Automatic Isolation Logic	Not Applicable	~~Not Applicable~~

See ITS 3.3.2

See ITS 3.3.2

A03

ITS A01 ITS 3.3.6

Table 3.3.6-1

TABLE 3.3-4 (Continued)

Containment Ventilation Isolation A02

~~ENGINEERED SAFETY FEATURE ACTUATION SYSTEM~~ INSTRUMENTATION TRIP SETPOINTS

A03

FUNCTIONAL UNIT	~~NOMINAL~~ TRIP SETPOINT	~~ALLOWABLE VALUES~~
Function 3 — 3. Containment Purge Air Exhaust Monitor Radioactivity - High	$\leq 8.5 \times 10^{-3}$ µCi/cc	~~≤8.5 x 10-3 µCi/cc~~
4. STEAM LINE ISOLATION		
a. Manual	Not Applicable	Not Applicable
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. Containment Pressure--High-High	2.81 psig	≤2.9 psig
d. Steam Line Pressure--Low	600 psig steam line pressure (Note 1)	≥592.2 psig steam line pressure (Note 1)
e. Negative Steam Line Pressure Rate--High	100.0 psi (Note 2)	≤107.8 psi (Note 2)
5. TURBINE TRIP AND FEEDWATER ISOLATION		
a. Steam Generator Water level --High-High	81% of narrow range instrument span each steam generator	≤81.7% of narrow range instrument span each steam generator
b. Automatic Actuation Logic	N.A.	N.A.

See ITS 3.3.2

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ITS | A01 | ITS 3.3.6

TABLE 4.3-2 (Continued)

Containment Ventilation Isolation | A02

~~ENGINEERED SAFETY FEATURE ACTUATION SYSTEM~~ INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

ACTUATION LOGIC TEST / COT / TADOT | M01

Table 3.3.6-1

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	~~CHANNEL FUNCTIONAL TEST~~	MODES FOR WHICH SURVEILLANCE IS REQUIRED
3. CONTAINMENT ISOLATION				
a. Phase "A" Isolation				
1) Manual	N.A.	N.A.	R	1, 2, 3, 4
2) From Safety Injection Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3, 4
b. Phase "B" Isolation				
1) Manual	N.A.	N.A.	R	1, 2, 3, 4
2) Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3, 4
3) Containment Pressure--High-High	S	R	Q	1, 2, 3
c. Containment Ventilation Isolation				
Function 1: 1) Manual	N.A.	N.A.	~~R~~ SR 3.3.6.6	1, 2, 3, 4
Function 2: 2) Automatic Isolation Logic	N.A.	N.A.	~~M(1)~~ SR 3.3.6.2	1, 2, 3, 4
Function 3: 3) Containment Purge Air Exhaust Monitor Radioactivity-High	~~S~~ SR 3.3.6.1	~~R~~ SR 3.3.6.7	~~Q~~ SR 3.3.6.4	1, 2, 3, 4

See ITS 3.3.2

L03 | ~~92 days on a STAGGERED TEST BASIS~~

In accordance with the Surveillance Frequency Control Program | LA01

Add proposed SR 3.3.6.3 with a Frequency of ~~92 days on a STAGGERED TEST BASIS~~ for ITS Table 3.3.6-1 Function 2 | M04

Add proposed SR 3.3.6.5 with a of Frequency ~~every 18 months~~ for ITS Table 3.3.6-1 Function 2 | M04

In accordance with the Surveillance Frequency Control Program | LA01

Add proposed SR 3.3.6.6 Note | A07

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TABLE 4.3-2 (Continued)
TABLE NOTATION

In accordance with the Surveillance Frequency Control Program LA01

~~92 days on a STAGGERED TEST BASIS~~ L03

SR 3.3.6.2 ~~(1) Each train or logic channel shall be tested at least every 62 days on a STAGGERED TEST BASIS.~~

(2) The total interlock function shall be demonstrated OPERABLE during CHANNEL CALIBRATION testing of each channel affected by interlock operation. See ITS 3.3.2

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ITS A01 ITS 3.3.6

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

~~RADIATION MONITORING~~ INSTRUMENTATION
Containment Ventilation Isolation A02

LIMITING CONDITION FOR OPERATION

Containment Ventilation Isolation A02

LCO 3.3.6 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~~. A03

Applicability APPLICABILITY: As shown in Table 3.3-6.

ACTION:

M05

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~~.

Containment Ventilation Isolation A02

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

M06

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

SURVEILLANCE REQUIREMENTS

Containment Ventilation Isolation A02

SR 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.
COT M01

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ITS A01 ITS 3.3.6

Table 3.3.6-1

TABLE 3.3-6
~~RADIATION MONITORING~~ INSTRUMENTATION
Containment Ventilation Isolation A02

A03

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	2 ~~1~~	1, 2, 3, 4 ~~& 6~~ During movement of ~~recently~~ irradiated fuel assemblies within containment	≤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 - 10^{7} cpm	29

LA03 See ITS 3.3.8 A08 LA03 L04 See ITS 3.4.15 See ITS 3.3.7

Function 3 MHC003

revised to reflect changes made in KAB045

* With fuel in the storage pool or building See ITS 3.3.8

** Equivalent to 1.0 x 10^{-5} µCi/cc. See ITS 3.3.7

ITS

A01

ITS 3.3.6

Table 3.3.6-1

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

During movement of ~~recently~~ irradiated fuel assemblies within containment L04

MHC003

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).

ACTION B

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.

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.

Or

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

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.

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

See ITS 3.3.7

ITS A01 ITS 3.3.6

Table 3.3.6-1

TABLE 4.3-3

Containment Ventilation Isolation A02

~~RADIATION MONITORING INSTRUMENTATION~~ SURVEILLANCE REQUIREMENTS

COT M01

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	~~CHANNEL FUNCTIONAL TEST~~	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. AREA MONITOR				
a. Fuel Storage Pool Area	S	R	Q	*
2. PROCESS MONITORS				
a. Containment Purge Air Exhaust	~~S~~ SR 3.3.6.1	~~R~~ SR 3.3.6.7	~~Q~~ SR 3.3.6.4	1, 2, 3, 4 ~~& 6~~
b. Containment				
i. Deleted				
ii. Particulate Activity				
RCS Leakage Detection	S	R	Q	1, 2, 3 & 4
c. Control Room Isolation	S	R	Q	ALL MODES

See ITS 3.3.8

MHC003

During movement of ~~recently~~ irradiated fuel assemblies within containment L04

In accordance with the Surveillance Frequency Control Program LA01

See ITS 3.4.15

See ITS 3.3.7

In accordance with the Surveillance Frequency Control Program LA01

Add proposed SR 3.3.6.3 with a Frequency of ~~92 days on a STAGGERED TEST BASIS~~ for ITS Table 3.3.6-1 Function 2 M04

Add proposed SR 3.3.6.5 with a of Frequency ~~every 18 months~~ for ITS Table 3.3.6-1 Function 2 M04

In accordance with the Surveillance Frequency Control Program LA01

* With fuel in the storage pool or building.

See ITS 3.3.8

Function 3

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ITS

A01

ITS 3.3.6

REFUELING OPERATIONS

INSTRUMENTATION

A02

3/4.9.9 CONTAINMENT VENTILATION ISOLATION ~~SYSTEM~~

LIMITING CONDITION FOR OPERATION

instrumentation

A02

LCO 3.3.6 3.9.9 The Containment Ventilation Isolation ~~System~~ shall be OPERABLE.

MHC003

Applicability APPLICABILITY: During movement of irradiated fuel within the containment.

~~recently~~

~~L04~~

ACTION:

instrumentation

A02

ACTION B With the Containment Ventilation Isolation ~~System~~ inoperable, close each of the Ventilation penetrations providing direct access from the containment atmosphere to the outside atmosphere. ~~The provisions of Specification 3.0.3 are not applicable.~~

M06

A02

~~92 days~~ for containment radiation monitors

L05

In accordance with the Surveillance Frequency Control Program

LA01

~~18 months~~ for manual initiation

L05

instrumentation

SURVEILLANCE REQUIREMENTS

~~L06~~

~~SR 3.3.6.2,~~
SR 3.3.6.4
SR 3.3.6.3
SR 3.3.6.5
SR 3.3.6.6

KAB045

4.9.9 The Containment Ventilation Isolation ~~System~~ shall be demonstrated OPERABLE ~~within 100 hours prior to the start of~~ and at least once per ~~7 days~~ during movement of irradiated fuel within containment by verifying that Containment Ventilation isolation occurs on manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels.

See ITS 3.9.4

STET

KAB045

change from KAB045 markups

~~recently~~

~~L04~~

MHC003

KAB045

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DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION 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 3.3.2.1 (Unit 1) and CTS 3.3.2 (Unit 2) require, in part, the Engineered Safety Features Actuation System (ESFAS) instrumentation to be OPERABLE. CTS 3.3.2.1 (Unit 1) and CTS 3.3.2 (Unit 2) ACTIONS a and b provide the compensatory actions to take when an ESFAS instrument is inoperable. CTS 4.3.2.1.1 provides the testing requirements for the ESFAS instrumentation. CTS Table 3.3-3 provides the Total No. of Channels, Channels to Trip, Minimum Channels OPERABLE, Applicable MODES, and ACTIONS for the ESFAS Functional Units. CTS Table 3.3-4 provides the Nominal Trip Setpoint and Allowable Values for the ESFAS Functional Units. CTS Table 4.3-2 provides the Surveillance Requirements for the ESFAS Functional Units. CTS 3.3.3.1 requires, in part, the Radiation Monitoring Instrumentation channels 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 provides testing requirements for Radiation Monitoring Instrumentation. CTS Table 3.3-6 provides the Minimum Channels OPERABLE, Applicable MODES, Alarm/Trip Setpoint, Measurement Range, and ACTIONS for the Radiation Monitoring Instrumentation. CTS Table 4.3-3 provides the Surveillance Requirements for the Radiation Monitoring Instrumentation. CTS 3.9.9 provides the Limiting Condition for Operation requirements, ACTIONS, and Surveillance Requirements for the Containment Ventilation Isolation System. ITS LCO 3.3.6 requires, in part, that the Containment Ventilation Isolation instrumentation be OPERABLE. ITS Table 3.3.6-1 provides the Applicable MODES, Required Channels, Surveillance Requirements, and Trip Setpoints for Containment Ventilation Isolation Instrumentation. This changes the CTS by having a separate Specification for the Containment Ventilation Isolation Instrumentation in lieu of including it in the ESFAS Instrumentation and the Radiation Monitoring Instrumentation Specifications.

This change is acceptable because the technical requirements for the ESFAS Instrumentation and the Radiation Monitoring Instrumentation are maintained with the change in format. The Containment Ventilation Isolation Instrumentation continues to require the OPERABILITY of the ESFAS and Radiation Monitoring Instrumentation. This change is designated as administrative because it does not result in a technical change to the CTS.

A03 CTS 3.3.2.1 (Unit 1) and CTS 3.3.2 (Unit 2) require the ESFAS Instrumentation and interlock setpoints to be set consistent with the Nominal Trip Setpoint values

DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

shown in Table 3.3-4. CTS 3.3.3.1 requires the Radiation Monitoring Instrumentation channels to be set consistent with the Trip Setpoint values shown in Table 3.3-6. CTS 3.3.2.1 (Unit 1) and CTS 3.3.2 (Unit 2) ACTION a require the channel to be restored to OPERABLE status with the trip setpoint adjusted consistent with the Nominal Trip Setpoint. The Nominal Trip Setpoint and Allowable Values in CTS Table 3.3-4 Functional Unit 3.c.3 (Containment Purge Air Exhaust Monitor Radioactivity-High) and the Alarm/Trip Setpoint in CTS Table 3.3-6, Instrument 2.a (Containment Purge Air) indicate the same value. ITS 3.3.6 requires the Containment Ventilation Isolation Instrumentation Functions to be OPERABLE and specifies the Trip Setpoint for the Containment Ventilation Isolation Instrumentation Functions. ITS Table 3.3.6-1 Function 3 (Containment Purge Air Radiation Monitor) specifies a Trip Setpoint consistent with the values indicated in CTS Table 3.3-4, Function 3.c.3 and CTS Table 3.3-6 Instrument 2.a. This changes the CTS by indicating a Trip Setpoint instead of an Allowable Value or Nominal Trip Setpoint for the Containment Purge Air Radiation Monitor instrumentation.

The purpose of CTS 3.3.2.1 (Unit 1) and CTS 3.3.2 (Unit 2) Table 3.3-4, Functional Unit 3.c.3, and CTS 3.3.3.1 Table 3.3-6, Instrument 2.a is to establish the requirements for Containment Ventilation Isolation on a Containment Purge Air Radiation Monitor – High signal to maintain control room and offsite radiological doses below limits in the event of an accident. However, the trip setpoint for the Containment Purge Air Radiation Monitor instrumentation is not associated with an Analytical Limit assumed in the safety analysis that prevents violation of the Safety Limits from postulated Anticipated Operational Occurrences (AOOs). This change is acceptable since the channel will continue to be declared inoperable if the Trip Setpoint is found to be less conservative than the tolerance specified by the calibration procedure. This change is designated as administrative because it does not result in a technical change to the CTS.

A04 CTS 4.3.2.1.3 requires verification that the ENGINEERED SAFETY FEATURES (ESF) RESPONSE TIME of each ESFAS function is within limits. ITS Table 3.3.6-1 requires the performance of SR 3.3.6.8, "Verify ESF RESPONSE TIME is within limits," for Function 3 (Containment Purge Air Radiation Monitor). This changes the CTS by specifically stating the ESFAS Function that requires ESF RESPONSE TIME testing.

The purpose of CTS 4.3.2.1.3 is to ensure that the actuation response times are less than or equal to the maximum values assumed in the accident analysis. UFSAR Table 7.3.1-4 specifies response times for those ESF Functions assumed in the SQN safety analyses. Sequoyah License Amendment 190 and 182, for Unit 1 and Unit 2 respectively, relocated the ESFAS response time limits to the UFSAR (ADAMS Accession No. ML013300393). UFSAR Table 7.3.1-4 contains these limits listing the information in two columns, "Initiating Signal and Function," and "Response Time in Seconds." The Initiating Signals listed in UFSAR Table 7.3.1-4 includes Containment Purge Air Exhaust Radioactivity – High. This change is acceptable because ITS 3.3.6, Table 3.3.6-1 continues to require ESF RESPONSE TIME testing (ITS SR 3.3.6.8) for the Containment Ventilation Isolation, Containment Purge Air Exhaust Monitor Radioactivity-High

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DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

as is delineated in UFSAR Table 7.3.1-4. This change is designated as administrative because it does not result in technical changes to the CTS.

A05 CTS 4.3.2.1.3 states, in part, that the ESF RESPONSE TIME of each ESFAS function shall be demonstrated to be within its limit at least once per 18 months. The requirement specifies that each test shall include at least one logic train such that both logic trains are tested at least once per 36 months, and one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific ~~reactor trip~~ ESFAS function as shown in the "Total No. of Channels" column of Table 3.3-3. ITS SR 3.3.6.8 requires the verification of ESF RESPONSE TIMES every 18 months "on a STAGGERED TEST BASIS." The ITS definition of STAGGERED TEST BASIS is consistent with the CTS testing Frequency. This changes the CTS by utilizing the ITS definition of STAGGERED TEST BASIS for the Frequency of the ESF RESPONSE TIME testing. KAB040

This change is acceptable because the requirements for ESF RESPONSE TIME testing for the ESFAS channels remain unchanged. The ITS definition of STAGGERED TEST BASIS and its application in this requirement do not change the current testing Frequency requirements. This change is designated as administrative because it does not result in technical changes to the CTS.

A06 ITS 3.3.6 ACTIONS contains a Note which states that separate Condition entry is allowed for each Function. The ACTIONS for CTS 3.3.2.1 (Unit 1), CTS 3.3.2 (Unit 2), and CTS 3.3.3.1 do not contain this Note. This changes the CTS by specifically allowing separate Condition entry for each Function in ITS Table 3.3.6-1.

This change is acceptable because it clearly states the current requirement. The CTS considers each ESFAS and 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.

A07 CTS Table 4.3-2 requires a CHANNEL FUNCTIONAL TEST for Functional Unit ~~c.1 (Manual)~~ 3.c.1 (Containment Isolation, Containment Ventilation Isolation, Manual). ITS Table 3.3.6-1 requires a similar test; ITS SR 3.3.6.6 (TADOT) to be performed for Function 1 (Manual Initiation) with the addition of a Note that states, "Verification of setpoint is not required." This changes the CTS by requiring a TADOT without setpoint verification instead of a CHANNEL FUNCTIONAL TEST. KAB043

CTS 1.6 states that for an analog channel a CHANNEL FUNCTIONAL TEST shall be 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. ITS 1.1 defines a TADOT as consisting of operating the trip actuating device and verifying the OPERABILITY of all devices in the channel required for trip actuating device OPERABILITY. ITS further states that the TADOT shall include adjustment, as necessary, of the trip actuating device so that it actuates at the required setpoint within the necessary accuracy. Because the TADOT includes adjustment, as necessary, of the trip actuating device so that it actuates at the required setpoint within the necessary accuracy, which is not included in the CTS CHANNEL FUNCTIONAL TEST, ITS SR 3.3.3.6 includes the Note, "Verification

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DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

of setpoint is not required." A TADOT without setpoint verification provides a similar test for these channels as the CTS CHANNEL FUNCTIONAL TEST. This change is designated as administrative because it does not result in technical changes to the CTS.

Insert 1

MHC003

MORE RESTRICTIVE CHANGES

M01 CTS 4.3.2.1.1 requires, in part, that the ESFAS instrumentation on Table 4.3-2 be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST. Table 4.3-2 Functional Unit 3.c.1 (Containment Ventilation Isolation – Manual), Functional Unit 3.c.2 (Containment Ventilation Isolation – Automatic Isolation Logic), and Functional Unit 3.c.3 (Containment Ventilation Isolation – Containment Purge Air Exhaust Monitor Radioactivity-High) require a CHANNEL FUNCTIONAL TEST. 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. Table 4.3-3 Instrument 2.a (Process Monitors – Containment Purge Air) requires a CHANNEL FUNCTIONAL TEST. ITS Table 3.3.6-1 Function 1 (Manual Initiation) requires performance of a TADOT (SR 3.3.6.6). ITS Table 3.3.6-1 Function 2 (Automatic Actuation Logic and Actuation Relays) requires performance of an ACTUATION LOGIC TEST (SR 3.3.6.2). ITS Table 3.3.6-1 Function 3 (Containment Purge Air Radiation Monitor) requires performance of a COT (SR 3.3.6.4). This changes the CTS by requiring a TADOT, a COT, or ACTUATION LOGIC TEST instead of a CHANNEL FUNCTIONAL TEST.

This change is acceptable because the COT, TADOT, or ACTUATION LOGIC TEST continue to perform tests similar to the current CHANNEL FUNCTIONAL TEST. CTS defines a CHANNEL FUNCTIONAL TEST based on the type of channel. In CTS a CHANNEL 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, TADOT, and ACTUATION LOGIC TEST provide similar tests with the addition that the COT and TADOT 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.

M02 CTS Table 3.3-3 Functional Unit 3.c provides requirements for Containment Ventilation Isolation Functions, but does not explicitly provide requirements for the Safety Injection (SI) signal that results in closure of the containment purge supply and exhaust isolation valves. ITS 3.3.6, "Containment Ventilation

INSERT 1

MHC003

A08 CTS Table 3.3-6 specifies, in part, that Instrument 2.a (Process Monitors, Containment Purge Air) requires one channel OPERABLE during Modes 1, 2, 3, 4, and 6 (See DOC L04 regarding the relaxation in the Mode of Applicability for CTS Table 3.3-6, Instrument 2.a, Process Monitors, Containment Purge Air, from Mode 6 to during the movement of irradiated fuel assemblies within the containment). CTS 3.9.9 requires the Containment Ventilation Isolation System to be OPERABLE during the movement of irradiated fuel within the containment. An OPERABLE Containment Ventilation Isolation System requires two OPERABLE channels. ITS 3.3.6 combines requirements from CTS Table 3.3-6 and CTS 3.9.9 to form a single Specification, Containment Ventilation Isolation Instrumentation. ITS Table 3.3.6-1 requires Function 3 (Containment Purge Air Radiation Monitor) to have two channels OPERABLE during the movement of irradiated fuel assemblies within containment. This changes the CTS by having a single Specification for the Containment Ventilation Isolation Instrumentation function in lieu of including it in the Radiation Monitoring Instrumentation and Containment Ventilation Isolation System Specifications.

This change is acceptable because the technical requirements for the Radiation Monitoring Instrumentation and Containment Ventilation Isolation System are maintained with the change in format. The Containment Ventilation Isolation Instrumentation continues to require the OPERABILITY of Radiation Monitoring Instrumentation and the Containment Ventilation Isolation System. This change is designated as administrative because it does not result in a technical change to the CTS.

revised to reflect changes made in KAB045

DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

Isolation Instrumentation," provides requirements for the SI input from ESFAS Function (Function 4) to be OPERABLE in MODES 1, 2, 3, and 4. The proposed change provides a cross-reference to LCO 3.3.2, "ESFAS Instrumentation," Function 1, SI, for all requirements and functions, including ACTIONS and Surveillances. This changes the CTS by explicitly requiring the SI input from ESFAS Function for the Containment Ventilation Isolation instrumentation.

This change is acceptable because the SI input from ESFAS Function is required to support the OPERABILITY of the containment purge supply and exhaust isolation valves. As such, explicitly including requirements for the SI input from ESFAS Function in the Technical Specifications provides additional assurance that the OPERABILITY of the Containment Ventilation Isolation instrumentation will be maintained. The requirements for the Containment Ventilation Isolation instrumentation continue to require the isolation of the Containment Ventilation Isolation on Manual Initiation, Containment Purge Air Radiation, and SI input from ESFAS signals. This change is designated as more restrictive because it adds OPERABILITY requirements for the SI input from ESFAS Function to the CTS.

M03 CTS Table 3.3-3 ACTION 19 requires that when the Containment Ventilation Isolation – Manual channels are less than the Minimum Channels OPERABLE, that operation may continue provided the containment purge supply and exhaust valves are maintained closed. ITS 3.3.6 ACTION A requires, in part, when one or more Functions with one or more manual trains are inoperable to enter the applicable Conditions and Required Actions of LCO 3.6.3, "Containment Isolation Valves," for containment purge and exhaust isolation valves made inoperable by isolation instrumentation. This changes the CTS by requiring the ACTIONS of LCO 3.6.3 to be entered rather than maintaining the containment purge and supply valves in a closed position.

This change is acceptable because the containment purge and exhaust valves are considered containment isolation valves. Therefore, ITS LCO 3.6.3 will provide the appropriate compensatory actions to take when one or more Containment Ventilation Isolation – Manual channels are inoperable. This change is designated as more restrictive since the ITS provides additional requirements for an inoperable Containment Ventilation Isolation – Manual channel than were required in the CTS.

M04 CTS Table 4.3-2 Functional Unit 3.c.3 requires the Containment Ventilation Isolation – Containment Purge Air Exhaust Monitor Radioactivity – High channels to have a CHANNEL CHECK, a CHANNEL FUNCTIONAL TEST, and a CHANNEL CALIBRATION. CTS Table 4.3-3 Instrument 2.a requires the Process Monitors – Containment Purge Air Exhaust Monitor Radioactivity – High channels to have a CHANNEL CHECK, a CHANNEL FUNCTIONAL TEST, and a CHANNEL CALIBRATION. ITS 3.3.6 requires similar Surveillances, but also requires the performance of a MASTER RELAY TEST every 92 days on a STAGGERED TEST BASIS (ITS SR 3.3.6.3) and a SLAVE RELAY TEST every 18 months (ITS SR 3.3.6.5). (See DOC LA01 for the discussion on moving the Surveillance Frequencies to the Surveillance Frequency Control Program.) Additionally, ITS SR 3.3.6.3 contains a Note that states, that the Surveillance is

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DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

only applicable to the master relays of the ESFAS Instrumentation. This changes the CTS by adding testing requirements for the master and slave relays.

This change is acceptable because the Automatic Actuation Logic and Actuation Relays Function is required to support the OPERABILITY of the Containment Ventilation Isolation Function. The addition of SR 3.3.6.3 (MASTER RELAY TEST) and SR 3.3.6.5 (SLAVE RELAY TEST) is acceptable since they will ensure the master and slave relays are able to perform their required safety function. This change is designated as more restrictive because it adds SRs for the Automatic Actuation Logic and Actuation Relays that were not included in the CTS.

M05 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 3.3.6 does not contain an ACTION for adjusting a setpoint that exceeds the required valued. Instead, ITS 3.3.6 ACTION B 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 declare 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 3.3.6 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.

M06 CTS 3.3.3.1 ACTION c and CTS 3.9.9 ACTION state, in part, that the provisions of Specification 3.0.3 are not applicable for the Containment Purge Air Radiation Monitoring Instrumentation. ITS 3.3.6 does not contain this exception. This changes the CTS by eliminating an exception to LCO 3.0.3 from the requirements for the Containment Purge Air Radiation Monitoring Instrumentation.

The purpose of CTS 3.3.3.1 and CTS 3.9.9, in part, is to provide the requirements for Containment Purge Air Radiation Monitoring Instrumentation used to alert the operators and provide an input to effect a containment ventilation isolation actuation in the event of an accident. CTS 3.0.3 would require the unit be shut down when the requirements of the LCO and the associated ACTIONS are not satisfied. This change is acceptable because ITS 3.3.6 provides the appropriate LCO requirements and ACTIONS to take when the LCO is not met. If the LCO is not met and further unit operation under the specified ACTIONS is not permitted, it is appropriate to take the ACTIONS specified in LCO 3.0.3 to place the plant in a MODE in which the Specification does not apply. Eliminating the LCO 3.0.3 exemption ensures that the operators

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DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

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 Completion Time. This change is designated as more restrictive because an explicit exception to the requirements of LCO 3.0.3 is eliminated from the CTS.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 5 – Removal of SR Frequency to the Surveillance Frequency Control Program)* CTS 4.3.2.1.3 requires a RESPONSE TIME TEST every 18 months on a STAGGERED TEST BASIS for CTS Table 3.3-3 Functional Unit 3.c.3), Containment Ventilation Isolation – Containment Purge Air Exhaust Monitor Radioactivity – High. CTS Table 4.3-2 Functional Unit 3.c.1 requires a refueling outage CHANNEL FUNCTIONAL TEST for the Containment Ventilation Isolation – Manual channels. CTS Table 4.3-2 Functional Unit 3.c.2 requires a monthly CHANNEL FUNCTIONAL TEST for the Containment Ventilation Isolation – Automatic Isolation Logic channels. (See DOC L03 for the change of the Frequency from monthly on a STAGGERED TEST BASIS to 92 days on a STAGGERED TEST BASIS.) CTS Table 4.3-2 Functional Unit 3.c.3 requires that the Containment Ventilation Isolation – Containment Purge Air Exhaust Monitor Radioactivity – High channels have a CHANNEL CHECK every shift, a CHANNEL FUNCTIONAL TEST every quarter, and a CHANNEL CALIBRATION every refueling outage. CTS Table 4.3-3 Instrument 2.a requires that the Process Monitors – Containment Purge Air Exhaust channels have a CHANNEL CHECK every shift, a CHANNEL FUNCTIONAL TEST every quarter, and a CHANNEL CALIBRATION every refueling outage. CTS 4.9.9 requires a verification that Containment Ventilation Isolation occurs on a manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels within 100 hours prior to the start of and at least once per 7 days during the movement of irradiated fuel assemblies within containment. ~~(See DOC L06 for discussion on the deletion of "within 100 hours prior to the start of movement of irradiated fuel within containment.")~~ Additionally, ITS SR 3.3.6.3 has been added to require performance of a MASTER RELAY TEST at a Frequency of 92 days on a STAGGERED TEST BASIS and SR 3.3.6.5 has been added to require the performance of a SLAVE RELAY TEST at a Frequency of 18 months. (See DOC M04 for the discussion of adding SR 3.3.6.3 and SR 3.3.6.5.) ITS SR 3.3.6.1, SR 3.3.6.2, SR 3.3.6.3, SR 3.3.6.4, SR 3.3.6.5, SR 3.3.6.6, SR 3.3.6.7, and 3.3.6.8 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 M01 for discussion on changing the CHANNEL FUNCTIONAL TEST to a COT/ACTUATION LOGIC TEST.)

MHC003

revised to reflect changes made in KAB045

DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

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.

LA02 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS Table 3.3-3, "Engineered Safety Feature Actuation System Instrumentation," has three columns stating various requirements for the Containment Ventilation Isolation Manual, Automatic Isolation Logic, and Containment Purge Air Exhaust Monitor Radioactivity–High. These columns are labeled "TOTAL NO. OF CHANNELS," "CHANNELS TO TRIP," and "MINIMUM CHANNELS OPERABLE." ITS 3.3.6 does not include the "TOTAL NO. OF CHANNELS" and "CHANNELS TO TRIP" columns. This changes the CTS by moving the information of the "TOTAL NO. OF CHANNELS" and "CHANNELS TO TRIP" columns 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 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.

LA03 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS Table 3.3-6, "Radiation Monitoring Instrumentation," includes a column providing the measurement range of the required instrumentation. This column is labeled "MEASUREMENT RANGE." ITS 3.3.6 does not include the "MEASUREMENT RANGE" column. This changes the CTS by moving the information of the "MEASUREMENT RANGE" column 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

DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

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 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.

LESS RESTRICTIVE CHANGES

L01 *(Category 6 – Relaxation of Surveillance Requirement Acceptance Criteria)* CTS 4.3.2.1.3 states, in part, that the ESF RESPONSE TIME of each ESFAS function shall be demonstrated to be within its limit at least once per 18 months. ITS SR 3.3.6.8 Note states that the radiation detectors are excluded from response time testing. This changes the CTS by excluding the radiation ~~monitor~~ detector from the ESF RESPONSE TIME testing for the Containment Ventilation Isolation High Radiation Function. KAB042

The purpose of CTS 4.3.2.1.3 is to ensure that the actuation response times are less than or equal to the maximum values assumed in the accident analysis. UFSAR Table 7.3.1-4 specifies response times and exceptions allowed for the Containment Ventilation Isolation Function initiated by the Containment Purge Air Exhaust Radioactivity –High signal. Sequoyah License Amendment 190 and 182, for Unit 1 and Unit 2 respectively, relocated the ESFAS response time limits to the UFSAR (ADAMS Accession No. ML013300393). UFSAR Table 7.3.1-4 contains these limits listing the information in two columns, "Initiating Signal and Function," and "Response Time in Seconds." The Initiating Signals listed in UFSAR Table 7.3.1-4 includes Containment Purge Air Exhaust Radioactivity – High for Function Containment Ventilation Isolation. The Response Time column in UFSAR Table 7.3.1-4 for Containment Ventilation Isolation is modified by Note (6). UFSAR Table 7.3.1-4 Note (6) states that the radiation detectors for Containment Ventilation Isolation Function may be excluded from Response Time Testing. This Note modifies the CTS definition of an ESF RESPONSE TIME test and was removed from CTS by License Amendment 190 and 182. ITS SR 3.3.6.8 is modified by a similar Note that excludes the radiation detector from ESF RESPONSE TIME testing. This change is acceptable because ITS 3.3.6, Table 3.3.6-1 retains the CTS intent of requiring ESF RESPONSE TIME testing (ITS SR 3.3.6.8) for those ESFAS Functions listed in UFSAR Table 7.3.1-4 as modified by the associated Table 7.3.1-4 Note. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

L02 *(Category 4 – Relaxation of Required Action)* CTS Table 3.3-3 ACTION 15 requires that when one channel of Containment Ventilation Isolation – Automatic Isolation Logic (Functional Unit 3.c.2) is inoperable to be in at least HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours. Additionally, CTS Table 3.3-3 ACTION 15 allows one channel of the

DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

Containment Ventilation Isolation – Automatic Isolation Logic to be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1, provided the other channel is OPERABLE. ITS 3.3.6 ACTION A requires, in part, that with one or more Containment Ventilation Isolation automatic actuation trains inoperable, to immediately enter the applicable Conditions and Required Actions of LCO 3.6.3, "Containment Isolation Valves," for containment purge supply and exhaust isolation valves made inoperable by isolation instrumentation. This changes the CTS by allowing continued unit operation when one or more Containment Ventilation Isolation – Automatic Isolation trains are inoperable.

The purpose of the CTS Table 3.3-3 ACTION 15 requirements is to ensure that the MODE of Applicability has been exited when the Automatic Isolation Logic is inoperable. This change is acceptable because the ITS Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The ITS Required Actions are consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. The proposed Required Action ensures that the function of the inoperable channel is satisfied by entering the applicable Conditions and Required Actions of LCO 3.6.3, "Containment Isolation Valves," for containment purge supply and exhaust isolation valves made inoperable by isolation instrumentation. The proposed change allows the Containment Isolation Valve Specification to ensure that the containment purge supply and exhaust isolation valves are in the correct position required for containment isolation. This change is designated as less restrictive because the less stringent requirements are being applied in the ITS than were applied in the CTS.

L03 *(Category 9 – Allowed Outage Time, Surveillance Frequency, and Bypass Time Extensions Based on Generic Topical Reports)* CTS Table 4.3-2 Functional Unit 3.c.2 requires a CHANNEL FUNCTIONAL TEST of the Containment Ventilation Isolation – Automatic Actuation Logic every 62 days on a STAGGERED TEST BASIS (i.e., monthly), in MODES 1, 2, 3, and 4. ITS Table 3.3.6-1 Function 2, for Automatic Actuation Logic and Actuation Relays, requires performance of an ACTUATION LOGIC TEST (SR 3.3.6.2) every 92 days on a STAGGERED TEST BASIS. (See DOC M01 for discussion on the change from the CHANNEL FUNCTION TEST to the ACTUATION LOGIC TEST.) This changes the CTS by extending the testing requirements for the Containment Ventilation Isolation Automatic Actuation Logic and Actuation Relays from monthly to 92 days on a STAGGERED TEST BASIS.

The purpose of the CHANNEL FUNCTIONAL TEST/COT/ACTUATION LOGIC TEST is to ensure that the instrumentation is functioning properly. These changes are acceptable and are the result of WCAP-10271, Revision 0 ("Evaluation of Surveillance Frequencies and Out of Service Times for the Reactor Protection Instrumentation System"), dated May 1996, and supplements, WCAP-14333, Revision 1 ("Probabilistic Risk Analysis of the RPS and ESFAS Test Times and Completion Times"), dated October 1998, or WCAP-15376, Revision 1 ("Risk-Informed Assessment of the RTS and ESFAS Surveillance

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DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

Test Intervals and Reactor Trip Breaker Test and Completion Times"), dated March 2003 (or a combination of the WCAPs). TVA has performed evaluations of the applicable changes associated with the three WCAPs to justify the above changes. The evaluations supporting these changes are provided in Enclosure 4 of this submittal. This change is designated as less restrictive because less stringent Frequencies are being applied in the ITS than were applied in the CTS.

L04 *(Category 2 – Relaxation of Applicability)* CTS 3.3.3.1, CTS Table 3.3-6 Instrument 2.a, and CTS Table 4.3-3 Instrument 2.a require the Containment Purge Air Instrumentation to be OPERABLE, in part, in MODE 6. CTS 3.9.9 applies during the movement of irradiated fuel within the containment. CTS 4.9.9 requires that the containment ventilation isolation system shall be demonstrated OPERABLE during movement of irradiated fuel within containment by verifying that containment ventilation isolation occurs on manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels. ITS 3.3.6 Applicability, in part, is during the movement of ~~recently~~ irradiated fuel assemblies within containment. ITS 3.3.6 ACTION B applies during the movement of ~~recently~~ irradiated fuel assemblies in containment, and requires that when one or more Functions with one or more manual actuation trains inoperable or with one required radiation monitoring channel inoperable, to immediately place and maintain the containment purge supply and exhaust valves in the closed position, or immediately enter the Conditions and Required Actions of LCO 3.9.4 for containment purge and exhaust isolation valves made inoperable by isolation instrumentation. The ITS 3.3.6 Surveillance Requirements are required to be satisfied when ITS 3.3.6 is applicable. This changes the CTS Applicability from requiring the containment purge air process monitors to be OPERABLE in MODE 6, to an Applicability of during movement of ~~recently~~ irradiated fuel assemblies within containment. MHC003

The purpose of CTS 3.3.3.1 and CTS 3.9.9 are to provide assurance that the Containment Ventilation Isolation System can perform its required safety functions. This change in Applicability is acceptable because the requirements continue to ensure that the structures, system and components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. ~~TVA has performed a Fuel Handling Accident Radiological Accident Analysis for SQN using the alternate source term analysis methodology described in Regulatory Guide 1.183 obtaining acceptable results. The SQN fuel handling analysis assumes, in part, that the accident occurs within 100 hours after a plant shut down, radioactive decay during the interval between shut down and movement of the first spent fuel assembly is taken into account, and a single fuel assembly is damaged. As a result of the analysis, it has been determined that the handling of spent fuel assemblies can take place with the containment open and the Auxiliary Building Gas Treatment System out of service (i.e., no credit for filtration of releases) when handling fuel that has not occupied part of a critical reactor core within the previous 100 hours. The NRC approved use of this analysis for SQN under License Amendment 288/278 (Unit 1/Unit 2) (ADAMS Accession No. ML033070057).~~ This change is designated as less restrictive because the LCO is applicable in fewer operating conditions under the ITS than under the CTS. MHC003

DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

L05 *(Category 7 – Relaxation of Surveillance Frequency)* CTS 4.9.9 includes a Surveillance Frequency of "once per 7 days" during conditions specified in the Applicability for performing Surveillances of the Containment Ventilation Isolation System on the manual initiation channels and the high radiation monitoring instrumentation channels. The ITS SR 3.3.6.4 requires the performance of a COT on the Containment Purge Air Radiation Monitoring Instrumentation, every 92 days. ITS SR 3.3.6.6 requires the performance of a TADOT on the manual initiation channels every 18 months. This changes the CTS by changing the Surveillance Frequency from 7 days to 92 days for the Containment Purge Air Radiation monitoring channels and 18 months for the manual initiation channels. (See DOC LA01 for a discussion on moving the Surveillance Frequencies to the Surveillance Frequency Control Program.)

The purpose of CTS 4.9.9 is to verify the equipment required to meet the LCO is OPERABLE. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. Containment ventilation isolation instrumentation testing is still required, but at a Frequency consistent with the testing Frequency for containment isolation instrumentation required in CTS Table 4.3-2 and CTS Table 4.3-3. This Frequency provides an appropriate degree of assurance that the instruments are OPERABLE. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

KAB045 Not Used

~~L06~~ ~~*(Category 7 – Relaxation of Surveillance Frequency)* CTS 4.9.9 states, in part, that the Containment Ventilation isolation system shall be demonstrated OPERABLE within 100 hours prior to the start of movement of irradiated fuel within containment. ITS SR 3.3.6.2 and ITS SR 3.3.6.4 do not include the Frequency of within 100 hours prior to the start of movement of irradiated fuel within containment. ITS SR 3.0.1 states "SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR." Therefore, the ITS requires the Surveillance be met prior to initiation of movement of recently irradiated fuel. (See DOC L04 for discussion on changing the Applicability from during movement of irradiated fuel to during movement of recently irradiated fuel.) This changes the CTS by eliminating the stipulation that the Surveillances be met within 100 hours prior to entering the conditions specified in the Applicability.~~

~~The purpose of CTS 4.9.9 is to verify that the Containment Ventilation Isolation System is OPERABLE. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. The periodic Surveillance Frequency for verifying that Containment Ventilation isolation occurs is acceptable during the conditions specified in the Applicability, and is also acceptable during the period prior to entering the conditions specified in the Applicability. This change is designated as less restrictive because Surveillance will be performed less frequently under the ITS than under the CTS.~~

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

3.3 INSTRUMENTATION

3.3.6~~A~~ Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1

3.3.2.1
3.3.3.1
3.9.9

LCO 3.3.6 The Containment ~~Purge and Exhaust~~ Ventilation Isolation instrumentation for each Function in Table 3.3.6-1 shall be OPERABLE. 1

3.3.2.1 Applicability, 3.3.3.1 Applicability, 3.9.9 Applicability

APPLICABILITY: According to Table 3.3.6-1.

ACTIONS

---NOTE---

DOC A06 Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
~~A. One radiation monitoring channel inoperable.~~	~~A.1 Restore the affected channel to OPERABLE status.~~	~~4 hours~~
~~B~~ A. ------------NOTE------------ Only applicable in MODE 1, 2, 3, or 4. --------------------------------- One or more Functions with one or more manual or automatic actuation trains inoperable. OR ~~Two or more~~ One required radiation monitoring channel~~s~~ inoperable. ~~OR~~ ~~Required Action and associated Completion Time of Condition A not met.~~	~~B~~ A.1 Enter applicable Conditions and Required Actions of LCO 3.6.3, "Containment Isolation Valves," for containment purge supply and exhaust isolation valves made inoperable by isolation instrumentation.	Immediately

2

3.3.2.1 ACTION a, ACTION b; Table 3.3-3 ACTION 15, ACTION 19; Table 3.3-6 ACTION 28

2

2

2

CTS

Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.6~~A~~

ACTIONS (continued)

Table 3.3-6 ACTION 28, 3.9.9 ACTION

MHC003

CONDITION	REQUIRED ACTION	COMPLETION TIME
B ~~C~~. ------------NOTE------------ Only applicable during movement of ~~[recently]~~ irradiated fuel assemblies within containment. --------------------------------- One or more Functions with one or more manual or automatic actuation trains inoperable. OR One required ~~Two or more~~ radiation monitoring channel~~s~~ inoperable. ~~OR~~ ~~Required Action and associated Completion Time for Condition A not met.~~	B ~~C~~.1 Place and maintain containment purge supply and exhaust valves in closed position. OR B ~~C~~.2 Enter applicable Conditions and Required Actions of LCO 3.9.4, "Containment Penetrations," for containment purge supply and exhaust isolation valves made inoperable by isolation instrumentation.	Immediately 2 3 Immediately 2 2 2

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CTS

Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.6~~A~~

SURVEILLANCE REQUIREMENTS

-----NOTE-----

4.3.2.1.1, 4.3.3.1 Refer to Table 3.3.6-1 to determine which SRs apply for each Containment ~~Purge and Exhaust~~ Ventilation Isolation Function. 1

	SURVEILLANCE	FREQUENCY	
Table 4.3-2 Function 3.c.3, Table 4.3-3 Instrument 2.a	SR 3.3.6.1 Perform CHANNEL CHECK.	~~[12 hours~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~	4 4
	~~SR 3.3.6.2 Perform ACTUATION LOGIC TEST.~~	~~[31 days on a STAGGERED TEST BASIS~~ ~~OR~~ ~~In accordance with the Surveillance Frequency Control Program]~~	5
	~~SR 3.3.6.3 Perform MASTER RELAY TEST.~~	~~[31 days on a STAGGERED TEST BASIS~~ ~~OR~~ ~~In accordance with the Surveillance Frequency Control Program]~~	5

CTS

Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.6~~A~~

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
~~-----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.~~ ~~-----~~ 6		
Table 4.3-2 Function 3.c.2 ~~[~~SR 3.3.6.~~4~~ 2	-----NOTE----- This Surveillance is only applicable to the actuation logic of the ESFAS Instrumentation. ----- 3 5	
	Perform ACTUATION LOGIC TEST.	~~[92 days on a STAGGERED TEST BASIS]~~ 4 ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 4

CTS

Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.6~~A~~

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE		FREQUENCY
	~~REVIEWER'S NOTE~~ ~~The Frequency of 92 days on a STAGGERED TEST BASIS is applicable to the master relays processed through the Solid State Protection System.~~		6
DOC M04	~~[~~SR 3.3.6.~~5~~ 3	---NOTE--- This Surveillance is only applicable to the master relays of the ESFAS Instrumentation. --- Perform MASTER RELAY TEST.	3 5 ~~[92 days on a STAGGERED TEST BASIS~~ ~~OR~~ 4 In accordance with the Surveillance Frequency Control Program ~~]~~ ~~]~~ 4 3
Table 4.3-2 Function 3.c.3, Table 4.3-3 Instrument 2.a, 4.9.9	SR 3.3.6.~~6~~ 4	Perform COT.	MHC003 Within 100 hours prior to start of movement of ~~recently~~ irradiated fuel AND ~~[92 days~~ KAB045 5 2 ~~OR~~ 4 In accordance with the Surveillance Frequency Control Program ~~]~~ 4

CTS

Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.6~~A~~

1

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE		FREQUENCY	
DOC M04	SR 3.3.6.~~7~~ 5	Perform SLAVE RELAY TEST.	~~[[92] days~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~	5 4 4
DOC A07 Table 4.3-2 Function 3.c.1, 4.9.9	SR 3.3.6.~~8~~ 6	----------NOTE---------- Verification of setpoint is not required. -------------------------- Perform TADOT.	MHC003 Within 100 hours prior to start of movement of ~~recently~~ irradiated fuel AND ~~[[18] months~~ KAB045 ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~	5 2 4 4
Table 4.3-2 Function 3.c.3, Table 4.3-3 Instrument 2.a	SR 3.3.6.~~9~~ 7	Perform CHANNEL CALIBRATION.	~~[[18] months~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~	5 4 4

INSERT 1

2

ITS 3.3.6

2 **INSERT 1**

4.3.2.1.3

DOC L01

SR 3.3.6.8	------------------------------NOTE------------------------------ Radiation detectors are excluded from response time testing. -- Verify ESF RESPONSE TIME is within limits.	In accordance with the Surveillance Frequency Control Program

CTS

Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.6~~A~~

Table 3.3.6-1 (page 1 of 1)
Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation 1

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT	
Tables 3.3-3, 4.3-2, and 3.3-4, Function 3.c.1	1. Manual Initiation	1,2,3,4, (a)	2	SR 3.3.6.~~8~~ 6	NA	5
Tables 3.3-3, 4.3-2, and 3.3-4, Function 3.c.2 4.9.9 Insert 3	2. Automatic Actuation ~~Logic and Actuation Relays~~	~~1,2,3,4, (a)~~	~~2 trains~~	~~SR 3.3.6.2~~ ~~SR 3.3.6.3~~ ~~[SR 3.3.6.4]~~ 2 ~~[SR 3.3.6.5]~~ 3 ~~SR 3.3.6.7~~ 5	NA KAB045	5 7
Tables 3.3-3, 4.3-2, and 3.3-4, Function 3.c.3, and Table 3.3-6 Instrument 2.a	3. ~~[~~ Containment Purge Air Radiation Monitor					3
	~~a. Gaseous~~	1,2,3,4~~, (a)~~	~~[~~1~~]~~	SR 3.3.6.1 SR 3.3.6.~~6~~ 4 SR 3.3.6.~~9~~ 7 SR 3.3.6.8	≤ ~~[2 x background]~~ 8.5 x 10^{-3} μCi/cc	5
	INSERT 2					
	~~b. Particulate~~	~~1,2,3,4, (a)~~	~~[1]~~	~~SR 3.3.6.1~~ ~~SR 3.3.6.6~~ ~~SR 3.3.6.9~~	~~≤ [2 x background]~~	
	~~c. Iodine~~	~~1,2,3,4, (a)~~	~~[1]~~	~~SR 3.3.6.1~~ ~~SR 3.3.6.6~~ ~~SR 3.3.6.9~~	~~≤ [2 x background]~~	
	~~d. Area Radiation~~	~~1,2,3,4, (a)~~	~~[1]~~	~~SR 3.3.6.1~~ ~~SR 3.3.6.6~~ ~~SR 3.3.6.9~~	~~≤ [2 x background]]~~	
DOC M02	4. ~~Containment Isolation - Phase A~~ Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function ~~3.a.~~ 1., for all initiation functions and requirements.				2

MHC003 (a) During movement of ~~[recently]~~ irradiated fuel assemblies within containment. 3

3 **INSERT 2**

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
	(a)	~~1~~ 2	SR 3.3.6.1 SR 3.3.6.4 SR 3.3.6.7	≤ 8.5 x 10^{-3} μCi/cc

KAB045

7 **INSERT 3**

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
a. Logic	1,2,3,4	2 trains	SR 3.3.6.2	NA
b. Relays	1,2,3,4, (a)	2 trains	SR 3.3.6.3 SR 3.3.6.5	NA

3.3 INSTRUMENTATION

3.3.6~~A~~ Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1

3.3.2
3.3.3.1
3.9.9

LCO 3.3.6 The Containment ~~Purge and Exhaust~~ Ventilation Isolation instrumentation for each Function in Table 3.3.6-1 shall be OPERABLE. 1

3.3.2 Applicability, 3.3.3.1 Applicability, 3.9.9 Applicability

APPLICABILITY: According to Table 3.3.6-1.

ACTIONS

DOC A06

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

CONDITION	REQUIRED ACTION	COMPLETION TIME	
~~A. One radiation monitoring channel inoperable.~~	~~A.1 Restore the affected channel to OPERABLE status.~~	~~4 hours~~	2
~~B~~ A. ------------NOTE------------ Only applicable in MODE 1, 2, 3, or 4. --------------------------------- One or more Functions with one or more manual or automatic actuation trains inoperable. <u>OR</u> ~~Two or more~~ One required radiation monitoring channel~~s~~ inoperable. ~~<u>OR</u>~~ ~~Required Action and associated Completion Time of Condition A not met.~~	~~B~~ A.1 Enter applicable Conditions and Required Actions of LCO 3.6.3, "Containment Isolation Valves," for containment purge supply and exhaust isolation valves made inoperable by isolation instrumentation.	Immediately	2 2 2

3.3.2 ACTION a, ACTION b; Table 3.3-3 ACTION 15, ACTION 19; Table 3.3-6 ACTION 28

CTS

Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.6~~A~~

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
Table 3.3-6 ACTION 28, 3.9.9 ACTION MHC003 ~~C~~ B. ------------NOTE------------ Only applicable during movement of ~~[recently]~~ irradiated fuel assemblies within containment. --------------------------------- One or more Functions with one or more manual or automatic actuation trains inoperable. OR ~~Two or more~~ One required radiation monitoring channel~~s~~ inoperable. ~~OR~~ ~~Required Action and associated Completion Time for Condition A not met.~~ 2	~~C~~ B.1 Place and maintain containment purge supply and exhaust valves in closed position.	Immediately 2 3
	OR	
	~~C~~ B.2 Enter applicable Conditions and Required Actions of LCO 3.9.4, "Containment Penetrations," for containment purge supply and exhaust isolation valves made inoperable by isolation instrumentation.	Immediately 2 2

CTS

Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.6~~A~~

SURVEILLANCE REQUIREMENTS

-----NOTE-----

4.3.2.1.1, 4.3.3.1 Refer to Table 3.3.6-1 to determine which SRs apply for each Containment ~~Purge and Exhaust~~ Ventilation Isolation Function. 1

SURVEILLANCE		FREQUENCY
Table 4.3-2 Function 3.c.3, Table 4.3-3 Instrument 2.a — SR 3.3.6.1	Perform CHANNEL CHECK.	~~[12 hours~~ 4 ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 4
~~SR 3.3.6.2~~	~~Perform ACTUATION LOGIC TEST.~~	~~[31 days on a STAGGERED TEST BASIS~~ ~~OR~~ ~~In accordance with the Surveillance Frequency Control Program]~~ 5
~~SR 3.3.6.3~~	~~Perform MASTER RELAY TEST.~~	~~[31 days on a STAGGERED TEST BASIS~~ ~~OR~~ ~~In accordance with the Surveillance Frequency Control Program]~~ 5

CTS

Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.6~~A~~

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
~~-----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. -----~~ 6	
Table 4.3-2 Function 3.c.2 ~~[~~SR 3.3.6.~~4~~ 2 3 5 -----NOTE----- This Surveillance is only applicable to the actuation logic of the ESFAS Instrumentation. ----- Perform ACTUATION LOGIC TEST.	~~[92 days on a STAGGERED TEST BASIS]~~ 4 ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 4

CTS

Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 3.3.6~~A~~ 1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
~~-----REVIEWER'S NOTE----- The Frequency of 92 days on a STAGGERED TEST BASIS is applicable to the master relays processed through the Solid State Protection System.~~		6
DOC M04 [SR 3.3.6.~~5~~ 3	-----NOTE----- This Surveillance is only applicable to the master relays of the ESFAS Instrumentation. ----- Perform MASTER RELAY TEST. MHC003	3 5 ~~[92 days on a STAGGERED TEST BASIS~~ ~~OR~~ 4 In accordance with the Surveillance Frequency Control Program ~~]]~~ 4 3
Table 4.3-2 Function 3.c.3, Table 4.3-3 Instrument 2.a, 4.9.9 SR 3.3.6.~~6~~ 4	Perform COT.	Within 100 hours prior to start of movement of ~~recently~~ irradiated fuel AND ~~[92 days~~ KAB045 5 2 ~~OR~~ 4 In accordance with the Surveillance Frequency Control Program ~~]~~ 4

CTS

Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.6~~A~~

1

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE		FREQUENCY	
DOC M04	SR 3.3.6.~~7~~ 5	Perform SLAVE RELAY TEST.	~~[[92] days~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~	5 4 4
DOC A07 Table 4.3-2 Function 3.c.1, 4.9.9	SR 3.3.6.~~8~~ 6	-------------------------------NOTE------------------------------ Verification of setpoint is not required. --- Perform TADOT.	MHC003 Within 100 hours prior to start of movement of ~~recently~~ irradiated fuel AND KAB045 ~~[[18] months~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~	5 2 4 4
Table 4.3-2 Function 3.c.3, Table 4.3-3 Instrument 2.a	SR 3.3.6.~~9~~ 7	Perform CHANNEL CALIBRATION.	~~[[18] months~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~	5 4 4

INSERT 1

2

2 **INSERT 1**

4.3.2.1.3 DOC L01	SR 3.3.6.8	-----------------------------NOTE------------------------------ Radiation detectors are excluded from response time testing. --- Verify ESF RESPONSE TIME is within limits.	In accordance with the Surveillance Frequency Control Program

CTS

Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.6~~A~~

Table 3.3.6-1 (page 1 of 1)
Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation 1

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT	
Tables 3.3-3, 4.3-2, and 3.3-4, Function 3.c.1	1. Manual Initiation	1,2,3,4, (a)	2	SR 3.3.6.~~8~~ 6	NA	5
Tables 3.3-3, 4.3-2, and 3.3-4, Function 3.c.2	2. Automatic Actuation ~~Logic and Actuation Relays~~	~~1,2,3,4, (a)~~	~~2 trains~~	~~SR 3.3.6.2~~ ~~SR 3.3.6.3~~ ~~[SR 3.3.6.4]~~ 2 ~~[SR 3.3.6.5]~~ 3 ~~SR 3.3.6.7~~ 5	NA	KAB045 5 7
4.9.9	Insert 3					
Tables 3.3-3, 4.3-2, and 3.3-4, Function 3.c.3, and Table 3.3-6 Instrument 2.a	3. ~~[~~ Containment Purge Air Radiation Monitor					
	~~a. Gaseous~~	1,2,3,4~~, (a)~~	~~[~~1~~]~~	SR 3.3.6.1 SR 3.3.6.~~6~~ 4 SR 3.3.6.~~9~~ 7 SR 3.3.6.8	≤ ~~[2 x background]~~ 8.5 x 10^{-3} μCi/cc	5
	INSERT 2					
	~~b. Particulate~~	~~1,2,3,4, (a)~~	~~[1]~~	~~SR 3.3.6.1~~ ~~SR 3.3.6.6~~ ~~SR 3.3.6.9~~	~~≤ [2 x background]~~	3
	~~c. Iodine~~	~~1,2,3,4, (a)~~	~~[1]~~	~~SR 3.3.6.1~~ ~~SR 3.3.6.6~~ ~~SR 3.3.6.9~~	~~≤ [2 x background]~~	
	~~d. Area Radiation~~	~~1,2,3,4, (a)~~	~~[1]~~	~~SR 3.3.6.1~~ ~~SR 3.3.6.6~~ ~~SR 3.3.6.9~~	~~≤ [2 x background]]~~	
DOC M02	4. ~~Containment Isolation - Phase A~~ Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function ~~3.a.~~ 1, for all initiation functions and requirements.				2

MHC003 (a) During movement of ~~[recently]~~ irradiated fuel assemblies within containment. 3

3 **INSERT 2**

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
	(a)	~~1~~ 2	SR 3.3.6.1 SR 3.3.6.4 SR 3.3.6.7	$\le 8.5 \times 10^{-3}$ μCi/cc

KAB045

7 **INSERT 3**

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
a. Logic	1, 2, 3, 4	2 trains	SR 3.3.6.2	NA
b. Relays	1, 2, 3, 4, (a)	2 trains	SR 3.3.6.3 SR 3.3.6.5	NA

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION 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 3.3.6B (with Setpoint Control Program Specification) is not used and is not shown. Furthermore, the title of the Specification has been changed from "Containment Purge and Exhaust Isolation Instrumentation" to " Containment Ventilation Isolation Instrumentation" since Sequoyah Nuclear Plant (SQN) does not have a Containment Purge and Exhaust Isolation Instrumentation.

2. 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.

3. 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.

4. ISTS SR 3.3.6.1, SR 3.3.6.4, SR 3.3.6.5, SR 3.3.6.6, SR 3.3.6.7, SR 3.3.6.8 and SR 3.3.6.9 (ITS SR 3.3.6.1, SR 3.3.6.2, SR 3.3.6.3, SR 3.3.6.4, SR 3.3.6.5, SR 3.3.6.6, and SR 3.3.6.7, respectively) provide two options for controlling the Frequencies of Surveillance Requirements. SQN is proposing to control the Surveillance Frequencies under 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 3.3.6.4 and ISTS SR 3.3.6.5 are the appropriate Surveillances for the ACTUATION LOGIC TEST and MASTER RELAY TEST when they are processed through the Solid State Protection System, ISTS SR 3.3.6.2 and SR 3.3.6.3 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.

7. The Automatic Actuation Logic is required OPERABLE in MODES 1, 2, 3, and 4. The Automatic Actuation Relays are required OPERABLE in MODES 1, 2, 3, 4, and during movement of irradiated fuel within containment to ensure that the containment ventilation isolates when a high radiation signal is received from the containment purge air radiation monitors. Therefore, ISTS Table 3.3.6-1, Function 2 (Automatic Actuation Logic and Actuation Relays) has been divided into two sub-functions (a. Logic and b. Relays) to align with the required Applicable MODES. The Surveillance Requirements applicable to both sub-functions have been divided to align with the change. KAB045

The ACTUATION LOGIC TEST (ITS SR 3.3.6.2) is applicable to ITS Table 3.3.6-1 Function 2.a (Logic) in MODES 1, 2, 3, and 4. The MASTER RELAY TEST (ITS SR 3.3.6.3) and SLAVE RELAY TEST (ITS SR 3.3.6.5) are applicable to ITS Table 3.3.6-1 Function 2.b (Relays) in MODES 1, 2, 3, 4, and during movement of irradiated fuel within containment.

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

B 3.3 INSTRUMENTATION

B 3.3.6A Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1

BASES

BACKGROUND

Containment ~~purge and exhaust~~ Ventilation isolation instrumentation closes the containment isolation valves in the ~~Mini Purge System and the Shutdown~~ Containment Purge System. This action isolates the containment atmosphere from the environment to minimize releases of radioactivity in the event of an accident. The ~~Mini~~ Containment Purge System may be in use during reactor operation and ~~the Shutdown Purge System will be in use~~ with the reactor shutdown. 1 2 2

Containment ~~purge and exhaust~~ Ventilation isolation initiates on a automatic safety injection (SI) signal ~~through the Containment Isolation - Phase A Function,~~ or by manual actuation ~~of Phase A Isolation~~. The Bases for LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," discuss ~~these modes of~~ initiation of SI signals. 1 2

~~Four radiation monitoring channels are also provided as input to the containment purge and exhaust isolation. The four channels measure containment radiation at two locations. One channel is a containment area gamma monitor, and the other three measure radiation in a sample of the containment purge exhaust. The three purge exhaust radiation detectors are of three different types: gaseous, particulate, and iodine monitors. All four detectors will respond to most events that release radiation to containment. However, analyses have not been conducted to demonstrate that all credible events will be detected by more than one monitor. Therefore, for the purposes of this LCO the four channels are not considered redundant. Instead, they are treated as four one-out-of-one Functions. Since the purge exhaust monitors constitute a sampling system, various components such as sample line valves, sample line heaters, sample pumps, and filter motors are required to support monitor OPERABILITY.~~ 2

~~Each of the~~ The containment purge system~~s~~ has inner and outer containment isolation valves in its supply and exhaust ducts. A high radiation signal ~~from any one of the four channels~~ initiates containment ~~purge~~ ventilation isolation, which closes both inner and outer containment isolation valves in the ~~Mini Purge System and the Shutdown~~ Containment Purge System. Th~~ese~~ is system~~s~~ ~~are~~ is described in the Bases for LCO 3.6.3, "Containment Isolation Valves." 2

APPLICABLE SAFETY ANALYSES

The safety analyses assume that the containment remains intact with ~~penetrations unnecessary for core cooling~~ containment purge isolated early in the event, within approximately ~~60~~ 300 seconds. ~~The isolation of the purge valves has not been analyzed mechanistically in the dose calculations, although its~~ 2

BASES

APPLICABLE SAFETY ANALYSES (continued)

~~rapid isolation is assumed.~~ The containment ~~purge and exhaust~~ ventilation isolation, in addition, radiation monitors ~~act as backup~~ to the SI signal ~~to~~, ensure closing of the containment purge supply and exhaust valves. They are also the primary means for automatically isolating containment in the event of a fuel handling accident during shutdown. Containment isolation in turn ensures meeting the containment leakage rate assumptions of the safety analyses, and ensures that the calculated accidental offsite radiological doses are below 10 CFR 100 (Ref. 1) limits (10 CFR 50.67 limits for a fuel handling accident). ~~[Due to radioactive decay, containment is only required to isolate during fuel handling accidents involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days).]~~ ~~100 hours~~ 1 2 2 2 3 MHC003 3

The containment ~~purge and exhaust~~ ventilation isolation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). 1

LCO

The LCO requirements ensure that the instrumentation necessary to initiate Containment ~~Purge and Exhaust~~ Ventilation Isolation, listed in Table 3.3.6-1, is OPERABLE. 1

1. Manual Initiation

The LCO requires two channels OPERABLE. The operator can initiate Containment ~~Purge~~ Ventilation Isolation at any time by using ~~either of two switches in the control room. Either switch actuates both trains.~~ INSERT 1 This action will cause actuation of all components in the same manner as any of the automatic actuation signals. 1 2

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.

Each channel consists of one ~~push button~~ selector switch and the interconnecting wiring to the actuation logic cabinet. 2

2. Automatic Actuation Logic and Actuation Relays

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

2 **INSERT 1**

one of three sets of manual initiation switches in the control room. Either of the two Phase A and Containment Ventilation Isolation switches (HS-30-63A and HS-30-63B) or, both Phase B and Containment Ventilation Isolation switches (HS-30-64A and HS-30-64B), or both Phase B Containment Isolation switches (HS-30-68A and HS-30-68B), will actuate both trains of CVI.

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Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1
B 3.3.6~~A~~

BASES

LCO (continued)

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~~, and ESFAS Function 3.a, Containment Phase A Isolation~~. The applicable MODES and specified conditions for the containment ~~purge~~ ventilation isolation portion of ~~these Functions are~~ the SI Function is different and less restrictive than those for the~~ir Phase A isolation and~~ SI role~~s~~. If one or more of the SI ~~or Phase A isolation~~ Functions becomes inoperable in such a manner that only the Containment ~~Purge~~ Ventilation Isolation Function is affected, the Conditions applicable to the~~ir~~ SI ~~and Phase A isolation~~ Functions need not be entered. The less restrictive Actions specified for inoperability of the Containment ~~Purge~~ Ventilation Isolation Functions specify sufficient compensatory measures for this case. 2

3. Containment Radiation

Table 3.3.6-1 specifies the number of required channels

~~The LCO specifies four required channels~~ ~~one~~ of radiation monitors to ensure that the radiation monitoring instrumentation necessary to initiate Containment ~~Purge~~ Ventilation Isolation remains OPERABLE. KAB045 2 2

For sampling systems, channel OPERABILITY involves more than OPERABILITY of the channel electronics. OPERABILITY ~~may~~ also require~~s~~ correct valve lineups~~,~~ and 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. 2

4. ~~Containment Isolation - Phase A~~ Safety Injection (SI)

Refer to LCO 3.3.2, Function ~~3.a.~~ 1, for all initiating Functions and requirements. 4

APPLICABILITY

The Manual Initiation, Automatic Actuation Logic and Actuation Relays, ~~Containment Isolation - Phase A~~ Safety Injection, and Containment Radiation Functions are required OPERABLE as annotated on Table 3.3.6-1. ~~in MODES 1, 2, 3, and 4, and during movement of [recently] irradiated fuel assemblies [(i.e., fuel that has occupied part of a critical reactor core within the previous [X] days)] within containment.~~ ~~100 hours~~ Under these conditions, the potential exists for an accident that could release significant fission product radioactivity into containment. Therefore, the containment ~~purge and exhaust~~ Ventilation isolation instrumentation must be OPERABLE in these MODES. 4 KAB045 3 KAB045 1

~~INSERT 2~~ 4 KAB045

2 ~~**INSERT 2**~~

~~Since the movement of recently irradiated fuel assemblies in containment can only occur in MODE 6 or with the unit defueled, only one Containment Purge Air Radiation Monitor is required to be OPERABLE during the movement of recently irradiated fuel assemblies in containment.~~ KAB045

BASES

APPLICABILITY (continued)

While in MODES 5 and 6 without fuel handling in progress, the containment ~~purge and exhaust~~ ventilation isolation instrumentation need not be OPERABLE since the potential for radioactive releases is minimized and operator action is sufficient to ensure post accident offsite doses are maintained within the limits of Reference 1. 1

The Applicability for the containment ~~purge and exhaust~~ ventilation isolation on the ESFAS ~~Containment Isolation-Phase A~~ Safety Injection Functions are specified in LCO 3.3.2. Refer to the Bases for LCO 3.3.2 for discussion of the ~~Containment Isolation-Phases A~~ Safety Injection Function Applicability. 1 4 4

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 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 to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.6-1. 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~~

~~Condition A applies to the failure of one containment purge isolation radiation monitor channel. Since the four containment radiation monitors measure different parameters~~, ~~failure of a single channel may result in loss of the radiation monitoring Function for certain events~~. ~~Consequently, the failed channel must be restored to OPERABLE status. The 4 hours allowed to restore the affected channel is justified by the low likelihood of events occurring during this interval, and recognition that one or more of the remaining channels will respond to most events.~~ 4

BASES

ACTIONS (continued)

~~B~~ A.1 4

Condition ~~B~~ A applies to all Containment ~~Purge and Exhaust~~ Ventilation Isolation Functions and addresses the train orientation of the Solid State Protection System (SSPS) and the master and slave relays for these Functions. ~~It also addresses the failure of multiple radiation monitoring channels, or the inability to restore a single failed channel to OPERABLE status in the time allowed for Required Action A.1~~ It also addresses the failure of the required radiation monitoring channel. 4 1 KAB045 4

If a train is inoperable~~,~~ or ~~multiple channels are~~ the required channel is inoperable, ~~or the Required Action and associated Completion Time of Condition A are not met,~~ operation may continue as long as the Required Action for the applicable Conditions of LCO 3.6.3 is met for each valve made inoperable by failure of isolation instrumentation. KAB045 4

A Note is added stating that Condition ~~B~~ A is only applicable in MODE 1, 2, 3, or 4. 4

~~C~~ B.1 and ~~C~~ B.2 4

Condition ~~C~~ B applies to all Containment ~~Purge and Exhaust~~ Ventilation Isolation Functions and addresses the train orientation of the SSPS and the master and slave relays for these Functions. It also addresses the failure of ~~multiple~~ the ~~single~~ required radiation monitoring channel~~s, or the inability to restore a single failed channel to OPERABLE status in the time allowed for Required Action A.1~~. If a train ~~is inoperable, multiple channels are~~ or the required radiation monitoring channel is inoperable~~, or the Required Action and associated Completion Time of Condition A are not met~~, operation may continue as long as the Required Action to place and maintain containment ~~purge and exhaust~~ ventilation isolation valves in their closed position is met or the applicable Conditions of LCO 3.9.4, "Containment Penetrations," are met for each valve made inoperable by failure of isolation instrumentation. The Completion Time for these Required Actions is Immediately. 4 1 KAB045 4 1

MHC003 A Note states that Condition ~~C~~ B is applicable during movement of ~~[recently]~~ irradiated fuel assemblies within containment. 4 3

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that Table 3.3.6-1 determines which SRs apply to which Containment ~~Purge and Exhaust~~ Ventilation Isolation Functions. 1

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.6.1

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.

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 months 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.~~

~~OR~~

5

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.~~
~~--]~~

6

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~SR 3.3.6.2~~

~~SR 3.3.6.2 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 Surveillance interval 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.~~
~~---]~~

4

~~SR 3.3.6.3~~

~~SR 3.3.6.3 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 Surveillance interval is acceptable based on instrument reliability and industry operating experience.~~

~~OR~~

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

4

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.~~
~~-----~~ ~~]~~

~~[~~ SR 3.3.6.~~4~~ 2

SR 3.3.6.~~4~~ 2 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 92 days on a STAGGERED TEST BASIS. The Surveillance interval is justified in Reference 2.~~

~~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.~~
~~-----~~ ~~]~~

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

~~[~~ SR 3.3.6.~~5~~ 3

SR 3.3.6.~~5~~ 3 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

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

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 2.~~

~~OR~~

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.
5

~~-----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.~~
~~-----]~~
6

The SR is modified by a Note stating that the Surveillance is only applicable to the master relays of the ~~EFAS~~ ESFAS Instrumentation. ~~]~~ 3

SR 3.3.6.~~6~~4 4

A COT is performed on each required channel to ensure the entire channel will perform the intended Function. 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. ~~[The Frequency of 92 days is based on the staff recommendation for increasing the availability of radiation monitors according to NUREG-1366 (Ref. 3).~~

~~OR~~

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.
5

~~-----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.~~
~~-----]~~
6

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

This test verifies the capability of the instrumentation to provide the containment ~~purge and exhaust~~ ventilation system isolation. 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. 1

SR 3.3.6.~~7~~5 4

SR 3.3.6.~~7~~5 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.
~~[The Frequency of 92 days is acceptable based on instrument reliability and industry operating experience.~~ 5

~~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.~~
~~---]~~ 6

SR 3.3.6.~~8~~6 4

SR 3.3.6.~~8~~6 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

BASES

SURVEILLANCE REQUIREMENTS (continued)

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.).

~~The test also includes trip devices that provide actuation signals directly to the SSPS, bypassing the analog process control equipment.~~ The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions tested have no setpoints associated with them. 2

[~~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.~~ 5

~~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.~~ 6
~~--~~]

SR 3.3.6.~~9~~7 4

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.~~ 5

~~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.~~
~~---]~~ 6

INSERT 3

REFERENCES

1. 10 CFR 100.11. 2

2. ~~WCAP-15376, Rev. 0, October 2000.~~ UFSAR Table 7.3.1-4 2

3. ~~NUREG-1366, [date].~~ WCAP-14036-P-A, Revision 1, "Elimination of Periodic Protection Channel Response Time Tests," December 1995 2

2

INSERT 3

SR 3.3.6.8

This SR ensures the individual channel response times are less than or equal to the maximum values assumed in the accident analysis. Response Time testing acceptance criteria are included in the Updated Final Safety Analysis Report, Table 7.3.1-4 (Ref. 2). Individual component response times are not modeled in the analyses. The analyses model the overall or total elapsed time, from the point at which the parameter exceeds the Trip Setpoint value to the point at which the equipment in both trains reaches the required functional state (e.g., valves in full open or closed position).

Response time may be verified by actual response time tests in any series of sequential, overlapping or total channel measurements, or by the summation of allocated signal processing and actuation logic response times with actual response time tests on the remainder of the channel.

WCAP-14036-P, Revision 1, "Elimination of Periodic Protection Channel Response Time Tests," (Ref. 3) provides the basis and methodology for using allocated signal processing and actuation logic response times in the overall verification of the protection system channel response time. The allocations for signal conditioning and actuation logic response times must be verified prior to placing the component in operational service and re-verified following maintenance that may adversely affect response time. In general, electrical repair work does not impact response time provided the parts used for repair are of the same type and value. Specific components identified in the WCAP may be replaced without verification testing.

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

SR 3.3.6.8 is modified by a Note stating that radiation detectors are excluded from response time testing.

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B 3.3 INSTRUMENTATION

B 3.3.6A Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation ~~(Without Setpoint Control Program)~~ 1

BASES

BACKGROUND

Containment ~~purge and exhaust~~ Ventilation isolation instrumentation closes the containment isolation valves in the ~~Mini Purge System~~ Containment ~~and the Shutdown~~ Purge System. This action isolates the containment atmosphere from the environment to minimize releases of radioactivity in the event of an accident. The ~~Mini~~ Containment Purge System may be in use during reactor operation and ~~the Shutdown Purge System will be in use~~ with the reactor shutdown. 1 2 2

Containment ~~purge and exhaust~~ Ventilation isolation initiates on a automatic safety injection (SI) signal ~~through the Containment Isolation - Phase A Function,~~ or by manual actuation ~~of Phase A Isolation~~. The Bases for LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," discuss ~~these modes of~~ initiation of SI signals. 1 2

~~Four radiation monitoring channels are also provided as input to the containment purge and exhaust isolation. The four channels measure containment radiation at two locations. One channel is a containment area gamma monitor, and the other three measure radiation in a sample of the containment purge exhaust. The three purge exhaust radiation detectors are of three different types: gaseous, particulate, and iodine monitors. All four detectors will respond to most events that release radiation to containment. However, analyses have not been conducted to demonstrate that all credible events will be detected by more than one monitor. Therefore, for the purposes of this LCO the four channels are not considered redundant. Instead, they are treated as four one-out-of-one Functions. Since the purge exhaust monitors constitute a sampling system, various components such as sample line valves, sample line heaters, sample pumps, and filter motors are required to support monitor OPERABILITY.~~ 2

~~Each of the~~ The containment purge system~~s~~ has inner and outer containment isolation valves in its supply and exhaust ducts. A high radiation signal ~~from any one of the four channels~~ initiates containment ~~purge~~ ventilation isolation, which closes both inner and outer containment isolation valves in the ~~Mini Purge System and~~ Containment ~~the Shutdown~~ Purge System. Th~~ese~~is system~~s~~ ~~are~~ is described in the Bases for LCO 3.6.3, "Containment Isolation Valves." 2

APPLICABLE SAFETY ANALYSES

The safety analyses assume that the containment remains intact with ~~penetrations unnecessary for core cooling~~ containment purge isolated early in the event, within approximately ~~60~~ 300 seconds. ~~The isolation of the purge valves has not been analyzed mechanistically in the dose calculations, although its~~ 2

BASES

APPLICABLE SAFETY ANALYSES (continued)

~~rapid isolation is assumed.~~ The containment ~~purge and exhaust~~ ventilation isolation, in addition, radiation monitors ~~act as backup~~ to the SI signal ~~to~~, ensure closing of the containment purge supply and exhaust valves. They are also the primary means for automatically isolating containment in the event of a fuel handling accident during shutdown. Containment isolation in turn ensures meeting the containment leakage rate assumptions of the safety analyses, and ensures that the calculated accidental offsite radiological doses are below 10 CFR 100 (Ref. 1) limits (10 CFR 50.67 limits for a fuel handling accident). ~~[Due to radioactive decay, containment is only required to isolate during fuel handling accidents involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days).]~~ ~~100 hours~~ 1 2 2 2 3 MHC003 3

The containment ~~purge and exhaust~~ ventilation isolation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). 1

LCO

The LCO requirements ensure that the instrumentation necessary to initiate Containment ~~Purge and Exhaust~~ Ventilation Isolation, listed in Table 3.3.6-1, is OPERABLE. 1

1. Manual Initiation

The LCO requires two channels OPERABLE. The operator can initiate Containment ~~Purge~~ Ventilation Isolation at any time by using ~~either of two switches in the control room. Either switch actuates both trains.~~ INSERT 1 This action will cause actuation of all components in the same manner as any of the automatic actuation signals. 1 2

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.

Each channel consists of one ~~push button~~ selector switch and the interconnecting wiring to the actuation logic cabinet. 2

2. Automatic Actuation Logic and Actuation Relays

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

2 **INSERT 1**

one of three sets of manual initiation switches in the control room. Either of the two Phase A and Containment Ventilation Isolation switches (HS-30-63A and HS-30-63B) or, both Phase B and Containment Ventilation Isolation switches (HS-30-64A and HS-30-64B), or both Phase B Containment Isolation switches (HS-30-68A and HS-30-68B), will actuate both trains of CVI.

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BASES

LCO (continued)

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~~, and ESFAS Function 3.a, Containment Phase A Isolation~~. The applicable MODES and specified conditions for the containment ~~purge~~ ventilation isolation portion of ~~these Functions are~~ the SI Function is different and less restrictive than those for the~~ir Phase A isolation and~~ SI role~~s~~. If one or more of the SI ~~or Phase A isolation~~ Functions becomes inoperable in such a manner that only the Containment ~~Purge~~ Ventilation Isolation Function is affected, the Conditions applicable to the~~ir~~ SI ~~and Phase A isolation~~ Functions need not be entered. The less restrictive Actions specified for inoperability of the Containment ~~Purge~~ Ventilation Isolation Functions specify sufficient compensatory measures for this case. 2

3. Containment Radiation

KAB045

Table 3.3.6-1 specifies the number of required channels

KAB045

~~The LCO specifies four~~ ~~one~~ ~~required channels~~ of radiation monitors to ensure that the radiation monitoring instrumentation necessary to initiate Containment ~~Purge~~ Ventilation Isolation remains OPERABLE. 2 2

For sampling systems, channel OPERABILITY involves more than OPERABILITY of the channel electronics. OPERABILITY ~~may~~ also require and correct valve lineup~~s,~~s 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. 2

4. ~~Containment Isolation - Phase A~~ Safety Injection (SI)

Refer to LCO 3.3.2, Function ~~3.a.~~ 1, for all initiating Functions and requirements. 4

APPLICABILITY

The Manual Initiation, Automatic Actuation Logic and Actuation Relays, ~~Containment Isolation - Phase A~~ Safety Injection, and Containment Radiation Functions are required OPERABLE as annotated on Table 3.3.6-1. ~~in MODES 1, 2, 3, and 4, and during movement of [recently] irradiated fuel assemblies [(i.e., fuel that has occupied part of a critical reactor core within the previous [X] days)] within containment.~~ ~~100 hours~~ Under these conditions, the potential exists for an accident that could release significant fission product radioactivity into containment. Therefore, the containment ~~purge and exhaust~~ Ventilation isolation instrumentation must be OPERABLE in these MODES. 4 KAB045 3 1

~~INSERT 2~~ KAB045 4

2

~~**INSERT 2**~~

~~Since the movement of recently irradiated fuel assemblies in containment can only occur in MODE 6 or with the unit defueled, only one Containment Purge Air Radiation Monitor is required to be OPERABLE during the movement of recently irradiated fuel assemblies in containment.~~ KAB045

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BASES

APPLICABILITY (continued)

While in MODES 5 and 6 without fuel handling in progress, the containment ~~purge and exhaust~~ ventilation isolation instrumentation need not be OPERABLE since the potential for radioactive releases is minimized and operator action is sufficient to ensure post accident offsite doses are maintained within the limits of Reference 1. 1

The Applicability for the containment ~~purge and exhaust~~ ventilation isolation on the ESFAS ~~Containment Isolation-Phase A~~ Safety Injection Functions are specified in LCO 3.3.2. Refer to the Bases for LCO 3.3.2 for discussion of the ~~Containment Isolation Phases A~~ Safety Injection Function Applicability. 1 4 4

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 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 to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.6-1. 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~~

~~Condition A applies to the failure of one containment purge isolation radiation monitor channel. Since the four containment radiation monitors measure different parameters, failure of a single channel may result in loss of the radiation monitoring Function for certain events. Consequently, the failed channel must be restored to OPERABLE status. The 4 hours allowed to restore the affected channel is justified by the low likelihood of events occurring during this interval, and recognition that one or more of the remaining channels will respond to most events.~~ 4

1

BASES

ACTIONS (continued)

~~B~~ A.1

4

Condition ~~B~~ A applies to all Containment ~~Purge and Exhaust~~ Ventilation Isolation Functions and addresses the train orientation of the Solid State Protection System (SSPS) and the master and slave relays for these Functions. ~~It also addresses the failure of multiple radiation monitoring channels, or the inability to restore a single failed channel to OPERABLE status in the time allowed for Required Action A.1~~. It also addresses the failure of the required radiation monitoring channel.

4 1 KAB045 4

If a train is inoperable~~,~~ or ~~multiple channels are~~ the required channel is inoperable, ~~or the Required Action and associated Completion Time of Condition A are not met,~~ operation may continue as long as the Required Action for the applicable Conditions of LCO 3.6.3 is met for each valve made inoperable by failure of isolation instrumentation.

4

A Note is added stating that Condition ~~B~~ A is only applicable in MODE 1, 2, 3, or 4.

4

~~C~~ B.1 and ~~C~~ B.2

4

Condition ~~C~~ B applies to all Containment ~~Purge and Exhaust~~ Ventilation Isolation Functions and addresses the train orientation of the SSPS and the master and slave relays for these Functions. It also addresses the failure of the ~~single~~ required ~~multiple~~ radiation monitoring channel~~s, or the inability to restore a single failed channel to OPERABLE status in the time allowed for Required Action A.1~~. If a train ~~is inoperable, multiple channels are~~ or the required radiation monitoring channel is inoperable~~, or the Required Action and associated Completion Time of Condition A are not met~~, operation may continue as long as the Required Action to place and maintain containment ~~purge and exhaust~~ ventilation isolation valves in their closed position is met or the applicable Conditions of LCO 3.9.4, "Containment Penetrations," are met for each valve made inoperable by failure of isolation instrumentation. The Completion Time for these Required Actions is Immediately.

4 1 KAB045 4 1

MHC003 A Note states that Condition ~~C~~ B is applicable during movement of ~~[recently]~~ irradiated fuel assemblies within containment.

4 3

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that Table 3.3.6-1 determines which SRs apply to which Containment ~~Purge and Exhaust~~ Ventilation Isolation Functions.

1

2 1

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.6.1

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.

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 months 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.~~

~~OR~~

5

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.~~
~~---]~~

6

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~SR 3.3.6.2~~

~~SR 3.3.6.2 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 Surveillance interval 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.~~
~~--]~~ 4

~~SR 3.3.6.3~~

~~SR 3.3.6.3 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 Surveillance interval is acceptable based on instrument reliability and industry operating experience.~~

~~OR~~

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~ 4

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.~~
~~-----]~~ 6

~~[~~ SR 3.3.6.~~4~~2 3 4

SR 3.3.6.~~4~~2 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 92 days on a STAGGERED TEST BASIS. The Surveillance interval is justified in Reference 2.~~ 5

~~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.~~
~~-----]~~ 6

The SR is modified by a Note stating that the Surveillance is only applicable to the actuation logic of the ESFAS Instrumentation.~~]~~ 3

~~[~~ SR 3.3.6.~~5~~3 4

SR 3.3.6.~~5~~3 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

BASES

SURVEILLANCE REQUIREMENTS (continued)

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 2.~~ 5

~~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.~~
~~--]~~ 6

The SR is modified by a Note stating that the Surveillance is only applicable to the master relays of the ~~EFAS~~ ESFAS Instrumentation. ~~]~~ 3

SR 3.3.6.~~6~~ 4

A COT is performed on each required channel to ensure the entire channel will perform the intended Function. 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. ~~[The Frequency of 92 days is based on the staff recommendation for increasing the availability of radiation monitors according to NUREG-1366 (Ref. 3).~~ 5

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~~--]~~ 6

BASES

SURVEILLANCE REQUIREMENTS (continued)

This test verifies the capability of the instrumentation to provide the containment ~~purge and exhaust~~ ventilation system isolation. 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. 1

SR 3.3.6.~~7~~5 4

SR 3.3.6.~~7~~5 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. ~~[The Frequency of 92 days is acceptable based on instrument reliability and industry operating experience.~~ 5

~~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.~~ 6
~~----------]~~

SR 3.3.6.~~8~~6 4

SR 3.3.6.~~8~~6 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

BASES

SURVEILLANCE REQUIREMENTS (continued)

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.).

~~The test also includes trip devices that provide actuation signals directly to the SSPS, bypassing the analog process control equipment.~~ The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions tested have no setpoints associated with them. 2

[~~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.~~ 5

~~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.~~ 6
~~--~~]

SR 3.3.6.~~9~~7 4

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.~~ 5

~~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.~~
~~---]~~ 6

INSERT 3

REFERENCES

1. 10 CFR 100.11. 2
2. ~~WCAP-15376, Rev. 0, October 2000.~~ UFSAR Table 7.3.1-4 2
3. ~~NUREG-1366, [date].~~ WCAP-14036-P-A, Revision 1, "Elimination of Periodic Protection Channel Response Time Tests," December 1995 2

2

INSERT 3

SR 3.3.6.8

This SR ensures the individual channel response times are less than or equal to the maximum values assumed in the accident analysis. Response Time testing acceptance criteria are included in the Updated Final Safety Analysis Report, Table 7.3.1-4 (Ref. 2). Individual component response times are not modeled in the analyses. The analyses model the overall or total elapsed time, from the point at which the parameter exceeds the Trip Setpoint value to the point at which the equipment in both trains reaches the required functional state (e.g., valves in full open or closed position).

Response time may be verified by actual response time tests in any series of sequential, overlapping or total channel measurements, or by the summation of allocated signal processing and actuation logic response times with actual response time tests on the remainder of the channel.

WCAP-14036-P, Revision 1, "Elimination of Periodic Protection Channel Response Time Tests," (Ref. 3) provides the basis and methodology for using allocated signal processing and actuation logic response times in the overall verification of the protection system channel response time. The allocations for signal conditioning and actuation logic response times must be verified prior to placing the component in operational service and re-verified following maintenance that may adversely affect response time. In general, electrical repair work does not impact response time provided the parts used for repair are of the same type and value. Specific components identified in the WCAP may be replaced without verification testing.

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

SR 3.3.6.8 is modified by a Note stating that radiation detectors are excluded from response time testing.

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.6 BASES, CONTAINMENT VENTILATION ISOLATION 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 3.3.6B (with Setpoint Control Program Specification) is not used and is not shown. Furthermore, the title of the Specification has been changed from "Containment Purge and Exhaust Isolation Instrumentation" to " Containment Ventilation Isolation Instrumentation" since Sequoyah Nuclear Plant (SQN) does not have a Containment Purge and Exhaust Isolation Instrumentation.

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. 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.

4. Changes are made to be consistent with changes made to the Specification.

5. ISTS SR 3.3.6.1, SR 3.3.6.4, SR 3.3.6.5, SR 3.3.6.6, SR 3.3.6.7, SR 3.3.6.8 and SR 3.3.6.9 (ITS SR 3.3.6.1, SR 3.3.6.2, SR 3.3.6.3, SR 3.3.6.4, SR 3.3.6.5, SR 3.3.6.6, and SR 3.3.6.7, respectively) provide two options for controlling the Frequencies of Surveillance Requirements. SQN is proposing to control the Surveillance Frequencies under the Surveillance Frequency Control Program.

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.

Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.3.6, CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION

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

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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

~~RADIATION MONITORING~~ CONTROL ROOM EMERGENCY VENTILATION (CREVS) ACTUATION INSTRUMENTATION (A02)

LIMITING CONDITION FOR OPERATION

LCO 3.3.7 — 3.3.3.1 The ~~radiation monitoring~~ CREVS actuation (A02) 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.

ACTION: Add proposed ACTIONS Note (A03)

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.~~ (M01)

ACTION A, ACTION B, ACTION C, ACTION D, ACTION E — b. With one or more ~~radiation monitoring~~ CREVS actuation instrumentation (A02) channels inoperable, take the ACTION shown in Table 3.3-6.

c. ~~The provisions of Specification 3.0.3 are not applicable.~~ (M02)

SURVEILLANCE REQUIREMENTS

SR Table Note — 4.3.3.1 Each ~~radiation monitoring~~ CREVS actuation (A02) instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ~~CHANNEL FUNCTIONAL TEST~~ CHANNEL OPERATIONAL TEST (COT) (M03) operations for the MODES and at the frequencies shown in Table 4.3-3.

ITS A01 ITS 3.3.7

Table 3.3.7-1

TABLE 3.3-6
CONTROL ROOM EMERGENCY VENTILATION (CREVS) ACTUATION A02
~~RADIATION MONITORING~~ INSTRUMENTATION

LA01

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	See ITS 3.3.8
2. PROCESS MONITORS						
a. Containment Purge Air	1	1, 2, 3, 4 & 6	≤ 8.5x 10^{-3} μCi/cc	10 - 10^{7} cpm	28	See ITS 3.3.6
b. Containment						See ITS 3.4.15
i. Deleted						
ii. Particulate Activity						
RCS Leakage Detection	1	1, 2, 3 & 4	N/A	10 - 10^{7} cpm	27	
Function 3 c. Control Room Isolation	2	ALL MODES and during movement of irradiated fuel assemblies and during CORE ALTERATIONS	≤ 400 cpm**	~~10 - 10^{7} cpm~~	29	LA01, A04

MHC003

Add proposed Table 3.3.7-1 Function 1 M04

Add proposed Table 3.3.7-1 Function 2 M05

Add proposed Table 3.3.7-1 Function 4 M06

* With fuel in the storage pool or building — See ITS 3.3.8

Footnote (b) ** Equivalent to 1.0 x 10^{-5} μCi/cc.

ITS A01 ITS 3.3.7

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 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.

ACTION A

ACTION C

Add proposed ACTIONS D and E M07

b. With two channels inoperable, ~~within 1 hour~~ Immediately 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. 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

A02

~~RADIATION MONITORING~~ INSTRUMENTATION SURVEILLANCE REQUIREMENTS

COT

M03

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	~~CHANNEL FUNCTIONAL TEST~~	MODES FOR WHICH SURVEILLANCE REQUIRED
1. AREA MONITOR				
a. Fuel Storage Pool Area	S	R	Q	*
2. PROCESS MONITORS				
a. Containment Purge Air Exhaust	S	R	Q	1, 2, 3, 4 & 6
b. Containment				
i. Deleted				
ii. Particulate Activity				
RCS Leakage Detection	S	R	Q	1, 2, 3, & 4
c. Control Room Isolation	~~S~~ SR 3.3.7.1	~~R~~ SR 3.3.7.7	~~Q~~ SR 3.3.7.2	ALL MODES

See ITS 3.3.8

See ITS 3.3.6

See ITS 3.4.15

Function 3

In accordance with the Surveillance Frequency Control Program

LA02

Add proposed SR 3.3.7.6 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 3.3.8

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

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

ITS

A01

ITS 3.3.7

INSTRUMENTATION

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

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

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

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

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ITS A01 ITS 3.3.7

Table 3.3.7-1

TABLE 3.3-6
~~RADIATION MONITORING~~ INSTRUMENTATION
CONTROL ROOM EMERGENCY VENTILATION (CREVS) ACTUATION A02

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	~~MEASUREMENT RANGE~~ LA01	ACTION	
1. AREA MONITOR						
a. Fuel Storage Pool Area	1	*	≤151 mR/hr	10^{-1} - 10^{4} mR/hr	26	See ITS 3.3.8
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	See ITS 3.3.6
b. Containment						See ITS 3.4.15
i. Deleted						
ii. Particulate Activity						
RCS Leakage Detection	1	1, 2, 3 & 4	N/A	10 - 10^{7} cpm	27	
Function 3 — c. Control Room Isolation	2	ALL MODES and during movement of irradiated fuel assemblies and during CORE ALTERATIONS A04	≤ 400 cpm**	~~10 - 10^{7} cpm~~ LA01	29	

MHC003

Add proposed Table 3.3.7-1 Function 1 M04

Add proposed Table 3.3.7-1 Function 2 M05

Add proposed Table 3.3.7-1 Function 4 M06

* With fuel in the storage pool or building — See ITS 3.3.8

Footnote (b) ** Equivalent to 1.0 x 10^{-5} µCi/cc.

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ITS

A01

ITS 3.3.7

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

Add proposed ACTIONS D and E M07

b. With two channels inoperable, ~~within 1 hour~~ Immediately 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. 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 A02

~~RADIATION MONITORING~~ INSTRUMENTATION SURVEILLANCE REQUIREMENTS

COT M03

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	~~CHANNEL FUNCTIONAL TEST~~	MODES FOR WHICH SURVEILLANCE IS REQUIRED	
1. AREA MONITOR					See ITS 3.3.8
a. Fuel Storage Pool Area	S	R	Q	*	
2. PROCESS MONITORS					
a. Containment Purge Air Exhaust	S	R	Q	1, 2, 3, 4 & 6	See ITS 3.3.6
b. Containment					See ITS 3.4.15
i. Deleted					
ii. Particulate Activity					
RCS Leakage Detection	S	R	Q	1, 2, 3 & 4	
Function 3 — c. Control Room Isolation	~~S~~ SR 3.3.7.1	~~R~~ SR 3.3.7.7	~~Q~~ SR 3.3.7.2	ALL MODES	

In accordance with the Surveillance Frequency Control Program LA02

Add proposed SR 3.3.7.6 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 3.3.8

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

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.

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

MHC003

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.

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 valued. 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. 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

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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.

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

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

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

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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

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 during

MHC003

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.)

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.

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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.

MHC003

Not Used

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.~~

~~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

CRE~~F~~VS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.7A

3.3 INSTRUMENTATION

3.3.7A Control Room Emergency ~~Filtration~~ Ventilation System (CRE~~F~~VS) Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1

3.3.3.1 LCO 3.3.7 The CRE~~F~~VS 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.

	CONDITION	REQUIRED ACTION	COMPLETION TIME	
Table 3.3-6 ACTION 29a	A. One or more Functions with one channel or train inoperable.	A.1 ~~-------------NOTE-------------~~ ~~[Place in toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.]~~ ~~----------------------------------~~ Place one CRE~~F~~VS train in ~~emergency [radiation protection]~~ recirculation mode.	7 days	2 1 3 2
Table 3.3-6 ACTION 29b	B. One or more Functions with two channels or two trains inoperable.	~~-----------------NOTE-----------------~~ ~~[Place in the toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.]~~ ~~--~~ B.1.1 Place one CRE~~F~~VS train in ~~emergency [radiation protection]~~ recirculation mode. <u>AND</u>	Immediately	2 1 3 2

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CTS

CRE~~F~~S Actuation Instrumentation ~~(Without Setpoint Control Program)~~ V 1
3.3.7~~A~~

ACTIONS (continued)

	CONDITION	REQUIRED ACTION	COMPLETION TIME	
Table 3.3-6 ACTION 29.b		B.1.2 Enter applicable Conditions and Required Actions for one CRE~~F~~S train made inoperable by inoperable CRE~~F~~S actuation instrumentation. V V OR B.2 Place both trains in ~~emergency [radiation protection]~~ recirculation mode.	Immediately Immediately	1 1 3 2
Table 3.3-6 ACTIONS 29a and 29b	C. Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours	
DOC M07, Table 3.3-6 ACTION 29b MHC003	D. Required Action and associated Completion Time for Condition A or B not met during movement of ~~[recently]~~ irradiated fuel assemblies, or during CORE ALTERATIONS.	D.1 Suspend movement of ~~[recently]~~ irradiated fuel assemblies. AND D.2 Suspend CORE ALTERATIONS	Immediately Immediately	2 7 2 7
DOC M07, Table 3.3-6 ACTION 29b	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 CRE~~F~~S train to OPERABLE status. V	Immediately ~~]~~	2 1

CTS

CRE~~F~~S Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.7~~A~~

V

SURVEILLANCE REQUIREMENTS

V

-----NOTE-----
4.3.3.1 Refer to Table 3.3.7-1 to determine which SRs apply for each CRE~~F~~S Actuation Function. 1

	SURVEILLANCE		FREQUENCY	
Table 4.3-3 Instrument 2.c	SR 3.3.7.1	Perform CHANNEL CHECK.	~~[12 hours~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~	4 4
Table 4.3-3 Instrument 2.c	SR 3.3.7.2	Perform COT.	~~[92 days~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~	4 4
	~~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]~~	4

CTS

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]~~ 5
~~-----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.~~ ~~-----~~ 6		
DOC M05 SR 3.3.7.~~5~~ 3	-----NOTE----- This Surveillance is only applicable to the actuation logic of the ESFAS Instrumentation. ----- Perform ACTUATION LOGIC TEST.	5 ~~[92 days on a STAGGERED TEST BASIS~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 4

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CTS

CRE~~F~~S Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.7~~A~~ 1

V

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
~~REVIEWER'S NOTE~~ ~~The Frequency of 92 days on a STAGGERED TEST BASIS is applicable to the master relays processed through the Solid State Protection System.~~		6
DOC M05 SR 3.3.7.~~6~~ 4	------NOTE------ This Surveillance is only applicable to the master relays of the ESFAS Instrumentation. ------ Perform MASTER RELAY TEST.	~~[92 days on a STAGGERED TEST BASIS~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 5 4 4
DOC M05 SR 3.3.7.~~7~~ 5	Perform SLAVE RELAY TEST.	~~[[92] days~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 5 4 4

CTS

CRE~~F~~S Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.7~~A~~

V

1

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE		FREQUENCY
DOC M04	SR 3.3.7.~~8~~ 6	------------------------------NOTE------------------------------ Verification of setpoint is not required. -- Perform TADOT.	~~[[18] months~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~
Table 4.3-3 Instrument 2.c	SR 3.3.7.~~9~~ 7	Perform CHANNEL CALIBRATION.	~~[[18] months~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~

5 4 4 5 4 4

CTS

CRE~~F~~S Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.7~~A~~

V

Table 3.3.7-1 (page 1 of 1)
CRE~~F~~S Actuation Instrumentation 1

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT	
DOC M04	1. Manual Initiation	1, 2, 3, 4, [5, 6], (a)	2 trains	SR 3.3.7.~~8~~ 6	NA	2 5
DOC M05	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~~ 3 SR 3.3.7.~~6~~ 4 SR 3.3.7.~~7~~ 5	NA	2 5
Table 4.3-3 Instrument 2.c	3. Control Room Radiation					3
	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~~	~~≤ [2] mR/hr~~	5
	~~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~~ 7	≤ ~~[2] mR/hr~~ 400 cpm (b)	5 2 3 5
DOC M06	4. Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.				

MHC003

Table 4.3-3 Instrument 2.c
DOC A04

(a) During movement of ~~[recently]~~ irradiated fuel assemblies~~.~~ , During CORE ALTERATIONS. 2 7

Table 3.3-6 Footnote **

(b) Equivalent to 1.0 x 10^{-5} μCi/cc. 3

V

3.3 INSTRUMENTATION

Ventilation V

3.3.7~~A~~ Control Room Emergency ~~Filtration~~ System (CRE~~F~~S) Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1

V

3.3.3.1 LCO 3.3.7 The CRE~~F~~S 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.

CONDITION	REQUIRED ACTION	COMPLETION TIME
Table 3.3-6 ACTION 29a A. One or more Functions with one channel or train inoperable.	A.1 ~~-----NOTE-----~~ ~~[Place in toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.]~~ ~~----------~~ 2 V recirculation Place one CRE~~F~~S train in ~~emergency [radiation protection]~~ mode.	7 days 1 3 2
Table 3.3-6 ACTION 29b B. One or more Functions with two channels or two trains inoperable.	~~-----NOTE-----~~ ~~[Place in the toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.]~~ ~~----------~~ 2 V recirculation B.1.1 Place one CRE~~F~~S train in ~~emergency [radiation protection]~~ mode. AND	Immediately 1 3 2

CTS

CREFS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.7A

V

ACTIONS (continued)

	CONDITION	REQUIRED ACTION	COMPLETION TIME	
Table 3.3-6 ACTION 29.b		B.1.2 Enter applicable Conditions and Required Actions for one CREFS train made inoperable by inoperable CREFS actuation instrumentation. OR B.2 Place both trains in ~~emergency [radiation protection]~~ recirculation mode.	Immediately Immediately	1 1 3 2
Table 3.3-6 ACTIONS 29a and 29b	C. Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours	
DOC M07, Table 3.3-6 ACTION 29b MHC003	D. Required Action and associated Completion Time for Condition A or B not met during movement of ~~[recently]~~ irradiated fuel assemblies, or during CORE ALTERATIONS.	D.1 Suspend movement of ~~[recently]~~ irradiated fuel assemblies. AND D.2 Suspend CORE ALTERATIONS	Immediately Immediately	2 2 7 7
DOC M07, Table 3.3-6 ACTION 29b	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 ~~]~~	2 1

CTS

CRE~~F~~S Actuation Instrumentation ~~(Without Setpoint Control Program)~~ V
3.3.7A 1

SURVEILLANCE REQUIREMENTS

-----NOTE----- V

4.3.3.1 Refer to Table 3.3.7-1 to determine which SRs apply for each CRE~~F~~S Actuation Function. 1

	SURVEILLANCE		FREQUENCY
Table 4.3-3 Instrument 2.c	SR 3.3.7.1	Perform CHANNEL CHECK.	~~[12 hours~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~
Table 4.3-3 Instrument 2.c	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]~~

4 4 4 4 4

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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]~~ 5
~~-----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.~~ ~~----------~~ 6	
DOC M05 SR 3.3.7.~~5~~ 3 ------NOTE------ This Surveillance is only applicable to the actuation logic of the ESFAS Instrumentation. ---------- Perform ACTUATION LOGIC TEST.	5 ~~[92 days on a STAGGERED TEST BASIS~~ ~~OR~~ 4 In accordance with the Surveillance Frequency Control Program ~~]~~ 4

CTS

CRE~~F~~S Actuation Instrumentation ~~(Without Setpoint Control Program)~~ V
3.3.7~~A~~ 1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
~~REVIEWER'S NOTE~~ ~~The Frequency of 92 days on a STAGGERED TEST BASIS is applicable to the master relays processed through the Solid State Protection System.~~ 6		
DOC M05 SR 3.3.7.~~6~~ 4	NOTE: This Surveillance is only applicable to the master relays of the ESFAS Instrumentation. 5 Perform MASTER RELAY TEST.	~~[92 days on a STAGGERED TEST BASIS~~ 4 ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 4
DOC M05 SR 3.3.7.~~7~~ 5	Perform SLAVE RELAY TEST.	~~[[92] days~~ 5 4 ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 4

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CTS

CRE~~F~~S Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.7~~A~~

V

1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.7.~~8~~ 6	------------------------------NOTE------------------------------ Verification of setpoint is not required. -- Perform TADOT.	~~[[18] months~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~
SR 3.3.7.~~9~~ 7	Perform CHANNEL CALIBRATION.	~~[[18] months~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~

DOC M04

Table 4.3-3 Instrument 2.c

5 4 4 5 4 4

3

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CTS

CRE~~F~~S Actuation Instrumentation ~~(Without Setpoint Control Program)~~ V 1
3.3.7~~A~~

Table 3.3.7-1 (page 1 of 1) V 1
CRE~~F~~S Actuation Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT	
DOC M04	1. Manual Initiation	1, 2, 3, 4, ~~[~~5, 6~~]~~, (a)	2 trains	SR 3.3.7.~~8~~ 6	NA	2 5
DOC M05	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~~ 3 SR 3.3.7.~~6~~ 4 SR 3.3.7.~~7~~ 5	NA	2 5
Table 4.3-3 Instrument 2.c	3. Control Room Radiation					3
	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~~	~~≤ [2] mR/hr~~	5
	~~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~~ 7	≤ ~~[2] mR/hr~~ 400 cpm (b)	5 2 3 5
DOC M06	4. Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.				

MHC003

Table 4.3-3 Instrument 2.c

DOC A04

Table 3.3-6 Footnote **

(a) During movement of ~~[recently]~~ irradiated fuel assemblies , During CORE ALTERATIONS. 2 7

(b) Equivalent to 1.0 x 10^{-5} μCi/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.

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.

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

B 3.3 INSTRUMENTATION

B 3.3.7~~A~~ Control Room Emergency ~~Filtration~~ Ventilation System (CRE~~F~~VS) Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1

BASES

BACKGROUND	The CRE~~F~~VS provides an enclosed control room environment from which the unit can be operated following an uncontrolled release of radioactivity. During normal operation, the ~~Auxiliary~~ Control Building Ventilation System provides control room ventilation. Upon receipt of an actuation signal, the CRE~~F~~VS 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~~ Ventilation System (CREVS)." 1 2 1 3 The actuation instrumentation consists of redundant radiation monitors in the air intake~~s and control room area~~. A high radiation signal from ~~any of these~~ its associated detector~~s~~ will initiate ~~both~~ train~~s~~ of the CRE~~F~~VS. The control room operator can also initiate CRE~~F~~VS trains by manual switches in the control room. The CRE~~F~~VS 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." 2 1
APPLICABLE SAFETY ANALYSES	The control room must be kept habitable for the operators stationed there during accident recovery and post accident operations. The CRE~~F~~VS 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. 1 In MODES 1, 2, 3, and 4, the radiation monitor actuation of the CRE~~F~~VS is a backup for the SI signal actuation. This ensures initiation of the CRE~~F~~VS during a loss of coolant accident or ~~steam generator tube rupture~~ main steam line break. 1 1 The radiation monitor actuation of the CRE~~F~~VS in MODES 5 and 6, ~~and~~ during movement of ~~[recently]~~ irradiated fuel assemblies, and during CORE ALTERATIONS are the primary means to ensure control room habitability in the event of a fuel handling ~~or waste gas decay tank rupture~~ accident. 1 4 5 2 MHC003 The CRE~~F~~VS actuation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). 1

BASES

LCO

The LCO requirements ensure that instrumentation necessary to initiate the CRE~~F~~S is OPERABLE. 1
V

1. Manual Initiation

V The LCO requires two channels OPERABLE. The operator can initiate the CRE~~F~~S 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.

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 V specified conditions for the CRE~~F~~S portion of these functions are 1 different and less restrictive than those specified for their SI roles. If one or more of the SI functions becomes inoperable in such a V manner that only the CRE~~F~~S function is affected, the Conditions 1 applicable to their SI function need not be entered. The less V restrictive Actions specified for inoperability of the CRE~~F~~S Functions 1 specify sufficient compensatory measures for this case.

3. Control Room Radiation

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 CRE~~F~~S remains OPERABLE. 5 1
V

For sampling systems, channel OPERABILITY involves more than OPERABILITY of channel electronics. OPERABILITY ~~may~~ also and
s 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~~.

BASES

LCO (continued)

4. Safety Injection

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

APPLICABILITY

, and during CORE ALTERATIONS

MHC003

The CREFS Functions must be OPERABLE in MODES 1, 2, 3, 4, 5, and 6, ~~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.

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.

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.

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

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

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 CRE~~F~~VS train must be placed in the ~~emergency radiation protection~~ recirculation mode of operation. This accomplishes the actuation instrumentation Function and places the unit in a conservative mode of operation. 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

<u>B.1.1, B.1.2, and B.2</u>

Condition B applies to the failure of two CRE~~F~~VS actuation trains, two radiation monitor channels, or two manual channels. The first Required Action is to place one CRE~~F~~VS train in the ~~emergency [radiation protection]~~ recirculation 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 CRE~~F~~VS 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. 1 1 5 1

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

MHC003

or when CORE ALTERATIONS are being performed

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. 4 5 1

V

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. 2

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. 1

V

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.

1

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 CRE~~F~~S 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.~~ V 1 6

~~OR~~

1

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.~~
~~---]~~

7

~~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.~~
~~---]~~

5

2

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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.~~
~~---]~~

~~[~~ 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.

 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

4

~~[~~SR 3.3.7.~~6~~ 2 5

4

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.~~

~~OR~~ 6

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 stating that the Surveillance is only applicable to the master relays of the ESFAS Instrumentation.~~]~~ 2

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.7.~~7~~ 5

SR 3.3.7.~~7~~ 5 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.~~
~~---]~~

SR 3.3.7.~~8~~ 6

SR 3.3.7.~~8~~ 6 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.).

1 5 6 7 5

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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.~~

~~OR~~

6

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.

SR 3.3.7.~~9~~ 7

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.~~

~~OR~~

6

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

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

B 3.3 INSTRUMENTATION

B 3.3.7~~A~~ Control Room Emergency ~~Filtration~~ Ventilation System (CRE~~F~~ V S) Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1

BASES

BACKGROUND

The CRE~~F~~ V S provides an enclosed control room environment from which the unit can be operated following an uncontrolled release of radioactivity. 1
During normal operation, the ~~Auxiliary~~ Control Building Ventilation System provides control room ventilation. Upon receipt of an actuation signal, the 2
CRE~~F~~ V S initiates filtered ventilation and pressurization of the control room. 1
This system is described in the Bases for LCO 3.7.10, "Control Room Emergency ~~Filtration~~ Ventilation System (CREVS)." 3

The actuation instrumentation consists of redundant radiation monitors in the air intake~~s and control room area~~. A high radiation signal from any ~~of these~~ its associated detector~~s~~ will initiate ~~both~~ train~~s~~ of the CRE~~F~~ V S. The control room operator can also initiate CRE~~F~~ V S trains by manual switches in the control room. The CRE~~F~~ V S 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." 2 1

APPLICABLE SAFETY ANALYSES

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

The CRE~~F~~ V S 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. 1

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

The radiation monitor actuation of the CRE~~F~~ V S in MODES 5 and 6, and during movement of ~~[recently]~~ irradiated fuel assemblies, and during CORE ALTERATIONS are the primary means to ensure control room habitability in the event of a fuel handling ~~or waste gas decay tank rupture~~ accident. 1 4 5 2

MHC003

The CRE~~F~~ V S actuation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). 1

CRE~~F~~VS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
B 3.3.7~~A~~

BASES

LCO

The LCO requirements ensure that instrumentation necessary to initiate the CRE~~F~~VS is OPERABLE. 1

1. Manual Initiation

The LCO requires two channels OPERABLE. The operator can initiate the CRE~~F~~VS 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.

Each channel consists of one ~~push button~~ hand switch 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.

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 CRE~~F~~VS 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 CRE~~F~~VS function is affected, the Conditions applicable to their SI function need not be entered. The less restrictive Actions specified for inoperability of the CRE~~F~~VS Functions specify sufficient compensatory measures for this case. 1 1 1

3. Control Room Radiation

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 CRE~~F~~VS remains OPERABLE. 5 1

For sampling systems, channel OPERABILITY involves more than OPERABILITY of channel electronics. OPERABILITY ~~may~~ also requires correct valve lineups, and 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~~.

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BASES

LCO (continued)

4. Safety Injection

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

APPLICABILITY

, and during CORE ALTERATIONS

MHC003

V 5, and 6,

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

V

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

CRE~~F~~VS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
B 3.3.7~~A~~

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 CRE~~F~~VS train must be placed in the ~~emergency radiation protection~~ recirculation mode of operation. This accomplishes the actuation instrumentation Function and places the unit in a conservative mode of operation. 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 CRE~~F~~VS actuation trains, two radiation monitor channels, or two manual channels. The first Required Action is to place one CRE~~F~~VS train in the ~~emergency [radiation protection]~~ recirculation 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 CRE~~F~~VS 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. 1 1 5 1

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

 1

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

MHC003

or CORE ALTERATIONS are being performed

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. 4 5 1

V

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. 2

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. 1

V

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.

1

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 CRE~~F~~S 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.~~ V 1 6

~~OR~~

V

1

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.~~
~~--]~~

7

~~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.~~
~~--]~~

5

1

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.~~
~~--]~~

5

~~[~~ SR 3.3.7.~~5~~ 3 2 5

SR 3.3.7.~~5~~ 3 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~~

6

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

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

~~[~~SR 3.3.7.~~6~~ 4 2 5

SR 3.3.7.~~6~~ 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 92 days on a STAGGERED TEST BASIS. The Surveillance interval is justified in Reference 1.~~

~~OR~~ 6

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 stating that the Surveillance is only applicable to the master relays of the ESFAS Instrumentation.~~]~~ 2

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BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.7.~~7~~ 5

SR 3.3.7.~~7~~ 5 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.~~
~~---]~~

SR 3.3.7.~~8~~ 6

SR 3.3.7.~~8~~ 6 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.).

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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.

7
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.

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.

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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.

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These changes are to the markups to Attachment 1 of RAI MHC006

REFUELING OPERATIONS

3/4.9.12 AUXILIARY BUILDING GAS TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.7.12 Note 2 — 3.9.12 One auxiliary building gas treatment filter train shall be OPERABLE.

M02

Applicability — APPLICABILITY: ~~Whenever irradiated fuel is in the storage pool~~ stored spent fuel STET

During movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~.

~~L06~~

ACTION: irradiated assemblies

~~Add proposed Required Action D.1~~ ~~L06~~

ACTION D.1
ACTION E.1

a. With no auxiliary building gas treatment filter train OPERABLE, ~~suspend all operations involving movement of fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one auxiliary building gas treatment filter train is restored to OPERABLE status~~. STET

M02

ACTIONS Note — b. The provisions of Specification 3.0.3 are not applicable.

~~Add proposed Action E.1 Note~~ ~~L08~~

SURVEILLANCE REQUIREMENTS

~~L06~~

SR 3.7.12.1, SR 3.7.12.3 — 4.9.12 The above required auxiliary buildings gas treatment filter train shall be demonstrated OPERABLE:

In accordance with the Surveillance Frequency Control Program — LA02

L03

SR 3.7.12.1 — a. ~~At least once per 31 days on a STAGGERED TEST BASIS~~ by initiating, ~~from the control room, flow through the HEPA filters and charcoal adsorbers~~ and verifying that the system operates for at least ~~10 hours~~ 15 continuous minutes with the heaters on.

LA03

L04

Add proposed SR 3.7.12.2 — A02

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978 (except for the provisions of ANSI N510 Sections 8 and 9), and the system flow rate is 9000 cfm ± 10%.

2. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than 2.5% when tested in accordance with ASTM D3803-1989 at a temperature of 30°C (86°F) and a relative humidity of 70%.

3. Verifying a system flow rate of 9000 cfm ± 10% during system operations when tested in accordance with ANSI N510-1975.

See ITS 5.5.9

These changes are to the markups to Attachment 1 of RAI MHC006

A01

ITS 					ITS 3.7.12

REFUELING OPERATIONS

3/4.9.12 AUXILIARY BUILDING GAS TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.7.12 Note 2 — 3.9.12 One auxiliary building gas treatment filter train shall be OPERABLE.

stored — spent fuel — M02

Applicability — APPLICABILITY: ~~Whenever irradiated fuel is in the storage pool.~~

During movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building.~~ — ~~L06~~

irradiated — STET — ~~L06~~

ACTION:

~~Add proposed Required Action D.1~~

assemblies

a. With no auxiliary building gas treatment filter train OPERABLE, ~~suspend all operations involving movement of fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one auxiliary building gas treatment filter train is restored to OPERABLE status~~.

ACTION D.1

ACTION E.1

M02

~~Add proposed Action E.1 Note~~ — ~~L08~~

STET

ACTIONS Note — b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

SR 3.7.12.1, SR 3.7.12.3 — 4.9.12 The above required auxiliary building gas treatment filter train shall be demonstrated OPERABLE:

In accordance with the Surveillance Frequency Control Program — LA02

SR 3.7.12.1 — a. ~~At least once per 31 days on a STAGGERED TEST BASIS~~ by initiating, ~~from the control room, flow through the HEPA filters and charcoal adsorbers~~ and verifying that the system operates for at least ~~10 hours~~ with the heaters on.

L03 — LA03

15 continuous minutes — L04 — Add proposed SR 3.7.12.2 — A02

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978 (except for the provisions of ANSI N510 Sections 8 and 9), and the system flow rate is 9000 cfm $\pm$ 10%.

2. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than 2.5% when tested in accordance with ASTM D3803-1989 at a temperature of 30°C (86° F) and a relative humidity of 70%.

3. Verifying a system flow rate of 9000 cfm $\pm$ 10% during system operation when tested in accordance with ANSI N510-1975.

See ITS 5.5.9

 These changes are to the markups to Attachment 1 of RAI MHC006

DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

L08 *(Category 4 - Relaxation of Required Action)* CTS 3.9.12 ACTION a contains compensatory actions to, in part, suspend crane operation with loads over the spent fuel pit until at least one ABGTS train is restored to OPERABLE status. ITS 3.7.12 ACTION E contains a Note stating that crane operations using the main hoist on the Auxiliary Building crane may continue. This changes CTS by allowing operations with loads over the spent fuel pool with the main hoist on the auxiliary building crane to continue without having one ABGTS train OPERABLE.

ITS 3.7.12 is applicable anytime fuel is stored in the spent fuel pool ~~to ensure that the assumptions made for the fuel handling accident are maintained~~. With no OPERABLE ABGTS train, activities involving loads over the spent fuel pool are prohibited such that a load cannot be dropped onto the fuel stored in the storage pool. The Note allows loads using the main hoist on the auxiliary building crane to be used over the spent fuel pool because the main hoist is a single failure proof crane meeting the requirements of NUREG-0554 and NUREG-0612. Dropping loads from a single failure proof crane are not considered creditable accidents, therefore crane operation with the main hoist may continue with no ABGTS train OPERABLE. This change is designated as less restrictive because the less stringent requirements are being applied to ITS than were applied to the CTS.

These changes are to the markups to Attachment 1 of RAI MHC006

CTS

ABGTS ~~FBACS~~ 1
3.7.~~13~~ 12

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
3.7.8 ACTION C. [Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4. OR ~~DOC L02~~ Two ABGTS ~~FBACS~~ trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 4 36 hours] 4 1
~~D. Required Action and associated Completion Time [of Condition A] not met during movement of [recently] irradiated fuel assemblies in the fuel building.~~	~~D.1 Place OPERABLE FBACS train in operation.~~ ~~OR~~ ~~D.2 Suspend movement of [recently] irradiated fuel assemblies in the fuel building.~~	~~Immediately~~ ~~Immediately~~ 2
3.9.12 ACTION a D ~~E~~. One required ABGTS ~~Two FBACS~~ trains inoperable during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~. ~~auxiliary~~	D ~~E~~.1 Suspend movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~. ~~auxiliary~~	Immediately 2 1 4 4 3 3
3.9.12 ACTION a L08 E. One required ABGTS train inoperable with fuel stored in the spent fuel pool.	E.1 ~~------------NOTE------------ Crane operations using the main hoist on the Auxiliary Building crane may continue. ---------------------------------~~ Suspend all crane operations with loads over the spent fuel pool.	Immediately 7

These changes are to the markups to Attachment 1 of RAI MHC006

CTS

ABGTS ~~FBACS~~
3.7.~~13~~ 12 1

ACTIONS (continued)

	CONDITION	REQUIRED ACTION	COMPLETION TIME	
3.7.8 ACTION	C. ~~[~~Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3.	6 hours	4
		AND		
		C.2 Be in MODE 5.	36 hours ~~]~~	4
	OR			
~~DOC L02~~	Two ~~FBACS~~ ABGTS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.			1
	~~D. Required Action and associated Completion Time [of Condition A] not met during movement of [recently] irradiated fuel assemblies in the fuel building.~~	~~D.1 Place OPERABLE FBACS train in operation.~~	~~Immediately~~	2
		~~OR~~		
		~~D.2 Suspend movement of [recently] irradiated fuel assemblies in the fuel building.~~	~~Immediately~~	
3.9.12 ACTION a	~~E.~~ D. ~~Two FBACS~~ One required ABGTS trains inoperable during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ auxiliary building.	~~E~~ D.1 Suspend movement of ~~[recently]~~ irradiated fuel assemblies in the ~~fuel building~~ auxiliary building.	Immediately	2 1 4 4 3 3
3.9.12 ACTION a L08	E. One required ABGTS train inoperable with fuel stored in the spent fuel pool.	E.1 ~~-------------NOTE------------- Crane operations using the main hoist on the Auxiliary Building crane may continue. -------------------------------~~ Suspend all crane operations with loads over the spent fuel pool.	Immediately	7

These changes are to the markups to Attachment 1 of RAI MHC006

JUSTIFICATION FOR DEVIATIONS
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

1. Sequoyah Nuclear Plant (SQN) design does not include the ISTS 3.7.12, "Emergency Core Cooling System (ECCS) Pump Room Exhaust Air Cleanup System (PREACS)." Therefore, ISTS 3.7.13, "Fuel Building Air Cleanup System (FBACS)" has been renumbered as ITS 3.7.12. Additionally, SQN refers to the Fuel Building Air Cleanup System (FBACS) as the Auxiliary Building Gas Treatment System (ABGTS).

2. ISTS 3.7.13 ACTION A has been revised to only apply in MODES 1, 2, 3, or 4 and ACTION D has been deleted, as the SQN current licensing basis only credits one train of ABGTS to mitigate a fuel handling accident involving ~~the movement of recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. Therefore, the only applicable ACTION for the required ABGTS train being inoperable during the movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~ is ISTS 3.7.13 ACTION E (ITS 3.7.12 ACTION D).

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. 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. ISTS SR 3.7.13.1, SR 3.7.13.3 and SR 3.7.13.4 (ITS SR 3.7.12.1, SR 3.7.12.3 and SR 3.7.12.4, respectively) provides two options for controlling the Frequencies of Surveillance Requirements. SQN is proposing to control the Surveillance Frequencies under the Surveillance Frequency Control Program.

6. Changes made for consistency with the Applicability of the ABGTS actuation functions provided in ITS 3.3.8.

7. ISTS 3.7.13 Mode of Applicability does not include, "With fuel stored in the spent fuel pool." CTS 3.9.12 Applicability specifies "Whenever irradiated fuel is in the storage pool." Therefore, the Applicability of ISTS 3.7.13 (ITS 3.7.12) has been revised to include "With fuel stored in the spent fuel pool." Additionally, ISTS 3.7.13 does not require the suspension of crane operations over irradiated fuel when a train of ABGTS is inoperable. CTS 3.9.12 ACTION a. requires in part, suspending crane operation with loads over the spent fuel pit. Therefore, ITS 3.7.12 ACTION E.1 has been added to suspend all crane operation with loads over the spent fuel pool in the event that there is no OPERABLE ABGTS. ~~A NOTE has been added to the Required Actions of ITS 3.7.12 Condition E to allow crane operation using the main hoist on the Auxiliary Building crane. The main hoist on the Auxiliary Building crane is a single failure proof crane meeting the requirements of NUREG-0554 and NUREG-0612.~~

These changes are to the markups to Attachment 1 of RAI MHC006

TSTF-522

INSERT 4

Operation [with heaters on] for ≥ 15 continuous minutes demonstrates OPERABILITY of the system. Periodic operation ensures that [heater failure,] blockage, fan or motor failure, or excessive vibration can be detected for corrective action. 3 3

Operation will be demonstrated by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train. 2

4

Insert 7

E.1

When the required train of ABGTS is inoperable with fuel stored in the spent fuel pool, action must be taken to prevent the possibility of a load drop over fuel stored in the spent fuel pool. Suspending all crane operation with loads over the spent fuel pool will eliminate the possibility of dropping a load onto fuel assemblies stored in the spent fuel pool. ~~The NOTE allows operation of the main hoist on the Auxiliary Building crane during this condition due to the main hoist meeting the requirements of NUREG-0554 and NUREG-0612 for a single failure proof crane.~~

These changes are to the markups to Attachment 1 of RAI MHC006

TSTF-522

INSERT 4

Operation [with heaters on] for ≥ 15 continuous minutes demonstrates OPERABILITY of the system. Periodic operation ensures that [heater failure,] blockage, fan or motor failure, or excessive vibration can be detected for corrective action. 3 3

Operation will be demonstrated by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train. 2

4 Insert 7

E.1

When the required train of ABGTS is inoperable with fuel stored in the spent fuel pool, action must be taken prevent the possibility of a load drop over fuel stored in the spent fuel pool. Suspending all crane operation with loads over the spent fuel pool will eliminate the possibility of dropping a load onto fuel assemblies stored in the spent fuel pool. ~~The NOTE allows operation of the main hoist on the Auxiliary Building crane during this condition due to the main hoist meeting the requirements of NUREG-0554 and NUREG-0612 for a single failure proof crane.~~

ATTACHMENT 2

ITS 3.8.2, AC SOURCES - SHUTDOWN

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

ITS | A01 | ITS 3.8.2

ELECTRICAL POWER SYSTEMS

AC SOURCES - SHUTDOWN | A01

LIMITING CONDITION FOR OPERATION

LCO 3.8.2 — 3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

LCO 3.8.2.a — a. One qualified circuit between the offsite transmission network and the onsite Class 1E distribution system, and | M01

LCO 3.8.2.b — b. Two Diesel generator sets ~~1A-A and 2A-A or 1B-B and 2B-B~~ each with: | LA01 | M02

1. ~~Two diesels driving a common generator~~, | LA01

SR 3.8.2.1 — 2. Two engine-mounted fuel tanks containing a minimum volume of 250 gallons of fuel per tank,

3. A fuel storage system containing a minimum volume of 62,000 gallons of fuel, | See ITS 3.8.3

SR 3.8.2.1 — 4. A fuel transfer pump, and

5. A separate 125-volt D.C. distribution panel, 125-volt D.C. battery bank and associated charger. | See ITS 3.8.5 and 3.8.10

Applicability — APPLICABILITY: MODES 5 and 6. During movement of irradiated fuel | M03

ACTION: Add proposed ACTIONS Note | M03

Add proposed ACTION A Note | A02

Add proposed Required Action A.1 and Completion Time | L01

ACTIONS A and B — With less than the above minimum required A.C. electrical power sources OPERABLE, suspend all operations involving ~~CORE ALTERATIONS~~ and suspend operations involving positive reactivity additions that could result in loss of required shutdown margin or boron concentration. | ~~L02~~ | Stet

Add proposed Required Actions A.2.3 and B.3 and associated Completion Times | M04

MHC003

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1 — 4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2 (except for requirement 4.8.1.1.2.a.5), and 4.8.1.1.3. | L03

SR 3.8.2.1 Note — See ITS 3.8.5

Add proposed SR 3.8.2.1 exceptions | L04

ITS A01 ITS 3.8.2

ELECTRICAL POWER SYSTEMS

AC SOURCES - SHUTDOWN A01

LIMITING CONDITION FOR OPERATION

LCO 3.8.2 3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

LCO 3.8.2.a a. One qualified circuit between the offsite transmission network and the onsite Class 1E distribution system, and M01

LCO 3.8.2.b b. Two Diesel generator sets ~~1A-A and 2A-A or 1B-B and 2B-B~~ each with: LA01 M02

1. ~~Two diesels driving a common generator~~, LA01

SR 3.8.2.1 2. Two engine-mounted fuel tanks containing a minimum volume of 250 gallons of fuel per tank,

3. A fuel storage system containing a minimum volume of 62,000 gallons of fuel, See ITS 3.8.3

SR 3.8.2.1 4. A fuel transfer pump, and

5. A separate 125-volt D.C. distribution panel, 125-volt D.C. battery bank and associated charger. See ITS 3.8.5 and 3.8.10

Applicability APPLICABILITY: MODES 5 and 6. During movement of irradiated fuel M03

ACTION: Add proposed ACTIONS Note A02

Add proposed ACTION A Note L01

Add proposed Required Action A.1 and Completion Time

ACTIONS A and B With less than the above minimum required A.C. electrical power sources OPERABLE, suspend all operations involving ~~CORE ALTERATIONS~~ and suspend operations involving positive reactivity additions that could result in loss of required shutdown margin or boron concentration. ~~L02~~ Stet

MHC003

Add proposed Required Actions A.2.3 and B.3 and associated Completion Times M04

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1 4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2 (except for requirement L03

SR 3.8.2.1 Note 4.8.1.1.2.a.5), and 4.8.1.1.3. See ITS 3.8.5

Add proposed SR 3.8.2.1 exceptions L04

DISCUSSION OF CHANGES
ITS 3.8.2, AC SOURCES - SHUTDOWN

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 3.8.1.2 does not address the situation when an ESF train is de-energized as a result of the loss of an AC Source. ITS 3.8.2 Required Action A.1 Note requires entry into the applicable Conditions and Required Actions of LCO 3.8.10 when one required train is de-energized as a result of an inoperable offsite circuit. This changes the CTS by directing entry into LCO 3.8.10.

AC Sources are considered a support system to the AC distribution System (ITS 3.8.10). If AC Sources are inoperable such that a distribution subsystem is made inoperable, then ITS LCO 3.0.6 would allow taking only the AC Sources ACTIONS; taking exception to complying with the AC Distribution System ACTIONS. Since the AC Sources ACTIONS may not be sufficiently conservative in the event, specific direction to take appropriate ACTIONS for the Distribution System is added (proposed Note to ITS 3.8.2 ACTION A). This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

M01 CTS 3.8.1.2.a requires one circuit between the offsite transmission network and the onsite Class 1E distribution system to be OPERABLE. ITS LCO 3.8.2.a requires one qualified circuit between the offsite transmission network and the onsite 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10, "Distribution Systems – Shutdown," to be OPERABLE. This changes the CTS by being specific that the circuit be qualified and as to what the required circuit must be capable of powering.

The purpose of CTS 3.8.1.2.a is to ensure the offsite circuit is OPERABLE in order to supply the equipment supported by the onsite Class 1E distribution system. The existing requirement of CTS LCO 3.8.1.2.a for one offsite circuit to be OPERABLE during shutdown conditions is not specific that the circuit be qualified and as to what that circuit must be powering. The requirement in ITS LCO 3.8.2.a specifies that the circuit must be qualified and available to supply power to all equipment required to be OPERABLE in the current plant conditions. This change is acceptable since the added restrictions conservatively assure the needed offsite circuit is qualified (as described in the Bases) and powering all AC loads required to be OPERABLE. This change is designated as more restrictive because more explicit offsite circuit requirements have been added.

DISCUSSION OF CHANGES
ITS 3.8.2, AC SOURCES - SHUTDOWN

M02 CTS 3.8.1.2.b requires two DGs to be OPERABLE. ITS LCO 3.8.2.b requires two DGs capable of supplying one train of the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10. This changes the CTS by being specific as to what the required DGs must be capable of powering.

The purpose of CTS 3.8.1.2.b is to ensure the required DGs are OPERABLE. This change provides an explicit requirement as to what the required DGs must be capable of powering. Similar to the added restrictions for an OPERABLE offsite circuit (refer to DOC M01 above), the DGs required OPERABLE during shutdown conditions by CTS 3.8.1.2.b is not specific as to what the DGs must be powering. The requirements in ITS LCO 3.8.2.b will ensure the OPERABLE DGs are associated with one or more systems, subsystems, or components required to be OPERABLE. This added restriction enforces a level of Technical Specification control which currently is enforced only by administrative procedures. This change is designated as more restrictive because more explicit DG requirements have been added.

M03 CTS 3.8.1.2 is applicable during MODES 5 and 6. ITS 3.8.2 is applicable in MODES 5 and 6, and during the movement of irradiated fuel assemblies. In addition, a Note has been added to the ACTIONS of ITS 3.8.2 that states LCO 3.0.3 is not applicable. This changes the CTS by requiring the AC Sources to be OPERABLE under more conditions than is currently required.

The purpose of CTS 3.8.1.2 is to ensure that sufficient AC Sources are available to mitigate the consequences of an analyzed event during shutdown modes. This change provides an explicit requirement that the AC Sources must be OPERABLE during the movement of irradiated fuel assemblies. The movement of irradiated fuel assemblies may occur during MODE 5 or 6, however the operations could also occur while the unit is operating if moving fuel only in the spent fuel pool. CTS 3.8.1.1 (ITS 3.8.1) and CTS 3.8.1.2 do not provide the appropriate compensatory actions under this condition. The activity should be suspended immediately when the AC Sources are not available consistent with the immediate actions for CORE ALTERATIONS in the CTS 3.8.1.2 Action; that is the actions in LCO 3.0.3 will not place the unit in a safe condition. This change is acceptable because the proposed Applicability is consistent with the Applicability in the AC Distribution System – Shutdown Specification (CTS 3.8.2.2 and ITS 3.8.10). AC Sources provides the power for the AC Distribution System. This change is designated as more restrictive because the Applicability of the Specification has been expanded.

M04 The CTS 3.8.1.2 ACTION requires the suspension of CORE ALTERATIONS and positive reactivity changes when a required AC Source is inoperable. It does not include an action to restore the inoperable AC Source. ITS 3.8.2 Required Actions A.2.3 and B.3 require the immediate initiation of action to restore the required AC Sources to OPERABLE status. This changes the CTS by adding explicit requirements to restore the inoperable AC Sources to OPERABLE status.

The purpose of ITS 3.8.1.2 Required Actions A.2.3 and B.3 is to place the unit within the requirements of the LCO. When a required offsite circuit or one or more required DG(s) is inoperable, the actions imposed by the CTS 3.8.1.2

DISCUSSION OF CHANGES
ITS 3.8.2, AC SOURCES - SHUTDOWN

ACTION do not necessarily place the unit in a MODE or other specified condition in which CTS LCO 3.8.1.2 is not applicable. Therefore, proposed ITS 3.8.2 Required Actions A.2.3 and B.3 are being added. These Required Actions implement a requirement to immediately initiate action to restore the required AC Sources to an OPERABLE status. These additional restrictions are consistent with implicit assumptions and will ensure action is immediately taken to restore compliance with the LCO requirements. This change is designated as more restrictive because the Required Actions do not exist in the CTS.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.8.1.2.b requires two DG sets "1A-A and 2A-A or 1B-B and 2B-B" to be OPERABLE each with "two diesels driving a common generator." ITS LCO 3.8.2.b requires two DGs capable of supplying one train of the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10. This changes the CTS by moving the details of the specific DGs that provide power to a train, and that each DG includes "two diesels driving a common generator" from the CTS to the Bases. The discussion of specifying what the DGs must be capable of powering is provided in DOC M02.

The removal of these details 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 retains the requirement for OPERABLE offsite sources and DGs. 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 the Bases 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.

LESS RESTRICTIVE CHANGES

L01 *(Category 4 – Relaxation of Required Action)* The CTS 3.8.1.2 ACTION requires the suspension of certain activities when the required AC Source is inoperable. ITS 3.8.2 provides an alternate Required Action (ITS 3.8.2 Required Action A.1) that allows the declaration of affected required feature(s) with no offsite power available inoperable instead of requiring the specified activities to be suspended. This changes the CTS by allowing the affected required feature(s) with no offsite power available to be declared inoperable instead of suspending the specified activities.

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DISCUSSION OF CHANGES
ITS 3.8.2, AC SOURCES - SHUTDOWN

The purpose of CTS 3.8.1.2 is to ensure the appropriate offsite circuit is OPERABLE. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a loss of offsite power occurring during the repair period. This changes the CTS by allowing the affected required feature(s) with no offsite power available to be declared inoperable instead of suspending specified activities (i.e., movement of irradiated fuel assemblies). Since the ITS 3.8.2 circuit OPERABILITY requirements are proposed to require supplying power to all required electrical power distribution subsystems, if one or more subsystems are not powered by an offsite circuit, that circuit is inoperable. Conservative actions can be assured if all required equipment with offsite power is declared inoperable and the associated ACTIONS of the individual equipment taken (ITS 3.8.2 Required Action A.1). This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

MHC003

Not Used

L02 ~~*(Category 4 – Relaxation of Required Action)* The CTS 3.8.1.2 ACTION specifies the compensatory action for an inoperable required AC Source. One of the compensatory actions is the suspension of CORE ALTERATIONS. Under similar conditions, ITS 3.8.2 does not require suspension of CORE ALTERATIONS. This changes the CTS by deleting the requirement to suspend CORE ALTERATIONS when a required AC source is inoperable.~~

~~The purpose of the CTS 3.8.1.2 ACTION to suspend CORE ALTERATIONS is to minimize the possibility of an event that may need the AC source to mitigate the consequences of the event. CORE ALTERATION is defined in CTS 1.9, in part, as "the movement of any fuel, sources, reactivity control components, or other components affecting reactivity, within the reactor vessel with the head removed and fuel in the vessel." CORE ALTERATIONS only occur when the reactor vessel head is removed - it only applies in MODE 6. There is only one accident considered during MODE 6 that involves a CORE ALTERATION: a fuel handling accident. According to the Standard Review Plan, a fuel handling accident is initiated by the dropping of an irradiated fuel assembly, either in the containment or in the fuel building. Suspension of CORE ALTERATIONS, except for suspension of movement of irradiated fuel, will not prevent or impair the mitigation of a fuel handling accident. ITS 3.8.2 retains the requirement to suspend movement of irradiated fuel assemblies in ITS 3.8.2 Required Action A.2.1 (for an inoperable required offsite circuit) and Required Action B.1 (for one or more inoperable required DG(s)). Therefore, since the only CORE ALTERATION analyzed in the safety analysis and potentially affected by a loss of a AC source is covered by the ITS Required Actions, deletion of the term "CORE ALTERATIONS" is acceptable. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.~~

DISCUSSION OF CHANGES
ITS 3.8.2, AC SOURCES - SHUTDOWN

L03 *(Category 7 – Relaxation of Surveillance Frequency)* CTS 4.8.1.2 requires the AC electrical power sources to be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2 (except for requirement 4.8.1.1.2.a.5. ITS SR 3.8.2.1 has included a similar allowance in the Note to SR 3.8.2.1. However, additional ITS SRs are exempt from being required to be performed. ITS SR 3.8.2.1 states the following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, and SR 3.8.1.13 through SR 3.8.1.17. This changes the CTS by not requiring the performance of CTS 4.8.1.1.2.g.1 (ITS SR 3.8.1.9), CTS 4.8.1.1.2.g.2 (ITS SR 3.8.1.10), CTS 4.8.1.1.2.d.4 (ITS SR 3.8.1.11), CTS 4.8.1.1.2.d.6.c) (ITS SR 3.8.1.13), CTS 4.8.1.1.2.g.3 (ITS SR 3.8.1.14), CTS 4.8.1.1.2.g.4 (ITS SR 3.8.1.15), CTS 4.8.1.1.2.d.9 (ITS SR 3.8.1.16) and CTS 4.8.1.1.2.d.10 (ITS SR 3.8.1.17).

The purpose of CTS 3.8.1.2 is to ensure the appropriate AC Sources are demonstrated to be OPERABLE. This change is acceptable because the new Surveillance Frequency provides an acceptable level of equipment reliability. Currently CTS 4.8.1.1.2.a.5) is not required to be performed (however it must be met). CTS 4.8.1.1.2.g.1 (ITS SR 3.8.1.9) is the DG single largest load reject test, CTS 4.8.1.1.2.g.2 (ITS SR 3.8.1.10) is the DG full load reject test, CTS 4.8.1.1.2.d.4 (ITS SR 3.8.1.11) is the DG start on a loss of offsite power test, CTS 4.8.1.1.2.d.6.c) (ITS SR 3.8.1.13) demonstrates the DG noncritical protective functions are bypassed on a loss of voltage signal concurrent with an ESF actuation test signal, CTS 4.8.1.1.2.g.3 (ITS SR 3.8.1.14) is the DG 24 hour run test, CTS 4.8.1.1.2.g.4 (ITS SR 3.8.1.15) is the DG hot restart test, CTS 4.8.1.1.2.d.9 (ITS SR 3.8.1.16) ensures manual synchronization and automatic load transfer from the DG to the offsite source can be made and the DG can be returned to ready to load status when offsite power is restored, and CTS 4.8.1.1.2.d.10 (ITS SR 3.8.1.17) is a test of the individual load sequence timers.

These tests normally require the DG to be paralleled with offsite power. This condition (one of two required DGs and the only required offsite source connected) presents a significant risk of a single fault resulting in station blackout. The NRC has previously recognized this in the exception stated in CTS 4.8.1.2. In an effort to consistently address this concern and to avoid potential conflicting Technical Specifications, the Surveillances that would require a DG to be connected to the offsite source or would require disconnection of the required offsite circuit and de-energization of required buses are excepted from performance requirements. The exception does not remove the requirement for the DGs to be capable of performing the particular function. The exception only removes the requirement to demonstrate the capability while that source of power is being relied on to meet the supporting LCO. This change is acceptable since it is the intent that these SRs must still be capable of being met, but actual performance is not required during periods when a DG and the offsite circuit are required to be OPERABLE. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L04 *(Category 5 – Deletion of Surveillance Requirements)* CTS 4.8.1.2 requires the AC electrical power sources to be demonstrated OPERABLE by the performance

DISCUSSION OF CHANGES
ITS 3.8.2, AC SOURCES - SHUTDOWN

of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2 (except for requirements 4.8.1.1.2.a.5). ITS SR 3.8.2.1 has included a similar allowance in the Note to SR 3.8.2.1. However, the ITS is exempting SRs from being required to be met, not just exempting them from being performed. ITS SR 3.8.2.1 states the following SRs are not required to be met: SR 3.8.1.8, SR 3.8.1.12, SR 3.8.1.18, and SR 3.8.1.19. This changes the CTS by not requiring CTS 4.8.1.1.2.d.5 (ITS SR 3.8.1.12), CTS 4.8.1.1.2.d.6 (ITS SR 3.8.1.18), and CTS 4.8.1.1.2.e (ITS SR 3.8.1.19) to be met. The addition of ITS SR 3.8.1.8 is discussed in ITS 3.8.1 DOC M03.

The purpose of CTS 3.8.1.2 is to ensure the appropriate AC Sources are demonstrated OPERABLE. This change is acceptable because the deleted Surveillance Requirements are not necessary to verify that the equipment used to meet the LCO can perform its required functions. Thus, appropriate equipment continues to be tested in a manner and at a Frequency necessary to give confidence that the equipment can perform its assumed safety function. This change deletes certain Surveillances from being required to be met. These Surveillances are CTS 4.8.1.1.2.d.5 (ITS SR 3.8.1.12), the ESF actuation signal DG start test, CTS 4.8.1.1.2.d.6 (ITS SR 3.8.1.18), ESF concurrent with loss of offsite power signal test, and CTS 4.8.1.1.2.e (ITS SR 3.8.1.19), the simultaneous DG start test. ITS SR 3.8.1.12 and ITS SR 3.8.1.18 are not required to be met since the ESF signal is not required to be OPERABLE in the MODES or other specified conditions listed in the Applicability of ITS 3.8.2. The CTS and ITS also do not require the ECCS subsystem(s) to be OPERABLE in MODE 5 and 6. The DGs are required to support the equipment powered from the 6.9 kV shutdown boards. However, when the ECCS subsystem(s) are not required to be OPERABLE, then there is no reason to require the DG to autostart on an ESF actuation signal. In addition, the ESF actuation signal is only an anticipatory start signal; the DGs are only needed during a LOCA if a loss of offsite power occurs concurrently. The DGs are also required to start if a loss of offsite power occurs. The requirement to autostart the required DG(s) on a loss of offsite power signal is being maintained in the ITS (ITS SR 3.8.1.11). Thus, when in these conditions (associated ECCS subsystem(s) not required to be OPERABLE), there is no reason to require the DGs to be capable of automatically starting on an ESF actuation signal (either by itself or concurrent with a loss of offsite power signal). This change is designated as less restrictive because Surveillances that are required in CTS will not be required in the ITS.

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

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources - Shutdown

3.8.1.2 LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

3.8.1.2.a a. One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution ~~sub~~system~~(s)~~ required by LCO 3.8.10, "Distribution Systems - Shutdown," ; and 1 2

3.8.1.2.b b. Two ~~One~~ diesel generators (DGs) capable of supplying one train of the onsite Class 1E AC electrical power distribution ~~sub~~system~~(s)~~ required by LCO 3.8.10. 1

Applicability
DOC M03 APPLICABILITY: MODES 5 and 6,
During movement of ~~[recently]~~ irradiated fuel assemblies. 3

ACTIONS

--NOTE--

DOC M03 LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required offsite circuit inoperable.	-------------------NOTE------------------- Enter applicable Conditions and Required Actions of LCO 3.8.10, with one required 6.9 kV Shutdown Board ~~train~~ de-energized as a result of Condition A. --	
	A.1 Declare affected required feature(s) with no offsite power available inoperable. OR	Immediately

ACTION DOC A02 (Condition A); DOC L01 (A.1); 1

ACTIONS (continued)

MHC003

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION	A.2.1 Suspend movement of ~~[recently]~~ irradiated fuel assemblies.	Immediately
AND A.2.2 Suspend CORE ALTERATIONS.	AND	Immediately
ACTION	A.2.~~2~~ 3 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.	Immediately
	AND	
DOC M04	A.2.~~3~~ 4 Initiate action to restore required offsite power circuit to OPERABLE status.	Immediately
ACTION B. One or more required DG(s) inoperable.	B.1 Suspend movement of ~~[recently]~~ irradiated fuel assemblies.	Immediately
AND B.2 Suspend CORE ALTERATIONS.	AND	Immediately
ACTION	B.~~2~~ 3 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.	Immediately
	AND	
DOC M04	B.~~3~~ 4 Initiate action to restore required DG(s) to OPERABLE status.	Immediately

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SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
3.8.1.2.b.2, 3.8.1.2.b.4, 4.8.1.2 SR 3.8.2.1	------------------------------NOTE------------------------------ The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, and SR 3.8.1.13 through SR 3.8.1.~~16, and~~ 17 ~~[SR 3.8.1.18]~~. ---	1 3
	For AC sources required to be OPERABLE, the SRs of Specification 3.8.1, "AC Sources - Operating," except SR 3.8.1.8, SR 3.8.1.12, ~~SR 3.8.1.17,~~ SR 3.8.1.~~19~~ 18, and SR 3.8.1.~~20~~ 19, are applicable.	In accordance with applicable SRs 1

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources - Shutdown

3.8.1.2 LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

3.8.1.2.a a. One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution ~~sub~~system~~(s)~~ required by LCO 3.8.10, "Distribution Systems - Shutdown," and ; 1 2

Two s s

3.8.1.2.b b. ~~One~~ diesel generator (DG) capable of supplying one train of the onsite Class 1E AC electrical power distribution ~~sub~~system~~(s)~~ required by LCO 3.8.10. 1

Applicability APPLICABILITY: MODES 5 and 6,

DOC M03 During movement of ~~[recently]~~ irradiated fuel assemblies. 3

ACTIONS

--NOTE--

DOC M03 LCO 3.0.3 is not applicable.

	CONDITION	REQUIRED ACTION	COMPLETION TIME	
ACTION DOC A02	A. One required offsite circuit inoperable.	-------------------NOTE------------------- Enter applicable Conditions and Required Actions of LCO 3.8.10, with one required ~~train~~ 6.9 kV Shutdown Board de-energized as a result of Condition A. --		1
DOC L01		A.1 Declare affected required feature(s) with no offsite power available inoperable. OR	Immediately	

CTS

AC Sources - Shutdown
3.8.2

MHC003

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION	A.2.1 Suspend movement of ~~[recently]~~ irradiated fuel assemblies.	Immediately
AND A.2.2 Suspend CORE ALTERATIONS.	AND	Immediately
ACTION	A.2.2 3 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.	Immediately
	AND	
DOC M04	A.2.3 4 Initiate action to restore required offsite power circuit to OPERABLE status.	Immediately
ACTION B. One or more required DG(s) inoperable.	B.1 Suspend movement of ~~[recently]~~ irradiated fuel assemblies.	Immediately
AND B.2 Suspend CORE ALTERATIONS.	AND	Immediately
ACTION	B.2 3 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.	Immediately
	AND	
DOC M04	B.3 4 Initiate action to restore required DG(s) to OPERABLE status.	Immediately

3 4 4 4 1 3 4 4 4 1

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SURVEILLANCE REQUIREMENTS

	SURVEILLANCE		FREQUENCY
3.8.1.2.b.2, 3.8.1.2.b.4, 4.8.1.2	SR 3.8.2.1	------------------------------NOTE------------------------------ The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, and SR 3.8.1.13 through SR 3.8.1.~~16, and~~ 17 ~~[SR 3.8.1.18]~~. --	1 3
		For AC sources required to be OPERABLE, the SRs of Specification 3.8.1, "AC Sources - Operating," except SR 3.8.1.8, SR 3.8.1.12, ~~SR 3.8.1.17,~~ SR 3.8.1.~~19~~ 18, and SR 3.8.1.~~20~~ 19, are applicable.	In accordance with applicable SRs 1

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JUSTIFICATION FOR DEVIATIONS
ITS 3.8.2, AC SOURCES - SHUTDOWN

1. 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.

2. The punctuation corrections have been made consistent with the Writer's Guide for the Improved Standard Technical Specifications, NEI 01-03, Section 5.1.3.

3. The ISTS contains bracketed information and/or values that are generic to all Westinghouse vintage plants. The brackets are removed and the proper plant specific information/value is inserted to reflect the current licensing basis.

4. ITS 3.8.2 Required Actions A.2.2 and B.2 have been added to ISTS 3.8.2 Conditions A and B, respectively, to require immediate suspension of CORE ALTERATIONS when a required offsite circuit or DG is inoperable. CTS 3.8.1.2 ACTION requires suspending all operations involving CORE ALTERATIONS with less than the minimum required A.C. electrical power sources OPERABLE. This change reflects CTS requirements. Subsequent ISTS 3.8.2 Required Actions have been renumbered to reflect this addition. MHC003

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

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.2 AC Sources - Shutdown

BASES

BACKGROUND

A description of the AC sources is provided in the Bases for LCO 3.8.1, "AC Sources - Operating."

APPLICABLE SAFETY ANALYSES

The OPERABILITY of the minimum AC sources during MODES 5 and 6 and during movement of ~~[recently]~~ irradiated fuel assemblies ensures that: 2

a. The unit can be maintained in the shutdown or refueling condition for extended periods,

b. Sufficient instrumentation and control capability is available for monitoring and maintaining the unit status, and

c. Adequate AC electrical power is provided to mitigate events postulated during shutdown, such as a fuel handling accident ~~[involving handling recently irradiated fuel. Due to radioactive decay, AC electrical power is only required to mitigate fuel handling accidents involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days)]~~. 2

In general, when the unit is shut down, the Technical Specifications requirements ensure that the unit has the capability to mitigate the consequences of postulated accidents. However, assuming a single failure and concurrent loss of all offsite or all onsite power is not required. ~~The rationale for~~ because this is ~~based on the fact that~~ many Design Basis Accidents (DBAs) that are analyzed in MODES 1, 2, 3, and 4 ~~have no specific analyses in MODES 5 and 6. Worst case bounding events~~ are deemed not credible in MODES 5 and 6 because the energy contained within the reactor pressure boundary, reactor coolant temperature and pressure, and the corresponding stresses result in the probabilities of occurrence being significantly reduced or eliminated, and result in minimal consequences. These limitations ~~deviations from DBA analysis assumptions and design requirements~~ during shutdown conditions are reflected in ~~allowed by~~ the LCO for required systems. 1

During MODES 1, 2, 3, and 4, various deviations from the analysis assumptions and design requirements are allowed within the Required Actions. This allowance is in recognition that certain testing and maintenance activities must be conducted provided an acceptable level of risk is not exceeded. During MODES 5 and 6, performance of a

BASES

APPLICABLE SAFETY ANALYSES (continued)

significant number of required testing and maintenance activities is also required. In MODES 5 and 6, the activities are ~~generally~~ planned and administratively controlled. Relaxations from MODE 1, 2, 3, and 4 LCO requirements are acceptable during shutdown modes based on: 1

a. The fact that time in an outage is limited. This is a risk prudent goal as well as a utility economic consideration.

b. Requiring appropriate compensatory measures for certain conditions. These may include administrative controls, reliance on systems that do not necessarily meet typical design requirements applied to systems credited in operating MODE analyses, or both.

c. Prudent utility consideration of the risk associated with multiple activities that could affect multiple systems.

d. Maintaining, to the extent practical, the ability to perform required functions (even if not meeting MODE 1, 2, 3, and 4 OPERABILITY requirements) with systems assumed to function during an event.

In the event of an accident during shutdown, this LCO ensures the capability to support systems necessary to avoid immediate difficulty, assuming either a loss of all offsite power or a loss of all onsite diesel generator (DG) power.

The AC sources satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

One offsite circuit capable of supplying the onsite Class 1E power distribution subsystem(s) of LCO 3.8.10, "Distribution Systems - Shutdown," ensures that all required loads are powered from offsite power. Two ~~An~~ OPERABLE DGs, associated with a distribution system train required to be OPERABLE by LCO 3.8.10, ensures a diverse power source is available to provide electrical power support, assuming a loss of the offsite circuit. Together, OPERABILITY of the required offsite circuit and DGs ensures the availability of sufficient AC sources to operate the unit in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents ~~[involving handling recently irradiated fuel]~~). 3 3 2

The qualified offsite circuit must be capable of maintaining rated frequency and voltage, and accepting required loads during an accident, while connected to the 6.9 kV shutdown boards ~~Engineered Safety Feature (ESF) bus(es)~~. Qualified offsite circuits are those that are described in the Bases for LCO 3.8.1 ~~FSAR~~ and are part of the licensing basis for the unit. 1

BASES

LCO (continued)

INSERT 1

~~[Offsite circuit #1 consists of Safeguards Transformer B, which is supplied from Switchyard Bus B, and is fed through breaker 52-3 powering the ESF transformer XNB01, which, in turn, powers the #1 ESF bus through its normal feeder breaker. The second offsite circuit consists of the Startup Transformer, which is normally fed from the Switchyard Bus A, and is fed through breaker PA 0201 powering the ESF transformer, which, in turn, powers the #2 ESF bus through its normal feeder breaker.]~~ 1

board VKG024

s their 6.9 kV shutdown board

The DG must be capable of starting, accelerating to rated speed and voltage, and connecting to ~~its~~ respective ~~ESF bus~~ on detection of ~~bus~~ undervoltage. This sequence must be accomplished within [10] seconds. The DG must be capable of accepting required loads within the assumed loading sequence intervals, and continue to operate until offsite power can be restored to the ~~ESF buses~~. These capabilities are required to be met from a variety of initial conditions such as DG in standby with the engine hot and DG in standby at ambient conditions. 3 1 2 1

VKG024 6.9 kV shutdown boards

Proper sequencing of loads, including tripping of nonessential loads, is a required function for DG OPERABILITY.

~~[In addition, proper sequencer operation is an integral part of offsite circuit OPERABILITY since its inoperability impacts on the ability to start and maintain energized loads required OPERABLE by LCO 3.8.10.]~~ 4

~~It is acceptable for trains to be cross tied during shutdown conditions, allowing a single offsite power circuit to supply all required trains.~~ 1

APPLICABILITY

The AC sources required to be OPERABLE in MODES 5 and 6 and during movement of ~~[recently]~~ irradiated fuel assemblies provide assurance that: 2

a. Systems to provide adequate coolant inventory makeup are available for the irradiated fuel assemblies in the core,

b. Systems needed to mitigate a fuel handling accident ~~[involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days)]~~ are available, 2

c. Systems necessary to mitigate the effects of events that can lead to core damage during shutdown are available, and

1 **INSERT 1**

Each required offsite circuit is that combination of power sources described in the Bases of LCO 3.8.1.

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BASES

APPLICABILITY (continued)

d. Instrumentation and control capability is available for monitoring and maintaining the unit in a cold shutdown condition or refueling condition.

The AC power requirements for MODES 1, 2, 3, and 4 are covered in LCO 3.8.1.

ACTIONS

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since irradiated fuel assembly movement can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, 3, or 4 would require the unit to be shutdown unnecessarily.

A.1

An offsite circuit would be considered inoperable if it were not available to one required ESF train. Although two trains are required by LCO 3.8.10, the one train with offsite power available may be capable of supporting sufficient required features to allow continuation of ~~[recently]~~ irradiated fuel movement. By the allowance of the option to declare required features inoperable, with no offsite power available, appropriate restrictions will be implemented in accordance with the affected required features LCO's ACTIONS. 2

MHC003

A.2.4,

A.2.1, A.2.2, A.2.3, B.1, B.2, ~~and~~ B.3 , and B.4 3

With the offsite circuit not available to all required trains, the option would still exist to declare all required features inoperable. Since this option may involve undesired administrative efforts, the allowance for sufficiently conservative actions is made. With ~~the~~ one or more required DGs inoperable, the minimum required diversity of AC power sources is not available. It is, therefore, required to suspend movement of ~~[recently]~~ irradiated fuel assemblies, CORE ALTERATIONS, and operations involving positive reactivity additions that could result in loss of required SDM (MODE 5) or boron concentration (MODE 6). Suspending positive reactivity additions that could result in failure to meet the minimum SDM or boron concentration limit is required to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than that what would be required in the RCS for minimum SDM or refueling boron concentration. This may result in an overall reduction in RCS boron 3 2 3

BASES

ACTIONS (continued)

concentration, but provides acceptable margin to maintaining subcritical operation. Introduction of temperature changes including temperature increases when operating with a positive MTC must also be evaluated to ensure they do not result in a loss of required SDM.

Suspension of these activities does not preclude completion of actions to establish a safe conservative condition. These actions minimize the probability or the occurrence of postulated events. It is further required to immediately initiate action to restore the required AC sources and to continue this action until restoration is accomplished in order to provide the necessary AC power to the unit safety systems.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required AC electrical power sources should be completed as quickly as possible in order to minimize the time during which the unit safety systems may be without sufficient power.

Pursuant to LCO 3.0.6, the Distribution System's ACTIONS would not be entered even if all AC sources to it are inoperable, resulting in de-energization. Therefore, the Required Actions of Condition A are modified by a Note to indicate that when Condition A is entered with no AC power to any required 6.9 kV shutdown board ~~ESF bus~~, the ACTIONS for LCO 3.8.10 must be immediately entered. This Note allows Condition A to provide requirements for the loss of the offsite circuit, whether or not a train is de-energized. LCO 3.8.10 would provide the appropriate restrictions for the situation involving a de-energized train. 1

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1

SR 3.8.2.1 requires the SRs from LCO 3.8.1 that are necessary for ensuring the OPERABILITY of the AC sources in other than MODES 1, 2, 3, and 4. SR 3.8.1.8 is not required to be met since only one offsite circuit is required to be OPERABLE. SR 3.8.1.12 and SR 3.8.1.18 ~~19~~ are not required to be met because the ESF actuation signal is not required to be OPERABLE. ~~SR 3.8.1.17 is not required to be met because the required OPERABLE DG(s) is not required to undergo periods of being synchronized to the offsite circuit.~~ SR 3.8.1.19 ~~20~~ is excepted because starting independence is not required with the DG(s) that is not required to be operable. 3 5

This SR is modified by a Note. The reason for the Note is to preclude requiring the OPERABLE DG(s) from being paralleled with the offsite power network or otherwise rendered inoperable during performance of SRs, and to preclude deenergizing a required 6.9 kV shutdown board ~~4160 V ESF bus~~ or 1

BASES

SURVEILLANCE REQUIREMENTS (continued)

disconnecting a required offsite circuit during performance of SRs. With limited AC sources available, a single event could compromise both the required circuit and the DG s. It is the intent that these SRs must still be capable of being met, but actual performance is not required during periods when the DG s and offsite circuit is required to be OPERABLE. Refer to the corresponding Bases for LCO 3.8.1 for a discussion of each SR. 3

REFERENCES None.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.2 AC Sources - Shutdown

BASES

BACKGROUND

A description of the AC sources is provided in the Bases for LCO 3.8.1, "AC Sources - Operating."

APPLICABLE SAFETY ANALYSES

The OPERABILITY of the minimum AC sources during MODES 5 and 6 and during movement of ~~[recently]~~ irradiated fuel assemblies ensures that: 2

a. The unit can be maintained in the shutdown or refueling condition for extended periods,

b. Sufficient instrumentation and control capability is available for monitoring and maintaining the unit status, and

c. Adequate AC electrical power is provided to mitigate events postulated during shutdown, such as a fuel handling accident ~~[involving handling recently irradiated fuel. Due to radioactive decay, AC electrical power is only required to mitigate fuel handling accidents involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days)]~~. 2

In general, when the unit is shut down, the Technical Specifications requirements ensure that the unit has the capability to mitigate the consequences of postulated accidents. However, assuming a single failure and concurrent loss of all offsite or all onsite power is not required. ~~The rationale for~~ this is because ~~based on the fact that~~ many Design Basis Accidents (DBAs) that are analyzed in MODES 1, 2, 3, and 4 ~~have no specific analyses in MODES 5 and 6. Worst case bounding events~~ are deemed not credible in MODES 5 and 6 because the energy contained within the reactor pressure boundary, reactor coolant temperature and pressure, and the corresponding stresses result in the probabilities of occurrence being significantly reduced or eliminated, and result in minimal consequences. These limitations ~~deviations from DBA analysis assumptions and design requirements~~ during shutdown conditions are reflected in ~~allowed by~~ the LCO for required systems. 1

During MODES 1, 2, 3, and 4, various deviations from the analysis assumptions and design requirements are allowed within the Required Actions. This allowance is in recognition that certain testing and maintenance activities must be conducted provided an acceptable level of risk is not exceeded. During MODES 5 and 6, performance of a

BASES

APPLICABLE SAFETY ANALYSES (continued)

significant number of required testing and maintenance activities is also required. In MODES 5 and 6, the activities are ~~generally~~ planned and administratively controlled. Relaxations from MODE 1, 2, 3, and 4 LCO requirements are acceptable during shutdown modes based on: 1

a. The fact that time in an outage is limited. This is a risk prudent goal as well as a utility economic consideration.

b. Requiring appropriate compensatory measures for certain conditions. These may include administrative controls, reliance on systems that do not necessarily meet typical design requirements applied to systems credited in operating MODE analyses, or both.

c. Prudent utility consideration of the risk associated with multiple activities that could affect multiple systems.

d. Maintaining, to the extent practical, the ability to perform required functions (even if not meeting MODE 1, 2, 3, and 4 OPERABILITY requirements) with systems assumed to function during an event.

In the event of an accident during shutdown, this LCO ensures the capability to support systems necessary to avoid immediate difficulty, assuming either a loss of all offsite power or a loss of all onsite diesel generator (DG) power.

The AC sources satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

One offsite circuit capable of supplying the onsite Class 1E power distribution subsystem(s) of LCO 3.8.10, "Distribution Systems - Shutdown," ensures that all required loads are powered from offsite power. Two ~~An~~ OPERABLE DGs, associated with a distribution system train required to be OPERABLE by LCO 3.8.10, ensures a diverse power source is available to provide electrical power support, assuming a loss of the offsite circuit. Together, OPERABILITY of the required offsite circuit and DGs ensures the availability of sufficient AC sources to operate the unit in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents ~~[involving handling recently irradiated fuel]~~). 3 3 2

The qualified offsite circuit must be capable of maintaining rated frequency and voltage, and accepting required loads during an accident, while connected to the 6.9 kV shutdown boards ~~Engineered Safety Feature (ESF) bus(es)~~. Qualified offsite circuits are those that are described in the Bases for LCO 3.8.1 ~~FSAR~~ and are part of the licensing basis for the unit. 1

BASES

LCO (continued)

INSERT 1 ~~[Offsite circuit #1 consists of Safeguards Transformer B, which is supplied from Switchyard Bus B, and is fed through breaker 52-3 powering the ESF transformer XNB01, which, in turn, powers the #1 ESF bus through its normal feeder breaker. The second offsite circuit consists of the Startup Transformer, which is normally fed from the Switchyard Bus A, and is fed through breaker PA 0201 powering the ESF transformer, which, in turn, powers the #2 ESF bus through its normal feeder breaker.]~~ 1

s their 6.9 kV shutdown board board VKG024

The DGs must be capable of starting, accelerating to rated speed and voltage, and connecting to their ~~its~~ respective 6.9 kV shutdown board ~~ESF bus~~ on detection of board ~~bus~~ undervoltage. This sequence must be accomplished within ~~[~~10~~]~~ seconds. The DG must be capable of accepting required loads within the assumed loading sequence intervals, and continue to operate until offsite power can be restored to the 6.9 kV shutdown boards ~~ESF buses~~. These capabilities are required to be met from a variety of initial conditions such as DG in standby with the engine hot and DG in standby at ambient conditions. 3 1 2 1

VKG024

Proper sequencing of loads, including tripping of nonessential loads, is a required function for DG OPERABILITY.

~~[In addition, proper sequencer operation is an integral part of offsite circuit OPERABILITY since its inoperability impacts on the ability to start and maintain energized loads required OPERABLE by LCO 3.8.10.]~~ 4

~~It is acceptable for trains to be cross tied during shutdown conditions, allowing a single offsite power circuit to supply all required trains.~~ 1

APPLICABILITY

The AC sources required to be OPERABLE in MODES 5 and 6 and during movement of ~~[recently]~~ irradiated fuel assemblies provide assurance that: 2

a. Systems to provide adequate coolant inventory makeup are available for the irradiated fuel assemblies in the core,

b. Systems needed to mitigate a fuel handling accident ~~[involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days)]~~ are available, 2

c. Systems necessary to mitigate the effects of events that can lead to core damage during shutdown are available, and

1 **INSERT 1**

Each required offsite circuit is that combination of power sources described in the Bases of LCO 3.8.1.

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BASES

APPLICABILITY (continued)

d. Instrumentation and control capability is available for monitoring and maintaining the unit in a cold shutdown condition or refueling condition.

The AC power requirements for MODES 1, 2, 3, and 4 are covered in LCO 3.8.1.

ACTIONS

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since irradiated fuel assembly movement can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, 3, or 4 would require the unit to be shutdown unnecessarily.

A.1

An offsite circuit would be considered inoperable if it were not available to one required ESF train. Although two trains are required by LCO 3.8.10, the one train with offsite power available may be capable of supporting sufficient required features to allow continuation of ~~[recently]~~ irradiated fuel movement. By the allowance of the option to declare required features inoperable, with no offsite power available, appropriate restrictions will be implemented in accordance with the affected required features LCO's ACTIONS. 2

MHC003 A.2.1, A.2.2, A.2.3, A.2.4, B.1, B.2, ~~and~~ B.3, and B.4 3

With the offsite circuit not available to all required trains, the option would still exist to declare all required features inoperable. Since this option may involve undesired administrative efforts, the allowance for sufficiently conservative actions is made. With ~~the~~ one or more required DGs inoperable, the minimum required diversity of AC power sources is not available. It is, therefore, required to suspend movement of ~~[recently]~~ irradiated fuel assemblies, CORE ALTERATIONS, and operations involving positive reactivity additions that could result in loss of required SDM (MODE 5) or boron concentration (MODE 6). Suspending positive reactivity additions that could result in failure to meet the minimum SDM or boron concentration limit is required to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than that what would be required in the RCS for minimum SDM or refueling boron concentration. This may result in an overall reduction in RCS boron 3 2 3

BASES

ACTIONS (continued)

concentration, but provides acceptable margin to maintaining subcritical operation. Introduction of temperature changes including temperature increases when operating with a positive MTC must also be evaluated to ensure they do not result in a loss of required SDM.

Suspension of these activities does not preclude completion of actions to establish a safe conservative condition. These actions minimize the probability or the occurrence of postulated events. It is further required to immediately initiate action to restore the required AC sources and to continue this action until restoration is accomplished in order to provide the necessary AC power to the unit safety systems.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required AC electrical power sources should be completed as quickly as possible in order to minimize the time during which the unit safety systems may be without sufficient power.

Pursuant to LCO 3.0.6, the Distribution System's ACTIONS would not be entered even if all AC sources to it are inoperable, resulting in de-energization. Therefore, the Required Actions of Condition A are modified by a Note to indicate that when Condition A is entered with no AC power to any required 6.9 kV shutdown board ~~ESF bus~~, the ACTIONS for LCO 3.8.10 must 1
be immediately entered. This Note allows Condition A to provide requirements for the loss of the offsite circuit, whether or not a train is de-energized. LCO 3.8.10 would provide the appropriate restrictions for the situation involving a de-energized train.

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1

SR 3.8.2.1 requires the SRs from LCO 3.8.1 that are necessary for ensuring the OPERABILITY of the AC sources in other than MODES 1, 2, 3, and 4. SR 3.8.1.8 is not required to be met since only one offsite circuit is required to be OPERABLE. SR 3.8.1.12 and SR 3.8.1.18 ~~19~~ are not required to be met because the ESF actuation signal is not required to be OPERABLE. ~~SR 3.8.1.17 is not required to be met because the required OPERABLE DG(s) is not required to undergo periods of being synchronized to the offsite circuit.~~ SR 3.8.1.19 ~~20~~ is excepted because starting independence is not required with the DG(s) that is not required to be operable. 3
5

This SR is modified by a Note. The reason for the Note is to preclude requiring the OPERABLE DG(s) from being paralleled with the offsite power network or otherwise rendered inoperable during performance of SRs, and to preclude deenergizing a required 6.9 kV shutdown board ~~4160 V ESF bus~~ or 1

BASES

SURVEILLANCE REQUIREMENTS (continued)

disconnecting a required offsite circuit during performance of SRs. With limited AC sources available, a single event could compromise both the required circuit and the DG~~.~~ s It is the intent that these SRs must still be capable of being met, but actual performance is not required during periods when the DG s and offsite circuit is required to be OPERABLE. Refer to the corresponding Bases for LCO 3.8.1 for a discussion of each SR. 3

REFERENCES None.

JUSTIFICATION FOR DEVIATIONS
ITS 3.8.2 BASES, AC SOURCES - SHUTDOWN

1. 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.

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 have been made to be consistent with changes made to the Specifications.

4. Discussions regarding load sequencers have been deleted, because SQN does not use load sequencers. Each load is sequenced with the use of its associated time delay relay.

5. Editorial/grammatical error corrected.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.8.2, AC SOURCES - SHUTDOWN

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

ATTACHMENT 4

ITS 3.9.4, CONTAINMENT PENETRATIONS

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

ITS A01 ITS 3.9.4

REFUELING OPERATIONS

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

LCO 3.9.4 3.9.4 The containment building penetrations shall be in the following status:

LCO 3.9.4.a a. The equipment door closed and held in place by a minimum of four bolts,

LCO 3.9.4.b b. A minimum of one door in each airlock is closed, and both doors of both containment personnel airlocks may be open if: A02

1. One personnel airlock door in each airlock is capable of closure, and

MHC006 STET ~~2. One train of the Auxiliary Building Gas Treatment System is OPERABLE in accordance with Technical Specification 3.9.12, and~~ A03 (See ITS 3.7.12)

LCO 3.9.4.c c. Each penetration* providing direct access from the containment atmosphere to the outside atmosphere shall be either:

LCO 3.9.4.c.1 1. Closed by an isolation valve, blind flange, manual valve, or equivalent, or

LCO 3.9.4.c.2 2. Be capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve.

APPLICABILTY:

Applicability 3.9.4.a. Containment Building Equipment Door - During movement of recently irradiated fuel within the containment.

Applicability 3.9.4.b. and c. Containment Building Airlock Doors and Penetrations - During movement of ~~recently~~ irradiated fuel within the containment. L01 MHC003

ACTION:

ACTION A 1. With the requirements of the above specification not satisfied for the containment building equipment door, immediately suspend all operations involving movement of recently irradiated fuel in the containment building. ~~The provisions of Specification 3.0.3 are not applicable.~~ A04

ACTION A 2. With the requirements of the above specification not satisfied for containment airlock doors or penetrations, immediately suspend all operations involving movement of ~~recently~~ irradiated fuel in the containment building. ~~The provisions of Specification 3.0.3 are not applicable.~~ L01 A04

SURVEILLANCE REQUIREMENTS

MHC003

SR 3.9.4.1, SR 3.9.4.2 4.9.4 Each of the above required containment building penetrations shall be determined to be either in its required condition or capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve ~~once per 7 days~~ during movement of ~~recently~~ irradiated fuel in the containment building by: L01

~~once per 7 days~~ In accordance with the Surveillance Frequency Control Program LA01

SR 3.9.4.1 A01 a. Verifying the penetrations are in their required condition, or

Add proposed SR 3.9.4.2 Note L02

SR 3.9.4.2 b. Verifying the Containment Ventilation isolation valves not locked, sealed, or otherwise secured in position, actuate to the isolation position on an actual or simulated actuation signal. ~~18 months~~

LA01 In accordance with the Surveillance Frequency Control Program

LCO 3.9.4 Note * Penetration flow path(s) providing direct access from the containment atmosphere that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure may be unisolated under administrative controls.

ITS A01 ITS 3.9.4

REFUELING OPERATIONS

3/4.9.9 CONTAINMENT VENTILATION ISOLATION SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.9.4.c.2 3.9.9 The Containment Ventilation isolation system shall be OPERABLE.

recently L01 MHC003

Applicability APPLICABILITY: During movement of irradiated fuel within the containment.

ACTION:

LCO 3.9.4.c.1 With the Containment Ventilation isolation system inoperable, close each of the Ventilation penetrations providing direct access from the containment atmosphere to the outside atmosphere. ~~The provisions of Specification 3.0.3 are not applicable.~~ A04

SURVEILLANCE REQUIREMENTS

Add proposed SR 3.9.4.2 Note L02

L03

SR 3.9.4.2 Applicability 4.9.9 The Containment Ventilation isolation system shall be demonstrated OPERABLE ~~within 100 hours prior to the start of and~~ ~~at least once per 7 days~~ during movement of irradiated fuel within containment by verifying that Containment Ventilation isolation occurs on ~~manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels~~.

L03

recently L01 MHC003

an actual or simulated signal L04

~~18 months~~ L02

In accordance with the Surveillance Frequency Control Program LA01

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ITS A01 ITS 3.9.4

REFUELING OPERATIONS

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

LCO 3.9.4 3.9.4 The containment building penetrations shall be in the following status:

LCO 3.9.4.a a. The equipment door closed and held in place by a minimum of four bolts,

LCO 3.9.4.b b. A minimum of one door in each airlock is closed, or both doors of both containment personnel airlocks may be open if: A02

MHC006

1. One personnel airlock door in each airlock is capable of closure, and

STET

~~2. One train of the Auxiliary Building Gas Treatment System is OPERABLE in accordance with Technical Specification 3.9.12, and~~ A03

(See ITS 3.7.12)

LCO 3.9.4.c c. Each penetration* providing direct access from the containment atmosphere to the outside atmosphere shall be either:

LCO 3.9.4.c.1 1. Closed by an isolation valve, blind flange, manual valve, or equivalent, or

LCO 3.9.4.c.2 2. Be capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve.

APPLICABILITY:

Applicability 3.9.4.a. Containment Building Equipment Door - During movement of recently irradiated fuel within the containment.

~~recently~~ ~~L01~~

Applicability 3.9.4.b. and c. Containment Building Airlock Doors and Penetrations - During movement of irradiated fuel within the containment.

MHC003

ACTION:

ACTION A 1. With the requirements of the above specification not satisfied for the containment building equipment door, immediately suspend all operations involving movement of recently irradiated fuel in the containment building. ~~The provisions of Specification 3.0.3 are not applicable.~~ A04

ACTION A 2. With the requirements of the above specification not satisfied for containment airlock doors or penetrations, immediately suspend all operations involving movement of irradiated fuel in the containment building. ~~The provisions of Specification 3.0.3 are not applicable.~~ ~~recently~~ ~~L01~~ A04

MHC003

SURVEILLANCE REQUIREMENTS

L02

SR 3.9.4.1, SR 3.9.4.2 4.9.4 Each of the above required containment building penetrations shall be determined to be either in its required condition or capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve ~~once per 7 days~~ during movement of irradiated fuel in the containment building by: ~~recently~~ ~~L01~~

~~once per 7 days~~ In accordance with the Surveillance Frequency Control Program LA01

SR 3.9.4.1 A01 a. Verifying the penetrations are in their required condition, or

Add proposed SR 3.9.4.2 Note

SR 3.9.4.2 b. Verifying the Containment Ventilation isolation valves not locked, sealed, or otherwise secured in position, actuate to the isolation position on an actual or simulated actuation signal. ~~18 months~~ L02

LA01 In accordance with the Surveillance Frequency Control Program

LCO 3.9.4 Note * Penetration flow path(s) providing direct access from the containment atmosphere that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure may be unisolated under administrative controls.

ITS A01 ITS 3.9.4

REFUELING OPERATIONS

3/4.9.9 CONTAINMENT VENTILATION ISOLATION SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.9.4.c.2 3.9.9 The Containment Ventilation Isolation System shall be OPERABLE.

recently L01 MHC003

Applicability APPLICABILITY: During movement of irradiated fuel within the containment.

ACTION:

LCO 3.9.4.c.1 With the Containment Ventilation Isolation System inoperable, close each of the Ventilation penetrations providing direct access from the containment atmosphere to the outside atmosphere. ~~The provisions of Specification 3.0.3 are not applicable.~~ A04

SURVEILLANCE REQUIREMENTS

L02 Add proposed SR 3.9.4.2 Note

L03

SR 3.9.4.2 Applicability 4.9.9 The Containment Ventilation Isolation System shall be demonstrated OPERABLE ~~within 100 hours prior to the start of and~~ ~~at least once per 7 days~~ during movement of irradiated fuel within containment by verifying that Containment Ventilation isolation occurs on ~~manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels~~.

L03 recently L01 MHC003

an actual or simulated signal L04

~~18 months~~ L02

In accordance with the Surveillance Frequency Control Program LA01

DISCUSSION OF CHANGES
ITS 3.9.4, CONTAINMENT PENETRATIONS

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 3.9.4.b requires that a minimum of one door in each airlock is closed, and both doors of both containment personnel airlocks may be open if one personnel airlock door in each airlock is capable of closure and one train of the Auxiliary Building Gas Treatment System is OPERABLE in accordance with Technical Specification 3.9.12. ITS LCO 3.9.4.b requires that one door in each air lock be capable of being closed. This changes the CTS by replacing the prescriptive requirement for control of the air lock doors with a more general requirement that the air lock doors must be capable of being closed.

This change is acceptable because the requirements have not changed, one door continues to be capable of being closed in the event of a fuel handling accident. The ITS requirement preserves the intent of the CTS in that should a fuel handling accident occur inside containment, at least one airlock door in each airlock will be closed following an evacuation of containment. This change is designated as administrated because it does not result in a technical change to the CTS.

Not used.

MHC006

A03 ~~CTS 3.9.4.b allows both doors of each containment personnel airlocks to be open provided, in part, that "One train of the Auxiliary Building Gas Treatment System is OPERABLE in accordance with Technical Specification 3.9.12." ITS 3.9.4.b does not contain this specific requirement. This changes the CTS by removing the specific requirement that one train of the Auxiliary Building Gas Treatment System be OPERABLE.~~

~~The purpose of CTS 3.9.4.b is to ensure that the Auxiliary Building Gas Treatment System is available when the containment personnel airlock doors are open during movement of recently irradiated fuel within the containment, this is accomplished by referencing CTS 3.9.12. This change is acceptable because the associated requirements referenced by CTS 3.9.4.b in CTS 3.9.12 are being addressed in ITS 3.7.12. Therefore, ITS 3.7.12 contains the appropriate requirements associated with the ABGTS. This change is designated as administrative because it does not result in a technical change to the CTS.~~

A04 CTS 3.9.4 and CTS 3.9.9 ACTIONS state "The provisions of Specification 3.0.3 are not applicable. ITS 3.9.4 does not include this statement. This changes the CTS by deleting the Specification 3.0.3 exemption.

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DISCUSSION OF CHANGES
ITS 3.9.4, CONTAINMENT PENETRATIONS

This change is acceptable because the technical requirements have not changed. ITS LCO 3.0.3 is not applicable in MODE 6. Therefore, the CTS Specification 3.0.3 exception is not needed. This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 5 – Removal of SR Frequency to the Surveillance Frequency Control Program)* CTS 4.9.4.a requires verifying that the containment building penetrations are in their required condition once per 7 days. CTS 4.9.4.b requires a verification that the Containment Ventilation Isolation valves, that are not locked sealed or otherwise secured in position, actuate to the isolation position on an actual or simulated actuation signal every 7 days. (See DOC L02 for discussion on changing the Frequency for CTS 4.9.4.b from 7 days to 18 months.) CTS 4.9.9 requires, in part, that the Containment Ventilation isolation system be demonstrated OPERABLE at least once per 7 days during the Applicability. (See DOC L02 for discussion on changing the Frequency for CTS 4.9.9 from 7 days to 18 months.) ITS SR 3.9.4.1 and SR 3.9.4.2 require similar Surveillances and specify the periodic Frequencies as, "In accordance with the Surveillance Frequency Control Program." (Note that the 18 month Frequency is being relocated for CTS 4.9.4.b and CTS 4.9.9.) This changes the CTS by moving the specified Frequencies for these SRs and associated Bases to the Surveillance Frequency Control Program.

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.

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DISCUSSION OF CHANGES
ITS 3.9.4, CONTAINMENT PENETRATIONS

LESS RESTRICTIVE CHANGES

Not Used

MHC003

L01 *(Category 2 – Relaxation of Applicability)* CTS 3.9.4.b and c. Applicability, for the Containment Building Airlock Doors and Penetrations, is "During movement of irradiated fuel within the containment." CTS 3.9.4 ACTION 2 requires that when the requirements for the containment airlock doors or penetrations are not met, to suspend all operations involving movement of irradiated fuel in the containment building. CTS 4.9.4 requires that each required containment building penetration be determined to be in either its required condition or capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve during movement of irradiated fuel in the containment building. CTS 3.9.9 Applicability is "During movement of irradiated fuel within the containment." CTS 4.9.9 requires that the Containment Ventilation isolation system shall be demonstrated OPERABLE during movement of irradiated fuel within containment by verifying that Containment Ventilation isolation occurs on manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels. ITS 3.9.4 Applicability for these items is "During movement of recently irradiated fuel assemblies within containment." ITS 3.9.4 ACTION A requires that when one or more containment penetrations are not in the required status to suspend movement of recently irradiated fuel assemblies within containment. ITS SR 3.9.4.1 and SR 3.9.4.2 are required to be satisfied during the ITS 3.9.4 Applicability. This changes the CTS by limiting the Applicability of the requirements for the Containment Building Airlock Doors and Penetrations and the Containment Ventilation isolation system to during movement of recently irradiated fuel assemblies within containment.

The purpose of CTS 3.9.4 and 3.9.9 is to provide assurance that the containment building penetrations and the Containment Ventilation Isolation System can perform their required safety functions. This change is acceptable because the requirements continue to ensure that the structures, system and components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. TVA has performed a Fuel Handling Accident Radiological Accident Analysis for SQN using the alternate source term analysis methodology described in Regulatory Guide 1.183 obtaining acceptable results. The SQN fuel handling analysis assumes, in part, that the accident occurs within 100 hours after a plant shutdown, radioactive decay during the interval between shutdown and movement of the first spent fuel assembly is taken into account, and a single fuel assembly is damaged. As a result of the analysis, it has been determined that the handling of spent fuel assemblies can take place with the containment open and the Auxiliary Building Gas Treatment System out of service (i.e., no credit for filtration of releases) when handling fuel that has not occupied part of a critical reactor core within the previous 100 hours. The NRC approved use of this analysis for SQN under License Amendment 288/278 (Unit 1/Unit 2) (ADAMS Accession No. ML033070057). This change is designated as less restrictive because the LCO is applicable in fewer operating conditions under the ITS than under the CTS.

L02 *(Category 7 – Relaxation of Surveillance Frequency)* CTS 4.9.4.b and CTS 4.9.9 include a Surveillance Frequency of "once per 7 days" for performing

DISCUSSION OF CHANGES
ITS 3.9.4, CONTAINMENT PENETRATIONS

Surveillance of the Containment Ventilation Isolation System. The ITS SR 3.9.4.2 Frequency for the same requirement is 18 months. ITS SR 3.9.4.2 is also modified by a Note that states that SR 3.9.4.2 is not required to be met for containment ventilation isolation valve(s) in penetrations closed to comply with LCO 3.9.4.c.1. This changes the CTS by changing the Surveillance Frequency from 7 days to 18 months and adding a Note that the SR is not required to be met for containment ventilation isolation valve(s) in penetrations closed to comply with LCO 3.9.4.c.1.

The purpose of CTS 4.9.4.b and CTS 4.9.9 is to verify the equipment required to meet the LCO is OPERABLE. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. Containment ventilation isolation valve testing is still required, but at a Frequency consistent with the testing Frequency for containment isolation valves required in MODES 1, 2, 3, and 4. This Frequency provides an appropriate degree of assurance that the valves are OPERABLE. When containment ventilation isolation valves are closed to comply with ITS LCO 3.9.4.c.1, the penetrations are in the expected condition (isolated) to mitigate the effects of a fuel handling accident inside containment. Therefore, there is no need for the actuation signal to reposition valves to the closed position. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L03 *(Category 7 – Relaxation of Surveillance Frequency)* CTS 4.9.9 states, in part, that the Containment Ventilation isolation system shall be demonstrated OPERABLE within 100 hours prior to the start of movement of irradiated fuel within containment. ITS SR 3.9.4.2 does not include the frequency of within 100 hours prior to the start of movement of irradiated fuel within containment. ITS SR 3.0.1 states "SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR." Therefore, the ITS requires the Surveillance must be met prior to initiation of movement of ~~recently~~ irradiated fuel. ~~(See DOC L01 for discussion on changing the Applicability from during movement of irradiated fuel to during movement of recently irradiated fuel.)~~ This changes the CTS by eliminating the stipulation that the Surveillances be met within 100 hours prior to entering the conditions specified in the Applicability.

MHC003

The purpose of CTS 4.9.9 is to verify that the Containment Ventilation isolation system is OPERABLE. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. The ITS SR 3.9.4.2 periodic Surveillance Frequency for verifying that Containment Ventilation isolation occurs is acceptable during the conditions specified in the Applicability, and is also acceptable during the period prior to entering the conditions specified in the Applicability. This change is designated as less restrictive because a Surveillance will be performed less frequently under the ITS than under the CTS.

L04 *(Category 6 – Relaxation Of Surveillance Requirement Acceptance Criteria)* CTS 4.9.9 requires verification that Containment Ventilation isolation occurs on manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels. ITS SR 3.9.4.2 requires

verification that each required containment ventilation isolation valve that is not locked, sealed, or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal. This changes the CTS by explicitly allowing the use of either an actual or simulated signal for the test.

The purpose of CTS 4.9.9 is to ensure that the containment ventilation isolation valves operate correctly upon receipt of an actuation signal. This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. Equipment cannot discriminate between an "actual," "simulated," or "test" signal and, therefore, the results of the testing are unaffected by the type of signal used to initiate the test. This change allows taking credit for unplanned actuation if sufficient information is collected to satisfy the Surveillance test requirements. The change also allows a simulated signal to be used, if necessary. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

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

CTS

3.9 REFUELING OPERATIONS

3.9.4 Containment Penetrations

3.9.4, 3.9.9 — LCO 3.9.4 The containment penetrations shall be in the following status:

3.9.4.a — a. The equipment ~~is~~ hatch is closed and held in place by [four] bolts~~,~~ ; 1 2 3

3.9.4.b — b. One door in each air lock is [capable of being] closed~~,~~ ; and 2 3

3.9.4.c — c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere is either:

3.9.4.c.1, 3.9.9 ACTION — 1. Closed by a manual or automatic isolation valve, blind flange, or equivalent ; or 3

3.9.4.c.2, 3.9.9 — 2. Capable of being closed by an OPERABLE automatic Containment ~~Purge and Exhaust~~ Ventilation Isolation ~~System~~ valve. 4

-----NOTE-----

3.9.4.c, Note * — Penetration flow path(s) providing direct access from the containment atmosphere ~~to the outside atmosphere~~ that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure may be unisolated under administrative controls. 4

MHC003

3.9.4 Applicability, 3.9.9 Applicability — APPLICABILITY: 3.9.4.a. Containment Building Equipment Hatch- During movement of [recently] irradiated fuel assemblies within containment. 5

3.9.4 b.and c. Containment Building Airlocks Doors and Penetrations- During movement of irradiated fuel assemblies within containment.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Containment equipment hatch ~~One or more containment penetrations~~ not in required status during movement of recently irradiated fuel assemblies.	A.1 Suspend movement of [recently] irradiated fuel assemblies within containment.	Immediately
B. One or more containment penetrations not in required status during movement of irradiated fuel assemblies	B.1 Suspend movement of irradiated fuel assemblies within containment.	Immediately

3.9.4 ACTION 1, 3.9.4 ACTION 2 — 5

MHC003

MHC003

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
4.9.4.a SR 3.9.4.1	Verify each required containment penetration is in the required status.	~~[7 days~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 6
4.9.4.b, 4.9.9 SR 3.9.4.2	-----NOTE----- Not required to be met for containment ~~purge and exhaust~~ ventilation isolation valve(s) in penetrations closed to comply with LCO 3.9.4.c.1. ----- 4	
DOC L02	Verify each required containment ~~purge and exhaust~~ ventilation isolation valve INSERT 1 actuates to the isolation position on an actual or simulated actuation signal.	~~[[18] months~~ 4 ~~OR~~ 6 In accordance with the Surveillance Frequency Control Program ~~]~~ 6

4

INSERT 1

that is not locked, sealed, or otherwise secured in position,

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3.9 REFUELING OPERATIONS

3.9.4 Containment Penetrations

3.9.4, 3.9.9

LCO 3.9.4 The containment penetrations shall be in the following status:

3.9.4.a
a. The equipment ~~is~~ hatch is closed and held in place by [four] bolts~~,~~ ; (1) (2) (3)

3.9.4.b
b. One door in each air lock is [capable of being] closed~~,~~ ; and (2) (3)

3.9.4.c
c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere is either:

3.9.4.c.1, 3.9.9 ACTION
1. Closed by a manual or automatic isolation valve, blind flange, or equivalent ; or (3)

3.9.4.c.2, 3.9.9
2. Capable of being closed by an OPERABLE automatic Containment ~~Purge and Exhaust~~ Ventilation Isolation ~~System~~ valve. (4)

---NOTE---

3.9.4.c, Note *
Penetration flow path(s) providing direct access from the containment atmosphere ~~to the outside atmosphere~~ that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure may be unisolated under administrative controls. (4)

3.9.4.a Containment Building Equipment Hatch-

3.9.4 Applicability, 3.9.9 Applicability

APPLICABILITY: During movement of [recently] irradiated fuel assemblies within containment. MHC003 (5)

3.9.4 b.and c. Containment Building Airlocks Doors and Penetrations- During movement of irradiated fuel assemblies within containment.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
3.9.4 ACTION 1, 3.9.4 ACTION 2 A. ~~One or more containment penetrations~~ Containment equipment hatch not in required status during movement of recently irradiated fuel assemblies.	A.1 Suspend movement of [recently] irradiated fuel assemblies within containment.	Immediately (5)
MHC003 MHC003 B. One or more containment penetrations not in required status during movement of irradiated fuel assemblies	B.1 Suspend movement of irradiated fuel assemblies within containment.	Immediately (5)

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
4.9.4.a SR 3.9.4.1	Verify each required containment penetration is in the required status.	~~[7 days~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program~~]~~ 6
4.9.4.b, 4.9.9 SR 3.9.4.2	-------------------------------NOTE------------------------------- Not required to be met for containment ~~purge and exhaust~~ ventilation isolation valve(s) in penetrations closed to comply with LCO 3.9.4.c.1. 4 --- DOC L02 Verify each required containment ~~purge and exhaust~~ ventilation isolation valve INSERT 1 actuates to the isolation position on an actual or simulated actuation signal.	~~[[18] months~~ 4 ~~OR~~ 6 In accordance with the Surveillance Frequency Control Program~~]~~ 6

4

INSERT 1

that is not locked, sealed, or otherwise secured in position,

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JUSTIFICATION FOR DEVIATIONS
ITS 3.9.4, CONTAINMENT PENETRATIONS

1. Editorial changes made for enhanced clarity.

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. These punctuation corrections have been made consistent with the Writer's Guide for the Improved Technical Specifications, TSTF-GG-05-01, Section 5.1.3.

4. 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.

MHC003

5. ~~ISTS 3.9.4 Applicability is "During movement of [recently] irradiated fuel assemblies within containment." Additionally, ISTS 3.9.4 Required Action A.1 requires suspending the movement of [recently] irradiated fuel assemblies within containment. ITS 3.9.4 Applicability is "During movement of recently irradiated fuel assemblies within containment." ITS 3.9.4 Required Action A.1 requires suspending the movement of recently irradiated fuel assemblies within containment. The removal of the brackets around the word "recently" is acceptable since Sequoyah Nuclear Plant (SQN) has performed an alternate source term dose calculation for the site and found that it is acceptable to only require restrictions on containment penetrations during recently irradiated fuel movement. Therefore, the brackets are removed and the proper plant specific information/value is inserted to reflect the current licensing basis.~~

6. ISTS SR 3.9.4.1 and SR 3.9.4.2 provide two options for controlling the Frequencies of Surveillance Requirements. SQN is proposing to control the Surveillance Frequencies under the Surveillance Frequency Control Program.

ISTS 3.9.4 Applicability is "During movement of [recently] irradiated fuel assemblies within containment." Additionally, ISTS 3.9.4 Required Action A.1 requires suspending the movement of [recently] irradiated fuel assemblies within containment. ITS 3.9.4.a. Applicability is "During movement of recently irradiated fuel assemblies within containment" for the equipment hatch. ITS 3.9.4 Required Action A.1 requires suspending the movement of recently irradiated fuel assemblies within containment. Therefore, the brackets are removed and the proper plant specific information/value is inserted to reflect the current licensing basis. ITS 3.9.4.b. and c. Applicability is "During movement of irradiated fuel assemblies within containment" for the airlock doors and containment penetrations providing direct access from the containment atmosphere to the outside atmosphere. ITS 3.9.4 Required Action B.1 requires suspending the movement of irradiated fuel assemblies within containment. Therefore, the Applicability and Required Actions have been revised to reflect the current licensing basis.

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

B 3.9 REFUELING OPERATIONS

B 3.9.4 Containment Penetrations

BASES

BACKGROUND

MHC003

During movement of ~~[recently]~~ irradiated fuel assemblies within containment, a release of fission product radioactivity within containment will be restricted from escaping to the environment when the LCO requirements are met. In MODES 1, 2, 3, and 4, this is accomplished by maintaining containment OPERABLE as described in LCO 3.6.1, "Containment." In MODE 6, the potential for containment pressurization as a result of an accident is not likely; therefore, requirements to isolate the containment from the outside atmosphere can be less stringent. The LCO requirements are referred to as "containment closure" rather than "containment OPERABILITY." Containment closure means that all potential escape paths are closed or capable of being closed. Since there is no potential for containment pressurization, the Appendix J leakage criteria and tests are not required. 1

The containment serves to contain fission product radioactivity that may be released from the reactor core following an accident, such that offsite radiation exposures are maintained ~~well~~ within the requirements of 10 CFR ~~100~~ 50.67. Additionally, the containment provides radiation shielding from the fission products that may be present in the containment atmosphere following accident conditions. 2

The containment equipment hatch, which is part of the containment pressure boundary, provides a means for moving large equipment and components into and out of containment. During movement of ~~[~~recently~~]~~ irradiated fuel assemblies within containment, the equipment hatch must be held in place by at least four bolts. Good engineering practice dictates that the bolts required by this LCO be approximately equally spaced. 1

The containment air locks, which are also part of the containment pressure boundary, provide a means for personnel access during MODES 1, 2, 3, and 4 unit operation in accordance with LCO 3.6.2, "Containment Air Locks." Each air lock has a door at both ends. The doors are normally interlocked to prevent simultaneous opening when containment OPERABILITY is required. During periods of unit shutdown when containment closure is not required, the door interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary.

MHC003

During movement of ~~[recently]~~ irradiated fuel assemblies within containment, containment closure is required; therefore, the door interlock mechanism may remain disabled, but one air lock door must always remain ~~[~~capable of being~~]~~ closed. 1 1

BASES

BACKGROUND (continued)

The requirements for containment penetration closure ensure that a release of fission product radioactivity within containment will be restricted to within regulatory limits.

~~The Containment Purge and Exhaust System includes two subsystems. The normal subsystem includes a 42 inch purge penetration and a 42 inch exhaust penetration. The second subsystem, a minipurge system, includes an 8 inch purge penetration and an 8 inch exhaust penetration. During MODES 1, 2, 3, and 4, the two valves in each of the normal purge and exhaust penetrations are secured in the closed position. The two valves in each of the two minipurge penetrations can be opened intermittently, but are closed automatically by the Engineered Safety Features Actuation System (ESFAS). Neither of the subsystems is subject to a Specification in MODE 5.~~

~~In MODE 6, large air exchangers are necessary to conduct refueling operations. The normal 42 inch purge system is used for this purpose, and all four valves are closed by the ESFAS in accordance with LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation."~~

~~[The minipurge system remains operational in MODE 6, and all four valves are also closed by the ESFAS.~~

~~[or]~~

~~The minipurge system is not used in MODE 6. All four 8 inch valves are secured in the closed position.]~~ 2

INSERT 1

The other containment penetrations that provide direct access from containment atmosphere to outside atmosphere must be isolated on at least one side. Isolation may be achieved by an OPERABLE automatic isolation valve (either open or closed), or by a manual isolation valve, blind flange, or equivalent. 2 Equivalent isolation methods must be approved and may include use of a material that can provide a temporary, atmospheric pressure, ventilation barrier for the other containment penetrations during ~~[recently]~~ irradiated fuel movements (Ref. 1). 1 MHC003

APPLICABLE SAFETY ANALYSES

During movement of irradiated fuel assemblies within containment, the most severe radiological consequences result from a fuel handling accident ~~[involving handling recently irradiated fuel]~~. The fuel handling accident is a postulated event that involves damage to irradiated fuel (Ref. 2). Fuel handling accidents, analyzed in Reference 3, include dropping a single irradiated fuel assembly ~~and handling tool or a heavy object onto other irradiated fuel assemblies~~. The requirements of LCO 3.9.7, "Refueling Cavity Water Level," in conjunction with a minimum 1 MHC003 2

change to response KAB068

2 **INSERT 1**

The Reactor Building Purge Ventilation (RBPV) System includes three subsystems. The normal subsystem includes four 24 inch purge penetrations and two 24 inch exhaust penetrations. The second subsystem, a pressure relief system, includes an 8 inch exhaust penetration. The third subsystem includes a 12 inch instrument room supply penetration and a 12 inch exhaust penetration. During MODES 1, 2, 3, and 4, no more than one pair of containment purge lines (one set of supply valves and one set of exhaust valves) may be opened (Ref. 4). None of the subsystems are subject to a Specification in MODE 5.

In MODE 6, large air exchangers are necessary to conduct refueling operations. The normal 24 inch purge system is used for this purpose, and all valves are closed by Containment Ventilation Isolation in accordance with LCO 3.3.6, "Containment Ventilation Isolation Instrumentation."

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BASES

APPLICABLE SAFETY ANALYSES (continued)

decay time of 100 hours prior to [irradiated fuel movement with containment closure capability ~~or a minimum decay time of [x] days without containment closure capability]~~, ensures that the release of fission product radioactivity, subsequent to a fuel handling accident, results in doses that are ~~well~~ within the ~~guideline~~ values specified in 10 CFR 50.67 ~~100. Standard Review Plan, Section 15.7.4, Rev. 1 (Ref. 3), defines "well within" 10 CFR 100 to be 25% or less of the 10 CFR 100 values. The acceptance limits for offsite radiation exposure will be 25% of 10 CFR 100 values~~ or the NRC staff approved licensing basis (e.g., Regulatory Guide 1.183, (Ref. 3) ~~a specified fraction of 10 CFR 100~~ limits). 1 2

Containment penetrations satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

~~-----REVIEWER'S NOTE-----~~
~~The allowance to have containment personnel air lock doors open and penetration flow paths with direct access from the containment atmosphere to the outside atmosphere to be unisolated during fuel movement is based on (1) confirmatory dose calculations of a fuel handling accident as approved by the NRC staff which indicate acceptable radiological consequences and (2) commitments from the licensee to implement acceptable administrative procedures that ensure in the event of a refueling accident (even though the containment fission product control function is not required to meet acceptable dose consequences) that the open air lock can and will be promptly closed following containment evacuation and that the open penetration(s) can and will be promptly closed. The time to close such penetrations or combination of penetrations shall be included in the confirmatory dose calculations.~~
~~---------------~~ 3

MHC003 This LCO limits the consequences of a fuel handling accident [involving handling ~~recently~~ irradiated fuel] in containment by limiting the potential escape paths for fission product radioactivity released within containment. The LCO requires any penetration providing direct access from the containment atmosphere to the outside atmosphere or to the auxiliary building secondary containment enclosure, to be closed except for the OPERABLE containment purge and exhaust penetrations [and the containment personnel air locks]. For the OPERABLE containment purge and exhaust penetrations, this LCO ensures that these penetrations are isolable by an automatic ~~the~~ Containment Ventilation ~~Purge and Exhaust~~ Isolation valve ~~System~~. The OPERABILITY requirements for this LCO ensure that the containment ventilation isolation valve ~~automatic purge and exhaust valve~~ closure times specified in the UFSAR can be achieved and, therefore, meet the assumptions used in the safety analysis to ensure that releases through the valves are terminated, such that radiological doses are within the acceptance limit. 1 2 1 2

BASES

LCO (continued)

INSERT 2 2

that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure

The LCO is modified by a Note allowing penetration flow paths with direct access from the containment atmosphere ~~to the outside atmosphere~~ to be unisolated under administrative controls. Administrative controls ensure that 1) appropriate personnel are aware of the open status of the penetration flow path during movement of irradiated fuel assemblies within containment, and 2) specified individuals are designated and readily available to isolate the flow path in the event of a fuel handling accident. 2

MHC003

The containment personnel air lock doors ~~many~~ may be open during movement of ~~[recently]~~ irradiated fuel in the containment provided that one door is capable of being closed in the event of a fuel handling accident. Should a fuel handling accident occur inside containment, at least one personnel air lock door will be closed following an evacuation of containment. ~~INSERT 3~~ 4 1 2 2

MHC006

APPLICABILITY

Insert 5

MHC003

~~The containment penetration requirements are applicable during movement of [recently] irradiated fuel assemblies within containment because this is when there is a potential for the limiting fuel handling accident. In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1. In MODES 5 and 6, when movement of irradiated fuel assemblies within containment is not being conducted, the potential for a fuel handling accident does not exist. [Additionally, due to radioactive decay, a fuel handling accident involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [x] days 100 hours) will result in doses that are well within the guideline values specified in 10 CFR 100 50.67 even without containment closure capability.] Therefore, under these conditions no requirements are placed on containment penetration status.~~ 1 9 1 2

~~-----REVIEWER'S NOTE-----~~
~~The addition of the term "recently" associated with handling irradiated fuel in all of the containment function Technical Specification requirements is only applicable to those licensees who have demonstrated by analysis that after sufficient radioactive decay has occurred, off-site doses resulting from a fuel handling accident remain below the Standard Review Plan limits (well within 10 CFR 100).~~

~~Additionally, licensees adding the term "recently" must make the following commitment which is consistent with NUMARC 93-01, Revision 4, Section 11.3.6.5 "Safety Assessment for Removal of Equipment from Service During Shutdown Conditions," subheading "Containment - Primary (PWR)/Secondary (BWR)."~~

~~"The following guidelines are included in the assessment of systems removed from service during movement irradiated fuel:~~ 5

4

INSERT 2

During movement of recently irradiated fuel assemblies within containment, the equipment hatch is required to be held in place by at least four bolts.

~~2~~

~~**INSERT 3**~~

MHC006

~~The containment design is such that even though the primary and secondary containments are connected together when the personnel air lock doors are open, the normal auxiliary building ventilation system and Auxiliary Building Gas Treatment System (ABGTS) continue to provide the same fuel handling accident mitigation capability. With the personnel air lock doors open, the consequences of a fuel handling accident in the containment will be mitigated by the design of the ventilation systems (maintenance of a negative pressure during normal and applicable abnormal conditions, automatic isolation on high radiation in the auxiliary building, and automatic startup of emergency ventilation systems) and the leak-tight design of the auxiliary building. Both sets of the containment personnel airlock doors may be open during movement of recently irradiated fuel in containment provided one train of ABGTS is available for operation (LCO 3.7.12, "Auxiliary Building Gas Treatment System (AGBTS)"). The fuel handling accident is analyzed to occur in either the containment or the auxiliary building; however, an ABGTS start may be necessary for a containment fuel handling accident. The requirement for an airlock door to be capable of closure is provided to allow for long-term recovery from a fuel handling accident in containment.~~

MHC003

Insert 5

9

The containment penetration requirements are applicable when there is a potential for the limiting fuel handling accident (FHA). The applicability requirements are based on the FHA analysis which assumes a fuel assembly is dropped and damaged during refueling. In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1. In MODES 5 and 6, when movement of irradiated fuel assemblies within containment is not being conducted, the potential for a fuel handling accident does not exist. Additionally, due to radioactive decay, a fuel handling accident involving handling irradiated fuel that is not "recently" irradiated (i.e., fuel that has occupied part of a critical reactor core within the previous 100 hours) will result in doses that are well within the guideline values specified in 10 CFR 100 even without containment closure capability. The applicability of 3.9.4.a. for the Containment Building Equipment Hatch is "During the movement of recently irradiated fuel in containment" which maintains the containment closure requirements when the fuel has not sufficiently decayed to remain within these limits. The applicability of 3.9.4.b. and c. for the Containment Air Lock Doors and containment penetrations that provide direct access from containment atmosphere to outside atmosphere is "During movement of irradiated fuel in containment."

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BASES

APPLICABILITY (continued)

~~- During fuel handling/core alterations, ventilation system and radiation monitor availability (as defined in NUMARC 91-06) should be assessed, with respect to filtration and monitoring of releases from the fuel. Following shutdown, radioactivity in the fuel decays away fairly rapidly. The basis of the Technical Specification OPERABILITY amendment is the reduction in doses due to such decay. The goal of maintaining ventilation system and radiation monitor availability is to reduce doses even further below that provided by the natural decay.~~

~~- A single normal or contingency method to promptly close primary or secondary containment penetrations should be developed. Such prompt methods need not completely block the penetration or be capable of resisting pressure.~~

~~The purpose of the "prompt methods" mentioned above are to enable ventilation systems to draw the release from a postulated fuel handling accident in the proper direction such that it can be treated and monitored."~~

5

MHC003

ACTIONS

A.1

If the containment equipment hatch, ~~air locks, or any containment~~ automatic ~~penetration that provides direct access from the containment atmosphere to the outside atmosphere~~ is not in the required status, ~~including the~~ Ventilation ~~Containment Purge and Exhaust~~ Isolation ~~System~~ ~~not capable of automatic actuation when the purge and exhaust~~ valve(s) ~~valves are open~~, the unit must be placed in a condition where the isolation function is not needed. This is accomplished by immediately suspending movement of ~~[recently]~~ irradiated fuel assemblies within containment. Performance of these actions shall not preclude completion of movement of a component to a safe position.

MHC003 ~~Containment Ventilation isolation~~ 2 9 1 9

SURVEILLANCE REQUIREMENTS

MHC006

SR 3.9.4.1

This Surveillance demonstrates that each ~~of the~~ containment penetration~~s~~ is in its required ~~to be in its closed position is in that position. The Surveillance on the open purge and exhaust valves will demonstrate that the valves are not blocked from closing. Also the Surveillance will demonstrate that each~~ valve operator has motive power~~, which will ensure that each valve is capable of being closed by an OPERABLE automatic containment purge and exhaust isolation signal~~.

INSERT 4

3

6

B.1 If the containment building air lock doors or any other containment penetration that provides direct access from the containment atmosphere to the outside atmosphere is not in the required status, including the Containment Ventilation Isolation valve(s) not capable of automatic actuation when the purge and exhaust valves are open, the unit must be placed in a condition where the isolation function is not needed. This is accomplished by immediately suspending movement of irradiated fuel assemblies within containment. Performance of these actions shall not preclude completion of movement of a component to a safe position.

3 MHC006

6 **INSERT ~~4~~**

status. The requirement that penetrations are capable of being closed by an OPERABLE automatic containment ventilation isolation valve, can be verified by ensuring that each required containment ventilation isolation

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BASES

SURVEILLANCE REQUIREMENTS (continued)

~~[The Surveillance is performed every 7 days during movement of [recently] irradiated fuel assemblies within containment. The Surveillance interval is selected to be commensurate with the normal duration of time to complete fuel handling operations. A surveillance before the start of refueling operations will provide two or three surveillance verifications during the applicable period for this LCO. As such, this Surveillance ensures that a postulated fuel handling accident [involving handling recently irradiated fuel] that releases fission product radioactivity within the containment will not result in a release of significant fission product radioactivity to the environment in excess of those recommended by Standard Review Plan Section 15.7.4 (Reference 3).~~

~~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.~~
~~---]~~

4

SR 3.9.4.2

MHC006

INSERT ~~5~~

ventilation isolation

This Surveillance demonstrates that each containment ~~purge and exhaust~~ valve actuates to its isolation position on manual initiation or on an actual or simulated ~~high radiation~~ actuation signal. ~~[The 18 month Frequency maintains consistency with other similar ESFAS instrumentation and valve testing requirements. In LCO 3.3.6, the Containment Purge and Exhaust Isolation instrumentation requires a CHANNEL CHECK every 12 hours and a COT every 92 days to ensure the channel OPERABILITY during refueling operations. Every 18 months a CHANNEL CALIBRATION is performed. The system actuation response time is demonstrated every 18 months, during refueling, on a STAGGERED TEST BASIS. SR 3.6.3.5 demonstrates that the isolation time of each valve is in accordance with the Inservice Testing Program requirements. These Surveillances performed during MODE 6 will ensure that the valves are capable of closing after a postulated fuel handling accident [involving handling recently irradiated fuel] to limit a release of fission product radioactivity from the containment.~~

7 8 2 9 10 7

9 **INSERT ~~5~~** 4

MHC006

, that is not locked, sealed, or otherwise secured in position,

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BASES

SURVEILLANCE REQUIREMENTS (continued)

~~OR~~ 7

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.~~
~~--]~~ 8

The SR is modified by a Note stating that this Surveillance is not required to be met for valves in isolated penetrations. The LCO provides the option to close penetrations in lieu of requiring automatic actuation capability.

REFERENCES

1. GPU Nuclear Safety Evaluation SE-0002000-001, Rev. 0, May 20, 1988.
2. U FSAR, Section ~~[~~15.~~4.5]~~ 5.6. 2 1
3. ~~NUREG-0800, Section 15.7.4, Rev. 1, July 1981~~ Regulatory Guide 1.183, Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors, July 2000. 2
4. UFSAR, Section 9.4.7. 2

B 3.9 REFUELING OPERATIONS

B 3.9.4 Containment Penetrations

BASES

BACKGROUND

MHC003

During movement of ~~[recently]~~ irradiated fuel assemblies within containment, a release of fission product radioactivity within containment will be restricted from escaping to the environment when the LCO requirements are met. In MODES 1, 2, 3, and 4, this is accomplished by maintaining containment OPERABLE as described in LCO 3.6.1, "Containment." In MODE 6, the potential for containment pressurization as a result of an accident is not likely; therefore, requirements to isolate the containment from the outside atmosphere can be less stringent. The LCO requirements are referred to as "containment closure" rather than "containment OPERABILITY." Containment closure means that all potential escape paths are closed or capable of being closed. Since there is no potential for containment pressurization, the Appendix J leakage criteria and tests are not required. 1

The containment serves to contain fission product radioactivity that may be released from the reactor core following an accident, such that offsite radiation exposures are maintained ~~well~~ within the requirements of 10 CFR ~~100~~ 50.67. Additionally, the containment provides radiation shielding from the fission products that may be present in the containment atmosphere following accident conditions. 2

The containment equipment hatch, which is part of the containment pressure boundary, provides a means for moving large equipment and components into and out of containment. During movement of ~~[~~recently~~]~~ irradiated fuel assemblies within containment, the equipment hatch must be held in place by at least four bolts. Good engineering practice dictates that the bolts required by this LCO be approximately equally spaced. 1

The containment air locks, which are also part of the containment pressure boundary, provide a means for personnel access during MODES 1, 2, 3, and 4 unit operation in accordance with LCO 3.6.2, "Containment Air Locks." Each air lock has a door at both ends. The doors are normally interlocked to prevent simultaneous opening when containment OPERABILITY is required. During periods of unit shutdown when containment closure is not required, the door interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary.

MHC003

During movement of ~~[recently]~~ irradiated fuel assemblies within containment, containment closure is required; therefore, the door interlock mechanism may remain disabled, but one air lock door must always remain ~~[~~capable of being~~]~~ closed. 1 1

BASES

BACKGROUND (continued)

The requirements for containment penetration closure ensure that a release of fission product radioactivity within containment will be restricted to within regulatory limits.

~~The Containment Purge and Exhaust System includes two subsystems. The normal subsystem includes a 42 inch purge penetration and a 42 inch exhaust penetration. The second subsystem, a minipurge system, includes an 8 inch purge penetration and an 8 inch exhaust penetration. During MODES 1, 2, 3, and 4, the two valves in each of the normal purge and exhaust penetrations are secured in the closed position. The two valves in each of the two minipurge penetrations can be opened intermittently, but are closed automatically by the Engineered Safety Features Actuation System (ESFAS). Neither of the subsystems is subject to a Specification in MODE 5.~~

~~In MODE 6, large air exchangers are necessary to conduct refueling operations. The normal 42 inch purge system is used for this purpose, and all four valves are closed by the ESFAS in accordance with LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation."~~

~~[The minipurge system remains operational in MODE 6, and all four valves are also closed by the ESFAS.~~

~~[or]~~

~~The minipurge system is not used in MODE 6. All four 8 inch valves are secured in the closed position.]~~

INSERT 1 (2)

The other containment penetrations that provide direct access from containment atmosphere to outside atmosphere must be isolated on at least one side. Isolation may be achieved by an OPERABLE automatic isolation valve (either open or closed), or by a manual isolation valve, blind flange, or equivalent. (2) Equivalent isolation methods must be approved and may include use of a material that can provide a temporary, atmospheric pressure, ventilation barrier for the other containment penetrations during ~~[recently]~~ irradiated (1) fuel movements (Ref. 1).

MHC003

APPLICABLE SAFETY ANALYSES

During movement of irradiated fuel assemblies within containment, the most severe radiological consequences result from a fuel handling accident ~~[involving handling recently irradiated fuel]~~. The fuel handling (1) accident is a postulated event that involves damage to irradiated fuel (Ref. 2). Fuel handling accidents, analyzed in Reference 3, include dropping a single irradiated fuel assembly ~~and handling tool or a heavy object onto other irradiated fuel assemblies~~. The requirements of (2) LCO 3.9.7, "Refueling Cavity Water Level," in conjunction with a minimum

change to response KAB068

2 **INSERT 1**

The Reactor Building Purge Ventilation (RBPV) System includes three subsystems. The normal subsystem includes four 24 inch purge penetrations and two 24 inch exhaust penetrations. The second subsystem, a pressure relief system, includes an 8 inch exhaust penetration. The third subsystem includes a 12 inch instrument room supply penetration and a 12 inch exhaust penetration. During MODES 1, 2, 3, and 4, no more than one pair of containment purge lines (one set of supply valves and one set of exhaust valves) may be opened (Ref. 4). None of the subsystems are subject to a Specification in MODE 5.

In MODE 6, large air exchangers are necessary to conduct refueling operations. The normal 24 inch purge system is used for this purpose, and all valves are closed by Containment Ventilation Isolation in accordance with LCO 3.3.6, "Containment Ventilation Isolation Instrumentation."

BASES

APPLICABLE SAFETY ANALYSES (continued)

decay time of 100 hours prior to [irradiated fuel movement with containment closure capability ~~or a minimum decay time of [x] days without containment closure capability]~~, ensures that the release of fission product radioactivity, subsequent to a fuel handling accident, results in doses that are ~~well~~ within the ~~guideline~~ values specified in 10 CFR 50.67 ~~100. Standard Review Plan, Section 15.7.4, Rev. 1 (Ref. 3), defines "well within" 10 CFR 100 to be 25% or less of the 10 CFR 100 values. The acceptance limits for offsite radiation exposure will be 25% of 10 CFR 100 values~~ or the NRC staff approved licensing basis (e.g., ~~a specified fraction of 10 CFR 100~~ Regulatory Guide 1.183, (Ref. 3) limits). 1 2

Containment penetrations satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

~~-----------------------------------REVIEWER'S NOTE-----------------------------------~~
~~The allowance to have containment personnel air lock doors open and penetration flow paths with direct access from the containment atmosphere to the outside atmosphere to be unisolated during fuel movement is based on (1) confirmatory dose calculations of a fuel handling accident as approved by the NRC staff which indicate acceptable radiological consequences and (2) commitments from the licensee to implement acceptable administrative procedures that ensure in the event of a refueling accident (even though the containment fission product control function is not required to meet acceptable dose consequences) that the open air lock can and will be promptly closed following containment evacuation and that the open penetration(s) can and will be promptly closed. The time to close such penetrations or combination of penetrations shall be included in the confirmatory dose calculations.~~
~~---~~ 3

MHC003

This LCO limits the consequences of a fuel handling accident [involving handling ~~recently~~ irradiated fuel] in containment by limiting the potential escape paths for fission product radioactivity released within containment. The LCO requires any penetration providing direct access from the containment atmosphere to the outside atmosphere or to the auxiliary building secondary containment enclosure, to be closed except for the OPERABLE containment purge and exhaust penetrations [and the containment personnel air locks]. For the OPERABLE containment purge and exhaust penetrations, this LCO ensures that these penetrations are isolable by ~~the~~ an automatic Containment ~~Purge and Exhaust~~ Ventilation Isolation ~~System~~ valve. The OPERABILITY requirements for this LCO ensure that the ~~automatic purge and exhaust valve~~ containment ventilation isolation valve closure times specified in the UFSAR can be achieved and, therefore, meet the assumptions used in the safety analysis to ensure that releases through the valves are terminated, such that radiological doses are within the acceptance limit. 1 2 1 2

BASES

LCO (continued)

INSERT 2 (2)

that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure

The LCO is modified by a Note allowing penetration flow paths with direct access from the containment atmosphere ~~to the outside atmosphere~~ to be unisolated under administrative controls. Administrative controls ensure that 1) appropriate personnel are aware of the open status of the penetration flow path during movement of irradiated fuel assemblies within containment, and 2) specified individuals are designated and readily available to isolate the flow path in the event of a fuel handling accident. (2)

MHC003

The containment ~~personnel~~ air lock doors may ~~many~~ be open during movement of ~~[recently]~~ irradiated fuel in the containment provided that one door is ~~capable of~~ being closed in the event of a fuel handling accident. Should a fuel handling accident occur inside containment, at least one personnel air lock door will be closed following an evacuation of containment. ~~INSERT 3~~ (4) (1) (2) (2)

MHC006

MHC003

Insert 5

~~APPLICABILITY The containment penetration requirements are applicable during movement of [recently] irradiated fuel assemblies within containment because this is when there is a potential for the limiting fuel handling accident. In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1. In MODES 5 and 6, when movement of irradiated fuel assemblies within containment is not being conducted, the potential for a fuel handling accident does not exist. [Additionally, due to radioactive decay, a fuel handling accident involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous 100 hours [x] days) will result in doses that are well within the guideline values specified in 10 CFR 50.67 100 even without containment closure capability.] Therefore, under these conditions no requirements are placed on containment penetration status.~~ (1) (9) (1) (2)

~~-----------------------------------REVIEWER'S NOTE-----------------------------------~~
~~The addition of the term "recently" associated with handling irradiated fuel in all of the containment function Technical Specification requirements is only applicable to those licensees who have demonstrated by analysis that after sufficient radioactive decay has occurred, off-site doses resulting from a fuel handling accident remain below the Standard Review Plan limits (well within 10 CFR 100).~~

~~Additionally, licensees adding the term "recently" must make the following commitment which is consistent with NUMARC 93-01, Revision 4, Section 11.3.6.5 "Safety Assessment for Removal of Equipment from Service During Shutdown Conditions," subheading "Containment - Primary (PWR)/Secondary (BWR)."~~

~~"The following guidelines are included in the assessment of systems removed from service during movement irradiated fuel:~~ (5)

4

INSERT 2

During movement of recently irradiated fuel assemblies within containment, the equipment hatch is required to be held in place by at least four bolts.

2

~~**INSERT 3**~~

MHC006

~~The containment design is such that even though the primary and secondary containments are connected together when the personnel air lock doors are open, the normal auxiliary building ventilation system and Auxiliary Building Gas Treatment System (ABGTS) continue to provide the same fuel handling accident mitigation capability. With the personnel air lock doors open, the consequences of a fuel handling accident in the containment will be mitigated by the design of the ventilation systems (maintenance of a negative pressure during normal and applicable abnormal conditions, automatic isolation on high radiation in the auxiliary building, and automatic startup of emergency ventilation systems) and the leak-tight design of the auxiliary building. Both sets of the containment personnel airlock doors may be open during movement of recently irradiated fuel in containment provided one train of ABGTS is available for operation (LCO 3.7.12, "Auxiliary Building Gas Treatment System (AGBTS)"). The fuel handling accident is analyzed to occur in either the containment or the auxiliary building; however, an ABGTS start may be necessary for a containment fuel handling accident. The requirement for an airlock door to be capable of closure is provided to allow for long-term recovery from a fuel handling accident in containment.~~

Insert 5

9

MHC003

The containment penetration requirements are applicable when there is a potential for the limiting fuel handling accident (FHA). The applicability requirements are based on the FHA analysis which assumes a fuel assembly is dropped and damaged during refueling. In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1. In MODES 5 and 6, when movement of irradiated fuel assemblies within containment is not being conducted, the potential for a fuel handling accident does not exist. Additionally, due to radioactive decay, a fuel handling accident involving handling irradiated fuel that is not "recently" irradiated (i.e., fuel that has occupied part of a critical reactor core within the previous 100 hours) will result in doses that are well within the guideline values specified in 10 CFR 100 even without containment closure capability. The applicability of 3.9.4.a. for the Containment Building Equipment Hatch is "During the movement of recently irradiated fuel in containment" which maintains the containment closure requirements when the fuel has not sufficiently decayed to remain within these limits. The applicability of 3.9.4.b. and c. for the Containment Air Lock Doors and containment penetrations that provide direct access from containment atmosphere to outside atmosphere is "During movement of irradiated fuel in containment."

BASES

APPLICABILITY (continued)

~~- During fuel handling/core alterations, ventilation system and radiation monitor availability (as defined in NUMARC 91-06) should be assessed, with respect to filtration and monitoring of releases from the fuel. Following shutdown, radioactivity in the fuel decays away fairly rapidly. The basis of the Technical Specification OPERABILITY amendment is the reduction in doses due to such decay. The goal of maintaining ventilation system and radiation monitor availability is to reduce doses even further below that provided by the natural decay.~~

~~- A single normal or contingency method to promptly close primary or secondary containment penetrations should be developed. Such prompt methods need not completely block the penetration or be capable of resisting pressure.~~

~~The purpose of the "prompt methods" mentioned above are to enable ventilation systems to draw the release from a postulated fuel handling accident in the proper direction such that it can be treated and monitored."~~ 5

ACTIONS

A.1

MHC003

If the containment equipment hatch, ~~air locks, or any containment~~ ~~automatic~~ penetration ~~that provides direct access from the containment atmosphere to the outside atmosphere~~ is not in the required status, ~~including the~~ ~~Containment~~ ~~Purge and Exhaust~~ ~~Ventilation~~ Isolation ~~System~~ not capable of ~~valve(s)~~ ~~automatic actuation when the~~ ~~purge and exhaust~~ ~~Containment Ventilation isolation~~ valves are open, the unit must be placed in a condition where the isolation function is not needed. This is accomplished by immediately suspending movement of ~~[~~recently~~]~~ irradiated fuel assemblies within containment. Performance of these actions shall not preclude completion of movement of a component to a safe position. 2 9 1 9

SURVEILLANCE REQUIREMENTS 3

SR 3.9.4.1

MHC006 INSERT ~~4~~

This Surveillance demonstrates that each ~~of the~~ containment penetration~~s~~ is in its required ~~to be in its closed position is in that position. The Surveillance on the open purge and exhaust valves will demonstrate that the valves are not blocked from closing. Also the Surveillance will demonstrate that each~~ valve operator has motive power~~, which will ensure that each valve is capable of being closed by an OPERABLE automatic containment purge and exhaust isolation signal~~. 6

~~MHC003~~

B.1 If the containment building air lock doors or any other containment penetration that provides direct access from the containment atmosphere to the outside atmosphere is not in the required status, including the Containment Ventilation Isolation valve(s) not capable of automatic actuation when the purge and exhaust valves are open, the unit must be placed in a condition where the isolation function is not needed. This is accomplished by immediately suspending movement of irradiated fuel assemblies within containment. Performance of these actions shall not preclude completion of movement of a component to a safe position.

6

INSERT 4

status. The requirement that penetrations are capable of being closed by an OPERABLE automatic containment ventilation isolation valve, can be verified by ensuring that each required containment ventilation isolation

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~[The Surveillance is performed every 7 days during movement of [recently] irradiated fuel assemblies within containment. The Surveillance interval is selected to be commensurate with the normal duration of time to complete fuel handling operations. A surveillance before the start of refueling operations will provide two or three surveillance verifications during the applicable period for this LCO. As such, this Surveillance ensures that a postulated fuel handling accident [involving handling recently irradiated fuel] that releases fission product radioactivity within the containment will not result in a release of significant fission product radioactivity to the environment in excess of those recommended by Standard Review Plan Section 15.7.4 (Reference 3).~~ 7

~~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.]~~ 8

MHC006

4 SR 3.9.4.2

ventilation isolation

INSERT 5

actuation

This Surveillance demonstrates that each containment ~~purge and exhaust~~ valve actuates to its isolation position on manual initiation or on an actual or simulated ~~high radiation~~ signal. ~~[The 18 month Frequency maintains consistency with other similar ESFAS instrumentation and valve testing requirements. In LCO 3.3.6, the Containment Purge and Exhaust Isolation instrumentation requires a CHANNEL CHECK every 12 hours and a COT every 92 days to ensure the channel OPERABILITY during refueling operations. Every 18 months a CHANNEL CALIBRATION is performed. The system actuation response time is demonstrated every 18 months, during refueling, on a STAGGERED TEST BASIS. SR 3.6.3.5 demonstrates that the isolation time of each valve is in accordance with the Inservice Testing Program requirements. These Surveillances performed during MODE 6 will ensure that the valves are capable of closing after a postulated fuel handling accident [involving handling recently irradiated fuel] to limit a release of fission product radioactivity from the containment.~~ 2 9 10 7

4

9 **INSERT ~~5~~**

MHC006

, that is not locked, sealed, or otherwise secured in position,

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~OR~~ 7

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.~~
~~---]~~ 8

The SR is modified by a Note stating that this Surveillance is not required to be met for valves in isolated penetrations. The LCO provides the option to close penetrations in lieu of requiring automatic actuation capability.

REFERENCES

1. GPU Nuclear Safety Evaluation SE-0002000-001, Rev. 0, May 20, 1988.

2. U FSAR, Section ~~[~~15.~~4~~ 5.6 ~~.5]~~. 2 1

3. ~~NUREG-0800, Section 15.7.4, Rev. 1, July 1981~~ Regulatory Guide 1.183, Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors, July 2000. 2

4. UFSAR, Section 9.4.7. 2

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JUSTIFICATION FOR DEVIATIONS
ITS 3.9.4 BASES, CONTAINMENT PENETRATIONS

1. 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.

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. 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. Disposition of the issue associated with this Reviewers Note was in SQN License Amendment 209/199 (U1/U2) [ADAMS Accession No ML013320204], which added CTS 3.9.4.b.2.

4. Typographical/grammatical error corrected.

5. The Reviewer's Note has been deleted and appropriate information retained. This Reviews Note is associated with the adoption of TSTF-51, "Revise containment requirements during handling irradiated fuel and core alterations," which added the term 'recently'. TVA added information to the CTS bases when the term 'recently' was added to SQN TS under License Amendments 288/278 (Unit 1/Unit 2) (ADAMS Accession Nos. ML033030206 and ML033070057). The Bases is changed to include the applicable information contained in TSTF-51 and NUMARC 91-06. This will allow TVA to have a method in place to promptly close the primary containment (i.e., the equipment hatch) or the secondary containment (i.e., auxiliary building secondary containment enclosure (ABSCE)) using the ABGTS to draw the release from a postulated fuel handling accident in the proper direction such that it can be treated and monitored.

6. ISTS SR 3.9.4.1 Bases contains a statement "This Surveillance demonstrates that each of the containment penetrations required to be in its closed position is in that position. The Surveillance on the open purge and exhaust valves will demonstrate that the valves are not blocked from closing. Also the Surveillance will demonstrate that each valve operator has motive power, which will ensure that each valve is capable of being closed by an OPERABLE automatic containment purge and exhaust isolation signal." ITS SR 3.9.4.1 Bases states "This Surveillance demonstrates that each containment penetration is in its required status. The requirement that penetrations are capable of being closed by an OPERABLE automatic containment ventilation isolation valve, can be verified by ensuring that each required containment ventilation isolation valve operator has motive power." This change is acceptable because it is consistent with the requirements in the Specification.

7. ISTS SR 3.9.4.1 and SR 3.9.4.2 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.

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JUSTIFICATION FOR DEVIATIONS
ITS 3.9.4 BASES, CONTAINMENT PENETRATIONS

8. 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.

9. Changes are made to be consistent with changes made to the Specification.

10. Changes are made to be consistent with the Specification.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.9.4, CONTAINMENT PENETRATIONS

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

Licensee Response/NRC Response/NRC Question Closure

Id	**463**
NRC Question Number	**MHC003**
Select Application	**NRC Question Closure**
Attachment 1	
Attachment 2	
Response Statement	
Response Date/Time	
Closure Statement	**The NRC has no further questions on MHC003 at this time. In a clarification phone call, TVA agreed to revise the Bases discussion for TS 3.9.4, Containment Penetrations. Specifically, TVA agreed to revise the Applicable Safety Analyses section to reflect site specific analyses and to revise the discussion in the Applicability section to reflect the appropriate regulatory criteria in Supplement 3 to the License Amendment Request.**
Question Closure Date	**7/10/2015**
Notification	**Mark Blumberg** **Scott Bowman** **Margaret Chernoff** **Michelle Conner** **Khadijah Hemphill** **Andrew Hon** **Lynn Mynatt** **Ray Schiele** **Roger Scott**
Added By	**Khadijah Hemphill**
Date Added	**7/10/2015 1:43 PM**
Date Modified	
Modified By	

ITS NRC Questions

Id	**210**
NRC Question Number	**MHC006**
Category	**Technical**
ITS Section	**3.9**
ITS Number	**3.9.4**
DOC Number	**L-8**
JFD Number	
JFD Bases Number	
Page Number(s)	**107 of 236**
NRC Reviewer Supervisor	**Undine Shoop**
Technical Branch POC	**Mark Blumberg**
Conf Call Requested	**N**
NRC Question	**In the conversion from CTS 3.9.4, "Containment Building Penetrations," to ITS 3.9.4, "Containment Penetrations," CTS LCO 3.9.4.b.2 is deleted. Enclosure 2, Volume 14, Rev. 0, page 107 of 236 states: "See 3.7.12" for the justification of this change. On an another page (no header with a page number is provided) in the "Public Reference Information" database a document transmitted on January 14, 2015 has the deletion of 3.9.4.b.2 for CTS 3.9.4 marked with description of changes "L08." L08 is provided on Enclosure 2, Volume 12, Rev. 0, Page 444 of 704 and appears to address the change. In a supplement dated February 25, 2015, Enclosure 2, Volume 12, Rev. 0, Page 444 of 704 is revised, but no longer appears to provide a justification for the removal of CTS LCO 3.9.4.b.2. Please update page Enclosure 2, Volume 12, Rev. 0, Page 444 of 704 with the a justification for the removal of CTS LCO 3.9.4.b.2.**
Attach File 1	
Attach File 2	
Issue Date	**4/7/2015**

Added By	**Khadijah Hemphill**
Date Modified	
Modified By	
Date Added	**4/7/2015 3:53 PM**
Notification	**Mark Blumberg** **Scott Bowman** **Margaret Chernoff** **Michelle Conner** **Khadijah Hemphill** **Andrew Hon** **Lynn Mynatt** **Ray Schiele** **Roger Scott**

Licensee Response/NRC Response/NRC Question Closure

Id	**457**
NRC Question Number	**MHC006**
Select Application	**Licensee Response**
Attachment 1	**Attachment 1 MHC006 STB.pdf** (4MB)
Attachment 2	
Response Statement	

In response to MHC006, Attachment 1 is provided to address the issue associated with missing pages regarding the disposition of CTS LCO 3.9.4.b.2. CTS LCO 3.9.4.b.2 will be dispositioned in ITS 3.7.12 (ABGTS). As revised in Attachment 1, ITS LCO 3.7.12, Note 2 will state that, "Only one ABGTS train is required to be OPERABLE during movement of irradiated fuel assemblies or with fuel stored in the spent fuel pool." Therefore, the associated CTS markups for CTS LCO 3.9.4.b.2 will no longer indicate deletion of the requirement, but instead will show an ITS cross reference in the left hand margin associated with ITS LCO 3.7.12 Note 2.

Additionally, Attachment 1 now supersedes the attachments associated with the responses to RAIs RPG-001 and KAB069. The response to RAI RPG-001 addressed ITS LCOs 3.3.8 (ABGTS Actuation Instrumentation), 3.7.12 (ABGTS), and 3.9.4 (Containment Penetrations). For ITS LCOs 3.3.8 and 3.7.12, the term "recently" was added to the Mode of Applicability such that the LCOs would be applicable, in part, during the movement of recently irradiated fuel assemblies. The response to RAI KAB069 no longer contains the term "recently" in the Mode of Applicability for ITS LCOs 3.3.8 and 3.7.12. Based on the revised Mode of Applicability proposed in the response to RAI KAB069, the response to RAI RPG-001 requires revision. Also, during the development Attachment 1, issues were discovered that require changes in

Attachment 1 that differ from both responses to RAIs RPG-001 and KAB069. Therefore, Attachment 1 is a reflection of revisions based on the response to RAI KAB069, applicable changes based on the response to RAI RPG-001, and changes based on issues discovered during the development of Attachment 1.

Attachment 1 was developed from the attachment associated with the February 25, 2015, response to RAI KAB069. Pages from the response to RAI RPG-001 have been added so that Attachment 1 encompasses both responses. Below is a list of major changes that deviate from the responses to RAIs RPG-001 and KAB069:

1. **Discussion of Change (DOC) M06 will be revised. As proposed in KAB069, the following sentence stated, "This change is acceptable because when the required Spent Fuel Pool Area Radiation Monitor channel is inoperable, entering the Conditions and Required Actions for the ABGTS Specification (ITS 3.7.12) will suspend activities such that a fuel handling accident cannot occur." This sentence will be revised to state, "This change is acceptable because when the required Spent Fuel Pool Area Radiation Monitor channel is inoperable, entering the Conditions and Required Actions for the ABGTS Specification (ITS 3.7.12) will require suspending movement of irradiated fuel assemblies and suspending all crane operation with loads over the spent fuel pool." (page 1041 of Enclosure 2, Volume 8)**

2. **Justification for Deviation (JFD) 14 will be revised. As proposed in KAB069, the following sentence stated, "Therefore, the Mode of Applicability has been changed to reflect the conditions when a fuel handling accident can occur whether it is dropping an irradiated fuel assembly or dropping a heavy object on irradiated fuel in the spent fuel pool." This sentence will be revised to state, "Therefore, the Mode of Applicability has been changed to align the**

instrumentation requirements of ITS LCO 3.3.8 with the Mode of Applicability requirements of ITS LCO 3.7.12." (insert page following page 1056 of Enclosure 2, Volume 8)

3. **The Applicable Safety Analysis Section of ITS 3.3.8 will be revised to add the following sentence, "High radiation initiation of ABGTS for a fuel handling accident will ensure the auxiliary building secondary containment enclosure (ABSCE) boundary is established such that the release point for the fission products will correspond to the release point assumed in the fuel handling accident analysis so that control room doses remain within the limits specified in 10 CFR 50.67. (Ref.2)" (pages 1058 and 1069 of Enclosure 2, Volume 8)**

4. **The Applicability Section of ITS 3.3.8 will be revised to delete the following sentence, "The automatic ABGTS initiation must be OPERABLE to ensure the ABGTS operates to remove fission products associated with leakage after a LOCA or a fuel handling accident involving irradiated fuel." (pages 1062 and 1073 of Enclosure 2, Volume 8)**

5. **The CTS markups for ITS 3.7.12 will be revised to show the addition ITS Action E.1 Note and the associated DOC L08 indicator. (pages 429 and 433 of Enclosure 2, Volume 12)**

6. **Page 434 of Enclosure 2, Volume 12 will be inserted into the attachment. SQN Unit 2 CTS page 3/4 9-15 shows an insert for ITS SR 3.7.12.4 with a Frequency of 18 months on a STAGGERED TEST BASIS and references DOC M02. The reference to DOC M02 will be revised to DOC M01.**

7. **DOC A03 for ITS 3.7.12 will be revised to indicate that the Notes associated with ITS SR 3.7.12.3 require the surveillance to be performed during the**

Modes that the ABGTS is required to be OPERABLE. (pages 435 and 436 of Enclosure 2, Volume 12)

8. **DOC L02 for ITS 3.7.12 will be revised to delete the discussion concerning ITS 3.7.12 ACTION C in the second paragraph. (pages 440 and 441 of Enclosure 2, Volume 12)**

9. **DOC L08 for ITS 3.7.12 will be revised. As proposed in KAB069 the following sentence stated, "ITS 3.7.12 is applicable anytime fuel is stored in the spent fuel pool to ensure that the assumptions made for the fuel handling accident are maintained." This sentence will be revised to read, "ITS 3.7.12 is applicable anytime fuel is stored in the spent fuel pool." (page 444 of Enclosure 2, Volume 12)**

10. **JFD 7 for ITS 3.7.12 will be revised to provide a justification for the changes made to the ISTS 3.7.13 Mode of Applicability and the addition of ITS 3.7.12 Action E. (page 458 of Enclosure 2, Volume 12)**

11. **The Applicable Safety Analysis Section of ITS 3.7.12 will be revised. As proposed in KAB069, the following sentence stated, "The analysis of the fuel handling accident, given in Reference 3, assumes that the auxiliary building secondary containment enclosure (ABSCE) boundary is intact to ensure the releases from the auxiliary and containment buildings are consistent with the dose consequence analysis, no credit is taken for filtration by the ABGTS." This sentence will be revised to read, "The analysis of the fuel handling accident, given in Reference 3, assumes that the auxiliary building secondary containment enclosure (ABSCE) boundary is capable of being established to ensure the releases from the auxiliary and containment buildings are consistent with the dose consequence analysis, no credit is taken for filtration by the ABGTS." (pages 460 and 471 of Enclosure 2, Volume 12)**

12. The Applicability Section of ITS 3.7.12 will be revised. As proposed in KAB069, the following sentence stated, "With fuel stored in the spent fuel pool, one train of ABGTS is required to be OPERABLE to mitigate the consequences that could occur involving irradiated fuel stored in the fuel storage pool." This sentence will be revised to read, "With fuel stored in the spent fuel pool, one train of ABGTS is required to be OPERABLE to support mitigation of any potential fuel damage resulting from a load drop." (pages 464 and 475 of Enclosure 2, Volume 12)

13. The CTS markups for ITS 3.9.4 will be revised to show that CTS 3.9.4.b.2 is retained and dispositioned in ITS 3.7.12. (pages 105 and 107 of Enclosure 2, Volume 14)

Note: Attachment 1 contains ITS 3.7.12 LCO Note 1 concerning the opening of the ABSCE boundary. This Note has been deleted in response to RAI MHC005 (See MHC005, Attachment 1).

Response Date/Time	**5/22/2015 4:30 PM**
Closure Statement	
Question Closure Date	
Notification	**Mark Blumberg** **Scott Bowman** **Kristy Bucholtz** **Margaret Chernoff** **Michelle Conner** **Robert Elliott** **Ravinder Grover** **Matthew Hamm** **Khadijah Hemphill** **Andrew Hon** **Lynn Mynatt** **Ray Schiele**
Added By	**Michelle Conner**
Date Added	**5/22/2015 3:27 PM**
Date Modified	

Modified By

ITS A01 ITS 3.3.8

3/4.3.3 MONITORING INSTRUMENTATION

Auxiliary Building Gas Treatment System (ABGTS) ACTUATION A02

~~RADIATION MONITORING~~ INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

Auxiliary Building Gas Treatment System (ABGTS) actuation A02

LCO 3.3.8 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.

Applicability ACTION:

STET inoperable due to

Action A 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.~~ M01

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

ACTIONS Note ~~1~~ c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

ABGTS 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) M02

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ITS A01 ITS 3.3.8

Table 3.3.8-1

TABLE 3.3-6

Auxiliary Building Gas Treatment System (ABGTS) A02

~~RADIATION MONITORING~~ INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	~~MEASUREMENT RANGE~~ LA01	ACTION
~~Add proposed Table 3.3.8-1 Function 1~~ ~~M03~~					
1. AREA MONITOR A01					
Function ~~2~~ 1 a. Spent Fuel ~~Storage~~ Pool Area	1 (b) M04	*	≤ 151 mR/hr	~~10^{-1} – 10^{4} mR/hr~~ LA01	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 See ITS 3.3.6
b. Containment					See ITS 3.4.15
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 See ITS 3.3.7

Add proposed Table 3.3.8-1 Function ~~3~~ 2 M05

Add proposed Table 3.3.8-1 Footnote (b) M04

Applicability * ~~With fuel in the storage pool or building~~ ~~During movement of recently irradiated fuel assemblies in the auxiliary building~~ ~~L01~~

With fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies M08

** Equivalent to 1.0 x 10^{-5} µCi/cc. See ITS 3.3.7

ITS

A01

ITS 3.3.8

TABLE 3.3-6 (Continued)

ACTION STATEMENTS

~~Add proposed ACTION Note 2~~ ~~A03~~

Add proposed ACTION B M06

ACTION B 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.~~

~~Add proposed ACTION C for Function 2~~ ~~M07~~

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 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.

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.

Or

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

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.

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

See ITS 3.3.7

~~Add proposed ACTIONS A, B, C, and D for Function 1~~ ~~M03~~

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ITS A01 ITS 3.3.8

Table 3.3.8-1

TABLE 4.3-3

Auxiliary Building Gas Treatment System (ABGTS) A02

~~RADIATION MONITORING~~ INSTRUMENTATION SURVEILLANCE REQUIREMENTS

COT M02

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	~~CHANNEL FUNCTIONAL TEST~~	MODES FOR WHICH SURVEILLANCE REQUIRED
~~Add proposed SR 3.3.8.3 for Table 3.3.8-1 Function 1 at a Frequency of 18 months~~ ~~M03~~				
1. AREA MONITOR				
In accordance with the Surveillance Frequency Control Program LA02				
Function ~~2~~ 1 — a. Fuel ~~Storage~~ Spent Pool Area A01	~~S~~ SR 3.3.8.1	~~R~~ SR 3.3.8.~~4~~ 3	~~Q~~ SR 3.3.8.2	*
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	R	Q	ALL MODES (See ITS 3.3.7)

*~~With fuel in the storage pool or building~~.

~~During movement of recently irradiated fuel assemblies in the auxiliary building~~ ~~L01~~

With fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies M08

ITS A01 ITS 3.3.8

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

Auxiliary Building Gas Treatment System (ABGTS) Actuation A02

~~RADIATION MONITORING~~ INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

Auxiliary Building Gas Treatment System (ABGTS) actuation A02

LCO 3.3.8 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.

ACTION:

STET inoperable due to

Action A 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.~~ M01

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

ACTIONS Note ~~1~~ c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

ABGTS 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) M02

A01

ITS

ITS 3.3.8

Table 3.3.8-1

TABLE 3.3-6
~~RADIATION MONITORING~~ INSTRUMENTATION

Auxiliary Building Gas Treatment System (ABGTS) A02

LA01 M03 A01 LA01 M04

~~Add proposed Table 3.3.8-1 Function 1~~

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	~~MEASUREMENT RANGE~~	ACTION
1. AREA MONITOR					
Function ~~2~~ 1 a. Spent Fuel ~~Storage~~ Pool Area	1 (b)	*	≤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 - 10^{7} cpm	29

See ITS 3.3.6

See ITS 3.4.15

See ITS 3.3.7

Add proposed Table 3.3.8-1 Function ~~3~~ 2 M05

Add proposed Table 3.3.8-1 Footnote (b) M04

Applicability

* ~~With fuel in the storage pool or building~~

~~During movement of recently irradiated fuel assemblies in the auxiliary building~~ ~~L01~~

** Equivalent to 1.0 x 10^{-5} µCi/cc.

See ITS 3.3.7

With fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies M08

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ITS A01 ITS 3.3.8

TABLE 3.3-6 (Continued)

ACTION STATEMENTS

A03 ~~Add proposed ACTION Note 2~~

Add proposed ACTION B M06

ACTION B

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~~.

~~Add proposed ACTION C for Function 2~~ M07

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 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.

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.

Or

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

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.

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

See ITS 3.3.7

~~Add proposed ACTIONS A, B, C, and D for Function 1~~ M03

A01

ITS — ITS 3.3.8

Table 3.3.8-1

TABLE 4.3-3

Auxiliary Building Gas Treatment System (ABGTS) — A02

~~RADIATION MONITORING~~ INSTRUMENTATION SURVEILLANCE REQUIREMENTS

COT — M02

Add proposed SR 3.3.8.3 for Table 3.3.8-1 Function 1 at a Frequency of ~~18 months~~ — ~~M03~~

In accordance with the Surveillance Frequency Control Program — LA02

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	~~CHANNEL FUNCTIONAL TEST~~	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. AREA MONITOR				
Function ~~2~~ 1 — a. Spent Fuel ~~Storage~~ Pool Area	~~S~~ SR 3.3.8.1	~~R~~ SR 3.3.8.~~4~~ 3	~~Q~~ SR 3.3.8.2	*
2. PROCESS MONITORS (A01)				
a. Containment Purge Air Exhaust	S	R	Q	1, 2, 3, 4 & 6
b. Containment				
i. Deleted				
ii. Particulate Activity				
RCS Leakage Detection	S	R	Q	1, 2, 3 & 4
c. Control Room Isolation	S	R	Q	ALL MODES

See ITS 3.3.6 (2.a); See ITS 3.4.15 (2.b); See ITS 3.3.7 (2.c)

* ~~With fuel in the storage pool or building~~.

~~During movement of recently irradiated fuel assemblies in the auxiliary building~~ — ~~L01~~

With fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies — M08

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DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) 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 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 MODE, and the appropriate ACTIONS to take for inoperable Radiation Monitoring Instrumentation. CTS Table 4.3-3 provides the Surveillance Requirements for the Radiation Monitoring Instrumentation. ITS LCO 3.3.8 requires that the Auxiliary Building Gas Treatment System (ABGTS) Actuation Instrumentation for each Function in Table 3.3.8-1 to be OPERABLE. ITS 3.3.8 ACTIONS A~~,~~ and B~~, C, and D~~ provide the Required Actions and associated Completion Time for when the ABGTS actuation instrumentation is inoperable. ITS SR 3.3.8.1, SR 3.3.8.2, ~~SR 3.3.8.3,~~ and SR 3.3.8.~~4~~ 3 provide the testing requirements for each ABGTS actuation instrument in Table 3.3.8-1. ITS Table 3.3.8-1 lists the instruments that are required to be OPERABLE, the Applicable MODE, and the appropriate ACTIONS to take for inoperable ABGTS instrumentation. This changes the CTS by having a separate Specification for the ABGTS actuation instrumentation in lieu of including it in the Radiation Monitoring Instrumentation Specifications.

This change is acceptable because the technical requirements for the Radiation Monitoring Instrumentation are maintained with the change in format. The ABGTS 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 Note allowing separate Condition entry for each Function. ITS 3.3.8 ACTIONS Note 2 states that separate Condition entry is allowed for each Function. This changes the CTS by specifically allowing separate Condition entry for each Function in ITS Table 3.3.8-1.

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.

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DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) ACTUATION INSTRUMENTATION

; however, entry into ITS 3.3.8 Condition A requires declaring the channel inoperable

MORE RESTRICTIVE CHANGES

Condition A allows 4 hours

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 3.3.8 ~~does not contain an ACTION~~ for adjusting a setpoint that exceeds the required valued. ~~Instead, ITS 3.3.8 ACTION B 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.

contains this allowance after declaring the channel inoperable and entering ITS 3.3.8 Condition A.

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 3.3.8 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.

the required

M02 CTS 4.3.3.1 requires, in part, that the Radiation Monitoring Instrumentation on Table 4.3-3 be demonstrated OPERABLE by performance of CHANNEL FUNCTIONAL TEST. CTS Table 4.3-3 Instrument 1.a (Area Monitor – Fuel Storage Pool Area) requires a CHANNEL FUNCTIONAL TEST. ITS Table 3.3.8-1 Function ~~2~~ 1 (Spent Fuel Pool Area Radiation Monitor) requires the performance of ITS SR 3.3.8.2. ITS SR 3.3.8.2 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 a test similar to the current CHANNEL FUNCTIONAL TEST. CTS defines a CHANNEL FUNCTIONAL TEST based on the type of channel. In CTS a CHANNEL 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 a similar test and 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 required in the CTS.

DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) ACTUATION INSTRUMENTATION

Not Used

M03 CTS 3.3.3.1 does not contain a requirement for the manual initiation of ABGTS. ITS Table 3.3.8-1 Function 1 requires two channels of manual initiation for ABGTS to be OPERABLE in MODES 1, 2, 3, and 4 and during movement of recently irradiated fuel assemblies in the auxiliary building. ITS Table 3.3.8-1 Function 1 also requires performance of SR 3.3.8.3. ITS SR 3.3.8.3 requires performance of a TADOT every 18 months. (See DOC LA02 for the discussion related to moving the Surveillance Frequency to the Surveillance Frequency Control Program.) Additionally, ITS SR 3.3.8.3 contains a Note stating that verification of the setpoint is not required. Furthermore, ITS 3.3.8 contains compensatory actions to take if one or both ABGTS manual initiation channels are inoperable. ITS 3.3.8 ACTION A requires, in part, that with one manual initiation channel inoperable, to place one ABGTS train in operation. ITS 3.3.8 ACTION B requires, in part, that with two manual initiation channels inoperable, to place one train of ABGTS in operation immediately and to immediately enter the applicable Conditions and Required Actions of LCO 3.7.12. ITS 3.3.8 ACTION C requires that when the Required Action and associated Completion Time for Condition A or B are not met during movement of recently irradiated fuel assemblies in the auxiliary building, to immediately suspend movement of recently irradiated fuel assemblies in the auxiliary building. ITS 3.3.8 ACTION D requires that when the Required Action and associated Completion Time for Condition A or B are not met in MODE 1, 2, 3, or 4, to be in MODE 3 in 6 hours and in MODE 5 in 36 hours. This changes the CTS by requiring a new Function, Applicability, ACTIONS and Surveillance Requirement for the manual initiation of ABGTS.

The purpose the ABGTS manual initiation is to allow the operator to initiate ABGTS at any time. This change is acceptable because the addition of ABGTS manual initiation requirements will ensure that proper redundancy is maintained. This change is designated as more restrictive because additional requirements are being added to the ITS that were not required in the CTS.

M04 CTS Table 3.3-6 Minimum Channels OPERABLE column requires one channel for Functional Unit 1.a (Area Monitor, Fuel Storage Pool Area). ITS Table 3.3.8-1 Required Channels column requires one channel OPERABLE for Function ~~2~~ 1 (Spent Fuel Pool Area Radiation Monitor) modified by footnote (b) that states the Required Channel shall be associated with the ABGTS train required OPERABLE by LCO 3.7.12. This changes the CTS by specifying that the required Spent Fuel Pool Area Radiation Monitor shall be associated with the OPERABLE ABGTS train.

The purpose of CTS Table 3.3-6 Functional Unit 1.a (Area Monitor, Fuel Storage Pool Area) is to provide an indication of abnormal radiation levels and actuate ABGTS if necessary. This change is acceptable because it ensures the required radiation monitoring channel is associated with the OPERABLE ABGTS train. Thus if the radiation monitor's setpoint is exceeded a train of ABGTS will be available to start to mitigate any potential release. This change is designated as more restrictive because additional limitations are placed on what constitutes a required channel.

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DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) ACTUATION INSTRUMENTATION

M05 CTS 3.3.3.1 states that the Radiation Monitoring Instrumentation channels shown in Table 3.3-6 shall be OPERABLE. CTS Table 3.3-6 lists the radiation monitor required for the fuel storage pool area. ITS LCO 3.3.8 states that the ABGTS actuation instrumentation for each Function in Table 3.3.8-1 shall be OPERABLE. ITS Table 3.3.8-1 lists the required ABGTS instrument Functions which includes Containment Isolation – Phase A (Function ~~3~~ 2). ITS Table 3.3.8-1 Function ~~3~~ 2 provides a statement referring to LCO 3.3.2, "ESFAS Instrumentation," Function 3.a for all initiation functions and requirements. This changes the CTS by specifying an additional instrumentation actuation Function for the ABGTS.

The purpose of CTS 3.3.3.1 and Table 3.3-6 is to specify the required Functions and instrumentation to ensure the ABGTS actuates as assumed in the accident analysis. The Containment Isolation – Phase A signal from the ESFAS provides an actuation of ABGTS that is credited in the loss of coolant accident. This change is acceptable because it will result in a more complete listing of the Functions that actuate ABGTS. The inclusion of the Containment Isolation – Phase A signal with the other credited ABGTS instrumentation provides a complete list of the required ABGTS instrumentation with a common set of Actions to assure the unit is placed in a safe condition when the required instrumentation is inoperable. Therefore, the proposed change ensures the radioactive materials in the Auxiliary Building Secondary Containment Enclosure atmosphere following an accident are filtered and adsorbed prior to being exhausted to the environment. This change is designated as more restrictive because more ABGTS actuation instrumentation will be required in ITS than was required in CTS.

M06 CTS Table 3.3-6 "MINIMUM CHANNELS OPERABLE" column, for Instrument 1.a, only requires one Area Monitor – Fuel Storage Pool Area channel to be OPERABLE with fuel in the storage pool or building. CTS Table 3.3-6 ACTION 26 applies when the number of OPERABLE channels is less than required by the Minimum Channels OPERABLE requirement. ACTION 26 requires the performance of an area survey of the monitored area with portable monitoring instrumentation at least once per 24 hours. ITS Table 3.3.8-1 Function ~~2~~ 1 requires one Spent Fuel Pool Area Radiation Monitor to be OPERABLE during movement of irradiated fuel assemblies ~~in the auxiliary building~~ or with fuel stored in the spent fuel pool. ITS 3.3.8 ACTION B requires that when one required radiation monitoring channel is inoperable for reasons other than addressed in Condition A or the Required Action and associated Completion Time of Condition A not met, to immediately ~~place one ABGTS train in operation and to~~ enter the applicable Conditions and Required Action for LCO 3.7.12 for one train made inoperable by inoperable actuation instrumentation. This changes the CTS by requiring more stringent ACTIONS for the inoperable required channel~~s~~. (See DOC ~~L01~~ M08 for a discussion on the change to the Applicability.)

The purpose of the Spent Fuel Pool Area Radiation Monitor is to provide indication of high radiation in the Fuel Storage Pool area. This change is acceptable because when ~~one~~ the required Spent Fuel Pool Area Radiation Monitor channel is inoperable, ~~placing the ABGTS in operation accomplishes the Spent Fuel Pool Area Radiation Monitor instrument function. Additionally~~, entering the Conditions and Required Actions for the ABGTS Specification (ITS 3.7.12) will require suspending movement of irradiated fuel assemblies and suspending all crane operation with loads over the spent fuel pool ~~allow 7 days to restore one inoperable ABGTS train to OPERABLE status~~. This

DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) ACTUATION INSTRUMENTATION

change is designated as more restrictive because more stringent Required Actions and Completion Times are required in the ITS than were required in the CTS.

Not Used

M07 ~~CTS 3.3.3.1, Table 3.3-6, ACTION 26, is associated with Functional Unit 1.a (Area Monitor, Fuel Storage Pool Area) and requires that with the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, to perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours. ITS 3.3.8 ACTION C requires if the Required Action and associated Completion Time for Condition B, one required radiation monitor inoperable, is not met during movement of recently irradiated fuel assemblies in the auxiliary building, to immediately suspend movement of recently irradiated fuel assemblies in the auxiliary building. This changes the CTS by adding explicit Required Actions to exit the MODE of Applicability if remedial action cannot be completed within the allotted time.~~

~~The purpose of Required Actions is to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. This change is acceptable because it provides Required Actions to exit the MODE of Applicability that must be taken if the time allotted to establish the required remedial measures or complete the repair of inoperable features is exceeded. This change is designated as more restrictive because more stringent Required Actions and Completion Times are required in the ITS than were required in the CTS.~~

M08 See Insert 1

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 Instrumentation. These columns are labeled "MINIMUM CHANNELS OPERABLE," "APPLICABLE MODES," ALARM/TRIP SETPOINT," "MEASUREMENT RANGE," AND "ACTION." ITS Table 3.3.8-1 does not contain the "MEASUREMENT RANGE" column. This changes the CTS by moving the information of the "MEASUREMENT RANGE" column 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

Insert 1

M08 CTS 3.3.3.1, Table 3.3-6, Instrument 1.a (Area Monitor - Fuel Storage Pool Area) and CTS Table 4.3-3 Instrument 1.a (Area Monitor - Fuel Storage Pool Area) state that the requirements of the Fuel Storage Pool Area Monitors are applicable when there is fuel in the storage pool or building. CTS 3.9.12 requires that one train of ABGTS shall be be OPERABLE whenever irradiated fuel is in the storage pool. CTS 3.9.4 requires that one train of ABGTS is OPERABLE during movement of irradiated fuel within the containment. An OPERABLE train of ABGTS also requires the actuation signal to be OPERABLE. ITS Table 3.3.8-1 Function 1 (Spent Fuel Pool Area Radiation Monitor) states that the Applicable MODE is with fuel stored in the spent fuel pool or during movement of irradiated fuel assemblies. This changes CTS by adding an additional requirement to have the required Spent Fuel Pool Area Radition Monitor to be OPERABLE anytime there is movement of irradiated fuel assemblies.

The purpose of CTS Table 3.3-6 Functional Unit 1.a is to ensure that the required Fuel Storage Pool Area Monitor is OPERABLE to start equipment necessary to mitigate the consequences of a fuel handling accident. This change is acceptable because it changes the Mode of Applicability to include the potential fuel handling accident that could occur while moving irradiated fuel assemblies. Therefore, the proposed change ensures that any postulated fuel handling accident will be monitored by an OPERABLE instrument channel. This change is designated as more restrictive because the Mode of Applicability required for ITS has increased over what was required in CTS.

DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) ACTUATION INSTRUMENTATION

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 1.a 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). ~~In addition, SR 3.3.8.3 has been added for ITS Table 3.3.8-1 Function 1 with a Frequency of 18 months as discussed in DOC M03.~~ ITS SR 3.3.8.1, SR 3.3.8.2, ~~SR 3.3.8.3,~~ and SR 3.3.~~8.4~~ 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 these SRs and associated Bases to the Surveillance Frequency Control Program.

3

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.

<u>LESS RESTRICTIVE CHANGES</u>

Not Used

L01 *(Category 2 – Relaxation of Applicability)* CTS Table 3.3-6 Instrument 1.a (Area Monitor – Fuel Storage Pool Area) and CTS Table 4.3-3 Instrument 1.a (Area Monitor – Fuel Storage Pool Area) state that the requirements of the Fuel Storage Pool Area Monitors are applicable when there is fuel in the storage pool or building. ITS Table 3.3.8-1 Function 2 states that the Applicable MODE is during movement of recently irradiated fuel assemblies in the auxiliary building. This changes the CTS by only requiring the Spent Fuel Pool Monitors to be OPERABLE when there is a potential for a fuel handling accident in the auxiliary building (i.e., during movement of recently irradiated fuel assemblies in the auxiliary building).

DISCUSSION OF CHANGES
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) ACTUATION INSTRUMENTATION

~~The purpose of CTS Table 3.3-6 Functional Unit 1.a is to ensure that the Fuel Storage Pool Area Monitors are OPERABLE to mitigate the consequences of a fuel handling accident. This change is acceptable because the requirements continue to ensure that the structures, system and components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The Sequoyah Nuclear Plant (SQN) fuel handling analysis for the auxiliary building has been analyzed using the methodology from Regulatory Guide 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors." The SQN fuel handling analysis assumes, in part, that the accident occurs 100 hours after a plant shutdown, radioactive decay during the interval between shutdown and placement of the first spent fuel assembly into the spent fuel pool is taken into account, and a single fuel assembly is damaged with acceptable results. The ITS Bases define a recently irradiated fuel assembly as having occupied part of a critical reactor within the previous 100 hours. Therefore, the ITS imposes the controls on the ABGTS Actuation Instrumentation during movement of recently irradiated fuel assemblies in the auxiliary building. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.~~

CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.8~~A~~

3.3 INSTRUMENTATION

3.3.8~~A~~ ~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (~~FBACS~~ ABGTS) Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1

3.3.3.1 LCO 3.3.8 The ~~FBACS~~ ABGTS actuation instrumentation for each Function in Table 3.3.8-1 shall be OPERABLE. 1

3.3.3.1 Applicability APPLICABILITY: According to Table 3.3.8-1.

ACTIONS

------------------------------NOTE~~S~~------------------------------ 9

3.3.3.1 ACTION c ~~1.~~ LCO 3.0.3 is not applicable.

~~DOC A03~~ ~~2. Separate Condition entry is allowed for each Function.~~ 9

CONDITION	REQUIRED ACTION	COMPLETION TIME
M01 DOC ~~M03~~ 3.3.3.1 Action a — A. One ~~or more Functions with one~~ ~~manual initiation~~ required radiation monitoring channel ~~or train~~ inoperable due to trip setpoint not within limit.	A.1 ~~Place one FBACS ABGTS train in operation.~~ Adjust setpoint to within limit	~~7 days~~ 4 hours 9 ~~2~~ ~~1~~ 10
~~DOC M03~~ B. ~~One or more Functions with two~~ ~~Two manual initiation~~ channels ~~or two trains~~ ~~inoperable~~. STET	B.~~1.~~1 ~~Place one FBACS ABGTS train in operation.~~	~~Immediately~~ 9 ~~3~~ ~~1~~ ~~2~~ 11
3.3.3.1 ACTION b Table 3.3-6 ACTION 26 — ~~OR~~ One required radiation monitoring channel inoperable for reasons other than Condition A	~~AND~~	
OR	B.~~1.~~2 Enter applicable Conditions and Required Actions of LCO 3.7.~~13~~ 12, "~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (~~FBACS~~ ABGTS)," for one required train made inoperable by inoperable actuation instrumentation.	Immediately ~~2~~ ~~3~~ 4 1
DOC M06 Required Action and associated Completion Time of Condition A not met.	~~OR~~	
	~~B.2 Place both trains in emergency [radiation protection] mode.~~	~~Immediately~~ 3

CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.8~~A~~

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
~~DOC M03~~ ~~DOC M07~~ ~~C. Required Action and associated Completion Time for Condition A or B not met during movement of [recently] irradiated fuel assemblies in the fuel auxiliary building.~~	~~C.1 Suspend movement of [recently] irradiated fuel assemblies in the fuel auxiliary building.~~	~~Immediately~~ 5 2 12 5 2
~~DOC M03~~ ~~D. [Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.~~	~~D.1 Be in MODE 3.~~ ~~AND~~ ~~D.2 Be in MODE 5.~~	~~6 hours~~ ~~36 hours]~~ 5 5 5

SURVEILLANCE REQUIREMENTS

-----NOTE-----

4.3.3.1 Refer to Table 3.3.8-1 to determine which SRs apply for each ~~FBACS~~ ABGTS Actuation Function. 1

SURVEILLANCE	FREQUENCY
Table 4.3-3 Instrument 1.a SR 3.3.8.1 Perform CHANNEL CHECK.	~~[12 hours~~ ~~OR~~ 6 In accordance with the Surveillance Frequency Control Program] 6

CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.8~~A~~ 1

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
Table 4.3-3 Instrument 1.a	SR 3.3.8.2 Perform COT.	~~[92 days~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 6 6
	~~SR 3.3.8.3 [Perform ACTUATION LOGIC TEST.~~	~~[31 days on a STAGGERED TEST BASIS~~ ~~OR~~ ~~In accordance with the Surveillance Frequency Control Program]]~~ 5
~~DOC M03~~	~~SR 3.3.8.4~~ 3 ~~-----NOTE----- Verification of setpoint is not required. ----- Perform TADOT.~~	~~[[18] months~~ ~~OR~~ ~~In accordance with the Surveillance Frequency Control Program]~~ ~~5~~ ~~6~~ 13 ~~6~~

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SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
Table 4.3-3 Instrument 1.a	SR 3.3.8.~~5~~ 4 3 Perform CHANNEL CALIBRATION.	~~[[18] months~~ 5 6 ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 6

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CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.8~~A~~

1

Table 3.3.8-1 (page 1 of 1)
~~FBACS~~ ABGTS Actuation Instrumentation

1

FUNCTION	APPLICABLE MODES OR SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
~~DOC M03~~ ~~1. Manual Initiation~~	~~[1,2,3,4], (a)~~	~~2~~	~~SR 3.3.8.4~~ ~~3~~	~~NA~~ 13 ~~5~~
~~2. [Automatic Actuation Logic and Actuation Relays~~	~~1,2,3,4, (a)~~	~~2 trains~~	~~SR 3.3.8.3~~	~~NA]~~ 5
Table 3.3-6 Instrument 1.a [1] ~~3~~ 2. Spent Fuel Pool Area ~~Building~~ Radiation Monitor				5 4
~~a. Gaseous~~	~~[1,2,3,4],~~ (a)	~~[2]~~ 1 (b)	SR 3.3.8.1 SR 3.3.8.2 SR 3.3.8.~~5~~ ~~4~~ [3]	≤ ~~[2]~~ 151 mR/hr 5 7
~~b. Particulate~~	~~[1,2,3,4], (a)~~	~~[2]~~	~~SR 3.3.8.1~~ ~~SR 3.3.8.2~~ ~~SR 3.3.8.5~~	~~≤ [2] mR/hr~~ 8

(a) ~~During movement of [recently] irradiated fuel assemblies in the fuel~~ ~~auxiliary~~ ~~building~~. 14 ~~5~~ ~~4~~

With fuel stored in the spent fuel pool,
During movement of irradiated fuel assemblies.

DOC M04 (b) Required Channel shall be associated with the ABGTS train required OPERABLE per LCO 3.7.12 2

DOC M05 [2] ~~3.~~ Containment Isolation - Phase A — Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 3.a for all initiation functions and requirements.

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CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
3.3.8~~A~~

3.3 INSTRUMENTATION

3.3.8~~A~~ ~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (~~FBACS~~ ABGTS) Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1

3.3.3.1 LCO 3.3.8 The ~~FBACS~~ ABGTS actuation instrumentation for each Function in Table 3.3.8-1 shall be OPERABLE. 1

3.3.3.1 Applicability APPLICABILITY: According to Table 3.3.8-1.

ACTIONS

---NOTE~~S~~---

3.3.3.1 ACTION c ~~1.~~ LCO 3.0.3 is not applicable. 9

~~DOC A03~~ ~~2. Separate Condition entry is allowed for each Function.~~ 9

CONDITION	REQUIRED ACTION	COMPLETION TIME
M01 ~~DOC M03~~ 3.3.3.1 Action a — A. One ~~or more Functions~~ ~~manual initiation~~ required radiation monitoring ~~with one~~ channel ~~or train~~ inoperable due to trip setpoint not within limit.	A.1 ~~Place one FBACS ABGTS train in operation.~~ Adjust setpoint to within limit.	~~7 days~~ 4 hours 9 ~~2~~ ~~1~~ 10
~~DOC M03~~ B. ~~One or more Functions~~ ~~Two manual initiation~~ ~~with two channels or two trains inoperable.~~	~~B.1.1 Place one FBACS ABGTS train in operation.~~	~~Immediately~~ 9 ~~3~~ ~~1~~ ~~2~~
	STET ~~AND~~	
3.3.3.1 ACTION b Table 3.3-6 ACTION 26 — ~~OR~~ One required radiation monitoring channel inoperable for reasons other than Condition A	B.~~1.2~~ Enter applicable Conditions and Required Actions of LCO 3.7.~~13~~ 12, "~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (~~FBACS~~ ABGTS)," for one required train made inoperable by inoperable actuation instrumentation.	Immediately ~~2~~ ~~3~~ 4 1 11
OR	~~OR~~	
DOC M06 Required Action and associated Completion Time of Condition A not met.	~~B.2 Place both trains in emergency [radiation protection] mode.~~	~~Immediately~~ 3

CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.8~~A~~ 1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
~~DOC M03~~ ~~DOC M07~~ ~~C. Required Action and associated Completion Time for Condition A or B not met during movement of [recently] irradiated fuel assemblies in the fuel auxiliary building.~~	~~C.1 Suspend movement of [recently] irradiated fuel assemblies in the fuel auxiliary building.~~	~~Immediately~~ 5 2 12 5 2
~~DOC M03~~ ~~D. [Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.~~	~~D.1 Be in MODE 3.~~ ~~AND~~ ~~D.2 Be in MODE 5.~~	~~6 hours~~ ~~36 hours]~~ 5 5 5

SURVEILLANCE REQUIREMENTS

------------------------------NOTE------------------------------
4.3.3.1 Refer to Table 3.3.8-1 to determine which SRs apply for each ~~FBACS~~ ABGTS Actuation Function. 1

SURVEILLANCE	FREQUENCY
Table 4.3-3 Instrument 1.a — SR 3.3.8.1 Perform CHANNEL CHECK.	~~[12 hours~~ ~~OR~~ 6 In accordance with the Surveillance Frequency Control Program] 6

CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.8~~A~~ 1

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE		FREQUENCY
Table 4.3-3 Instrument 1.a	SR 3.3.8.2	Perform COT.	~~[92 days~~ ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 6
	~~SR 3.3.8.3~~	~~[Perform ACTUATION LOGIC TEST.~~	~~[31 days on a STAGGERED TEST BASIS~~ ~~OR~~ ~~In accordance with the Surveillance Frequency Control Program]]~~ 5
~~DOC M03~~	~~SR 3.3.8.4~~ 3	~~-------------------------------NOTE-------------------------------~~ ~~Verification of setpoint is not required.~~ ~~---~~ ~~Perform TADOT.~~	~~[[18] months~~ ~~OR~~ ~~In accordance with the Surveillance Frequency Control Program]~~ 13

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CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.8~~A~~ 1

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
Table 4.3-3 Instrument 1.a	SR 3.3.8.~~5~~ ~~4~~ 3 Perform CHANNEL CALIBRATION.	~~[[18] months~~ 5 6 ~~OR~~ In accordance with the Surveillance Frequency Control Program ~~]~~ 6

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CTS

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~
3.3.8~~A~~ 1

Table 3.3.8-1 (page 1 of 1)
~~FBACS~~ ABGTS Actuation Instrumentation 1

FUNCTION	APPLICABLE MODES OR SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT	
~~DOC M03~~ ~~1. Manual Initiation~~	~~[1,2,3,4], (a)~~	~~2~~	~~SR 3.3.8.4~~ 3	~~NA~~	13 ~~5~~
~~2. [Automatic Actuation Logic and Actuation Relays~~	~~1,2,3,4, (a)~~	~~2 trains~~	~~SR 3.3.8.3~~	~~NA]~~	5
Table 3.3-6 Instrument 1.a [1] ~~3~~ 2. Fuel Spent ~~Building~~ Pool Area Radiation Monitor					5 4
~~a. Gaseous~~	~~[1,2,3,4],~~ (a)	~~[2]~~ 1 (b)	SR 3.3.8.1 SR 3.3.8.2 SR 3.3.8.~~5~~ ~~4~~ [3]	≤ ~~[2]~~ 151 mR/hr	5 7
~~b. Particulate~~	~~[1,2,3,4], (a)~~	~~[2]~~	~~SR 3.3.8.1~~ ~~SR 3.3.8.2~~ ~~SR 3.3.8.5~~	~~≤ [2] mR/hr~~	8

(a) ~~During movement of [recently] irradiated fuel assemblies in the fuel building.~~ ~~auxiliary~~ 14 ~~5~~ ~~4~~

DOC M04 (b) Required Channel shall be associated with the ABGTS train required OPERABLE per LCO 3.7.12 2

DOC M05 [2] ~~3.~~ Containment Isolation - Phase A — Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 3.a for all initiation functions and requirements.

With fuel stored in the spent fuel pool,
During movement of irradiated fuel assemblies.

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.8, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) 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 3.3.8B (with Setpoint Control Program Specification) is not used and is not shown. Furthermore, the title of the Specification has been changed from "Fuel Building Air Cleanup System (FBACS) Actuation Instrumentation" to "Auxiliary Building Gas Treatment System (ABGTS) Actuation Instrumentation" since Sequoyah Nuclear Plant (SQN) does not have an FBACS.

2. 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.

3. ISTS 3.3.8 Required Action B.2 provides an option of placing both trains of the FBACS in the emergency [radiation protection] mode immediately when one or more Functions in ISTS Table 3.3.8-1 with two channels or two trains are inoperable. ITS 3.3.8 does not contain this Required Action since the ABGTS does not have an emergency mode of operation. ~~Furthermore, ISTS 3.3.8 Required Actions B.1.1 and B.1.2 have been renumbered as ITS 3.3.8 Required Actions B.1 and B.2 to reflect the removal of the ISTS option. Additionally, the "AND" logic connector has been moved to the correct position due to the deletion of ISTS 3.3.8 Required Action B.2.~~

4. Changes are made to be consistent with changes made to ISTS LCO 3.7.13. The Title and the number for this specification were changed and are reflected in ITS 3.3.8.

5. The ISTS contains bracketed information and/or values that are generic to Westinghouse vintage plants. The brackets are removed, the proper plant specific information/value is inserted or deleted to reflect the current licensing basis, and subsequent items are renumbered as required.

6. ISTS SR 3.3.8.1, SR 3.3.8.2, ~~SR 3.3.8.4~~, and SR 3.3.8.5 (ITS SR 3.3.8.1, SR 3.3.8.2, ~~SR 3.3.8.3~~, and SR 3.3.8.~~4~~ 3) provide two options for controlling the Frequencies of Surveillance Requirements. SQN is proposing to control the Surveillance Frequencies under the Surveillance Frequency Control Program.

7. ISTS Table 3.3.8-1 Function 3 specifies two Gaseous Radiation Monitors (Function 3.a) and two Particulate Radiation Monitors (Function 3.b) for the Fuel Storage Radiation Function. ITS Table 3.3.8-1 Function ~~2~~ 1 only requires one Spent Fuel Pool Area Radiation Monitor for Table 3.3.8-1 Function ~~2~~ 1. This change is acceptable because the fuel storage pool area radiation monitor is the monitor used in the current licensing bases for the ABGTS actuation.

8. Changes are made to ISTS Table 3.3.8-1 to reflect that the ABGTS receives a signal from Containment Isolation – Phase A which is part of ITS 3.3.2, "Engineered Safety Features Actuation System (ESFAS) Instrumentation."

Add Insert 1

Insert 1

9. ISTS Table 3.3.8-1 contains requirements for three FBACS (ABGTS) actuation instrumentation functions, Function 1 - Manual Initiation, Function 2 - Automatic Actuation Logic and Actuation Relays, and Function 3 - Fuel Building Radiation. ITS Table 3.3.8-1 has been revised to delete ISTS 3.3.8A Functions 1 and 2 (See JFDs 5 and 13 concerning the deletion of the functions). Therefore, ISTS 3.3.8A has been revised to delete ACTIONS NOTE 2 and revise Conditions A and B to address ITS Table 3.3.8-1, Function 1, Spent Fuel Pool Area Radiation Monitor. This change is acceptable because the current licensing basis does not require the Manual Initiation or Automatic Actuation Logic and Actuation Relays Function.

10. ISTS 3.3.8A ACTION A requires placing one train of the FBACS (ABGTS) in operation within 7 days if one or more Functions with one channel or train are inoperable. ITS 3.3.8 ACTION A requires adjusting the trip setpoint to within limit within 4 hours if the required radiation monitoring channel is inoperable due to the trip setpoint not within limit. The revised Required Action allows 4 hours to adjust the trip setpoint within limit before requiring entry into ITS 3.3.8 Condition B. CTS 3.3.3.1 Action a allows 4 hours to adjust the radiation monitoring trip setpoint to within limit before declaring the channel inoperable. If the trip setpoint is not within limit, the channel is inoperable and ITS 3.3.8 Required Action A.1 provides compensatory actions commensurate with actions required by the current licensing basis.

11. ISTS 3.3.8A ACTION B requires immediately placing one train of FBACS (ABGTS) in operation or entering the applicable Conditions and Required Actions of LCO 3.7.13 (ITS LCO 3.7.12) for one train made inoperable by inoperable actuation instrumentation if one or more Functions with two channels or two trains are inoperable. ITS 3.3.8 ACTION B has been revised to require immediately entering the applicable Conditions and Required Actions of LCO 3.7.12, "Auxiliary Building Gas Treatment System (ABGTS)," for one required train made inoperable by inoperable actuation instrumentation if one required radiation monitoring channel is inoperable for reasons other than Condition A or the Required Actions and associated Completion Time of Condition A is not met. The required spent fuel pool radiation monitor provides indication of a release associated with a fuel handling accident. This change is acceptable because LCO 3.7.12 provides compensatory actions to stop activities that could result in a fuel handling accident.

12. ISTS 3.3.8A Condition C has been deleted. ITS 3.3.8 Conditions A and B have been revised to provide compensatory actions required during the movement of irradiated fuel assemblies. Therefore, this Condition is not required.

13. ISTS Table 3.3.8-1 Function 1, Manual Initiation, and the associated Surveillance Requirement, ISTS 3.3.8.4 (Perform TADOT) are deleted. CTS does not require a manual initiation function for ABGTS actuation instrumentation. Therefore, this change is acceptable because it maintains the current licensing basis.

14. ISTS Table 3.3.8-1 requires Function 3 (ITS 3.3.8 Function 1 - Spent Fuel Pool Area Radiation Monitor) OPERABLE in MODES [1,2,3,4] (a), where Footnote (a) is during the movement of [recently] irradiated fuel assemblies in the fuel building. ITS Table 3.3.8-1, Function 1 is only required OPERABLE in MODE (a). ITS Table 3.3.8-1, Footnote (a) has been revised to state, "With fuel stored in the spent fuel pool, During movement of irradiated fuel assemblies." The required spent fuel pool radiation monitor provides indication of a release associated with a fuel handling accident. Therefore, the Mode of Applicability has been changed to align the instrumentation requirements of ITS LCO 3.3.8 with the Mode of Applicability requirements of ITS LCO 3.7.12.

B 3.3 INSTRUMENTATION

B 3.3.8A ~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (~~FBACS~~ ABGTS) Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1

BASES

BACKGROUND

The ~~FBACS~~ ABGTS ensures that radioactive materials in the ~~fuel~~ auxiliary building atmosphere following a fuel handling accident ~~[~~involving handling ~~recently~~ irradiated fuel~~]~~ or a loss of coolant accident (LOCA) are filtered and adsorbed prior to exhausting to the environment. The system is described in the Bases for LCO 3.7.~~13~~ 12, "~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (ABGTS)." The system initiates filtered ventilation of ~~the fuel building~~ INSERT 1 automatically following receipt of a spent fuel pool area high radiation signal ~~(gaseous or particulate)~~ or a ~~safety injection (SI)~~ Containment Phase A Isolation signal. Initiation may also be performed manually as needed from the main control room. 1 2 3 4

STET

High ~~gaseous and particulate~~ area radiation, ~~each~~ monitored by either of two monitors, provides ~~FBACS~~ ABGTS initiation. Each ~~FBACS~~ ABGTS train is initiated by high radiation detected by a channel dedicated to that train. ~~There are a total of two channels, one for each train.~~ STET ~~Each channel contains a gaseous and particulate monitor.~~ High radiation detected by ~~any~~ the required monitor or ~~an SI~~ Containment Phase A Isolation signal from the Engineered Safety Features Actuation System (ESFAS) initiates ~~fuel~~ auxiliary building isolation and starts the ~~FBACS~~ ABGTS. These actions function to prevent exfiltration of contaminated air by initiating filtered ventilation, which imposes a negative pressure on the ~~fuel building~~ Auxiliary Building Secondary Containment Enclosure (ABSCE). ~~Since the radiation monitors include an air sampling system, various components such as sample line valves, sample line heaters, sample pumps, and filter motors are required to support monitor OPERABILITY.~~ 4 1 4 1 4

During plant operations with the containment open to the auxiliary building, the ABSCE boundary is extended to include the area inside the containment building and the shield building.

APPLICABLE SAFETY ANALYSES

The ~~FBACS~~ ABGTS ensures that radioactive materials in the ~~fuel building~~ ABSCE atmosphere following a ~~fuel handling accident [involving handling recently irradiated fuel] or a~~ LOCA are filtered and adsorbed prior to being exhausted to the environment. This action reduces the radioactive content in the ~~fuel~~ auxiliary building exhaust following a LOCA ~~or fuel handling accident~~ so that offsite doses remain within the limits specified in 10 CFR 100 (Ref. 1) ~~for LOCA or 10 CFR 50.67 (Ref. 2) for fuel handling accident~~. 1 4 2 4 4

High radiation initiation of ABGTS for a fuel handling accident will ensure the auxiliary building secondary containment enclosure (ABSCE) boundary is established such that the release point for the fission products will correspond to the release point assumed in the fuel handling accident analysis so that control room doses remain within the limits specified in 10 CFR 50.67.(Ref.2)

The ~~FBACS~~ ABGTS actuation instrumentation for LOCA satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). 1 4

LCO

The LCO requirements ensure that instrumentation necessary to initiate the ~~FBACS~~ ABGTS is OPERABLE. 1

BASES

LCO (continued)

~~1. Manual Initiation~~

~~The LCO requires two channels OPERABLE. The operator can initiate the FBACS 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.~~

~~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.~~

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

~~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.~~

~~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 FBACS 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 FBACS function is affected, the Conditions applicable to their SI function need not be entered. The less restrictive Actions specified for inoperability of the FBACS functions specify sufficient compensatory measures for this case.~~

~~3.~~ 1. Spent Fuel ~~Building~~ Pool Area Radiation

The LCO specifies ~~two required Gaseous~~ one Spent Fuel Pool Area Radiation Monitor channel~~s and two required Particulate Radiation Monitor channels~~ to ensure that the radiation monitoring instrumentation necessary to initiate the ~~FBACS~~ ABGTS remains OPERABLE. INSERT 3

For sampling systems, channel OPERABILITY involves more than OPERABILITY of channel electronics. OPERABILITY may also require correct valve lineups, sample pump operation, filter motor operation, detector OPERABILITY, if these supporting features are necessary for actuation to occur under the conditions assumed by the safety analyses. INSERT 4

4 ~~4~~ ~~**INSERT 2**~~

~~one of two sets of manual initiation hand switches in the control room. Each Auxiliary Building Isolation (ABI) manual hand switch will initiate its respective train of ABGTS.~~

4 **INSERT 3**

One radiation monitor is dedicated to each train of ABGTS.

5 **INSERT 4**

The measurement range for the Spent Fuel Pool Area Monitors is 10^{-1} to 10^{4} mR/hr.

The Required Channels value is modified by a footnote stating that the Required Channel shall be associated with the ABGTS train required OPERABLE per LCO 3.7.12. This ensures a valid actuation signal will start a train of ABGTS.

2

2 ~~3~~. Containment Isolation - Phase A

Refer to LCO 3.3.2, Function 3.a., for all initiating Functions and requirements.

BASES

LCO (continued)

Only the Trip Setpoint is specified for each ~~FBACS~~ ABGTS Function in the LCO. The Trip Setpoint limits account for instrument uncertainties, which are defined in ~~the Unit Specific Setpoint Calibration~~ TI-18, Radiation Monitoring Procedure (Ref. ~~2~~ 3).

APPLICABILITY

~~The manual FBACS initiation must be OPERABLE in MODES [1, 2, 3, and 4] and when moving [recently] irradiated fuel assemblies in the fuel building, to ensure the FBACS operates to remove fission products associated with leakage after a LOCA or a fuel handling accident [involving handling recently irradiated fuel].~~ The automatic ~~FBACS~~ ABGTS actuation instrumentation is ~~also~~ required to be OPERABLE in MODES ~~[~~1, 2, 3, and 4~~]~~ to remove fission products caused by post LOCA Emergency Core Cooling Systems leakage and is addressed in LCO 3.3.2.

High radiation initiation of the ~~FBACS~~ ABGTS must be OPERABLE in any MODE during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ or storage of fuel assemblies in the spent fuel pool to ensure automatic initiation of the ~~FBACS~~ ABGTS when the potential for ~~the limiting~~ a fuel handling accident exists. ~~[Due to radioactive decay, the FBACS instrumentation is only required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days~~ ~~100 hours~~~~).]~~ High radiation initiation of ABGTS for a fuel handling accident will ensure the auxiliary building secondary containment enclosure (ABSCE) boundary is established such that the release point for the fission products will correspond to the release point assumed in the dose consequences analysis for the fuel handling accident.

~~While in MODES 5 and 6 without fuel handling [involving handling recently irradiated fuel] in progress, the FBACS~~ ~~ABGTS~~ ~~instrumentation need not be OPERABLE since a fuel handling accident [involving handling recently irradiated fuel] cannot occur.~~

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 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.

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since ~~recently~~ irradiated fuel assembly movement and fuel assembly storage in the spent fuel pool can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving ~~recently~~ irradiated fuel assemblies or storing while in MODE 5 or 6, LCO 3.0.3 would not specify any action. If moving ~~recently~~ irradiated fuel assemblies or fuel storage while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, 3, or 4 would require the unit to be shutdown unnecessarily.

BASES

ACTIONS (continued)

~~A second Note has been added to the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.8-1 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.~~ 5

A.1

area radiation monitor being inoperable solely due to the trip setpoint not within limits.

4 hours

the required radiation monitor

the required

adjust the setpoint and

Condition A applies to the ~~actuation logic train function of the Solid State Protection System (SSPS), the radiation monitor functions, and the manual function~~. Condition A applies to the failure of ~~a single actuation logic train, radiation monitor channel, or manual~~ channel. If ~~one~~ channel ~~or train~~ is inoperable, a period of ~~7 days~~ is allowed to restore it to OPERABLE status. If the ~~train~~ channel cannot be restored to OPERABLE status, ~~one FBACS~~ ABGTS ~~train must be placed in operation. This accomplishes the actuation instrumentation function and places the unit in a conservative mode of operation. 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 time is the same as that provided in LCO 3.7.13~~ 12. 5 1 3

the Required Action and associated Completion Time of Condition B would apply.

~~B.1.1, B.1.2, B.2~~ and 5

~~Condition B applies to the failure of two FBACS actuation logic trains, two~~ one required ~~radiation monitors, or two manual channels. The Required Action is to place one FBACS~~ ABGTS ~~train in 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 3.7.13~~ 12 ~~must also be entered for the FBACS~~ ABGTS ~~train made inoperable by the inoperable actuation instrumentation. This ensures appropriate limits are placed on train inoperability as discussed in the Bases for LCO 3.7.13~~ 12. 5 1 5 3 1 3

~~Alternatively, both trains may be placed in the emergency [radiation protection] mode. This ensures the FBACS Function is performed even in the presence of a single failure.~~ 5

or the required channel is inoperable for reasons other than the trip setpoint not within limit.

BASES

ACTIONS (continued)

or movement of loads over the spent fuel pool

~~C~~B.1

Condition ~~C~~ B applies when the Required Action and associated Completion Time for Condition A ~~or B~~ has not been met ~~and [recently] irradiated fuel assemblies are being moved in the fuel building.~~ ~~Movement~~ of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel~~ auxiliary building ~~must be suspended immediately to eliminate the potential for events that could require~~ ~~FBACS~~ ABGTS actuation. 2 4 2 1 5

Entry into the applicable Conditions and Required Actions of LCO 3.7.12 will require that movement

~~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 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.~~

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that table 3.3.8-1 determines which SRs apply to which ~~FBACS~~ ABGTS Actuation Functions. 6 1

SR 3.3.8.1

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.

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.

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.~~
~~---]~~

8

~~SR 3.3.8.3~~

~~[SR 3.3.8.3 is the performance of an ACTUATION LOGIC TEST. All possible logic combinations, with and without applicable permissives, are tested for each protection function. [The actuation logic is tested every 31 days on a STAGGERED TEST BASIS. The Frequency is based on the known reliability of the relays and controls and the multichannel redundancy available, and has been shown to be acceptable through 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.~~
~~--]]~~

5

~~SR 3.3.8.4~~ 3

~~SR 3.3.8.4~~ 3 ~~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~~

~~5~~ ~~5~~ 5

4 1

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~refueling interval with applicable extensions. In some instances, the test includes actuation of the end device (e.g., pump starts, valve cycles, etc.).~~ ~~[The Frequency of 18 months is based on operating experience and is consistent with the typical industry refueling cycle.~~ 5 ~~7~~

~~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.~~
~~-----]~~ 8

~~The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions tested have no setpoints associated with them.~~ 5

3

SR 3.3.8.~~5~~ ~~4~~ 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.~~ 7

~~OR~~

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

1

B 3.3 INSTRUMENTATION

B 3.3.8A ~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (~~FBACS~~ ABGTS) Actuation Instrumentation ~~(Without Setpoint Control Program)~~

1

BASES

BACKGROUND

The ~~FBACS~~ ABGTS ensures that radioactive materials in the ~~fuel~~ auxiliary building atmosphere following a fuel handling accident ~~[~~involving handling ~~recently~~ irradiated fuel~~]~~ or a loss of coolant accident (LOCA) are filtered and adsorbed prior to exhausting to the environment. The system is described in the Bases for LCO 3.7.~~13~~ 12, "~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System (ABGTS)." The system initiates filtered ventilation of ~~the fuel building~~ INSERT 1 automatically following receipt of a spent fuel pool area high radiation signal ~~(gaseous or particulate)~~ or a ~~safety injection (SI)~~ Containment Phase A Isolation signal. Initiation may also be performed manually as needed from the main control room. 1 2 3 4

High ~~gaseous and particulate~~ area radiation, ~~each~~ monitored by either of two monitors, provides ~~FBACS~~ ABGTS initiation. Each ~~FBACS~~ ABGTS train is initiated by high radiation detected by a channel dedicated to that train. ~~There are a total of two channels, one for each train.~~ STET ~~Each channel contains a gaseous and particulate monitor.~~ High radiation detected by ~~any~~ the required monitor or ~~an SI~~ Containment Phase A Isolation signal from the Engineered Safety Features Actuation System (ESFAS) initiates ~~fuel~~ auxiliary building isolation and starts the ~~FBACS~~ ABGTS. These actions function to prevent exfiltration of contaminated air by initiating filtered ventilation, which imposes a negative pressure on the ~~fuel building~~ Auxiliary Building Secondary Containment Enclosure (ABSCE). During plant operations with the containment open to the auxiliary building, the ABSCE boundary is extended to include the area inside the containment building and the shield building. ~~Since the radiation monitors include an air sampling system, various components such as sample line valves, sample line heaters, sample pumps, and filter motors are required to support monitor OPERABILITY.~~ 4 1 4 1 4

APPLICABLE SAFETY ANALYSES

The ~~FBACS~~ ABGTS ensures that radioactive materials in the ~~fuel building~~ ABSCE atmosphere following a ~~fuel handling accident [involving handling recently~~ irradiated fuel~~]~~ ~~or a~~ LOCA are filtered and adsorbed prior to being exhausted to the environment. This action reduces the radioactive content in the ~~fuel~~ auxiliary building exhaust following a LOCA ~~or fuel handling accident~~ so that offsite doses remain within the limits specified in 10 CFR 100 (Ref. 1)~~for LOCA or 10 CFR 50.67 (Ref. 2) for fuel handling accident~~. High radiation initiation of ABGTS for a fuel handling accident will ensure the auxiliary building secondary containment enclosure (ABSCE) boundary is established such that the release point for the fission products will correspond to the release point assumed in the fuel handling accident analysis so that control room doses remain within the limits specified in 10 CFR 50.67.(Ref.2) 1 4 2 4 4

The ~~FBACS~~ ABGTS actuation instrumentation for LOCA satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). 1 4

LCO

The LCO requirements ensure that instrumentation necessary to initiate the ~~FBACS~~ ABGTS is OPERABLE. 1

BASES

LCO (continued)

~~1. Manual Initiation~~

~~The LCO requires two channels OPERABLE. The operator can initiate the FBACS 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~~ ~~4~~ 5

~~ABGTS~~ ~~INSERT 2~~

~~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.~~ ~~4~~

~~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.~~

~~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 FBACS 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 FBACS function is affected, the Conditions applicable to their SI function need not be entered. The less restrictive Actions specified for inoperability of the FBACS functions specify sufficient compensatory measures for this case.~~ 5

1 ~~3~~ ~~2~~. Spent Fuel ~~Building~~ Pool Area Radiation 5 4

The LCO specifies ~~two required Gaseous~~ one Spent Fuel Pool Area Radiation Monitor channel~~s~~ ~~and two required Particulate Radiation Monitor channels~~ to ensure that the radiation monitoring instrumentation necessary to initiate the ~~FBACS~~ ABGTS remains OPERABLE. INSERT 3 4 1 4

For sampling systems, channel OPERABILITY involves more than OPERABILITY of channel electronics. OPERABILITY may also require correct valve lineups, sample pump operation, filter motor operation, detector OPERABILITY, if these supporting features are necessary for actuation to occur under the conditions assumed by the safety analyses. INSERT 4 5

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4 ~~**INSERT 2**~~

~~one of two sets of manual initiation hand switches in the control room. Each Auxiliary Building Isolation (ABI) manual hand switch will initiate its respective train of ABGTS.~~

4 **INSERT 3**

One radiation monitor is dedicated to each train of ABGTS.

5 **INSERT 4**

The measurement range for the Spent Fuel Pool Area Monitors is 10^{-1} to 10^{4} mR/hr.

The Required Channels value is modified by a footnote stating that the Required Channel shall be associated with the ABGTS train required OPERABLE per LCO 3.7.12. This ensures a valid actuation signal will start a train of ABGTS.

2 ~~3~~. Containment Isolation - Phase A

Refer to LCO 3.3.2, Function 3.a., for all initiating Functions and requirements.

~~FBACS~~ ABGTS Actuation Instrumentation ~~(Without Setpoint Control Program)~~ 1
B 3.3.8~~A~~

BASES

LCO (continued)

Only the Trip Setpoint is specified for each ~~FBACS~~ ABGTS Function in the LCO. The Trip Setpoint limits account for instrument uncertainties, which are defined in ~~the Unit Specific Setpoint Calibration~~ TI-18, Radiation Monitoring Procedure (Ref. ~~2~~ 3). 1 4

APPLICABILITY

~~The manual FBACS initiation must be OPERABLE in MODES [1, 2, 3, and 4] and when moving [recently] irradiated fuel assemblies in the fuel building, to ensure the FBACS operates to remove fission products associated with leakage after a LOCA or a fuel handling accident [involving handling recently irradiated fuel].~~ The automatic ~~FBACS~~ ABGTS actuation instrumentation is ~~also~~ required to be OPERABLE in MODES ~~[~~1, 2, 3, and 4~~]~~ to remove fission products caused by post LOCA Emergency Core Cooling Systems leakage and is addressed in LCO 3.3.2. 1 2 4 5

High radiation initiation of the ~~FBACS~~ ABGTS must be OPERABLE in any MODE during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ or storage of fuel assemblies in the spent fuel pool to ensure automatic initiation of the ~~FBACS~~ ABGTS when the potential for ~~the limiting~~ a fuel handling accident exists. ~~[Due to radioactive decay, the FBACS instrumentation is only required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days).]~~ High radiation initiation of ABGTS for a fuel handling accident will ensure the auxiliary building secondary containment enclosure (ABSCE) boundary is established such that the release point for the fission products will correspond to the release point assumed in the dose consequences analysis for the fuel handling accident. 1 2 4 1 2 1 2

~~While in MODES 5 and 6 without fuel handling [involving handling recently irradiated fuel] in progress, the FBACS instrumentation need not be OPERABLE since a fuel handling accident [involving handling recently irradiated fuel] cannot occur.~~ ~~1~~ ~~2~~ 5

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 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. 4

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since ~~recently~~ irradiated fuel assembly movement and fuel assembly storage in the spent fuel pool can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving ~~recently~~ irradiated fuel assemblies or storing while in MODE 5 or 6, LCO 3.0.3 would not specify any action. If moving ~~recently~~ irradiated fuel assemblies or fuel storage while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, 3, or 4 would require the unit to be shutdown unnecessarily. 5 5

BASES

ACTIONS (continued)

~~A second Note has been added to the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.8-1 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.~~ 5

A.1

Condition A applies to the ~~actuation logic train function of the Solid State Protection System (SSPS), the radiation monitor functions, and the manual function~~ area radiation monitor being inoperable solely due to the trip setpoint not within limits. Condition A applies to the failure of ~~a single~~ the required radiation monitor ~~actuation logic train, radiation monitor channel, or manual~~ channel. If ~~one~~ the required channel ~~or train~~ is inoperable, a period of ~~7 days~~ 4 hours is allowed to adjust the setpoint and restore it to OPERABLE status. If the ~~train~~ channel cannot be restored to OPERABLE status, ~~one~~ ~~FBACS~~ ~~ABGTS~~ ~~train must be placed in operation. This accomplishes the actuation instrumentation function and places the unit in a conservative mode of operation. 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 time is the same as that provided in LCO 3.7.~~~~13~~ ~~12~~. the Required Action and associated Completion Time of Condition B would apply. 5 ~~1~~ ~~3~~

~~B.1.1, B.1.2, B.2~~ ~~and~~ 5

~~Condition B applies to the failure of two FBACS actuation logic trains, two radiation monitors, or two manual channels. The Required Action is to place one FBACS ABGTS train in 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 3.7.13 12 must also be entered for the FBACS ABGTS train made inoperable by the inoperable actuation instrumentation. This ensures appropriate limits are placed on train inoperability as discussed in the Bases for LCO 3.7.13 12.~~ ~~one reqired~~ ~~5~~ ~~1~~ 5 ~~3~~ ~~1~~ ~~3~~

~~Alternatively, both trains may be placed in the emergency [radiation protection] mode. This ensures the FBACS Function is performed even in the presence of a single failure.~~ 5

or the required channel is inoperable for reasons other than the setpoint not within limit.

BASES

ACTIONS (continued)

or movement of loads over the spent fuel pool

B

~~C~~.1

S

Entry into the applicable Conditions and Required Actions of LCO 3.7.12 will require that movement

Condition ~~C~~ applies when the Required Action and associated Completion Time for Condition A ~~or B~~ have not been met ~~and [recently] irradiated fuel assemblies are being moved in the fuel building.~~ auxiliary 2
~~Movement~~ of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel~~ auxiliary ~~building~~ must 4 2
be suspended immediately to eliminate the potential for events that could require ~~FBACS~~ ABGTS actuation. 1

~~D.1 and D.2~~ 5

~~Condition D 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.~~

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that table 3.3.8-1 determines which SRs apply to which ~~FBACS~~ ABGTS Actuation Functions. 6 1

SR 3.3.8.1

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.

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.

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.~~
~~-----]~~

8

~~SR 3.3.8.3~~

~~[SR 3.3.8.3 is the performance of an ACTUATION LOGIC TEST. All possible logic combinations, with and without applicable permissives, are tested for each protection function. [The actuation logic is tested every 31 days on a STAGGERED TEST BASIS. The Frequency is based on the known reliability of the relays and controls and the multichannel redundancy available, and has been shown to be acceptable through 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.~~
~~-----]]~~

5

~~SR 3.3.8.4~~ 3

~~5~~

~~SR 3.3.8.4~~ 3 ~~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~~

~~5~~

5

4 1

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~refueling interval with applicable extensions. In some instances, the test includes actuation of the end device (e.g., pump starts, valve cycles, etc.).~~ ~~[The Frequency of 18 months is based on operating experience and is consistent with the typical industry refueling cycle.~~ 5 ~~7~~

~~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.~~
~~-----]~~ 8

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

3

SR 3.3.8.~~5~~ 4 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.~~ 7

~~OR~~

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

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.8 BASES, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS) 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 3.3.8B (with Setpoint Control Program Specification) is not used and is not shown. Furthermore, the title of the Specification has been changed from "Fuel Building Air Cleanup System (FBACS) Actuation Instrumentation" to "Auxiliary Building Gas Treatment System (ABGTS) Actuation Instrumentation" since Sequoyah Nuclear Plant (SQN) does not have an FBACS.

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 to be consistent with changes made to ISTS LCO 3.7.13. The Title and the number for this specification were changed and are reflected in the Bases of ITS B 3.3.8.

4. 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.

5. Changes are made to be consistent with changes made to the Specification.

6. Typographical/grammatical error corrected.

3

7. ISTS SR 3.3.8.1, SR 3.3.8.2, ~~SR 3.3.8.4~~, and SR 3.3.8.5 (ITS SR 3.3.8.1, SR 3.3.8.2, ~~SR 3.3.8.3~~, and SR 3.3.8.4) 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.

8. 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.

REFUELING OPERATIONS

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

a. The equipment door closed and held in place by a minimum of four bolts,

(See ITS 3.9.4)

b. A minimum of one door in each airlock is closed, and both doors of both containment personnel airlocks may be open if:

1. One personnel airlock door in each airlock is capable of closure, and

LCO 3.7.12 Note 2

2. One train of the Auxiliary Building Gas Treatment System is OPERABLE in accordance with Technical Specification 3.9.12, and

c. Each penetration* providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by an isolation valve, blind flange, manual valve, or equivalent, or

2. Be capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve.

APPLICABILTY:

3.9.4.a. Containment Building Equipment Door - During movement of recently irradiated fuel within the containment.

3.9.4.b. and c. Containment Building Airlock Doors and Penetrations - During movement of irradiated fuel within the containment.

ACTION:

1. With the requirements of the above specification not satisfied for the containment building equipment door, immediately suspend all operations involving movement of recently irradiated fuel in the containment building. The provisions of Specification 3.0.3 are not applicable.

(See ITS 3.9.4)

2. With the requirements of the above specification not satisfied for containment airlock doors or penetrations, immediately suspend all operations involving movement of irradiated fuel in the containment building. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.4 Each of the above required containment building penetrations shall be determined to be either in its required condition or capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve once per 7 days during movement of irradiated fuel in the containment building by:

a. Verifying the penetrations are in their required condition, or

b. Verifying the Containment Ventilation isolation valves not locked, sealed, or otherwise secured in position, actuate to the isolation position on an actual or simulated actuation signal.

* Penetration flow path(s) providing direct access from the containment atmosphere that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure may be unisolated under administrative controls.

ITS A01 ITS 3.7.12

REFUELING OPERATIONS

3/4.9.12 AUXILIARY BUILDING GAS TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.7.12 Note 2 — 3.9.12 One auxiliary building gas treatment filter train shall be OPERABLE. M02

Applicability — APPLICABILITY: ~~Whenever irradiated fuel is in the storage pool~~ stored spent fuel STET

During movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. ~~L06~~

ACTION: irradiated assemblies

~~Add proposed Required Action D.1~~ ~~L06~~

ACTION D.1 / ACTION E.1 — a. With no auxiliary building gas treatment filter train OPERABLE, ~~suspend all operations involving movement of fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one auxiliary building gas treatment filter train is restored to OPERABLE status~~. M02

ACTIONS Note — b. The provisions of Specification 3.0.3 are not applicable. STET

Add proposed Action E.1 Note L08

SURVEILLANCE REQUIREMENTS ~~L06~~

SR 3.7.12.1, SR 3.7.12.3 — 4.9.12 The above required auxiliary buildings gas treatment filter train shall be demonstrated OPERABLE:

In accordance with the Surveillance Frequency Control Program LA02

SR 3.7.12.1 — a. ~~At least once per 31 days on a STAGGERED TEST BASIS~~ by initiating, ~~from the control room, flow through the HEPA filters and charcoal adsorbers~~ and verifying that the system operates for at least ~~10 hours~~ 15 continuous minutes with the heaters on. L03 LA03 L04

Add proposed SR 3.7.12.2 A02

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978 (except for the provisions of ANSI N510 Sections 8 and 9), and the system flow rate is 9000 cfm ± 10%.

2. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than 2.5% when tested in accordance with ASTM D3803-1989 at a temperature of 30°C (86°F) and a relative humidity of 70%.

3. Verifying a system flow rate of 9000 cfm ± 10% during system operations when tested in accordance with ANSI N510-1975.

See ITS 5.5.9

REFUELING OPERATIONS

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

a. The equipment door closed and held in place by a minimum of four bolts,

b. A minimum of one door in each airlock is closed, or both doors of both containment personnel airlocks may be open if:

1. One personnel airlock door in each airlock is capable of closure, and

(See ITS 3.9.4)

LCO 3.7.12 Note 2

2. One train of the Auxiliary Building Gas Treatment System is OPERABLE in accordance with Technical Specification 3.9.12, and

c. Each penetration* providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by an isolation valve, blind flange, manual valve, or equivalent, or

2. Be capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve.

APPLICABILITY:

3.9.4.a. Containment Building Equipment Door - During movement of recently irradiated fuel within the containment.

3.9.4.b. and c. Containment Building Airlock Doors and Penetrations - During movement of irradiated fuel within the containment.

ACTION:

1. With the requirements of the above specification not satisfied for the containment building equipment door, immediately suspend all operations involving movement of recently irradiated fuel in the containment building. The provisions of Specification 3.0.3 are not applicable.

2. With the requirements of the above specification not satisfied for containment airlock doors or penetrations, immediately suspend all operations involving movement of irradiated fuel in the containment building. The provisions of Specification 3.0.3 are not applicable.

(See ITS 3.9.4)

SURVEILLANCE REQUIREMENTS

4.9.4 Each of the above required containment building penetrations shall be determined to be either in its required condition or capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve once per 7 days during movement of irradiated fuel in the containment building by:

a. Verifying the penetrations are in their required condition, or

b. Verifying the Containment Ventilation isolation valves not locked, sealed, or otherwise secured in position, actuate to the isolation position on an actual or simulated actuation signal.

* Penetration flow path(s) providing direct access from the containment atmosphere that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure may be unisolated under administrative controls.

A01

ITS ITS 3.7.12

REFUELING OPERATIONS

3/4.9.12 AUXILIARY BUILDING GAS TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.7.12 Note 2 — 3.9.12 One auxiliary building gas treatment filter train shall be OPERABLE.

stored

spent fuel

M02

Applicability — APPLICABILITY: ~~Whenever irradiated fuel is in the storage pool.~~

During movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building.~~ ~~L06~~

irradiated

STET

ACTION:

assemblies

~~Add proposed Required Action D.1~~ ~~L06~~

ACTION D.1 / ACTION E.1 — a. With no auxiliary building gas treatment filter train OPERABLE, ~~suspend all operations involving movement of fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one auxiliary building gas treatment filter train is restored to OPERABLE status~~.

M02

STET

Add proposed Action E.1 Note — L08

ACTIONS Note — b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

SR 3.7.12.1, SR 3.7.12.3 — 4.9.12 The above required auxiliary building gas treatment filter train shall be demonstrated OPERABLE:

In accordance with the Surveillance Frequency Control Program — LA02

L03

SR 3.7.12.1 — a. ~~At least once per 31 days on a STAGGERED TEST BASIS~~ by initiating, ~~from the control room, flow through the HEPA filters and charcoal adsorbers~~ and verifying that the system operates for at least ~~10 hours~~ 15 continuous minutes with the heaters on.

LA03

L04

Add proposed SR 3.7.12.2 — A02

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978 (except for the provisions of ANSI N510 Sections 8 and 9), and the system flow rate is 9000 cfm $\pm$ 10%.

2. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than 2.5% when tested in accordance with ASTM D3803-1989 at a temperature of 30°C (86° F) and a relative humidity of 70%.

3. Verifying a system flow rate of 9000 cfm $\pm$ 10% during system operation when tested in accordance with ANSI N510-1975.

See ITS 5.5.9

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REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

c. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than 2.5% when tested in accordance with ASTM D3803-1989 at a temperature of 30°C (86° F) and a relative humidity of 70%. See ITS 5.5.9

SR 3.7.12.3 d. ~~At least once per 18 months~~ In accordance with the Surveillance Frequency Control Program LA02 by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 3 inches Water Gauge while operating the filter train at a flow rate of 9000 cfm ± 10%. See ITS 5.5.9 A03

Add proposed SR 3.7.12.3 Note 2 L07

SR 3.7.12.3 2. Verifying that the filter train starts on actual or simulated signal ~~a high radiation signal from the fuel pool radiation monitoring system~~. LA04 In accordance with the Surveillance Frequency Control Program LA02

Add proposed SR 3.7.12.4 with a Frequency of ~~18 months on a STAGGERED TEST BASIS~~ In accordance with the Surveillance Frequency Control Program M02 1

3. Verifying that the heaters dissipate 32 ± 3.2 kw when tested in accordance with ANSI N510-1975.

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99.95% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 9000 cfm ± 10%. See ITS 5.5.9

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99.95% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 9000 cfm ± 10%.

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DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

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 4.7.8.b and CTS 4.9.12.b specify the ABGTS Surveillances to be performed after any structural maintenance on the HEPA filter or charcoal adsorber housings, or following painting, fire or chemical release in any ventilation zone communicating with the system. CTS 4.7.8.c and CTS 4.9.12.c specify the ABGTS Surveillance to be performed after every 720 hours of charcoal adsorber operation. CTS 4.7.8.d.4 and CTS 4.9.12.d.3 specify the ABGTS Surveillance to be performed to verify the heaters dissipate the proper wattage. CTS 4.7.8.e and CTS 4.9.12.e specify the ABGTS Surveillances to be performed after each complete or partial replacement of a HEPA filter bank. CTS 4.7.8.f and CTS 4.9.12.f specify the ABGTS Surveillances to be performed after complete or partial replacement of a charcoal adsorber bank. ITS SR 3.7.12.2 requires performing required ABGTS filter testing in accordance with the Ventilation Filter Testing Program (VFTP). CTS 4.7.8 and 4.9.12 do not include a VFTP, however the aforementioned CTS Surveillance Requirements will be implemented in the VFTP located in ITS 5.5.9. This changes the CTS by requiring testing in accordance with the VFTP, whose requirements are being moved to ITS 5.5.9.

This change is acceptable because filter testing requirements are being moved to the VFTP as part of ITS 5.5.9, and ITS SR 3.7.12.2 references the VFTP for performing these tests. This change is designated as administrative because it does not result in technical changes to the CTS.

A03 CTS 4.7.8.d.2 requires verification that the auxiliary building gas treatment filter trains start on a containment Phase A isolation test signal in MODES 1, 2, 3 and 4. CTS 4.9.12.d.2 requires verification that the auxiliary building gas treatment filter trains start on a high radiation signal from the fuel pool radiation monitoring system whenever irradiated fuel is in the storage pool. ITS SR 3.7.12.3 requires verification that each ABGTS train actuates on an actual or simulated actuation signal in MODES 1, 2, 3 and 4 , with fuel stored in the spent fuel pool, and during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. ITS SR 3.7.12.3 is modified by two Notes. Note 1 specifies an actual or simulated actuation on Containment Phase A isolation signal is only required to be met in MODES 1, 2, 3 and 4. Note 2 specifies an actual or simulated actuation on fuel storage pool area high radiation signal is only required to be met during the movement of ~~recently~~ irradiated fuel assemblies or with fuel stored in the spent fuel pool. ~~in the auxiliary building.~~ This changes the CTS by adding Notes to the ABGTS train actuation Surveillance to clarify that the associated actuation signals are only required to actuate the ABGTS trains during the specified MODES that they are required to be OPERABLE. ~~conditions that they are relied upon to provide fission product removal~~. (See

DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

DOC L07 for a discussion of specifying that the actuation signal may be either actual or simulated. ~~See DOC L06 for a discussion on limiting the Applicability to the conditions during which a fuel handling accident is postulated to occur.)~~

The purpose of CTS 3.7.8 is to ensure the ABGTS trains are OPERABLE during the plant conditions that a loss of coolant accident is postulated to occur (MODES 1, 2, 3 and 4). The purpose of CTS 3.9.12 is to ensure that radioactive material that is released from an irradiated fuel assembly during a fuel handling accident is processed through filtration prior to release to the atmosphere (during the movement of ~~recently~~ irradiated fuel assemblies or with fuel stored in the spent fuel pool ~~in the auxiliary building~~). ITS 3.7.12 combines CTS 3.7.8 and 3.9.12 into one Specification with an Applicability of MODES 1, 2, 3 and 4, with fuel stored in the spent fuel pool, and during the movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. This results in the need to specify the plant conditions in which each actuation signal is required to actuate ABGTS ~~to mitigate the associated accident~~. The plant conditions under which each ABGTS actuation signal is required to be OPERABLE is addressed in ITS 3.3.8 ~~remains unchanged between CTS and ITS~~. This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

M01 CTS 4.7.8.d.3 requires verification that each ABGTS train ~~system~~ can maintain the spent fuel storage area and the ESF pump rooms at a pressure equal to or less than - 0.25 inches water gauge relative to the outside atmosphere while maintaining a total system flow of 9,000 cfm plus or minus 10% every 18 months in MODES 1, 2, 3 and 4. ITS SR 3.7.12.4 requires the same verification every 18 months on a STAGGERED TEST BASIS in MODES 1, 2, 3 and 4, with fuel stored in the spent fuel pool, and during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. This changes the CTS by adding a Surveillance Requirement to verify the ABGTS can maintain a negative pressure at the required flow rate during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~ or with fuel stored in the spent fuel pool. (See DOC L05 for the discussion regarding the change of the testing Frequency to "on a STAGGERED TEST BASIS." See DOC LA02 for the discussion regarding movement of the Surveillance Frequency to the Surveillance Frequency Control Program.)

This change is acceptable because the ABGTS is required to be OPERABLE during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~ or with fuel stored in the spent fuel pool. The Surveillance Requirement is required to verify that the ABGTS can perform its required safety function during this Applicability. This change is designated as more restrictive because an additional Surveillance Requirement is being required that was not in the CTS.

See insert 1

RELOCATED SPECIFICATIONS

None

Insert 1

M02 CTS 3.9.12 states that the requirements of the ABGTS are applicable “Whenever irradiated fuel is in the storage pool.” CTS 3.9.12 ACTION a requires when no ABGTS is OPERABLE, suspend all operations involving movement of fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one ABGTS train is restored to an OPERABLE status. ITS 3.7.12 states, in part, that the requirements of the ABGTS are applicable during movement of irradiated fuel assemblies or with fuel stored in the spent fuel pool. ITS 3.7.12 ACTION D requires when one required ABGTS train is inoperable during movement of irradiated fuel assemblies, to immediately suspend movement of irradiated fuel assemblies. ITS 3.7.12 ACTION E requires when one required ABGTS train is inoperable with fuel stored in the spent fuel pool to suspend all crane operation with loads over the spent fuel pool. This changes CTS by increasing the ABGTS Specification applicability to when there is a potential for a fuel handling accident.

The purpose of CTS 3.9.12 is to ensure the ABGTS is OPERABLE to mitigate the consequences of a fuel handling accident in the Auxilary Building. This change is acceptable because the requirements continue to ensure that the structures, system and components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The Sequoyah Nuclear Plant (SQN) fuel handling analysis has been analyzed using the methodology from Regulatory Guide 1.183,
"Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors." The SQN fuel handling analysis assumes, in part, that the accident occurs greater than 100 hours after a plant shutdown, radioactive decay during the interval between shutdown and placement of the first spent fuel assembly into the spent fuel pool is taken into account, and a single fuel assembly is damaged. The ITS imposes the controls on the ABGTS during movement of irradiated fuel assemblies and anytime fuel is stored in the spent fuel pool. This change is designated as more restrictive because the LCO requirements are applicable in more operating conditions than in the CTS.

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.

LA03 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.8.a requires each auxiliary building gas treatment filter train to be demonstrated OPERABLE by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the system operated for at least 10 hours with the heaters on. CTS 4.9.12.a requires each auxiliary building gas treatment filter train to be demonstrated OPERABLE by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the system operated for at least 10 hours with the heaters on. ITS SR 3.7.12.1 requires operation of each ABGTS train for greater than or equal to 15 continuous minutes with the heaters on. This changes the CTS by moving the statement that the test is initiated from the control room and with flows through the HEPA filter and charcoal adsorber train to the Bases. (See DOC L04 for the discussion related to the reduction in the amount of time each ABGTS train is required to be operated.)

The removal of these details for performing a Surveillance Requirement from the Technical Specifications is acceptable because this type of information is not necessary to be includes in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirements to operate each ABGTS train with the heaters on. Also, this change is acceptable because these types of details 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 procedural details for meeting Technical Specifications are being removed from the Technical Specifications.

LA04 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 4.7.8.d.2 requires verification that the filter trains start on a Containment Phase A Isolation test signal. CTS 4.9.12.d.2 requires verification that the filter train starts on a high radiation signal from the fuel pool radiation monitoring system. ITS 3.7.12.3 requires verification that each ABGTS train actuates on an actual or simulated actuation signal. This changes the CTS by moving the details of the test signal to the Bases. (See DOC L07 for a discussion of specifying that the actuation signal may be either actual or simulated.)

The purpose of CTS 4.7.8.d.2 and 4.9.12.d.2 is to verify that each ABGTS train operates correctly upon a receipt of an actuation signal. The removal of the details regarding the actuation signal used, 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

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adequate protection of public health and safety. ~~ITS 3.7.12 retains the requirement that two ABGTS trains are required to be OPERABLE.~~ Also, this change is acceptable because these types of details 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.

LA05 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.8.d.3 requires verification that the ABGTS system maintains the spent fuel storage area and the ESF pump rooms at a pressure equal to or more negative than minus 1/4 inch water gage relative to the outside atmosphere while maintaining a total system flow of 9000 cfm plus or minus 10%. ITS 3.7.12.4 requires verification that the ABGTS train can maintain a pressure less ~~greater~~ than or equal to -0.25 inches water gauge with respect to atmospheric pressure at a flow rate greater than or equal to 8,100 and less than or equal to 9,900 cfm. This changes the CTS by moving the statement that the system maintains the spent fuel storage area and the ESF pump rooms at the specified pressure to the Bases.

The removal of these details for performing a Surveillance Requirement 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 requirements to verify the ABGTS train can maintain a pressure less ~~greater~~ than or equal to -0.25 inches water gauge with respect to atmospheric pressure at a flow rate of greater than or equal to 8,100 and less than or equal to 9,900 cfm. Also, this change is acceptable because these types of procedural details 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 procedural details for meeting Technical Specifications are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L01 *(Category 1 – Relaxation of LCO Requirements)* CTS 3.7.8 requires two ABGTS trains to be OPERABLE. ITS LCO 3.7.12 includes the same ABGTS OPERABILITY requirements but is modified by Note 1, which states "The Auxiliary Building Secondary Containment Enclosure (ABSCE) boundary may be opened intermittently under administrative control." This changes the CTS by allowing the ABSCE boundary to be opened under administrative controls when the ABGTS is required to be OPERABLE.

The purpose of CTS 3.7.8 is to maintain the air pressure in the auxiliary building below atmospheric, reduce the concentration of nuclides in air releases from the Auxiliary Building Secondary Containment Enclosure (ABSCE), and to minimize the spread of airborne radioactivity within the Auxiliary Building following an

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DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

accidental release in the fuel handling areas. ITS LCO 3.7.12 Note 1 will allow the ABSCE boundary to be opened under administrative controls when the ABGTS is required to be OPERABLE. This change is acceptable because the administrative controls are described in the Bases. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for auxiliary building isolation is indicated. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

L02 *(Category 4 – Relaxation of Required Action)* CTS 3.7.8 ACTION contains compensatory actions to take when one auxiliary building gas treatment filter train is inoperable in MODES 1, 2, 3 and 4. CTS 3.7.8 does not contain compensatory actions to take when both auxiliary building gas treatment filter trains are inoperable. Therefore, CTS 3.0.3 would be entered for two auxiliary building gas treatment filter trains inoperable. CTS 3.0.3 requires action to be initiated within one hour to be in HOT STANDBY (equivalent to ITS MODE 3) in the following 6 hours, to be in HOT SHUTDOWN (equivalent to ITS MODE 4) in the following 6 hours, and to be in COLD SHUTDOWN (equivalent to ITS MODE 5) in the subsequent 24 ~~36~~ hours. ITS 3.7.12 ACTIONS contain a Note stating LCO 3.0.3 is not applicable. ITS 3.7.12 ACTION B states with two ABGTS trains inoperable due to an inoperable Auxiliary Building Secondary Containment Enclosure (ABSCE) boundary in MODE 1, 2, 3, or 4 to restore the auxiliary building boundary to OPERABLE status within 24 hours. Additionally, ITS 3.7.12 ACTION C states, in part, when two ABGTS trains are inoperable for reasons other than Condition B (i.e., an inoperable ABSCE boundary) or if the Required Action and associated Completion Time of Condition B is not met in MODE 1, 2, 3, or 4 to be in MODE 3 within 6 hours and to be in MODE 5 within 36 hours. This changes the CTS by not requiring entry into LCO 3.0.3 when two ABGTS trains are inoperable in MODE 1, 2, 3, or 4, and adds compensatory actions to take when two ABGTS trains are inoperable in MODE 1, 2, 3, or 4.

ITS 3.7.12 is applicable during movement of ~~recently~~ irradiated fuel assemblies or with fuel stored in the spent fuel pool in addition to MODE 1, 2, 3, or 4. Since the additional MODES ~~movement of recently irradiated fuel assemblies~~ can occur in MODES 1, 2, 3, and 4, it is necessary to add an ACTIONS Note stating that LCO 3.0.3 is not applicable because the movement or storage of fuel is independent of reactor operations. This change is acceptable because ITS 3.7.12 ACTIONS B and C will provide compensatory measures to take when two trains of ABGTS are inoperable in MODE 1, 2, 3, or 4. ITS 3.7.12 ACTION B applies when two ABGTS trains are inoperable because of an inoperable ABSCE boundary in MODE 1, 2, 3, or 4 and provides 24 hours to restore the inoperable auxiliary building boundary to OPERABLE status. During these 24 hours, compensatory measures will be taken to protect plant personnel from potential hazards, and preplanned compensatory measures will be in place to address both the intentional and unintentional inoperability of the ABSCE boundary. Furthermore, the 24 hour Completion Time is based on the low probability of a DBA occurring during this time period and the compensatory measures that will be taken. ~~ITS 3.7.12 ACTION C applies when the Required Action and associated Completion Time of Condition B is not met or when two ABGTS trains~~

DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

~~are in operable for reasons other than Condition B in MODE 1, 2, 3, or 4. ITS 3.7.12 ACTION C provides 6 hours to be in MODE 3 and 36 hours to be in MODE 5. This change is acceptable because ITS continues to require the unit to be placed outside of the MODE of Applicability when two ABGTS trains are inoperable in MODE 1, 2, 3, or 4, for reasons other than an inoperable ABSCE boundary, or if one ABGTS train is not restored to an OPERABLE status within 24 hours.~~ This change is designated as less restrictive because the less stringent requirements are being applied in the ITS than were applied in the CTS.

L03 *(Category 7 – Relaxation of Surveillance Frequency)* CTS 4.7.8.a and 4.9.12.a require the operation of each ABGTS train every 31 days on a STAGGERED TEST BASIS. ITS SR 3.7.12.1 requires the operation of each ABGTS train every 31 days. This changes the CTS by deleting the requirement to perform the verification on a STAGGERED TEST BASIS. (See DOC LA02 for the discussion on moving the 31 day Frequency to the Surveillance Frequency Control Program.)

The purpose of CTS 4.7.8.b and 4.9.12.a is to ensure that ABGTS is OPERABLE. The CTS 1.35 STAGGERED TEST BASIS definition, defines a testing schedule for n systems, subsystems, or trains by dividing the specified test interval into n equal subintervals, with the testing of one system, subsystem, or train occurring at the beginning of each subinterval. In other words, a Surveillance Requirement to verify the OPERABILITY of each train in a two train system at a Frequency of 31 days on a STAGGERED TEST BASIS would result in each train being verified OPERABLE every 31 days, with one train being verified in alternating 15.5 day subintervals. Removal of the STAGGERED TEST BASIS scheduling requirement does not change the requirement to verify the OPERABILITY of each train every 31 days, but rather removes the requirement to schedule testing every 15.5 days. The new Surveillance Frequency will not change the testing Frequency of each train. The intent of the CTS staggered testing requirement is to evenly distribute testing of each ABGTS train across the system. However, as each ABGTS train is independent, no increase in reliability or safety is achieved by evenly staggering the testing subintervals. This change is acceptable, because removal of the staggered testing requirement will increase operational and scheduling flexibility without decreasing safety or system reliability. This change is designated as less restrictive, because the intervals between performances of the Surveillances for the ABGTS trains can be larger or smaller under the ITS than under the CTS.

L04 *(Category 6 – Relaxation of Surveillance Requirement Acceptance Criteria)* CTS 4.7.8.a and CTS 4.9.12.a require~~s~~ the periodic operation of each ABGTS train for at least 10 hours with the heaters on. ITS SR 3.7.12.1 requires the periodic operation of each ABGTS train for at least 15 continuous minutes with the heaters on. This changes the CTS by reducing the amount of time each ABGTS train is required to be operated.

The purpose of CTS 4.7.8.b and CTS 4.9.12.a is to periodically verify that each train of ABGTS can operate properly. The requirement to operate each train for at least 10 hours per month with the heaters on in order to reduce the buildup of moisture on the adsorbers and HEPA filters was derived from the guidance provided in Regulatory Guide (RG) 1.52, "Design, Testing, and Maintenance Criteria for Post

DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

Not Used

L06 *(Category 2 – Relaxation of Applicability)* CTS 3.9.12 states that the requirements of the ABGTS are applicable "Whenever irradiated fuel is in the storage pool." CTS 3.9.12 ACTION a requires when no ABGTS is OPERABLE, suspend all operations involving movement of fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one ABGTS train is restored to an OPERABLE stratus. ITS 3.7.12 states, in part, that the requirements of the ABGTS are applicable "During movement of recently irradiated fuel assemblies in the auxiliary building." ITS 3.7.12 ACTION D requires when two ABGTS trains are inoperable during movement of recently irradiated fuel assemblies in the auxiliary building immediately to suspend movement of recently irradiated fuel assemblies in the auxiliary building. This changes the CTS by restricting the ABGTS Specification to only when there is a potential for a fuel handling accident (i.e., during movement of recently irradiated fuel assemblies in the auxiliary building).

The purpose of CTS 3.9.12 is to ensure the ABGTS is OPERABLE to mitigate the consequences of a fuel handling accident in the auxiliary building. This change is acceptable because the requirements continue to ensure that the structures, system and components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The Sequoyah Nuclear Plant (SQN) fuel handling analysis for the auxiliary building has been analyzed using the methodology from Regulatory Guide 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors." The SQN fuel handling analysis assumes, in part, that the accident occurs within 100 hours after a plant shutdown, radioactive decay during the interval between shutdown and placement of the first spent fuel assembly into the spent fuel pool is taken into account, and a single fuel assembly is damaged. Additionally, a fuel handling accident is only assumed to occur when a recently irradiated fuel assembly is being moved. Therefore, the ITS imposes the controls on the ABGTS during movement of recently irradiated fuel assemblies in the auxiliary building. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

L07 *(Category 6 – Relaxation of Surveillance Requirement Acceptance Criteria)* CTS 4.7.8.d.2 requires verification that the filter trains start on a Containment Phase A Isolation test signal. CTS 4.9.12.d.2 requires verification that the filter train starts on a high radiation signal from the fuel pool radiation monitoring system. ITS SR 3.7.12.3 requires verification that each ABGTS train actuates on an actual or simulated actuation signal. This changes the CTS by specifying that the actuation signal may be either actual or simulated. (See DOC LA04 for a discussion of moving the details of the test signal to the Bases.)

The purpose of CTS 4.7.8.d.2 and 4.9.12.d.2 is to verify that each ABGTS train operates correctly upon a receipt of an actuation signal. This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its safety function. Equipment cannot discriminate between an "actual" or "simulated" signal; therefore, the results of testing are unaffected by the type of signal used to initiate the test.

DISCUSSION OF CHANGES
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

L08 *(Category 4 - Relaxation of Required Action)* CTS 3.9.12 ACTION a contains compensatory actions to, in part, suspend crane operation with loads over the spent fuel pit until at least one ABGTS train is restored to OPERABLE status. ITS 3.7.12 ACTION E contains a Note stating that crane operations using the main hoist on the Auxiliary Building crane may continue. This changes CTS by allowing operations with loads over the spent fuel pool with the main hoist on the auxiliary building crane to continue without having one ABGTS train OPERABLE.

ITS 3.7.12 is applicable anytime fuel is stored in the spent fuel pool ~~to ensure that the assumptions made for the fuel handling accident are maintained~~. With no OPERABLE ABGTS train, activities involving loads over the spent fuel pool are prohibited such that a load cannot be dropped onto the fuel stored in the storage pool. The Note allows loads using the main hoist on the auxiliary building crane to be used over the spent fuel pool because the main hoist is a single failure proof crane meeting the requirements of NUREG-0554 and NUREG-0612. Dropping loads from a single failure proof crane are not considered creditable accidents, therefore crane operation with the main hoist may continue with no ABGTS train OPERABLE. This change is designated as less restrictive because the less stringent requirements are being applied to ITS than were applied to the CTS.

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CTS

ABGTS ~~FBACS~~ 1
3.7.~~13~~ 12

3.7 PLANT SYSTEMS

3.7.~~13~~ 12 ~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System ~~(FBACS)~~ ABGTS 1

3.9.4.b.2
3.7.8
3.9.12

LCO 3.7.~~13~~ 12 Two ~~FBACS~~ ABGTS trains shall be OPERABLE. 1

DOC L01
3.9.12
3.9.4.b.2

-----NOTE-----S
1. The ~~fuel building~~ Auxiliary Building Secondary Containment Enclosure (ABSCE) boundary may be opened intermittently under administrative control. 3 2

INSERT 1

3.7.8 Applicability, 3.9.12 Applicability

APPLICABILITY: ~~[~~MODES 1, 2, 3, and 4, ~~]~~ 4 3
During movement of ~~[recently]~~ irradiated fuel assemblies ~~in the~~ ~~fuel~~ ~~auxiliary~~ ~~building~~, With fuel stored in the spent fuel pool. 7

ACTIONS

~~DOC L02,~~ 3.9.12 ACTION b

-----NOTE-----
LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ~~FBACS~~ ABGTS train inoperable In MODE 1, 2, 3, or 4.	A.1 Restore ~~FBACS~~ ABGTS train to OPERABLE status.	7 days
B. Two ~~FBACS~~ ABGTS trains inoperable due to inoperable ~~fuel building~~ ABSCE boundary in MODE 1, 2, 3, or 4.	B.1 Restore ~~fuel building~~ ABSCE boundary to OPERABLE status.	24 hours

3.7.8 ACTION (row A) 1 2

DOC L02 (row B) 1 3

2

INSERT 1

3.9.12
3.9.4.b.2

2. Only one ABGTS train is required to be OPERABLE during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. or with fuel stored in the spent fuel pool. 7

CTS

ABGTS ~~FBACS~~
3.7.~~13~~ 12

ACTIONS (continued)

	CONDITION	REQUIRED ACTION	COMPLETION TIME	
3.7.8 ACTION	C. ~~[~~ Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4. OR Two ABGTS ~~FBACS~~ trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours ~~]~~	4 4 1
~~DOC L02~~	~~D. Required Action and associated Completion Time [of Condition A] not met during movement of [recently] irradiated fuel assemblies in the fuel building.~~	~~D.1 Place OPERABLE FBACS train in operation.~~ ~~OR~~ ~~D.2 Suspend movement of [recently] irradiated fuel assemblies in the fuel building.~~	~~Immediately~~ ~~Immediately~~	2
3.9.12 ACTION a	D ~~E~~. One required ABGTS ~~Two FBACS~~ trains inoperable during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel~~ auxiliary ~~building~~.	D ~~E~~.1 Suspend movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel~~ auxiliary ~~building~~.	Immediately	2 1 4 4 3 3
3.9.12 ACTION a L08	E. One required ABGTS train inoperable with fuel stored in the spent fuel pool.	E.1 -------------NOTE------------ Crane operations using the main hoist on the Auxiliary Building crane may continue. --------------------------------- Suspend all crane operations with loads over the spent fuel pool.	Immediately	7

SEQUOYAH UNIT 1 ~~Westinghouse STS~~ 3.7.~~13~~12-2 Amendment XXX ~~Rev. 4.0~~ 3 1

6

INSERT 2

DOC A03

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

1. Actual or simulated actuation on Containment Phase A isolation signal only required to be met in MODES 1, 2, 3 and 4.

2. Actual or simulated actuation on fuel storage pool area high radiation signal only required to be met during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~.

----

or with fuel stored in the spent fuel pool.

CTS

ABGTS ~~FBACS~~
3.7.~~13~~ 12 1

3.7 PLANT SYSTEMS

3.7.~~13~~ 12 ~~Fuel Building Air Cleanup~~ Auxiliary Building Gas Treatment System ~~(FBACS)~~ ABGTS 1

3.9.4.b.2
3.7.8
3.9.12

LCO 3.7.~~13~~ 12 Two ~~FBACS~~ ABGTS trains shall be OPERABLE. 1

DOC L01
3.9.12
3.9.4.b.2

---NOTE S---

1. The ~~fuel building~~ Auxiliary Building Secondary Containment Enclosure (ABSCE) boundary may be opened intermittently under administrative control. 3 2

INSERT 1

3.7.8 Applicability, 3.9.12 Applicability

APPLICABILITY: ~~[~~MODES 1, 2, 3, and 4, ~~]~~
During movement of ~~[recently]~~ irradiated fuel assemblies in the ~~fuel~~ ~~auxiliary~~ ~~building.~~ , With fuel stored in the spent fuel pool. 4 3 7

ACTIONS

~~DOC L02,~~ 3.9.12 ACTION b

---NOTE---
LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ~~FBACS~~ ABGTS train inoperable~~.~~ In MODE 1, 2, 3, or 4	A.1 Restore ~~FBACS~~ ABGTS train to OPERABLE status.	7 days
B. Two ~~FBACS~~ ABGTS trains inoperable due to inoperable ~~fuel building~~ ABSCE boundary in MODE 1, 2, 3, or 4.	B.1 Restore ~~fuel building~~ ABSCE boundary to OPERABLE status.	24 hours

3.7.8 ACTION (row A) 1 2

DOC L02 (row B) 1 3

2

INSERT 1

3.9.12
3.9.4.b.2

2. Only one ABGTS train is required to be OPERABLE during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~ or with fuel stored in the spent fuel pool.

7

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CTS

ABGTS ~~FBACS~~ 3.7.~~13~~ 12 (1)

ACTIONS (continued)

	CONDITION	REQUIRED ACTION	COMPLETION TIME	
3.7.8 ACTION	C. ~~[~~Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3.	6 hours	4
		AND		
		C.2 Be in MODE 5.	36 hours ~~]~~	4
~~DOC L02~~	OR Two ~~FBACS~~ ABGTS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.			1
	~~D. Required Action and associated Completion Time [of Condition A] not met during movement of [recently] irradiated fuel assemblies in the fuel building.~~	~~D.1 Place OPERABLE FBACS train in operation.~~	~~Immediately~~	2
		~~OR~~		
		~~D.2 Suspend movement of [recently] irradiated fuel assemblies in the fuel building.~~	~~Immediately~~	
3.9.12 ACTION a	~~E~~ D. ~~Two FBACS trains~~ One required ABGTS train inoperable during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ ~~auxiliary~~.	~~E~~ D.1 Suspend movement of ~~[recently]~~ irradiated fuel assemblies in the ~~fuel building~~ ~~auxiliary~~.	Immediately	2 1 4 4 3 3
3.9.12 ACTION a L08	E. One required ABGTS train inoperable with fuel stored in the spent fuel pool.	E.1 -------------NOTE------------ Crane operations using the main hoist on the Auxiliary Building crane may continue. -------------------------------- Suspend all crane operations with loads over the spent fuel pool.	Immediately	7

6

INSERT 2

DOC A03

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

1. Actual or simulated actuation on Containment Phase A isolation signal only required to be met in MODES 1, 2, 3 and 4.

2. Actual or simulated actuation on fuel storage pool area high radiation signal only required to be met during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~ or with fuel stored in the spent fuel pool.

JUSTIFICATION FOR DEVIATIONS
ITS 3.7.12, AUXILIARY BUILDING GAS TREATMENT SYSTEM (ABGTS)

1. Sequoyah Nuclear Plant (SQN) design does not include the ISTS 3.7.12, "Emergency Core Cooling System (ECCS) Pump Room Exhaust Air Cleanup System (PREACS)." Therefore, ISTS 3.7.13, "Fuel Building Air Cleanup System (FBACS)" has been renumbered as ITS 3.7.12. Additionally, SQN refers to the Fuel Building Air Cleanup System (FBACS) as the Auxiliary Building Gas Treatment System (ABGTS).

2. ISTS 3.7.13 ACTION A has been revised to only apply in MODES 1, 2, 3, or 4 and ACTION D has been deleted, as the SQN current licensing basis only credits one train of ABGTS to mitigate a fuel handling accident involving ~~the movement of recently~~ irradiated fuel assemblies ~~in the auxiliary building~~. Therefore, the only applicable ACTION for the required ABGTS train being inoperable during the movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~ is ISTS 3.7.13 ACTION E (ITS 3.7.12 ACTION D).

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. 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. ISTS SR 3.7.13.1, SR 3.7.13.3 and SR 3.7.13.4 (ITS SR 3.7.12.1, SR 3.7.12.3 and SR 3.7.12.4, respectively) provides two options for controlling the Frequencies of Surveillance Requirements. SQN is proposing to control the Surveillance Frequencies under the Surveillance Frequency Control Program.

6. Changes made for consistency with the Applicability of the ABGTS actuation functions provided in ITS 3.3.8.

7. ISTS 3.7.13 Mode of Applicability does not include, "With fuel stored in the spent fuel pool." CTS 3.9.12 Applicability specifies "Whenever irradiated fuel is in the storage pool." Therefore, the Applicability of ISTS 3.7.13 (ITS 3.7.12) has been revised to include "With fuel stored in the spent fuel pool." Additionally, ISTS 3.7.13 does not require the suspension of crane operations over irradiated fuel when a train of ABGTS is inoperable. CTS 3.9.12 ACTION a. requires in part, suspending crane operation with loads over the spent fuel pit. Therefore, ITS 3.7.12 ACTION E.1 has been added to suspend all crane operation with loads over the spent fuel pool in the event that there is no OPERABLE ABGTS. A NOTE has been added to the Required Actions of ITS 3.7.12 Condition E to allow crane operation using the main hoist on the Auxiliary Building crane. The main hoist on the Auxiliary Building crane is a single failure proof crane meeting the requirements of NUREG-0554 and NUREG-0612.

B 3.7 PLANT SYSTEMS

B 3.7.~~13~~ 12 Auxiliary Building Gas Treatment ~~Fuel Building Air Cleanup~~ System (ABGTS ~~FBACS~~) 1

BASES

BACKGROUND

The ABGTS ~~FBACS~~ filters airborne radioactive particulates from the area of the fuel pool following a fuel handling accident or loss of coolant accident (LOCA). ~~The FBACS, in conjunction with other normally operating systems, also provides environmental control of temperature and humidity in the fuel pool area.~~ 1 2

The ABGTS ~~FBACS~~ consists of two independent and redundant trains. Each train consists of a heater, a prefilter ~~or demister~~, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan. Ductwork, valves or dampers, and instrumentation also form part of the system~~, as well as demisters, functioning to reduce the relative humidity of the airstream~~. ~~A second bank of HEPA filters follows the adsorber section to collect carbon fines and provide backup in case the main HEPA filter bank fails. The downstream HEPA filter is not credited in the analysis, but serves to collect charcoal fines, and to back up the upstream HEPA filter should it develop a leak.~~ The system initiates filtered ventilation of the auxiliary ~~fuel handling~~ building following receipt of a high radiation signal. INSERT 1 1 2

The ABGTS ~~FBACS~~ is a standby system~~, parts of which may also be operated during normal plant operations~~. Upon receipt of the actuating signal, normal air discharge~~s~~ from ~~the building,~~ the auxiliary ~~fuel handling~~ building is isolated~~,~~ and the stream of ventilation air discharges through the system filter trains. ~~The prefilters or demisters remove any large particles in the air, and any entrained water droplets present, to prevent excessive loading of the HEPA filters and charcoal adsorbers.~~ 1 2

The ABGTS ~~FBACS~~ is discussed in the U FSAR, Sections ~~[~~6.~~5~~2.3~~.1], [9.4.5]~~, 15.5.3 and ~~[~~15.~~7.4]~~5.6 (Refs. 1~~, 2,~~ and ~~3~~ 2, respectively) ~~because it may be used for normal, as well as~~ post accident~~,~~ atmospheric cleanup functions. STET 1 2 3

APPLICABLE SAFETY ANALYSES

The ABGTS ~~FBACS~~ design basis is established by the consequences of ~~the limiting~~ Design Basis Accident~~s~~ (DBA~~)~~s, a LOCA during MODES 1, 2, 3, and 4, and a fuel handling accident during operations involving irradiated fuel assemblies. ~~which is a fuel handling accident [involving handling recently irradiated fuel]. The analysis of the fuel handling accident, given in Reference 3, assumes that all fuel rods in an assembly are damaged.~~ The analysis of the LOCA, given in Reference 2, assumes that radioactive materials leaked from the Emergency Core Cooling System (ECCS) are filtered and adsorbed by the ABGTS ~~FBACS~~. The analysis of the fuel handling accident, given in Reference 3, assumes that the auxiliary building secondary containment enclosure (ABSCE) boundary is capable of being established to ensure the releases from the auxiliary and containment buildings are consistent with the dose consequence analysis, no credit is taken for filtration by the ABGTS. ~~The DBA analysis of the fuel handling accident assumes that only one train of the FBACS is functional due to a single failure that disables the other train. The accident analysis accounts for the reduction in airborne radioactive~~ 1 2 3

2

INSERT 1

from the fuel handling area radiation monitors, a high radiation signal from the train-specific Auxiliary Building exhaust vent monitor, a Phase A containment isolation signal from either reactor, or a high temperature signal from the Auxiliary Building air intakes

. During plant operations with the containment open to the auxiliary building, the Auxiliary Building Secondary Containment Enclosure (ABSCE) boundary is extended to include the area inside the containment building and the shield building.

BASES

APPLICABLE SAFETY ANALYSES (continued)

~~material provided by the one remaining train of this filtration system.~~ The amount of fission products available for release from the auxiliary ~~fuel handling~~ building is determined for a fuel handling accident and for a LOCA. ~~[Due to radioactive decay, FBACS~~ ABGTS ~~is only required to isolate during fuel handling accidents involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous~~ ~~100 hours~~ ~~[X] days).]~~ These assumptions and the analysis follow the guidance provided in Regulatory Guide 1.4 (Ref. 4) for a LOCA and Regulatory Guide ~~1.25~~ 1.183 (Ref. ~~4~~ ~~3~~ 5) for the fuel handling accident. 2 1 3 ~~1~~ 3 2

The ~~FBACS~~ ABGTS satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). 1

LCO

Two independent and redundant trains of the ~~FBACS~~ ABGTS are required to be OPERABLE to ensure that at least one train is available, assuming a single failure that disables the other train, coincident with a loss of offsite power. Total system failure could result in the atmospheric release from the auxiliary ~~fuel handling~~ building exceeding the 10 CFR 100 (Ref. ~~5~~ ~~4~~ 6) limits in the event of a ~~fuel handling accident [involving handling recently irradiated fuel]~~ LOCA. INSERT 2 1 1 2 2

The ~~FBACS~~ ABGTS is considered OPERABLE when the individual components necessary to control exposure in the auxiliary ~~fuel handling~~ building are OPERABLE in both trains. An ~~FBACS~~ ABGTS train is considered OPERABLE when its associated: 1

a. Fan is OPERABLE,

b. HEPA filter and charcoal adsorber are not excessively restricting flow, and are capable of performing their filtration function, and

c. Heater, ~~demister,~~ ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained. 1

The LCO is modified by ~~a Note allowing~~ two Notes. Note 1 allows the Auxiliary Building Secondary Containment Enclosure (ABSCE) ~~fuel building~~ boundary to be opened intermittently under administrative controls. For entry and exit through doors the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for auxiliary ~~fuel~~ building isolation is indicated. 1 1 4

INSERT 3

2

INSERT 2

One train of the ABGTS is required to be OPERABLE to mitigate the consequences of a fuel handling accident involving handling ~~recently~~ irradiated fuel to limit releases to the environment to within the 10 CFR 50.67 limits.

4

INSERT 3

Note 2 specifies that only one ABGTS train is required to be OPERABLE during the movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~.

or with fuel stored in the spent fuel pool.

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With fuel stored in the spent fuel pool, one train of ABGTS is required to be OPERABLE to support mitigation of any potential fuel damage resulting from a load drop.

ABGTS ~~FBACS~~ 1
B 3.7.~~13~~ 12

to provide fission product removal associated with ECCS leaks due to a LOCA

BASES

APPLICABILITY

In MODE 1, 2, 3, or 4, the ~~FBACS~~ ABGTS is required to be OPERABLE to provide fission product removal associated with ECCS leaks due to a LOCA and leakage from containment and annulus. 1

In MODE 5 or 6, the ~~FBACS~~ ABGTS is not required to be OPERABLE since the ECCS is not required to be OPERABLE. 1 2

one train of

During movement of ~~[recently]~~ irradiated fuel ~~in the~~ ~~fuel handling area~~ ~~auxiliary building~~, ~~the~~ ~~FBACS~~ ABGTS is required to be OPERABLE to alleviate the consequences of a fuel handling accident. 3 1 2

ACTIONS

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since irradiated fuel assembly movement can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. ~~If~~ moving irradiated fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not specify any action. ~~If~~ moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement ~~is~~ independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, 3, or 4 would require the unit to be shutdown unnecessarily. 4

crane travel with loads over fuel stored in the spent fuel pool and

storing or

or storage

A.1

With one ~~FBACS~~ ABGTS train inoperable, in MODE 1, 2, 3, or 4 action must be taken to restore OPERABLE status within 7 days. During this period, the remaining OPERABLE train is adequate to perform the ~~FBACS~~ ABGTS function. The 7 day Completion Time is based on the risk from an event occurring requiring the inoperable ~~FBACS~~ ABGTS train, and the remaining ~~FBACS~~ ABGTS train providing the required protection. 4 1

B.1

~~-----------------------------------REVIEWER'S NOTE-------------------------~~
~~Adoption of Condition B is dependent on a commitment from the licensee to have guidance available describing compensatory measures to be taken in the event of an intentional and unintentional entry into Condition B.~~
~~--~~ 5

If the ~~fuel building~~ ABSCE boundary is inoperable in MODE 1, 2, 3, or 4, the ~~FBACS~~ ABGTS trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE ~~fuel building~~ ABSCE boundary within 24 hours. During the period that the ~~fuel building~~ boundary is inoperable, appropriate compensatory measures ~~[~~consistent with the intent, as 1 3

BASES

ACTIONS (continued)

applicable, of GDC 19, 60, 61, 63, 64 and 10 CFR Part 100~~]~~ should be utilized to protect plant personnel from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity, and physical security. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of compensatory measures. The 24 hour Completion Time is a typically reasonable time to diagnose, plan and possibly repair, and test most problems with the ~~fuel building~~ ABSCE boundary. 3 1

~~[~~ C.1 and C.2 3

In MODE 1, 2, 3, or 4, when Required Action A.1 or B.1 cannot be completed within the associated Completion Time, or when both ~~FBACS~~ ABGTS trains are inoperable for reasons other than an inoperable ~~fuel building~~ ABSCE boundary (i.e., Condition B), the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in MODE 3 within 6 hours, and in MODE 5 within 36 hours. The 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. ~~]~~ 1 3

~~D.1 and D.2~~

~~When Required Action A.1 cannot be completed within the required Completion Time, during movement of [recently] irradiated fuel assemblies in the fuel building, the OPERABLE FBACS train must be started immediately or [recently] irradiated fuel movement suspended. This action ensures that the remaining train is OPERABLE, that no undetected failures preventing system operation will occur, and that any active failure will be readily detected.~~

~~If the system is not placed in operation, this action requires suspension of [recently] irradiated fuel movement, which precludes a fuel handling accident [involving handling recently irradiated fuel]. This does not preclude the movement of fuel assemblies to a safe position.~~ 4

BASES

ACTIONS (continued)

~~E~~ D.1

When ~~two~~ the required trains ~~of the FBACS are~~ ABGTS is inoperable during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ auxiliary, action must be taken to place the unit in a condition in which the LCO does not apply. Action must be taken immediately to suspend movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ auxiliary. This does not preclude the movement of fuel to a safe position.

Insert 7

SURVEILLANCE REQUIREMENTS

SR 3.7.~~13~~ 12.1

Standby systems should be checked periodically to ensure that they function properly. As the environmental and normal operating conditions on this system are not severe, testing each train once every month provides an adequate check on this system.

INSERT 4 ~~Monthly heater operation dries out any moisture accumulated in the charcoal from humidity in the ambient air. [Systems with heaters must be operated for ≥10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥15 minutes to demonstrate the function of the system.] [The 31 day Frequency is based on the known reliability of the equipment and the two train redundancy available.~~

~~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. -----]~~

~~[~~ SR 3.7.~~13~~ 12.2

This SR verifies that the required ~~FBACS~~ ABGTS testing is performed in accordance with the ~~[~~Ventilation Filter Testing Program (VFTP)~~]~~. The ~~[~~VFTP~~]~~ includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the ~~[~~VFTP~~]~~. ~~]~~

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INSERT 4

Operation [with heaters on] for ≥ 15 continuous minutes demonstrates OPERABILITY of the system. Periodic operation ensures that [heater failure,] blockage, fan or motor failure, or excessive vibration can be detected for corrective action. 3 3

Operation will be demonstrated by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train. 2

4 Insert 7

E.1

When the required train of ABGTS is inoperable with fuel stored in the spent fuel pool, action must be taken to prevent the possibility of a load drop over fuel stored in the spent fuel pool. Suspending all crane operation with loads over the spent fuel pool will eliminate the possibility of dropping a load onto fuel assemblies stored in the spent fuel pool. The NOTE allows operation of the main hoist on the Auxiliary Building crane during this condition due to the main hoist meeting the requirements of NUREG-0554 and NUREG-0612 for a single failure proof crane.

BASES

SURVEILLANCE REQUIREMENTS (continued)

[SR 3.7.~~13~~ 12 .3 3 1

This SR verifies that each ~~FBACS~~ ABGTS train starts and operates on an actual or simulated actuation signal. INSERT 5 ~~[The [18] month Frequency is consistent with Reference 6.]~~ 1 4 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.~~
~~---]~~ 5

SR 3.7.~~13~~ 12 .4 1

This SR verifies the integrity of the ~~fuel~~ auxiliary building enclosure (i.e., spent fuel storage area and the ESF pump rooms). The ability of the ~~fuel~~ auxiliary building to maintain negative pressure with respect to potentially uncontaminated adjacent areas is periodically tested to verify proper function of the ~~FBACS~~ ABGTS. During the ~~[~~post accident~~]~~ mode of operation, the ~~FBACS~~ ABGTS is designed to maintain a slight negative pressure in the ~~fuel~~ auxiliary building, to prevent unfiltered LEAKAGE. The ~~FBACS~~ ABGTS is designed to maintain a ≤ ~~[-0.125]~~ - 0.25 inches water gauge with respect to atmospheric pressure at a flow rate ~~of [20,000]~~ ≥ 8,100 and ≤ 9,900 cfm to the ~~fuel~~ auxiliary building. ~~[The Frequency of [18] months is consistent with the guidance provided in NUREG-0800, Section 6.5.1 (Ref. 7).~~ 2 1 3 3 1 6

~~An [18] month Frequency (on a STAGGERED TEST BASIS) is consistent with Reference 6.~~

~~OR~~

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

4 ~~6~~

INSERT 5

The SR is modified by two Notes that specify when verification of ABGTS actuation for each actuation signal is required to be met. ABGTS actuation on a Containment Phase A isolation signal is required to be met in MODES 1, 2, 3 and 4. ABGTS actuation on fuel storage pool area high radiation signal is required to be met during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building.~~

and with fuel stored in the spent fuel pool

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.~~
~~---]~~ 5

~~[SR 3.7.13.5~~

~~Operating the FBACS filter bypass damper is necessary to ensure that the system functions properly. The OPERABILITY of the FBACS filter bypass damper is verified if it can be closed. [An [18] month Frequency is consistent with Reference 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.~~
~~--]]~~ 4

REFERENCES

1. U FSAR, Section ~~[6.5.1]~~ 6.2.3. 2 3

~~2. FSAR, Section [9.4.5].~~ 3

2 ~~3~~. U FSAR, Section ~~[15.7.4]~~ 15.5.3. 2 3

5 3 ~~4~~. Regulatory Guide ~~1.25~~ 1.183. 2

6 4 ~~5~~. 10 CFR 100. 2

4 ~~6. Regulatory Guide 1.52, Rev. [2].~~ Regulatory Guide 1.4

3 ~~7. NUREG-0800, Section 6.5.1, Rev. 2, July 1981.~~ UFSAR, Section 15.5.6 ~~6~~ 2

ABGTS ~~FBACS~~ 1
B 3.7.~~13~~ 12

B 3.7 PLANT SYSTEMS

B 3.7.~~13~~ 12 Auxiliary Building Gas Treatment ~~Fuel Building Air Cleanup~~ System (ABGTS ~~FBACS~~) 1

BASES

BACKGROUND

The ABGTS ~~FBACS~~ filters airborne radioactive particulates from the area of the fuel pool following a fuel handling accident or loss of coolant accident (LOCA). ~~The FBACS, in conjunction with other normally operating systems, also provides environmental control of temperature and humidity in the fuel pool area.~~ 1 2

The ABGTS ~~FBACS~~ consists of two independent and redundant trains. Each train consists of a heater, a prefilter ~~or demister~~, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan. Ductwork, valves or dampers, and instrumentation also form part of the system~~, as well as demisters, functioning to reduce the relative humidity of the airstream~~. ~~A second bank of HEPA filters follows the adsorber section to collect carbon fines and provide backup in case the main HEPA filter bank fails. The downstream HEPA filter is not credited in the analysis, but serves to collect charcoal fines, and to back up the upstream HEPA filter should it develop a leak.~~ The system initiates filtered ventilation of the auxiliary ~~fuel handling~~ building following receipt of a high radiation signal INSERT 1. 1 2

The ABGTS ~~FBACS~~ is a standby system~~, parts of which may also be operated during normal plant operations~~. Upon receipt of the actuating signal, normal air discharge~~s~~ from ~~the building,~~ the auxiliary ~~fuel handling~~ building is isolated~~,~~ and the stream of ventilation air discharges through the system filter trains. ~~The prefilters or demisters remove any large particles in the air, and any entrained water droplets present, to prevent excessive loading of the HEPA filters and charcoal adsorbers.~~ 1 2

The ABGTS ~~FBACS~~ is discussed in the STET U FSAR, Sections ~~[~~6.2.3 ~~5.1], [9.4.5]~~, 15.5.3, and ~~[~~15.5.6 ~~7.4]~~ (Refs. 1~~, 2,~~ and 2 ~~3~~, respectively) ~~because it may be used for normal, as well as~~ and post accident~~,~~ ~~atmospheric cleanup functions.~~ 1 2 3

APPLICABLE SAFETY ANALYSES

The ABGTS ~~FBACS~~ design basis is established by the consequences of ~~the limiting~~ Design Basis Accident~~s~~ (DBA)s, ~~which is a fuel handling accident [involving handling recently irradiated fuel]. The analysis of the fuel handling accident, given in Reference 2 3, assumes that all fuel rods in an assembly are damaged.~~ a LOCA during MODES 1, 2, 3, and 4, and a fuel handling accident during operations involving irradiated fuel assemblies. The analysis of the LOCA, given in Reference 2, assumes that radioactive materials leaked from the Emergency Core Cooling System (ECCS) are filtered and adsorbed by the ABGTS ~~FBACS~~. ~~The DBA analysis of the fuel handling accident assumes that only one train of the FBACS is functional due to a single failure that disables the other train. The accident analysis accounts for the reduction in airborne radioactive~~ The analysis of the fuel handling accident, given in Reference 3, assumes that the auxiliary building secondary containment enclosure (ABSCE) boundary is capable of being established to ensure the releases from the auxiliary and containment buildings are consistent with the dose consequence analysis, no credit is taken for filtration by the ABGTS. 1 2 3

2

INSERT 1

from the fuel handling area radiation monitors, a high radiation signal from the train-specific Auxiliary Building exhaust vent monitor, a Phase A containment isolation signal from either reactor, or a high temperature signal from the Auxiliary Building air intakes

. During plant operations with the containment open to the auxiliary building, the Auxiliary Building Secondary Containment Enclosure (ABSCE) boundary is extended to include the area inside the containment building and the shield building.

BASES

APPLICABLE SAFETY ANALYSES (continued)

~~material provided by the one remaining train of this filtration system.~~ The amount of fission products available for release from the ~~fuel handling~~ auxiliary building is determined for a fuel handling accident and for a LOCA. ~~[Due to radioactive decay, FBACS~~ ~~ABGTS~~ ~~is only required to isolate during fuel handling accidents involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [X] days~~ ~~100 hours~~~~).]~~ These assumptions and the analysis follow the guidance provided in Regulatory Guide 1.4 (Ref. 4) for a LOCA and Regulatory Guide ~~1.25~~ 1.183 (Ref. ~~4~~ ~~3~~ 5) for the fuel handling accident.

2 1 3 ~~1~~ 3 2

The ~~FBACS~~ ABGTS satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). 1

LCO

Two independent and redundant trains of the ~~FBACS~~ ABGTS are required to be OPERABLE to ensure that at least one train is available, assuming a single failure that disables the other train, coincident with a loss of offsite power. Total system failure could result in the atmospheric release from the ~~fuel handling~~ auxiliary building exceeding the 10 CFR 100 (Ref. ~~5~~ ~~4~~ 6) limits in the event of a ~~fuel handling accident [involving handling recently irradiated fuel]~~ LOCA. INSERT 2

1 1 2 2

The ~~FBACS~~ ABGTS is considered OPERABLE when the individual components necessary to control exposure in the ~~fuel handling~~ auxiliary building are OPERABLE in both trains. An ~~FBACS~~ ABGTS train is considered OPERABLE when its associated:

1

a. Fan is OPERABLE,

b. HEPA filter and charcoal adsorber are not excessively restricting flow, and are capable of performing their filtration function, and

c. Heater, ~~demister,~~ ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained. 1

The LCO is modified by ~~a Note allowing~~ two Notes. Note 1 allows the ~~fuel building~~ Auxiliary Building Secondary Containment Enclosure (ABSCE) boundary to be opened intermittently under administrative controls. For entry and exit through doors the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for ~~fuel~~ auxiliary building isolation is indicated.

1 1 4

INSERT 3

2

INSERT 2

One train of the ABGTS is required to be OPERABLE to mitigate the consequences of a fuel handling accident involving handling ~~recently~~ irradiated fuel to limit releases to the environment to within the 10 CFR 50.67 limits.

4

INSERT 3

Note 2 specifies that only one ABGTS train is required to be OPERABLE during the movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~.

or with fuel stored in the spent fuel pool.

With fuel stored in the spent fuel pool, one train of ABGTS is required to be OPERABLE to support mitigation of any potential fuel damage resulting from a load drop.

to provide fission product removal associated with ECCS leaks due to a LOCA

BASES

APPLICABILITY

In MODE 1, 2, 3, or 4, the ~~FBACS~~ ABGTS is required to be OPERABLE to provide fission product removal associated with ECCS leaks due to a LOCA and leakage from containment and annulus. 1

In MODE 5 or 6, the ~~FBACS~~ ABGTS is not required to be OPERABLE since the ECCS is not required to be OPERABLE. 1 2

one train of

During movement of ~~[recently]~~ irradiated fuel ~~in the~~ ~~fuel handling area~~ auxiliary building, the ~~FBACS~~ ABGTS is required to be OPERABLE to alleviate the consequences of a fuel handling accident. 3 1 2

ACTIONS

crane travel with loads over fuel stored in the spent fuel pool and

storing or

or storage

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since irradiated fuel assembly movement can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. ~~If~~ moving irradiated fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not specify any action. ~~If~~ moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, or 4 would require the unit to be shutdown unnecessarily. 4

A.1

With one ~~FBACS~~ ABGTS train inoperable, in MODE 1, 2, 3, or 4 action must be taken to restore OPERABLE status within 7 days. During this period, the remaining OPERABLE train is adequate to perform the ~~FBACS~~ ABGTS function. The 7 day Completion Time is based on the risk from an event occurring requiring the inoperable ~~FBACS~~ ABGTS train, and the remaining ~~FBACS~~ ABGTS train providing the required protection. 4 1

B.1

~~-----REVIEWER'S NOTE-----~~
~~Adoption of Condition B is dependent on a commitment from the licensee to have guidance available describing compensatory measures to be taken in the event of an intentional and unintentional entry into Condition B.~~ 5

If the ~~fuel building~~ ABSCE boundary is inoperable in MODE 1, 2, 3, or 4, the ~~FBACS~~ ABGTS trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE ~~fuel building~~ ABSCE boundary within 24 hours. During the period that the ~~fuel building~~ ABSCE boundary is inoperable, appropriate compensatory measures ~~[~~consistent with the intent, as 1 3

BASES

ACTIONS (continued)

applicable, of GDC 19, 60, 61, 63, 64 and 10 CFR Part 100~~]~~ should be utilized to protect plant personnel from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity, and physical security. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of compensatory measures. The 24 hour Completion Time is a typically reasonable time to diagnose, plan and possibly repair, and test most problems with the ~~fuel building~~ ABSCE boundary.

~~[~~ C.1 and C.2

In MODE 1, 2, 3, or 4, when Required Action A.1 or B.1 cannot be completed within the associated Completion Time, or when both ~~FBACS~~ ABGTS trains are inoperable for reasons other than an inoperable ~~fuel building~~ ABSCE boundary (i.e., Condition B), the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in MODE 3 within 6 hours, and in MODE 5 within 36 hours. The 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~~

~~When Required Action A.1 cannot be completed within the required Completion Time, during movement of [recently] irradiated fuel assemblies in the fuel building, the OPERABLE FBACS train must be started immediately or [recently] irradiated fuel movement suspended. This action ensures that the remaining train is OPERABLE, that no undetected failures preventing system operation will occur, and that any active failure will be readily detected.~~

~~If the system is not placed in operation, this action requires suspension of [recently] irradiated fuel movement, which precludes a fuel handling accident [involving handling recently irradiated fuel]. This does not preclude the movement of fuel assemblies to a safe position.~~

BASES

ACTIONS (continued)

~~E~~ D.1

When ~~two~~ the required trains ~~s~~ of ~~the FBACS are~~ ABGTS is inoperable during movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ auxiliary, action must be taken to place the unit in a condition in which the LCO does not apply. Action must be taken immediately to suspend movement of ~~[recently]~~ irradiated fuel assemblies ~~in the fuel building~~ auxiliary. This does not preclude the movement of fuel to a safe position.

Insert 7

SURVEILLANCE REQUIREMENTS

SR 3.7.~~13~~ 12.1

Standby systems should be checked periodically to ensure that they function properly. As the environmental and normal operating conditions on this system are not severe, testing each train once every month provides an adequate check on this system.

INSERT 4

~~Monthly heater operation dries out any moisture accumulated in the charcoal from humidity in the ambient air. [Systems with heaters must be operated for ≥10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥15 minutes to demonstrate the function of the system.] [The 31 day Frequency is based on the known reliability of the equipment and the two train redundancy available.~~

~~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.~~
~~-----]~~

~~[~~ SR 3.7.~~13~~ 12.2

This SR verifies that the required ~~FBACS~~ ABGTS testing is performed in accordance with the ~~[~~Ventilation Filter Testing Program (VFTP)~~]~~. The ~~[~~VFTP~~]~~ includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the ~~[~~VFTP~~]~~. ~~]~~

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INSERT 4

Operation [with heaters on] for ≥ 15 continuous minutes demonstrates OPERABILITY of the system. Periodic operation ensures that [heater failure,] blockage, fan or motor failure, or excessive vibration can be detected for corrective action. 3 3

Operation will be demonstrated by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train. 2

4 Insert 7

E.1

When the required train of ABGTS is inoperable with fuel stored in the spent fuel pool, action must be taken prevent the possibility of a load drop over fuel stored in the spent fuel pool. Suspending all crane operation with loads over the spent fuel pool will eliminate the possibility of dropping a load onto fuel assemblies stored in the spent fuel pool. The NOTE allows operation of the main hoist on the Auxiliary Building crane during this condition due to the main hoist meeting the requirements of NUREG-0554 and NUREG-0612 for a single failure proof crane.

BASES

SURVEILLANCE REQUIREMENTS (continued)

[SR 3.7.~~13~~ 12.3 3 1

This SR verifies that each ~~FBACS~~ ABGTS train starts and operates on an actual or simulated actuation signal. INSERT 5 ~~[The [18] month Frequency is consistent with Reference 6.]~~ 1 4 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.~~
~~--~~] 5

SR 3.7.~~13~~ 12.4 1

This SR verifies the integrity of the ~~fuel~~ auxiliary building enclosure (i.e., spent fuel storage area and the ESF pump rooms). The ability of the ~~fuel~~ auxiliary building to maintain negative pressure with respect to potentially uncontaminated adjacent areas is periodically tested to verify proper function of the ~~FBACS~~ ABGTS. During the ~~[~~post accident~~]~~ mode of operation, the ~~FBACS~~ ABGTS is designed to maintain a slight negative pressure in the ~~fuel~~ auxiliary building, to prevent unfiltered LEAKAGE. The ~~FBACS~~ ABGTS is designed to maintain a ≤ ~~[-0.125]~~ - 0.25 inches water gauge with respect to atmospheric pressure at a flow rate ~~of [20,000]~~ ≥ 8,100 and ≤ 9,900 cfm to the ~~fuel~~ auxiliary building. ~~[The Frequency of [18] months is consistent with the guidance provided in NUREG-0800, Section 6.5.1 (Ref. 7).~~ 2 1 3 3 1 6

~~An [18] month Frequency (on a STAGGERED TEST BASIS) is consistent with Reference 6.~~

~~OR~~

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

4 6 **INSERT 5**

The SR is modified by two Notes that specify when verification of ABGTS actuation for each actuation signal is required to be met. ABGTS actuation on a Containment Phase A isolation signal is required to be met in MODES 1, 2, 3 and 4. ABGTS actuation on fuel storage pool area high radiation signal is required to be met during movement of ~~recently~~ irradiated fuel assemblies ~~in the auxiliary building~~.

and with fuel stored in the spent fuel pool

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.~~
~~-----]~~ 5

~~[SR 3.7.13.5~~

~~Operating the FBACS filter bypass damper is necessary to ensure that the system functions properly. The OPERABILITY of the FBACS filter bypass damper is verified if it can be closed. [An [18] month Frequency is consistent with Reference 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.~~
~~-----]]~~ 4

REFERENCES

1. U FSAR, Section ~~[6.5.1]~~ 6.2.3. 2 3
2. ~~FSAR, Section [9.4.5].~~ 3
~~3~~ 2. U FSAR, Section ~~[15.7.4]~~ 15.5.3. 2 3
5 ~~4~~ 3. Regulatory Guide ~~1.25~~ 1.183. 2
6 ~~5~~ 4. 10 CFR 100. 2
4 ~~6. Regulatory Guide 1.52, Rev. [2].~~ Regulatory Guide 1.4
3 ~~7. NUREG-0800, Section 6.5.1, Rev. 2, July 1981.~~ UFSAR, Section 15.5.6 ~~6~~ 2

ITS A01 ITS 3.9.4

REFUELING OPERATIONS

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

LCO 3.9.4 — 3.9.4 The containment building penetrations shall be in the following status:

LCO 3.9.4.a — a. The equipment door closed and held in place by a minimum of four bolts,

LCO 3.9.4.b — b. A minimum of one door in each airlock is closed, and both doors of both containment personnel airlocks may be open if: A02

1. One personnel airlock door in each airlock is capable of closure, and

STET ~~2. One train of the Auxiliary Building Gas Treatment System is OPERABLE in accordance with Technical Specification 3.9.12, and~~ ~~A03~~ (See ITS 3.7.12)

LCO 3.9.4.c — c. Each penetration* providing direct access from the containment atmosphere to the outside atmosphere shall be either:

LCO 3.9.4.c.1 — 1. Closed by an isolation valve, blind flange, manual valve, or equivalent, or

LCO 3.9.4.c.2 — 2. Be capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve.

APPLICABILTY:

Applicability — 3.9.4.a. Containment Building Equipment Door - During movement of recently irradiated fuel within the containment.

Applicability — 3.9.4.b. and c. Containment Building Airlock Doors and Penetrations - During movement of recently irradiated fuel within the containment. L01

ACTION:

ACTION A — 1. With the requirements of the above specification not satisfied for the containment building equipment door, immediately suspend all operations involving movement of recently irradiated fuel in the containment building. ~~The provisions of Specification 3.0.3 are not applicable.~~ A04

ACTION A — 2. With the requirements of the above specification not satisfied for containment airlock doors or penetrations, immediately suspend all operations involving movement of recently irradiated fuel in the containment building. ~~The provisions of Specification 3.0.3 are not applicable.~~ L01 A04

SURVEILLANCE REQUIREMENTS

SR 3.9.4.1, SR 3.9.4.2 — 4.9.4 Each of the above required containment building penetrations shall be determined to be either in its required condition or capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve ~~once per 7 days~~ during movement of recently irradiated fuel in the containment building by: L01 A01

SR 3.9.4.1 — a. Verifying the penetrations are in their required condition ~~once per 7 days~~ In accordance with the Surveillance Frequency Control Program, or LA01

SR 3.9.4.2 — b. Add proposed SR 3.9.4.2 Note Verifying the Containment Ventilation isolation valves not locked, sealed, or otherwise secured in position, actuate to the isolation position on an actual or simulated actuation signal ~~18 months~~ In accordance with the Surveillance Frequency Control Program. L02 LA01

LCO 3.9.4 Note — * Penetration flow path(s) providing direct access from the containment atmosphere that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure may be unisolated under administrative controls.

ITS (A01) ITS 3.9.4

REFUELING OPERATIONS

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

LCO 3.9.4 — 3.9.4 The containment building penetrations shall be in the following status:

LCO 3.9.4.a — a. The equipment door closed and held in place by a minimum of four bolts,

LCO 3.9.4.b — b. A minimum of one door in each airlock is closed, or both doors of both containment personnel airlocks may be open if: (A02)

1. One personnel airlock door in each airlock is capable of closure, and

STET — ~~2. One train of the Auxiliary Building Gas Treatment System is OPERABLE in accordance with Technical Specification 3.9.12, and~~ (A03) (See ITS 3.7.12)

LCO 3.9.4.c — c. Each penetration* providing direct access from the containment atmosphere to the outside atmosphere shall be either:

LCO 3.9.4.c.1 — 1. Closed by an isolation valve, blind flange, manual valve, or equivalent, or

LCO 3.9.4.c.2 — 2. Be capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve.

APPLICABILITY:

Applicability — 3.9.4.a. Containment Building Equipment Door - During movement of recently irradiated fuel within the containment.

Applicability — 3.9.4.b. and c. Containment Building Airlock Doors and Penetrations - During movement of [recently] irradiated fuel within the containment. (L01)

ACTION:

ACTION A — 1. With the requirements of the above specification not satisfied for the containment building equipment door, immediately suspend all operations involving movement of recently irradiated fuel in the containment building. ~~The provisions of Specification 3.0.3 are not applicable.~~ (A04)

ACTION A — 2. With the requirements of the above specification not satisfied for containment airlock doors or penetrations, immediately suspend all operations involving movement of [recently] irradiated fuel in the containment building. ~~The provisions of Specification 3.0.3 are not applicable.~~ (L01) (A04)

SURVEILLANCE REQUIREMENTS

(L02)

SR 3.9.4.1, SR 3.9.4.2 — 4.9.4 Each of the above required containment building penetrations shall be determined to be either in its required condition or capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve ~~once per 7 days~~ during movement of [recently] irradiated fuel in the containment building by: (L01)

SR 3.9.4.1 — (A01) a. Verifying the penetrations are in their required condition [~~once per 7 days~~ In accordance with the Surveillance Frequency Control Program], or (LA01)

SR 3.9.4.2 — b. [Add proposed SR 3.9.4.2 Note] Verifying the Containment Ventilation isolation valves not locked, sealed, or otherwise secured in position, actuate to the isolation position on an actual or simulated actuation signal [~~18 months~~ In accordance with the Surveillance Frequency Control Program]. (L02) (LA01)

LCO 3.9.4 Note — * Penetration flow path(s) providing direct access from the containment atmosphere that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure may be unisolated under administrative controls.

DISCUSSION OF CHANGES
ITS 3.9.4, CONTAINMENT PENETRATIONS

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 3.9.4.b requires that a minimum of one door in each airlock is closed, and both doors of both containment personnel airlocks may be open if one personnel airlock door in each airlock is capable of closure and one train of the Auxiliary Building Gas Treatment System is OPERABLE in accordance with Technical Specification 3.9.12. ITS LCO 3.9.4.b requires that one door in each air lock be capable of being closed. This changes the CTS by replacing the prescriptive requirement for control of the air lock doors with a more general requirement that the air lock doors must be capable of being closed.

This change is acceptable because the requirements have not changed, one door continues to be capable of being closed in the event of a fuel handling accident. The ITS requirement preserves the intent of the CTS in that should a fuel handling accident occur inside containment, at least one airlock door in each airlock will be closed following an evacuation of containment. This change is designated as administrated because it does not result in a technical change to the CTS.

Not used.

A03 ~~CTS 3.9.4.b allows both doors of each containment personnel airlocks to be open provided, in part, that "One train of the Auxiliary Building Gas Treatment System is OPERABLE in accordance with Technical Specification 3.9.12." ITS 3.9.4.b does not contain this specific requirement. This changes the CTS by removing the specific requirement that one train of the Auxiliary Building Gas Treatment System be OPERABLE.~~

~~The purpose of CTS 3.9.4.b is to ensure that the Auxiliary Building Gas Treatment System is available when the containment personnel airlock doors are open during movement of recently irradiated fuel within the containment, this is accomplished by referencing CTS 3.9.12. This change is acceptable because the associated requirements referenced by CTS 3.9.4.b in CTS 3.9.12 are being addressed in ITS 3.7.12. Therefore, ITS 3.7.12 contains the appropriate requirements associated with the ABGTS. This change is designated as administrative because it does not result in a technical change to the CTS.~~

A04 CTS 3.9.4 and CTS 3.9.9 ACTIONS state "The provisions of Specification 3.0.3 are not applicable. ITS 3.9.4 does not include this statement. This changes the CTS by deleting the Specification 3.0.3 exemption.

BASES

LCO (continued)

INSERT 2 2

that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure

The LCO is modified by a Note allowing penetration flow paths with direct access from the containment atmosphere ~~to the outside atmosphere~~ to be unisolated under administrative controls. Administrative controls ensure that 1) appropriate personnel are aware of the open status of the penetration flow path during movement of irradiated fuel assemblies within containment, and 2) specified individuals are designated and readily available to isolate the flow path in the event of a fuel handling accident. 2

may

The containment personnel air lock doors ~~many~~ be open during movement of ~~[~~recently~~]~~ irradiated fuel in the containment provided that one door is capable of being closed in the event of a fuel handling accident. Should a fuel handling accident occur inside containment, one personnel air lock door will be closed following an evacuation of containment. 4 1 2 ~~2~~

at least

~~INSERT 3~~

APPLICABILITY

The containment penetration requirements are applicable during movement of ~~[~~recently~~]~~ irradiated fuel assemblies within containment because this is when there is a potential for the limiting fuel handling accident. In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1. In MODES 5 and 6, when movement of irradiated fuel assemblies within containment is not being conducted, the potential for a fuel handling accident does not exist. ~~[~~Additionally, due to radioactive decay, a fuel handling accident involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous ~~[x] days~~) will result in doses that are ~~well~~ within the guideline values specified in 10 CFR ~~100~~ even without containment closure capability.~~]~~ Therefore, under these conditions no requirements are placed on containment penetration status. 1 1 2

100 hours

50.67

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

~~The addition of the term "recently" associated with handling irradiated fuel in all of the containment function Technical Specification requirements is only applicable to those licensees who have demonstrated by analysis that after sufficient radioactive decay has occurred, off-site doses resulting from a fuel handling accident remain below the Standard Review Plan limits (well within 10 CFR 100).~~

~~Additionally, licensees adding the term "recently" must make the following commitment which is consistent with NUMARC 93-01, Revision 4, Section 11.3.6.5 "Safety Assessment for Removal of Equipment from Service During Shutdown Conditions," subheading "Containment - Primary (PWR)/Secondary (BWR)."~~ 5

~~"The following guidelines are included in the assessment of systems removed from service during movement irradiated fuel:~~

4

INSERT 2

During movement of recently irradiated fuel assemblies within containment, the equipment hatch is required to be held in place by at least four bolts.

~~2~~

~~**INSERT 3**~~

~~The containment design is such that even though the primary and secondary containments are connected together when the personnel air lock doors are open, the normal auxiliary building ventilation system and Auxiliary Building Gas Treatment System (ABGTS) continue to provide the same fuel handling accident mitigation capability. With the personnel air lock doors open, the consequences of a fuel handling accident in the containment will be mitigated by the design of the ventilation systems (maintenance of a negative pressure during normal and applicable abnormal conditions, automatic isolation on high radiation in the auxiliary building, and automatic startup of emergency ventilation systems) and the leak-tight design of the auxiliary building. Both sets of the containment personnel airlock doors may be open during movement of recently irradiated fuel in containment provided one train of ABGTS is available for operation (LCO 3.7.12, "Auxiliary Building Gas Treatment System (AGBTS)"). The fuel handling accident is analyzed to occur in either the containment or the auxiliary building; however, an ABGTS start may be necessary for a containment fuel handling accident. The requirement for an airlock door to be capable of closure is provided to allow for long-term recovery from a fuel handling accident in containment.~~

BASES

APPLICABILITY (continued)

~~- During fuel handling/core alterations, ventilation system and radiation monitor availability (as defined in NUMARC 91-06) should be assessed, with respect to filtration and monitoring of releases from the fuel. Following shutdown, radioactivity in the fuel decays away fairly rapidly. The basis of the Technical Specification OPERABILITY amendment is the reduction in doses due to such decay. The goal of maintaining ventilation system and radiation monitor availability is to reduce doses even further below that provided by the natural decay.~~

~~- A single normal or contingency method to promptly close primary or secondary containment penetrations should be developed. Such prompt methods need not completely block the penetration or be capable of resisting pressure.~~

~~The purpose of the "prompt methods" mentioned above are to enable ventilation systems to draw the release from a postulated fuel handling accident in the proper direction such that it can be treated and monitored."~~ 5

ACTIONS

A.1

If the containment equipment hatch, air locks, or any containment penetration ~~that provides direct access from the containment atmosphere to the outside atmosphere~~ is not in the required status, including ~~the~~ automatic Containment ~~Purge and~~ Ventilation ~~Exhaust~~ Isolation ~~System~~ valve(s) not capable of automatic actuation when the ~~purge and exhaust~~ Containment Ventilation isolation valves are open, the unit must be placed in a condition where the isolation function is not needed. This is accomplished by immediately suspending movement of ~~[~~recently~~]~~ irradiated fuel assemblies within containment. Performance of these actions shall not preclude completion of movement of a component to a safe position. 2 1

SURVEILLANCE REQUIREMENTS 3

SR 3.9.4.1

This Surveillance demonstrates that each ~~of the~~ containment penetration~~s~~ required is in its ~~to be in its closed position is in that position. The Surveillance on the open purge and exhaust valves will demonstrate that the valves are not blocked from closing. Also the Surveillance will demonstrate that each~~ valve operator has motive power~~, which will ensure that each valve is capable of being closed by an OPERABLE automatic containment purge and exhaust isolation signal~~. 6

INSERT ~~4~~ 3

3

6

INSERT ~~4~~

status. The requirement that penetrations are capable of being closed by an OPERABLE automatic containment ventilation isolation valve, can be verified by ensuring that each required containment ventilation isolation

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BASES

SURVEILLANCE REQUIREMENTS (continued)

~~[The Surveillance is performed every 7 days during movement of [recently] irradiated fuel assemblies within containment. The Surveillance interval is selected to be commensurate with the normal duration of time to complete fuel handling operations. A surveillance before the start of refueling operations will provide two or three surveillance verifications during the applicable period for this LCO. As such, this Surveillance ensures that a postulated fuel handling accident [involving handling recently irradiated fuel] that releases fission product radioactivity within the containment will not result in a release of significant fission product radioactivity to the environment in excess of those recommended by Standard Review Plan Section 15.7.4 (Reference 3).~~

~~OR~~

7

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.~~
~~------]~~

8

SR 3.9.4.2

4

INSERT 5

ventilation isolation

This Surveillance demonstrates that each containment ~~purge and exhaust~~ ventilation isolation valve actuates to its isolation position on manual initiation or on an actual or simulated ~~high radiation~~ actuation signal. ~~[The 18 month Frequency maintains consistency with other similar ESFAS instrumentation and valve testing requirements. In LCO 3.3.6, the Containment Purge and Exhaust Isolation instrumentation requires a CHANNEL CHECK every 12 hours and a COT every 92 days to ensure the channel OPERABILITY during refueling operations. Every 18 months a CHANNEL CALIBRATION is performed. The system actuation response time is demonstrated every 18 months, during refueling, on a STAGGERED TEST BASIS. SR 3.6.3.5 demonstrates that the isolation time of each valve is in accordance with the Inservice Testing Program requirements. These Surveillances performed during MODE 6 will ensure that the valves are capable of closing after a postulated fuel handling accident [involving handling recently irradiated fuel] to limit a release of fission product radioactivity from the containment.~~

2 9 10 7

$\boxed{4}$

9 **INSERT ~~5~~**

, that is not locked, sealed, or otherwise secured in position,

Enclosure 2, Volume 14, Rev. 0, Page 132 of 236

BASES

LCO (continued)

INSERT 2 2

that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure

The LCO is modified by a Note allowing penetration flow paths with direct access from the containment atmosphere ~~to the outside atmosphere~~ to be unisolated under administrative controls. Administrative controls ensure that 1) appropriate personnel are aware of the open status of the penetration flow path during movement of irradiated fuel assemblies within containment, and 2) specified individuals are designated and readily available to isolate the flow path in the event of a fuel handling accident. 2

may

The containment personnel air lock doors ~~many~~ be open during movement of ~~[~~recently~~]~~ irradiated fuel in the containment provided that one door is capable of being closed in the event of a fuel handling accident. Should a fuel handling accident occur inside containment, at least one personnel air lock door will be closed following an evacuation of containment. ~~INSERT 3~~ 4 1 2 ~~2~~

APPLICABILITY

The containment penetration requirements are applicable during movement of ~~[~~recently~~]~~ irradiated fuel assemblies within containment because this is when there is a potential for the limiting fuel handling accident. In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1. In MODES 5 and 6, when movement of irradiated fuel assemblies within containment is not being conducted, the potential for a fuel handling accident does not exist. ~~[~~Additionally, due to radioactive decay, a fuel handling accident involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous ~~[x] days~~ 100 hours) will result in doses that are ~~well~~ within the guideline values specified in 10 CFR ~~100~~ 50.67 even without containment closure capability.~~]~~ Therefore, under these conditions no requirements are placed on containment penetration status. 1 1 2

~~-----------------------------------REVIEWER'S NOTE-----------------------------------~~
~~The addition of the term "recently" associated with handling irradiated fuel in all of the containment function Technical Specification requirements is only applicable to those licensees who have demonstrated by analysis that after sufficient radioactive decay has occurred, off-site doses resulting from a fuel handling accident remain below the Standard Review Plan limits (well within 10 CFR 100).~~

~~Additionally, licensees adding the term "recently" must make the following commitment which is consistent with NUMARC 93-01, Revision 4, Section 11.3.6.5 "Safety Assessment for Removal of Equipment from Service During Shutdown Conditions," subheading "Containment - Primary (PWR)/Secondary (BWR)."~~ 5

~~"The following guidelines are included in the assessment of systems removed from service during movement irradiated fuel:~~

4

INSERT 2

During movement of recently irradiated fuel assemblies within containment, the equipment hatch is required to be held in place by at least four bolts.

~~2~~

INSERT 3

~~The containment design is such that even though the primary and secondary containments are connected together when the personnel air lock doors are open, the normal auxiliary building ventilation system and Auxiliary Building Gas Treatment System (ABGTS) continue to provide the same fuel handling accident mitigation capability. With the personnel air lock doors open, the consequences of a fuel handling accident in the containment will be mitigated by the design of the ventilation systems (maintenance of a negative pressure during normal and applicable abnormal conditions, automatic isolation on high radiation in the auxiliary building, and automatic startup of emergency ventilation systems) and the leak-tight design of the auxiliary building. Both sets of the containment personnel airlock doors may be open during movement of recently irradiated fuel in containment provided one train of ABGTS is available for operation (LCO 3.7.12, "Auxiliary Building Gas Treatment System (AGBTS)"). The fuel handling accident is analyzed to occur in either the containment or the auxiliary building; however, an ABGTS start may be necessary for a containment fuel handling accident. The requirement for an airlock door to be capable of closure is provided to allow for long-term recovery from a fuel handling accident in containment.~~

BASES

APPLICABILITY (continued)

~~- During fuel handling/core alterations, ventilation system and radiation monitor availability (as defined in NUMARC 91-06) should be assessed, with respect to filtration and monitoring of releases from the fuel. Following shutdown, radioactivity in the fuel decays away fairly rapidly. The basis of the Technical Specification OPERABILITY amendment is the reduction in doses due to such decay. The goal of maintaining ventilation system and radiation monitor availability is to reduce doses even further below that provided by the natural decay.~~

~~- A single normal or contingency method to promptly close primary or secondary containment penetrations should be developed. Such prompt methods need not completely block the penetration or be capable of resisting pressure.~~

~~The purpose of the "prompt methods" mentioned above are to enable ventilation systems to draw the release from a postulated fuel handling accident in the proper direction such that it can be treated and monitored."~~

5

ACTIONS

A.1

automatic

Ventilation

Containment Ventilation isolation

valve(s)

If the containment equipment hatch, air locks, or any containment penetration ~~that provides direct access from the containment atmosphere to the outside atmosphere~~ is not in the required status, including ~~the~~ Containment ~~Purge and Exhaust~~ Isolation ~~System~~ not capable of automatic actuation when the ~~purge and exhaust~~ valves are open, the unit must be placed in a condition where the isolation function is not needed. This is accomplished by immediately suspending movement of ~~[~~recently~~]~~ irradiated fuel assemblies within containment. Performance of these actions shall not preclude completion of movement of a component to a safe position. 2 1

SURVEILLANCE REQUIREMENTS 3

SR 3.9.4.1

is in its

INSERT 4

This Surveillance demonstrates that each ~~of the~~ containment penetration~~s~~ required ~~to be in its closed position is in that position. The Surveillance on the open purge and exhaust valves will demonstrate that the valves are not blocked from closing. Also the Surveillance will demonstrate that each~~ valve operator has motive power~~, which will ensure that each valve is capable of being closed by an OPERABLE automatic containment purge and exhaust isolation signal~~. 6

3

6 **INSERT ~~4~~**

status. The requirement that penetrations are capable of being closed by an OPERABLE automatic containment ventilation isolation valve, can be verified by ensuring that each required containment ventilation isolation

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BASES

SURVEILLANCE REQUIREMENTS (continued)

~~[The Surveillance is performed every 7 days during movement of [recently] irradiated fuel assemblies within containment. The Surveillance interval is selected to be commensurate with the normal duration of time to complete fuel handling operations. A surveillance before the start of refueling operations will provide two or three surveillance verifications during the applicable period for this LCO. As such, this Surveillance ensures that a postulated fuel handling accident [involving handling recently irradiated fuel] that releases fission product radioactivity within the containment will not result in a release of significant fission product radioactivity to the environment in excess of those recommended by Standard Review Plan Section 15.7.4 (Reference 3).~~

~~OR~~

7

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.~~
~~]~~

8

SR 3.9.4.2

4

ventilation isolation

This Surveillance demonstrates that each containment ~~purge and exhaust~~ valve actuates to its isolation position on manual initiation or on an actual or simulated ~~high radiation~~ signal. ~~[The 18 month Frequency maintains consistency with other similar ESFAS instrumentation and valve testing requirements. In LCO 3.3.6, the Containment Purge and Exhaust Isolation instrumentation requires a CHANNEL CHECK every 12 hours and a COT every 92 days to ensure the channel OPERABILITY during refueling operations. Every 18 months a CHANNEL CALIBRATION is performed. The system actuation response time is demonstrated every 18 months, during refueling, on a STAGGERED TEST BASIS. SR 3.6.3.5 demonstrates that the isolation time of each valve is in accordance with the Inservice Testing Program requirements. These Surveillances performed during MODE 6 will ensure that the valves are capable of closing after a postulated fuel handling accident [involving handling recently irradiated fuel] to limit a release of fission product radioactivity from the containment.~~

INSERT 5

actuation

2 9 10 7

4

9 **INSERT 5**

, that is not locked, sealed, or otherwise secured in position,

Licensee Response/NRC Response/NRC Question Closure

Id	**461**
NRC Question Number	**MHC006**
Select Application	**NRC Question Closure**
Attachment 1	
Attachment 2	
Response Statement	
Response Date/Time	
Closure Statement	**In a public meeting on June 24, 2015, TVA (the licensee) stated that it no longer wants to pursue adoption of changes in its application dated November 22, 2013 related to TSTF-51 and TSTF-471. The licensee also stated that changes associated with supplement 1 to the LAR are being withdrawn. The licensee further stated its intention to return to the current licensing basis for the affected TS.** **The staff reviewed the response to MHC006 and requested some clarifications to the response in a public teleconference with the licensee on July 1, 2015. In the teleconference, the licensee stated its intention to withdraw the proposed changes to the Condition Note associated with ITS 3.7.12, Auxiliary Building Gas Treatment System, Condition E. The licensee indicated that this change would be reflected in its response to MHC003, which will be provided in the near future.** **The NRC staff does not have any further questions on the response to MHC006.**
Question Closure Date	**7/1/2015**
Notification	**Mark Blumberg** **Scott Bowman**

	Margaret Chernoff **Michelle Conner** **Khadijah Hemphill** **Andrew Hon** **Lynn Mynatt** **Ray Schiele** **Roger Scott**
Added By	**Khadijah Hemphill**
Date Added	**7/1/2015 3:49 PM**
Date Modified	
Modified By	

ENCLOSURE 4

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

ITS 5.5.14, Containment Leakage Rate Testing Program, Revision 2

A01

ITS ITS 5.5

5.5.14 h. Containment Leakage Rate Testing Program

5.5.14.a A program shall ~~be established to implement~~ establish the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50 Appendix J, Option B, as modified by approved exemptions. ~~Visual examination and testing, including test intervals and extensions,~~ This program shall be in accordance with Regulatory Guide (RG) 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995 with exceptions provided in the site implementing instructions and the following:

5.5.14.a.1 BYPASS LEAKAGE PATHS TO THE AUXILIARY BUILDING leakage from isolation valves that are sealed with fluid from a seal system may be excluded, subject to the provisions of Appendix J, Section III.C.3, when determining the combined leakage rate provided the seal system and valves are pressurized to at least 1.10 P_a (~~13.2~~ psig) and the seal system capacity is adequate to maintain system pressure (or fluid head for the containment spray system and RHR spray system valves at penetrations 48A, 48B, 49A and 49B) for at least 30 days.

STET

12.46

ICE

5.5.14.b ~~The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a, is 12.0 psig.~~ The containment design pressure is 12 psig. For the Containment Leakage Rate Testing Program, P_a is defined as 12.0 psig.

~~is less than the~~ ~~of~~

11.33

A13

L03

5.5.14.c The maximum allowable containment leakage rate, L_a, at P_a, is 0.25% of the primary containment air weight per day.

5.5.14.d Leakage rate acceptance criteria are:

5.5.14.d.1 a. Containment overall leakage rate acceptance criteria is $\leq 1.0\ L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the combined Type B and Type C tests, and $\leq 0.75\ L_a$ for Type A tests;

5.5.14.d.2 b. Air lock testing acceptance criteria are:

5.5.14.d.2 1) 1. Overall air lock leakage rate is $\leq 0.05\ L_a$ when tested at $\geq P_a$.

5.5.14.d.2 2) 2. For each door, leakage rate is $\leq 0.01\ L_a$ when pressurized to ≥ 6 psig for at least two minutes.

5.5.14.d.3 c. For each containment purge supply and exhaust isolation valve, acceptance criteria is measured leakage rate less than or equal to 0.05 L_a.

5.5.14.d.4 d. BYPASS LEAKAGE PATHS TO THE AUXILIARY BUILDING acceptance criteria are:

5.5.14.d.4 1) 1. The combined bypass leakage rate to the auxiliary building shall be less than or equal to 0.25 L_a by applicable Type B and C tests.

5.5.14.d.4 2) 2. Penetrations not individually testable shall have no detectable leakage when tested with soap bubbles while the containment is pressurized to P_a (~~12~~ psig) during each Type A test.

11.33

5.5.14.f The provisions of SR 4.0.2 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

5.5.14.e The provisions of SR 4.0.3 are applicable to the Containment Leakage Rate Testing Program.

~~i. Configuration Risk Management Program (DELETED)~~

6.8.4 f. Radioactive Effluent Controls Program (Cont.)

5.5.3.f of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50,

5.5.3.g 7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents from the site to areas at or beyond the SITE BOUNDARY shall be in accordance with the following:

5.5.3.g.1 1. For noble gases: Less than or equal to a dose rate of 500 mrem/yr to the whole body and less than or equal to a dose rate of 3000 mrem/yr to the skin, and

5.5.3.g.2 2. For Iodine-131, Iodine-133, tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to a dose rate of 1500 mrem/year to any organ.

5.5.3.h 8) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,

5.5.3.i 9) Limitations on the annual and quarterly doses to a member of the public from Iodine-131, Iodine-133, tritium, and all radio-nuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50, and

5.5.3.j 10) Limitations on the annual dose or dose commitment to any member of the public, beyond the site boundary, due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

5.5.3 The provisions of SR 4.0.2 and 4.0.3 are applicable to the radioactive effluent controls program surveillance frequency.

~~g. Radiological Environmental Monitoring Program (DELETED)~~

5.5.14 h. Containment Leakage Rate Testing Program

5.5.14.a A program shall ~~be established to implement~~ establish the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50 Appendix J, Option B, as modified by approved exemptions. ~~Visual examination and testing, including test intervals and extensions,~~ This program shall be in accordance with Regulatory Guide (RG) 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995 with exceptions provided in the site implementing instructions and the following:

5.5.14.a.1 BYPASS LEAKAGE PATHS TO THE AUXILIARY BUILDING leakage from isolation valves that are sealed with fluid from a seal system may be excluded, subject to the provisions of Appendix J, Section III.C.3, when determining the combined leakage rate provided the seal system and valves are pressurized to at least 1.10 P_a (~~13.2~~ psig) and the seal system capacity is adequate to maintain system pressure (or fluid head for the containment spray system and RHR spray system valves at penetrations 48A, 48B, 49A and 49B) for at least 30 days.

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~~12.46~~

5.5.14.b ICE ~~The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a, is~~ ~~12.0~~ ~~psig.~~ The ~~is less than the~~ containment design pressure is ~~of~~ 12 psig. For the Containment Leakage Rate Testing Program, P_a is defined as 12.0 psig.

~~11.33~~ A13 ~~L03~~

5.5.14.c The maximum allowable containment leakage rate, L_a, at P_a, is 0.25% of the primary containment air weight per day.

ICE INSERT 1

A13 CTS 6.8.4.h states, in part, "The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a, is 12.0 psig." ITS 5.5.14.b states, "The ~~calculated peak containment internal pressure for the design basis loss of coolant accident is less than the~~ containment design pressure ~~of~~ is 12 psig. For the Containment Leakage Rate Testing Program, P_a is defined as 12.0 psig." This changes the CTS by stating the containment design pressure is ~~the peak calculated containment internal pressure for the design basis loss of coolant accident is less than the design pressure of~~ 12 psig, and specifying that for the Containment Leakage Rate Testing Program P_a is defined as 12.0 psig.

This change is acceptable because no changes have been made to the existing requirements. ITS 5.5.14 continues to use the value of 12.0 psig for the term P_a. The value for the calculated peak containment pressure for the design basis loss of coolant accident is provided in the Applicable Safety Analyses Section of the Bases for ITS Specifications 3.6.4 and 3.6.6. This change is designated as administrative because it does not result in technical changes to the CTS.

5.5 Programs and Manuals

6.8.4.h 5.5.~~16~~ 14 Containment Leakage Rate Testing Program (continued) 4 10

~~[OPTION B]~~

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

~~1. The visual examination of containment concrete surfaces intended to fulfill the requirements of 10 CFR 50, Appendix J, Option B testing, will be performed in accordance with the requirements of and frequency specified by the ASME Section XI Code, Subsection IWL, except where relief has been authorized by the NRC.~~ INSERT 8

~~2. The visual examination of the steel liner plate inside containment intended to fulfill the requirements of 10 CFR50, Appendix J, Option B, will be performed in accordance with the requirements of and frequency specified by the ASME Section XI Code, Subsection IWE, except where relief has been authorized by the NRC.~~ 3

~~[3. . . .]~~

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6.8.4.h ~~less than the~~ ~~of~~ b. ~~The calculated peak containment internal pressure for the design basis loss of coolant accident, P_a, is [45 psig].~~ 11.33 The containment design pressure is ~~[50~~ 12 psig~~]~~. 2 12

For the Containment Leakage Rate Testing Program, P_a is defined as 12.0 psig.

6.8.4.h c. The maximum allowable containment leakage rate, L_a, at P_a, shall be ~~[ ]~~ 0.25 % of containment air weight per day. 2

6.8.4.h d. Leakage rate acceptance criteria are:

6.8.4.h.a 1. Containment leakage rate acceptance criterion is ≤ 1.0 L_a. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are ~~<~~ ≤ 0.60 L_a for the Type B and C tests and ≤ 0.75 L_a for Type A tests. ≤ 3 3

6.8.4.h.b 2. Air lock testing acceptance criteria are:

6.8.4.h.b.1 a) Overall air lock leakage rate is ≤ ~~[~~0.05 L_a~~]~~ when tested at ≥ P_a.

6.8.4.h.b.2 b) For each door, leakage rate is ≤ ~~[~~0.01 L_a~~]~~ when pressurized to ~~[~~≥ ~~10~~ 6 psig~~]~~ for at least two minutes. 2 3

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SEQUOYAH UNIT 1 Amendment XXX

5.5 Programs and Manuals

6.8.4.h 5.5.~~16~~ 14 Containment Leakage Rate Testing Program (continued) 4 10

~~[OPTION B]~~

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

~~1. The visual examination of containment concrete surfaces intended to fulfill the requirements of 10 CFR 50, Appendix J, Option B testing, will be performed in accordance with the requirements of and frequency specified by the ASME Section XI Code, Subsection IWL, except where relief has been authorized by the NRC.~~ INSERT 8

~~2. The visual examination of the steel liner plate inside containment intended to fulfill the requirements of 10 CFR50, Appendix J, Option B, will be performed in accordance with the requirements of and frequency specified by the ASME Section XI Code, Subsection IWE, except where relief has been authorized by the NRC.~~

~~[3. . . .]~~ 3

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6.8.4.h b. ~~The calculated peak containment internal pressure for the design basis loss of coolant accident, P_a, is [45 psig]. The containment design pressure is [50 psig].~~ ~~less than the~~ ~~of~~ 11.33 12 For the Containment Leakage Rate Testing Program, P_a is defined as 12.0 psig. 2 12

6.8.4.h c. The maximum allowable containment leakage rate, L_a, at P_a, shall be ~~[ ]~~ 0.25 % of containment air weight per day. 2

6.8.4.h d. Leakage rate acceptance criteria are:

6.8.4.h.a 1. Containment leakage rate acceptance criterion is ≤ 1.0 L_a. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are ~~<~~ ≤ 0.60 L_a for the Type B and C tests and ≤ 0.75 L_a for Type A tests. 3 3

6.8.4.h.b 2. Air lock testing acceptance criteria are:

6.8.4.h.b.1 a) Overall air lock leakage rate is ≤ ~~[~~0.05 L_a~~]~~ when tested at ≥ P_a.

6.8.4.h.b.2 b) For each door, leakage rate is ≤ ~~[~~0.01 L_a~~]~~ when pressurized to ~~[~~≥ ~~10~~ 6 psig~~]~~ for at least two minutes. 2 3

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JUSTIFICATION FOR DEVIATIONS
ITS 5.5, PROGRAMS AND MANUALS

12. ISTS 5.5.16 (ITS 5.5.14) provides the requirements for the Containment Leakage Rate Testing Program. ISTS 5.5.16.b states, "The calculated peak containment internal pressure for the design basis loss of coolant accident, P_a, is [45 psig]. The containment design pressure is [50 psig]." ISTS 5.5.16.b is revised to state, "The ~~calculated peak containment internal pressure for the design basis loss of coolant accident is less than the~~ containment design pressure is ~~of~~ 12 psig. For the Containment Leakage Rate Testing Program, P_a is defined as 12.0 psig." By letter dated February 5, 1996, the NRC issued Amendments 217 and 207 to SQN, Units 1 and 2, respectively, approving the establishment of a "Containment Leakage Rate Testing Program." The program is CTS 6.8.4.h, and states, "The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a, is 12.0 psig." Although SQN performs containment leakage rate testing using a P_a of 12.0 psig, the calculated peak containment internal pressure for the design basis loss of coolant accident is a value less than 12.0 psig. Therefore, ISTS 5.5.16.b is revised to align P_a with the value used in CTS 6.8.4.h. The calculated peak containment internal pressure for the design basis loss of coolant accident is ~~will be~~ stated in the Applicable Safety Analyses Section of the Bases for ITS Specifications 3.6.4, Containment Pressure, and 3.6.6, Containment Spray.