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U. S. Nuclear Regulatory Commission  
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**Subject:** James A. FitzPatrick Nuclear Power Plant  
Docket No. 50-333  
**Updated Markup and Retyped Technical Specification Pages for Proposed License Amendment for a Limited Scope Application of the Alternate Source Term Guidelines in NUREG-1465 Related to the Re-evaluation of the Fuel Handling Accident Dose Consequences**

**References:**

1. Entergy letter, J. Knubel to USNRC (JPN-02-016) dated June 7, 2002 regarding "Proposed License Amendment for a Limited Scope Application of the Alternate Source Term Guidelines in NUREG-1465 Related to the Re-evaluation of the Fuel Handling Dose Consequences"
2. USNRC letter, dated July 3, 2002, to M. Kansler (Entergy Nuclear Operations, Inc.) transmitting Facility Operating License Amendment 274 regarding Improved Technical Specifications

Dear Sir:

This letter and the associated attachments provide replacement pages for those retyped Technical Specification pages, Technical Specification markup pages, and Bases markup pages contained in the Reference 1 proposed license amendment. The replacement pages reflect issuance of Facility Operating License Amendment 274 (Reference 2) subsequent to the Reference 1 submittal.

Attachments 1 and 2 contain the replacement retyped Technical Specification pages and replacement Technical Specification markup pages, respectively.

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Attachment 3 contains the draft markup of Technical Specification Bases pages. The draft Bases markup pages are provided for information only, since the proposed Bases changes will be implemented through the Technical Specification Bases Control Program.

There are no new commitments made by this letter. If you have any questions, please contact Mr. R. Plasse at (315) 349-6793.

Very truly yours,



T. A. Sullivan  
Vice President, Operations

TAS/WVC/dmr

Attachments as stated

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**Attachment 1 to JAFP-02-XXXX**

**REVISED TECHNICAL SPECIFICATION PAGES**

Proposed License Amendment for a Limited Scope Application  
of the Alternate Source Term Guidelines in NUREG-1465 Related to the  
Re-evaluation of the Fuel Handling Accident Dose Consequences

**Entergy Nuclear Operations, Inc.**  
JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
Docket No. 50-333  
DPR-59

Secondary Containment Isolation Instrumentation  
3.3.6.2

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

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

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

(b) During movement of recently irradiated fuel assemblies in secondary containment.

3.3 INSTRUMENTATION

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

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

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

ACTIONS

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

3.6 CONTAINMENT SYSTEMS

3.6.4.1 Secondary Containment

LCO 3.6.4.1 The secondary containment shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Secondary containment inoperable in MODE 1, 2, or 3.	A.1 Restore secondary containment to OPERABLE status.	4 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours
C. Secondary containment inoperable during movement of recently irradiated fuel assemblies in the secondary containment or during OPDRVs.	C.1 .....NOTE..... LCO 3.0.3 is not applicable. .....  Suspend movement of recently irradiated fuel assemblies in the secondary containment.	Immediately
	<u>AND</u>	(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.2 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.4.1.1 Verify secondary containment vacuum is $\geq$ 0.25 inch of vacuum water gauge.	24 hours
SR 3.6.4.1.2 Verify all secondary containment equipment hatches are closed and sealed.	31 days
SR 3.6.4.1.3 Verify one secondary containment access door in each access opening is closed.	31 days
SR 3.6.4.1.4 Verify the secondary containment can be maintained $\geq$ 0.25 inch of vacuum water gauge for 1 hour using one SGT subsystem at a flow rate $\leq$ 6000 cfm.	24 months on a STAGGERED TEST BASIS for each SGT subsystem

3.6 CONTAINMENT SYSTEMS

3.6.4.2 Secondary Containment Isolation Valves (SCIVs)

LCO 3.6.4.2 Each SCIV shall be OPERABLE.

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

ACTIONS

- NOTES-----
1. Penetration flow paths may be unisolated intermittently under administrative controls.
  2. Separate Condition entry is allowed for each penetration flow path.
  3. Enter applicable Conditions and Required Actions for systems made inoperable by SCIVs.
- 

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more penetration flow paths with one SCIV inoperable.</p>	<p>A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p> <p><u>AND</u></p>	<p>8 hours</p> <p>(continued)</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Required Action and associated Completion Time of Condition A or B not met during movement of recently irradiated fuel assemblies in the secondary containment or during OPDRVs.</p>	<p>D.1 .....NOTE.....                      LCO 3.0.3 is not applicable.                      .....                      Suspend movement of recently irradiated fuel assemblies in the secondary containment.</p>	<p>Immediately</p>
	<p><u>AND</u>                      D.2 Initiate action to suspend OPDRVs.</p>	<p>Immediately</p>





3.7 PLANT SYSTEMS

3.7.3 Control Room Emergency Ventilation Air Supply (CREVAS) System

LCO 3.7.3 Two CREVAS subsystems shall be OPERABLE.

-----NOTE-----  
The control room boundary may be opened intermittently under administrative control.  
-----

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREVAS subsystem inoperable.	A.1 Restore CREVAS subsystem to OPERABLE status.	7 days
B. Two CREVAS subsystems inoperable due to inoperable control room boundary in MODE 1, 2, or 3.	B.1 Restore control room boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1 Be in MODE 3.	12 hours
	<u>AND</u> C.2 Be in MODE 4.	36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Required Action and associated Completion Time of Condition A not met during movement of recently irradiated fuel assemblies in the secondary containment or during OPDRVs.</p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p> <p>D.1 Place OPERABLE CREVAS subsystem in isolate mode.</p> <p><u>OR</u></p> <p>D.2.1 Suspend movement of recently irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p>D.2.2 Initiate action to suspend OPDRVs.</p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p>
<p>E. Two CREVAS subsystems inoperable in MODE 1, 2, or 3 for reasons other than Condition B.</p>	<p>E.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>

(continued)



3.7 PLANT SYSTEMS

3.7.4 Control Room Air Conditioning (AC) System

LCO 3.7.4 Two control room AC subsystems shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One control room AC subsystem inoperable.	A.1 Restore control room AC subsystem to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, or 3.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

(continued)



ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. Two control room AC subsystems inoperable during movement of recently irradiated fuel assemblies in the secondary containment or during OPDRVs.</p>	<p>-----NOTE-----                      LCO 3.0.3 is not applicable.                      -----</p>	<p>Immediately</p>
	<p>E.1 Suspend movement of recently irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p>E.2 Initiate action to suspend OPDRVs.</p>	

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.4.1 Verify each control room AC subsystem has the capability to remove the assumed heat load.</p>	<p>24 months</p>

### 3.8 ELECTRICAL POWER SYSTEMS

#### 3.8.2 AC Sources – Shutdown

LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

- a. One qualified circuit between the offsite transmission network and one division of the plant Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8, "Distribution Systems – Shutdown";
- b. One qualified circuit, which maybe the same circuit required by LCO 3.8.2.a, between the offsite transmission network and the other division of the plant Class 1E AC electrical power distribution subsystem(s), when a second division is required by LCO 3.8.8; and
- c. One emergency diesel generator (EDG) subsystem capable of supplying one division of the plant Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8.

APPLICABILITY: MODES 4 and 5,  
During movement of recently irradiated fuel assemblies in  
the secondary containment. |

ACTIONS

-----NOTE-----  
 LCO 3.0.3 is not applicable.  
 -----

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or both required offsite circuits inoperable.</p>	<p>-----NOTE-----            Enter applicable Condition and Required Actions of LCO 3.8.8, when any required division is de-energized as a result of Condition A.            -----</p> <p>A.1 Declare affected required feature(s), with no offsite power available, inoperable.</p> <p><u>OR</u></p> <p>A.2.1 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p>A.2.2 Suspend movement of recently irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p>A.2.3 Initiate action to suspend operations with a potential for draining the reactor vessel (OPDRVs).</p> <p><u>AND</u></p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p> <p>Immediately</p> <p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.4 Initiate action to restore required offsite power circuit(s) to OPERABLE status.	Immediately
B. One required EDG subsystem inoperable.	B.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	B.2 Suspend movement of recently irradiated fuel assemblies in secondary containment.	Immediately
	<u>AND</u>	
	B.3 Initiate action to suspend OPDRVs.	Immediately
	<u>AND</u>	
	B.4 Initiate action to restore required EDG subsystem to OPERABLE status.	Immediately

3.8 ELECTRICAL POWER SYSTEMS

3.8.5 DC Sources – Shutdown

LCO 3.8.5 One 125 VDC electrical power subsystem shall be OPERABLE to support one division of the plant Class IE DC Electrical Power Distribution System required by LCO 3.8.8, "Distribution Systems – Shutdown."

APPLICABILITY: MODES 4 and 5,  
During movement of recently irradiated fuel assemblies in the secondary containment.

ACTIONS

.....NOTE.....  
LCO 3.0.3 is not applicable.  
.....

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required DC electrical power subsystem inoperable.	A.1 Declare affected required feature(s) inoperable.	Immediately
	<u>OR</u>	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	A.2.2 Suspend movement of recently irradiated fuel assemblies in the secondary containment.	Immediately
	<u>AND</u>	(continued)

3.8 ELECTRICAL POWER SYSTEMS

3.8.8 Distribution Systems – Shutdown

LCO 3.8.8 The necessary portions of the AC and 125 VDC electrical power distribution subsystems shall be OPERABLE to support equipment required to be OPERABLE.

APPLICABILITY: MODES 4 and 5,  
During movement of recently irradiated fuel assemblies in the secondary containment.

ACTIONS

-----NOTE-----  
LCO 3.0.3 is not applicable.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required AC or 125 VDC electrical power distribution subsystems inoperable.	A.1 Declare associated supported required feature(s) inoperable.	Immediately
	<u>OR</u>	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	A.2.2 Suspend movement of recently irradiated fuel assemblies in the secondary containment.	Immediately
	<u>AND</u>	
		(continued)

**Attachment 2 to JAFP-02-XXXX**

**MARKED-UP TECHNICAL SPECIFICATION PAGES**

Proposed License Amendment for a Limited Scope Application  
of the Alternate Source Term Guidelines in NUREG-1465 Related to the  
Re-evaluation of the Fuel Handling Accident Dose Consequences

**Entergy Nuclear Operations, Inc.**  
JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
Docket No. 50-333  
DPR-59

Secondary Containment Isolation Instrumentation  
3.3.6.2

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level - Low (Level 3)	1.2.3. (a)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5 SR 3.3.6.2.6	≥ 177 inches
2. Drywell Pressure - High	1.2.3	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5 SR 3.3.6.2.6	≤ 2.7 psig
3. Reactor Building Exhaust Radiation - High	1.2.3. (a),(b)	1	SR 3.3.6.2.1 SR 3.3.6.2.3 SR 3.3.6.2.6	≤ 24,800 cpm
4. Refueling Floor Exhaust Radiation - High	1.2.3. (a),(b)	1	SR 3.3.6.2.1 SR 3.3.6.2.3 SR 3.3.6.2.6	≤ 24,800 cpm

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

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

recently

3.3 INSTRUMENTATION

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

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

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

ACTIONS

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

3.6 CONTAINMENT SYSTEMS

3.6.4.1 Secondary Containment

LCO 3.6.4.1 The secondary containment shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Secondary containment inoperable in MODE 1, 2, or 3.	A.1 Restore secondary containment to OPERABLE status.	4 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 4.	12 hours  36 hours
C. Secondary containment inoperable during movement of irradiated fuel assemblies in the secondary containment, <u>recently</u> during CORE ALTERATIONS, or during OPDRVs.	C.1 .....NOTE..... LCO 3.0.3 is not applicable. ..... Suspend movement of irradiated fuel assemblies in the secondary containment.  <u>AND</u>	Immediately          (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.2 Suspend CORE ALTERATIONS.	Immediately
	AND C. 3 2	Initiate action to suspend OPDRVs.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.4.1.1 Verify secondary containment vacuum is $\geq 0.25$ inch of vacuum water gauge.	24 hours
SR 3.6.4.1.2 Verify all secondary containment equipment hatches are closed and sealed.	31 days
SR 3.6.4.1.3 Verify one secondary containment access door in each access opening is closed.	31 days
SR 3.6.4.1.4 Verify the secondary containment can be maintained $\geq 0.25$ inch of vacuum water gauge for 1 hour using one SGT subsystem at a flow rate $\leq 6000$ cfm.	24 months on a STAGGERED TEST BASIS for each SGT subsystem

3.6 CONTAINMENT SYSTEMS

3.6.4.2 Secondary Containment Isolation Valves (SCIVs)

LCO 3.6.4.2 Each SCIV shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3, <sup>recently</sup> During movement of irradiated fuel assemblies in the secondary containment, ~~During CORE ALTERATIONS,~~ During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

NOTES

1. Penetration flow paths may be unisolated intermittently under administrative controls.
2. Separate Condition entry is allowed for each penetration flow path.
3. Enter applicable Conditions and Required Actions for systems made inoperable by SCIVs.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more penetration flow paths with one SCIV inoperable.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	8 hours
	<u>AND</u>	(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Required Action and associated Completion Time of Condition A or B not met during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p> <p><i>recently</i></p>	<p>D.1 .....NOTE..... LCO 3.0.3 is not applicable. .....</p> <p>Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p>AND</p> <p>D.2 Suspend CORE ALTERATIONS.</p> <p>AND</p> <p>D.3 Initiate action to suspend OPDRVs.</p> <p><i>2</i></p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p>

3.6 CONTAINMENT SYSTEMS

3.6.4.3 Standby Gas Treatment (SGT) System

LCO 3.6.4.3 Two SGT subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3, <sup>recently</sup>  
 During movement of irradiated fuel assemblies in the  
~~secondary containment,~~  
~~During CORE ALTERATIONS,~~  
 During operations with a potential for draining the reactor  
 vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SGT subsystem inoperable.	A.1 Restore SGT subsystem to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, or 3.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours
C. Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies in the secondary containment, <sup>recently</sup> during CORE ALTERATIONS, or during OPDRVs.	.....-NOTE-..... LCO 3.0.3 is not applicable. .....	Immediately
	C.1 Place OPERABLE SGT subsystem in operation. <u>OR</u>	

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. (continued)</p> <p><i>recently</i></p>	<p>C.2.1 Suspend movement of irradiated fuel assemblies in secondary containment.</p> <p><u>AND</u></p> <p><del>C.2.2 Suspend CORE ALTERATIONS.</del></p> <p><u>AND</u></p> <p>C.2.3 Initiate action to suspend OPDRVs.</p> <p>③ ②</p>	<p>Immediately</p> <p><del>Immediately</del></p> <p>Immediately</p>
<p>D. Two SGT subsystems inoperable in MODE 1, 2, or 3.</p>	<p>D.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>
<p>E. Two SGT subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p> <p><i>recently</i></p>	<p>E.1 .....NOTE..... LCO 3.0.3 is not applicable. .....</p> <p>Suspend movement of irradiated fuel assemblies in secondary containment.</p> <p><u>AND</u></p> <p><del>E.2 Suspend CORE ALTERATIONS.</del></p> <p><u>AND</u></p> <p>E.3 Initiate action to suspend OPDRVs.</p> <p>③ ②</p>	<p>Immediately</p> <p><del>Immediately</del></p> <p>Immediately</p>

3.7 PLANT SYSTEMS

3.7.3 Control Room Emergency Ventilation Air Supply (CREVAS) System

LCO 3.7.3 Two CREVAS subsystems shall be OPERABLE.

-----NOTE-----  
The control room boundary may be opened intermittently under administrative control.  
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APPLICABILITY: MODES 1, 2, and 3, <sup>recently</sup> During movement of irradiated fuel assemblies in the secondary containment, ~~During CORE ALTERATIONS.~~ During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREVAS subsystem inoperable.	A.1 Restore CREVAS subsystem to OPERABLE status.	7 days
B. Two CREVAS subsystems inoperable due to inoperable control room boundary in MODE 1, 2, or 3.	B.1 Restore control room boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1 Be in MODE 3.	12 hours
	<u>AND</u> C.2 Be in MODE 4.	36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS or during OPDRVs.</p> <p><i>recently</i></p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p> <p>D.1 Place OPERABLE CREVAS subsystem in isolate mode.</p> <p><u>OR</u></p> <p>D.2.1 Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p><del>D.2.2 Suspend CORE ALTERATIONS.</del></p> <p><u>AND</u></p> <p>D.2.3 <sup>1</sup> Initiate action to suspend OPDRVs. <sub>2</sub></p>	<p>Immediately</p> <p>Immediately</p> <p><del>Immediately</del></p> <p>Immediately</p>
<p>E. Two CREVAS subsystems inoperable in MODE 1, 2, or 3 for reasons other than Condition B.</p>	<p>E.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>F. Two CREVAS subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, <u>during CORE ALTERATIONS</u>, or during OPDRVs.</p> <p><u>recently</u></p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p> <p>F.1 Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p>AND</p> <p><del>F.2 Suspend CORE ALTERATIONS.</del></p> <p>AND</p> <p>F.3 Initiate action to suspend OPDRVs.</p> <p>②</p>	<p>Immediately</p> <p><del>Immediately</del></p> <p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.3.1 Operate each CREVAS subsystem for <math>\geq 15</math> minutes.</p>	<p>92 days</p>
<p>SR 3.7.3.2 Perform required CREVAS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).</p>	<p>In accordance with the VFTP</p>

(continued)

3.7 PLANT SYSTEMS

3.7.4 Control Room Air Conditioning (AC) System

LCO 3.7.4 Two control room AC subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3. <sup>recently</sup>  
 During movement of irradiated fuel assemblies in the secondary containment,  
~~During CORE ALTERATIONS,~~  
 During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One control room AC subsystem inoperable.	A.1 Restore control room AC subsystem to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, or 3.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Required Action and associated Completion Time of Condition A <u>not met during</u> movement of irradiated fuel assemblies in the secondary containment, <u>during CORE ALTERATIONS</u>, or during OPDRVs.</p> <p><i>recently</i></p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p> <p>C.1 Place OPERABLE control room AC subsystem in operation.</p> <p>OR</p> <p>C.2.1 Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p>AND</p> <p>C.2.2 Suspend CORE ALTERATIONS.</p> <p>AND</p> <p>C.2.3 Initiate action to suspend OPDRVs.</p> <p><i>(2)</i></p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p> <p>Immediately</p>
<p>D. Two control room AC subsystems inoperable in MODE 1, 2, or 3.</p>	<p>D.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. Two control room AC subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, <u>during CORE ALTERATIONS, or during OPDRVs.</u></p> <p><i>recently</i></p>	<p>-----NOTE-----                      LCO 3.0.3 is not applicable.                      -----</p> <p>E.1 Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p>E.2 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p>E.3 Initiate action to suspend OPDRVs.</p> <p><i>(2)</i></p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.4.1 Verify each control room AC subsystem has the capability to remove the assumed heat load.</p>	<p>24 months</p>

### 3.8 ELECTRICAL POWER SYSTEMS

#### 3.8.2 AC Sources – Shutdown

LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

- a. One qualified circuit between the offsite transmission network and one division of the plant Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8, "Distribution Systems – Shutdown";
- b. One qualified circuit, which maybe the same circuit required by LCO 3.8.2.a, between the offsite transmission network and the other division of the plant Class 1E AC electrical power distribution subsystem(s), when a second division is required by LCO 3.8.8; and
- c. One emergency diesel generator (EDG) subsystem capable of supplying one division of the plant Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8.

APPLICABILITY:

MODES 4 and 5.

During movement of irradiated fuel assemblies in the secondary containment.

recently

ACTIONS

-----NOTE-----  
 LCO 3.0.3 is not applicable.  
 -----

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or both required offsite circuits inoperable.</p>	<p>-----NOTE-----            Enter applicable Condition and Required Actions of LCO 3.8.8, when any required division is de-energized as a result of Condition A.            -----</p> <p>A.1 Declare affected required feature(s), with no offsite power available, inoperable.</p> <p><u>OR</u></p> <p>A.2.1 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p>A.2.2 Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p>A.2.3 Initiate action to suspend operations with a potential for draining the reactor vessel (OPDRVs).</p> <p><u>AND</u></p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p> <p>Immediately</p> <p>(continued)</p>

recently

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.4 Initiate action to restore required offsite power circuit(s) to OPERABLE status.	Immediately
B. One required EDG subsystem inoperable.	<p>B.1 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p>B.2 Suspend movement of irradiated fuel assemblies in secondary containment.</p> <p><u>AND</u></p> <p>B.3 Initiate action to suspend OPDRVs.</p> <p><u>AND</u></p> <p>B.4 Initiate action to restore required EDG subsystem to OPERABLE status.</p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p> <p>Immediately</p>

recently

3.8 ELECTRICAL POWER SYSTEMS

3.8.5 DC Sources - Shutdown

LCO 3.8.5 One 125 VDC electrical power subsystem shall be OPERABLE to support one division of the plant Class IE DC Electrical Power Distribution System required by LCO 3.8.8, "Distribution Systems - Shutdown."

APPLICABILITY: MODES 4 and 5, *recently* During movement of irradiated fuel assemblies in the secondary containment.

ACTIONS

-----NOTE-----  
LCO 3.0.3 is not applicable.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required DC electrical power subsystem inoperable.	A.1 Declare affected required feature(s) inoperable.	Immediately
	<u>OR</u>	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	A.2.2 Suspend movement of irradiated fuel assemblies in the secondary containment.	Immediately
	<u>AND</u>	
		(continued)

3.8 ELECTRICAL POWER SYSTEMS

3.8.8 Distribution Systems - Shutdown

LCO 3.8.8 The necessary portions of the AC and 125 VDC electrical power distribution subsystems shall be OPERABLE to support equipment required to be OPERABLE.

APPLICABILITY: MODES 4 and 5. *recently*  
During movement of irradiated fuel assemblies in the secondary containment.

ACTIONS

-----NOTE-----  
LCO 3.0.3 is not applicable.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required AC or 125 VDC electrical power distribution subsystems inoperable.	A.1 Declare associated supported required feature(s) inoperable.	Immediately
	<u>OR</u>	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	A.2.2 Suspend movement of irradiated fuel assemblies in the secondary containment.	Immediately
	<u>AND</u>	
		(continued)

*recently*

**Attachment 3 to JAFP-02-XXXX**

**MARKED-UP TECHNICAL SPECIFICATION BASES PAGES**

Proposed License Amendment for a Limited Scope Application  
of the Alternate Source Term Guidelines in NUREG-1465 Related to the  
Re-evaluation of the Fuel Handling Accident Dose Consequences

**NOTE**

The draft marked-up Technical Specification Bases pages provided in this attachment are provided for information only. Entergy will revise the Bases pages in accordance with the Technical Specification (TS) Bases Control Program, TS 5.5.11.

**Entergy Nuclear Operations, Inc.**  
JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
Docket No. 50-333  
DPR-59

Attachment 3 to JAFP-02-XXXX

Entergy Nuclear Operations, Inc.  
James A. FitzPatrick Nuclear Power Plant  
Draft Technical Specification Bases Markup

Text Inserts

Insert A (page B 3.3.6.2-6)

Due to radioactive decay, the Function is only required to isolate secondary containment during fuel handling accidents involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous 96 hours).

Insert B (page B 3.3.7.1-3)

Also due to radioactive decay, the Function is only required to provide an alarm to alert the operator of the need to initiate the CREVAS System during fuel handling accidents involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous 96 hours).

Insert C (pages B 3.6.4.1-1, B 3.6.4.2-1, B 3.6.4.3-2, and B 3.7.3-2)

involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous 96 hours)

Insert D (page B 3.6.4.1-2)

Due to radioactive decay, secondary containment 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 96 hours).

Insert E (page B 3.6.4.2-2)

Due to radioactive decay, SCIVs are 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 96 hours).

Insert F (page B 3.6.4.3-3)

Due to radioactive decay, the SGT system 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 96 hours).

Insert G (page B 3.7.3-3)

Due to radioactive decay, the CREVAS system 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 96 hours).

Attachment 3 to JAFP-02-XXXX

Entergy Nuclear Operations, Inc.  
James A. FitzPatrick Nuclear Power Plant  
Draft Technical Specification Bases Markup

Text Inserts (continued)

Insert H (page B 3.7.4-3)

Due to radioactive decay, the Control Room AC system 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 96 hours).

Insert I (page B 3.8.2-1)

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 96 hours).

Insert J (pages B 3.8.2-3, B 3.8.5-2, and B3.8.8-2)

involving handling recently irradiated fuel

Insert K (pages B 3.8.2-4, B 3.8.5-3, and B 3.8.8-2)

involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous 96 hours)

Insert L (page B 3.8.5-1)

involving handling recently irradiated fuel. Due to radioactive decay, DC 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 96 hours).

Insert M (page 3.8.8-1)

involving handling recently irradiated fuel. Due to radioactive decay, AC and DC 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 96 hours).

BASES

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APPLICABLE  
SAFETY ANALYSES,  
LCO, and  
APPLICABILITY

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

recently

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

---

ACTIONS

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

A.1

Because of the diversity of sensors available to provide isolation signals and the redundancy of the isolation design, an allowable out of service time of 12 hours for Functions 1 and 2 (which have components common to RPS), and 24 hours for Functions 3 and 4, has been shown to be acceptable (Refs. 6 and 7) to permit restoration of any inoperable channel to OPERABLE status. This out of service time is only acceptable provided the associated Function is still maintaining isolation capability (refer to Required

(continued)

BASES

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LCO  
(continued) personnel; thus, an alarm is provided in the control room so that the CREVAS System can be placed in the isolate mode of operation.

recently

---

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

OPDRVs

Insert B

---

ACTIONS A.1 and A.2

With the Control Room Air Inlet Radiation-High Function inoperable one CREVAS subsystem must be placed in the isolate mode of operation per Required Action A.1 to ensure that control room personnel will be protected in the event of a Design Basis Accident. Alternately, if it is not desired to start a CREVAS subsystem, the CREVAS System must be declared inoperable within 1 hour.

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

---

SURVEILLANCE REQUIREMENTS The Surveillances are modified by a Note to indicate that when a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. This Note is based on the low probability of an event requiring this Function during this time period and since many other alarms are available to indicate whether a design basis event has occurred.

(continued)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.4.1 Secondary Containment

BASES

BACKGROUND

The function of the secondary containment is to contain, dilute, and hold up fission products that may leak from primary containment following a Design Basis Accident (DBA). In conjunction with operation of the Standby Gas Treatment (SGT) System and closure of certain valves whose lines penetrate the secondary containment, the secondary containment is designed to reduce the activity level of the fission products prior to release to the environment and to isolate and contain fission products that are released during certain operations that take place inside primary containment, when primary containment is not required to be OPERABLE, or that take place outside primary containment.

The secondary containment is a structure that surrounds the primary containment and is designed to provide secondary containment for postulated loss-of-coolant accidents inside the primary containment. The Secondary Containment also surrounds the refueling facilities and is designed to provide primary containment for the postulated refueling accident. This structure forms a control volume that serves to hold up and dilute the fission products. It is possible for the pressure in the control volume to rise relative to the environmental pressure (e.g., due to pump and motor heat load additions). To prevent ground level exfiltration while allowing the secondary containment to be designed as a conventional structure, the secondary containment requires support systems to maintain the control volume pressure at less than the external pressure. Requirements for these systems are specified separately in LCO 3.6.4.2, "Secondary Containment Isolation Valves (SCIVs)," and LCO 3.6.4.3, "Standby Gas Treatment (SGT) System."

APPLICABLE SAFETY ANALYSES

Insert C

There are two principal accidents for which credit is taken for secondary containment OPERABILITY. These are a loss of coolant accident (LOCA) (Ref. 1) and a refueling accident inside secondary containment (Ref. 2). The secondary containment performs no active function in response to each of these limiting events; however, its leak tightness is required to ensure that fission products entrapped within the secondary containment structure will be treated by the SGT System prior to discharge to the environment.

Secondary containment satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 3).

(continued)

BASES (continued)

LCO

An OPERABLE secondary containment provides a control volume into which fission products that leak from primary containment, or are released from the reactor coolant pressure boundary components located in secondary containment, or are released directly to the secondary containment as a result of a refueling accident, can be processed prior to release to the environment. For the secondary containment to be considered OPERABLE, it must have adequate leak tightness to ensure that the required vacuum can be established and maintained.

APPLICABILITY

In MODES 1, 2, and 3, a LOCA could lead to a fission product release to primary containment that leaks to secondary containment. Therefore, secondary containment OPERABILITY is required during the same operating conditions that require primary containment OPERABILITY.

In MODES 4 and 5, the probability and consequences of the LOCA are reduced due to the pressure and temperature limitations in these MODES. Therefore, maintaining secondary containment OPERABLE is not required in MODE 4 or 5 to ensure a control volume, except for other situations for which significant releases of radioactive material can be postulated, such as during operations with a potential for draining the reactor vessel (OPDRVs), during CORE ALTERATIONS or during movement of irradiated fuel assemblies in the secondary containment.

ACTIONS

A.1

recently

Insert D

If secondary containment is inoperable, it must be restored to OPERABLE status within 4 hours. The 4 hour Completion Time provides a period of time to correct the problem that is commensurate with the importance of maintaining secondary containment during MODES 1, 2, and 3. This time period also ensures that the probability of an accident (requiring secondary containment OPERABILITY) occurring during periods where secondary containment is inoperable is minimal.

B.1 and B.2

If secondary containment cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

C.1, C.2, and C.3

recently

significant

Movement of irradiated fuel assemblies in the secondary containment, ~~CORE ALTERATIONS~~ and OPDRVs can be postulated to cause fission product release to the secondary containment. In such cases, the secondary containment is the only barrier to release of fission products to the environment. ~~CORE ALTERATIONS~~ and movement of irradiated fuel assemblies must be immediately suspended if the secondary containment is inoperable.

This

Therefore,

Suspension of these activities shall not preclude completing an action that involves moving a component to a safe position. Also, action must be immediately initiated to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

recently

LCO 3.0.3 is not applicable in MODES 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, Required Action C.1 has been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

SURVEILLANCE  
REQUIREMENTS

SR 3.6.4.1.1

This SR ensures that the secondary containment boundary is sufficiently leak tight to preclude exfiltration under expected wind conditions. Momentary transients on the installed instrumentation due to gusty wind conditions are considered acceptable and not cause for failure of this SR. The 24 hour Frequency of this SR was developed based on operating experience related to secondary containment vacuum variations during the applicable MODES and the low probability of a DBA occurring between surveillances.

(continued)

## B 3.6 CONTAINMENT SYSTEMS

### B 3.6.4.2 Secondary Containment Isolation Valves (SCIVs)

#### BASES

##### BACKGROUND

The function of the SCIVs, in combination with other accident mitigation systems, is to limit fission product release during and following postulated Design Basis Accidents (DBAs) (Refs. 1 and 2). Secondary containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that fission products that leak from primary containment following a DBA, or that are released during certain operations when primary containment is not required to be OPERABLE or take place outside primary containment, are maintained within the secondary containment boundary.

The OPERABILITY requirements for SCIVs help ensure that an adequate secondary containment boundary is maintained during and after an accident by minimizing potential paths to the environment. These isolation devices consist of either passive devices or active (automatic) devices. Manual valves, de-activated automatic valves secured in their closed position (including check valves with flow through the valve secured), and blind flanges are considered passive devices.

Automatic SCIVs close on a secondary containment isolation signal to establish a boundary for untreated radioactive material within secondary containment following a DBA or other accidents.

Other penetrations are isolated by the use of valves in the closed position or blind flanges.

##### APPLICABLE SAFETY ANALYSES

The SCIVs must be OPERABLE to ensure the secondary containment barrier to fission product releases is established. The principal accidents for which the secondary containment boundary is required are a loss of coolant accident (Ref. 1) and a refueling accident inside secondary containment (Ref. 2). The secondary containment performs no active function in response to either of these limiting events, but the boundary established by SCIVs is required to ensure that leakage from the primary containment is processed by the Standby Gas Treatment (SGT) System before being released to the environment.

Insert C

(continued)

BASES

APPLICABLE  
SAFETY ANALYSES  
(continued)

Maintaining SCIVs OPERABLE with isolation times within limits ensures that fission products will remain trapped inside secondary containment so that they can be treated by the SGT System prior to discharge to the environment.

SCIVs satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 3).

LCO

SCIVs form a part of the secondary containment boundary. The SCIV safety function is related to control of offsite radiation releases resulting from DBAs.

The power operated automatic isolation valves are considered OPERABLE when their isolation times are within limits and the valves actuate on an automatic isolation signal. The valves covered by this LCO, along with their associated stroke times, are listed in Reference 4.

The normally closed isolation valves or blind flanges are considered OPERABLE when manual valves are closed or open in accordance with appropriate administrative controls, automatic SCIVs are de-activated and secured in their closed position, and blind flanges are in place. These passive isolation valves or devices are listed in Reference 4.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could lead to a fission product release to the primary containment that leaks to the secondary containment. Therefore, the OPERABILITY of SCIVs is required.

In MODES 4 and 5, the probability and consequences of these events are reduced due to pressure and temperature limitations in these MODES. Therefore, maintaining SCIVs OPERABLE is not required in MODE 4 or 5, except for situations under which significant radioactive releases can be postulated, such as during operations with a potential for draining the reactor vessel (OPDRVs), during CORE ALTERATIONS, or during movement of irradiated fuel assemblies in the secondary containment. Moving irradiated fuel assemblies in the secondary containment may also occur in MODES 1, 2, and 3. Insert E recently

ACTIONS

The ACTIONS are modified by three Notes. The first Note allows penetration flow paths to be unisolated intermittently under administrative controls. These controls consist of stationing a dedicated operator, who is

(continued)

BASES

ACTIONS

C.1 and C.2 (continued)

within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

D.1, D.2, and D.3

recently

this

y

If any Required Action and associated Completion Time are not met, the plant must be placed in a condition in which the LCO does not apply. If applicable, CORE ALTERATIONS and the movement of irradiated fuel assemblies in the secondary containment must be immediately suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be immediately initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

recently

LCO 3.0.3 is not applicable while in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, Required Action D.1 has been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving fuel while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

SURVEILLANCE REQUIREMENTS

SR 3.6.4.2.1

This SR verifies that each secondary containment manual isolation valve and blind flange that is not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside of the secondary containment boundary is within design limits. This SR does not require any testing or valve manipulation. Rather, it involves verification that those SCIVs in secondary containment that are capable of being mispositioned are in the correct position.

(continued)

BASES

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BACKGROUND  
(continued)

- e. A charcoal adsorber; and
- f. A second HEPA filter.

The SGT System equipment and components are sized to reduce and maintain the secondary containment at a negative pressure of 0.25 inches water gauge when the system is in operation under neutral wind conditions and the SGT fans exhausting at a rate of 6,000 cfm.

The demister is provided to remove entrained water in the air, while the electric heater reduces the relative humidity of the airstream to less than 70% (Ref. 2). The prefilter removes large particulate matter, while the HEPA filter removes fine particulate matter and protects the charcoal from fouling. The charcoal adsorber removes gaseous elemental iodine and organic iodides, and the final HEPA filter collects any carbon fines exhausted from the charcoal adsorber.

The SGT System automatically starts and operates in response to actuation signals indicative of conditions or an accident that could require operation of the system. Following initiation, both SGT subsystem fans start. Upon verification that both subsystems are operating, one subsystem is normally shut down.

---

APPLICABLE  
SAFETY ANALYSES

Insert C

The design basis for the SGT System is to mitigate the consequences of a loss of coolant accident and refueling accidents (Ref. 3). For all events analyzed, the SGT System is shown to be automatically initiated to reduce, via filtration and adsorption, the radioactive material released to the environment.

The SGT System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 4).

---

LCO

Following a DBA, a minimum of one SGT subsystem is required to maintain the secondary containment at a negative pressure with respect to the environment and to process gaseous releases. Meeting the LCO requirements for two OPERABLE subsystems ensures operation of at least one SGT subsystem in the event of a single active failure. An OPERABLE SGT subsystem consists of a demister, heater, prefilter, HEPA filter, charcoal adsorber, a final HEPA filter, centrifugal fan, and associated ductwork, dampers, valves and controls.

(continued)

BASES (continued)

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APPLICABILITY

In MODES 1, 2, and 3, a DBA could lead to a fission product release to primary containment that leaks to secondary containment. Therefore, SGT System OPERABILITY is required during these MODES.

In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Therefore, maintaining the SGT System in OPERABLE status is not required in MODE 4 or 5, except for other situations under which significant releases of radioactive material can be postulated, such as during operations with a potential for draining the reactor vessel (OPDRVs), during CORE ALTERATIONS, or during movement of irradiated fuel assemblies in the secondary containment.

recently

---

ACTIONS

A.1

Insert F

With one SGT subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status in 7 days. In this Condition, the remaining OPERABLE SGT subsystem is adequate to perform the required radioactivity release control function. However, the overall system reliability is reduced because a single failure in the OPERABLE subsystem could result in the radioactivity release control function not being adequately performed. The 7 day Completion Time is based on consideration of such factors as the availability of the OPERABLE redundant SGT subsystem and the low probability of a DBA occurring during this period.

B.1 and B.2

If the SGT subsystem cannot be restored to OPERABLE status within the required Completion Time in MODE 1, 2, or 3, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

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BASES

ACTIONS  
(continued)

C.1, C.2.1, C.2.2, and C.2.3

recently

During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs, when Required Action A.1 cannot be completed within the required Completion Time, the OPERABLE SGT subsystem should immediately be placed in operation. This action ensures that the remaining subsystem is OPERABLE, that no failures that could prevent automatic actuation have occurred, and that any other failure would be readily detected.

a significant amount of

this activity

An alternative to Required Action C.1 is to immediately suspend activities that represent a potential for releasing radioactive material to the secondary containment, thus placing the plant in a condition that minimizes risk. If applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies must immediately be suspended. Suspension of these activities must not preclude completion of movement of a component to a safe position. Also, if applicable, actions must immediately be initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

recently

LCO 3.0.3 is not applicable in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, the Required Actions of Condition C have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

D.1

If both SGT subsystems are inoperable in MODE 1, 2, or 3, the SGT System may not be capable of supporting the required radioactivity release control function. Therefore, action is required to enter LCO 3.0.3 immediately.

(continued)

BASES

ACTIONS  
(continued)

E.1, E.2, and E.3

recently

this activity

When two SGT subsystems are inoperable, if applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in secondary containment must immediately be suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must immediately be initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

recently

LCO 3.0.3 is not applicable in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, Required Action E.1 has been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

SURVEILLANCE REQUIREMENTS

SR 3.6.4.3.1

Operating each SGT subsystem fan for  $\geq 10$  continuous hours ensures that both subsystems are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action. Operation with the heaters on for  $\geq 10$  continuous hours every 31 days eliminates moisture on the adsorbers and HEPA filters. The 31 day Frequency was developed in consideration of the known reliability of fan motors and controls and the redundancy available in the system.

SR 3.6.4.3.2

This SR verifies that the required SGT filter 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.

(continued)

BASES

BACKGROUND  
(continued)

above the Turbine Building and outside atmosphere to prevent infiltration of air from surrounding buildings, since these are the only adjacent areas to the control room that could be directly contaminated by a design basis accident. CREVAS System operation in maintaining control room habitability is discussed in the UFSAR, Sections 9.9.3.11 and 14.8.2, (Refs. 1 and 2, respectively).

APPLICABLE  
SAFETY ANALYSES

The ability of the CREVAS System to maintain the habitability of the control room is an explicit assumption for the safety analyses presented in the UFSAR, Chapters 6 and 14 (Refs. 3 and 4, respectively). The isolate mode of the CREVAS System is assumed to operate following a loss of coolant accident, refueling accident, main steam line break, and control rod drop accident, as discussed in the UFSAR, Section 14.8.2 (Ref. 2). The radiological doses to control room personnel as a result of the various DBAs are summarized in Reference 2.

Insert C

The CREVAS System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 5).

LCO

Two redundant subsystems of the CREVAS System are required to be OPERABLE to ensure that at least one is available, assuming a single failure disables the other subsystem. Total system failure could result in exceeding a dose of 5 rem to the control room operators in the event of some DBAs.

The CREVAS System is considered OPERABLE when the individual components necessary to control operator exposure are OPERABLE in both subsystems. A subsystem is considered OPERABLE when its associated:

- a. Fans are OPERABLE (i.e., one control room emergency air supply fan, one air handling unit fan, one recirculation exhaust fan);
- b. A prefilter, two HEPA filters and charcoal adsorbers are not excessively restricting flow and are capable of performing their filtration functions; and
- c. Ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors such that the pressurization

(continued)

BASES

LCO  
(continued)      limit of SR 3.7.3.3 can be met. However, it is acceptable for access doors to be open for normal control room entry and exit, and not consider it to be a failure to meet the LCO.

The LCO is modified by a Note allowing the control room 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 control room isolation is indicated.

APPLICABILITY      In MODES 1, 2, and 3, the CREVAS System must be OPERABLE to control operator exposure during and following a DBA, since the DBA could lead to a fission product release.

In MODES 4 and 5, the probability and consequences of a DBA are reduced because of the pressure and temperature limitations in these MODES. Therefore, maintaining the CREVAS System OPERABLE is not required in MODE 4 or 5, except for the following situations under which significant radioactive releases can be postulated:

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

b. ~~During CORE ALTERATIONS;~~ and recently  
 b. ~~During movement of irradiated fuel assemblies in the secondary containment.~~

ACTIONS

A.1

Insert G

With one CREVAS subsystem inoperable, the inoperable CREVAS subsystem must be restored to OPERABLE status within 7 days. With the plant in this condition, the remaining OPERABLE CREVAS subsystem is adequate to perform control room radiation protection. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in a loss of CREVAS System capability. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and that the remaining subsystem can provide the required capabilities.

(continued)

BASES

ACTIONS  
(continued)

B.1

If the control room boundary is inoperable in MODE 1, 2, or 3, the CREVAS subsystems cannot perform their intended functions. Actions must be taken to restore an OPERABLE control room boundary within 24 hours. During the period that the control room boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators 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 control room boundary.

C.1 and C.2

In MODE 1, 2, or 3, if the inoperable CREVAS subsystem or control room boundary cannot be restored to OPERABLE status within the associated Completion Time, the plant must be placed in a MODE that minimizes risk. To achieve this status, the plant must be placed in at least MODE 3 within 12 hours and in MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

D.1, D.2.1, ~~D.2.2~~ and ~~D.2.3~~

recently

LCO 3.0.3 is not applicable when in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, the Required Actions of Condition D are modified by a Note indicating that LCO 3.0.3 does not apply. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

(continued)

BASES

ACTIONS

D.1, D.2.1, D.2.2, and D.2.3 (continued)

recently During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs, if the inoperable CREVAS subsystem cannot be restored to OPERABLE status within the required Completion Time, the OPERABLE CREVAS subsystem may be placed in the isolate mode. This action ensures that the remaining subsystem is OPERABLE, and that any active failure will be readily detected.

An alternative to Required Action D.1 is to immediately suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the plant in a condition that minimizes risk.

If applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in the secondary containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, action must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Action must continue until the OPDRVs are suspended.

this activity

E.1

If both CREVAS subsystems are inoperable in MODE 1, 2, or 3 for reasons other than an inoperable control room boundary (i.e., Condition B), the CREVAS System may not be capable of performing the intended function and the plant is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

recently F.1, F.2, and F.3

LCO 3.0.3 is not applicable when in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODES 1, 2, or 3, the Required Actions of Condition F are modified by a Note indicating that LCO 3.0.3 does not apply. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

(continued)

BASES

ACTIONS

F.1, F.2, and F.3 (continued)

recently

During movement of irradiated fuel assemblies in the secondary containment, ~~during CORE ALTERATIONS~~, or during OPDRVs, with two CREVAS subsystems inoperable, action must be taken immediately to suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the plant in a condition that minimizes risk.

If applicable, ~~CORE ALTERATIONS~~ and movement of irradiated fuel assemblies in the secondary containment must be suspended immediately. Suspension of ~~these activities~~ shall not preclude completion of movement of a component to a safe position. If applicable, action must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Action must continue until the OPDRVs are suspended.

this activity

SURVEILLANCE  
REQUIREMENTS

SR 3.7.3.1

This SR verifies that a subsystem in a standby mode starts on demand and continues to operate. These subsystems should be checked periodically to ensure that they start and function properly. As the environmental and normal operating conditions of this system are not severe, testing each subsystem once every three months provides an adequate check on this system. Since the CREVAS System does not contain heaters, it need only be operated for ≥ 15 minutes to demonstrate the function of the system. The 92 day Frequency is based on the known reliability of the equipment and the two subsystem redundancy available.

SR 3.7.3.2

This SR verifies that the required CREVAS 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.

(continued)

BASES

APPLICABILITY  
(continued)

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

b. ~~During CORE ALTERATIONS;~~

and

recently

b

c.

During movement of irradiated fuel assemblies in the secondary containment.

Insert H

ACTIONS

A.1

With one control room AC subsystem inoperable, the inoperable control room AC subsystem must be restored to OPERABLE status within 30 days. With the plant in this condition, the remaining OPERABLE control room AC subsystem is adequate to perform the control room air conditioning function. However, the overall reliability is reduced because a single active component failure in the OPERABLE subsystem could result in loss of the control room air conditioning function. The 30 day Completion Time is based on the low probability of an event occurring requiring control room isolation, the consideration that the remaining subsystem can provide the required protection, and the availability of alternate safety and nonsafety cooling methods.

B.1 and B.2

In MODE 1, 2, or 3, if the inoperable control room AC subsystem cannot be restored to OPERABLE status within the associated Completion Time, the plant must be placed in a MODE that minimizes risk. To achieve this status, the plant must be placed in at least MODE 3 within 12 hours and in MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

C.1, C.2.1, C.2.2, and C.2.3

recently

LCO 3.0.3 is not applicable while in MODE 4 and 5. However, since irradiated fuel assembly movement can occur in MODES 1, 2, or 3 the Required Actions of Condition C are modified by a Note indicating that LCO 3.0.3 does not apply. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor

(continued)

BASES

ACTIONS

C.1, C.2.1, C.2.2, and C.2.3 (continued)

operations. Therefore, inability to suspend movement of irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

recently

During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS or during OPDRVs, if Required Action A.1 cannot be completed within the required Completion Time, the OPERABLE control room AC subsystem may be placed immediately in operation. This action ensures that the remaining subsystem is OPERABLE, that no failures that would prevent actuation will occur, and that any active failure will be readily detected.

An alternative to Required Action C.1 is to immediately suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the plant in a condition that minimizes risk.

recently

If applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in the secondary containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, action must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Action must continue until the OPDRVs are suspended.

this activity

D.1

If both control room AC subsystems are inoperable in MODE 1, 2, or 3, the Control Room AC System may not be capable of performing the intended function. Therefore, LCO 3.0.3 must be entered immediately.

recently

E.1, E.2, and E.3

LCO 3.0.3 is not applicable when in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3 the Required Actions of Condition E are modified by a Note indicating that LCO 3.0.3 does not apply. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations.

(continued)

BASES

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ACTIONS

~~E.1~~ ~~E.2~~ and ~~E.3~~ (continued)

Therefore, inability to suspend movement of irradiated fuel assemblies is not a sufficient reason to require a reactor shutdown.

During movement of irradiated fuel assemblies in the secondary containment, recently ~~during CORE ALTERATIONS~~, or during OPDRVs, with two control room AC subsystems inoperable, action must be taken immediately to suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the plant in a condition that minimizes risk.

If applicable, ~~CORE ALTERATIONS~~ and handling of irradiated fuel in the secondary containment must be suspended immediately. Suspension of this activity ~~these activities~~ shall not preclude completion of movement of a component to a safe position. Also, if applicable, action must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Action must continue until the OPDRVs are suspended.

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SURVEILLANCE  
REQUIREMENTS

SR 3.7.4.1

This SR verifies that the heat removal capability of the system is sufficient to remove the control room heat load assumed in the safety analyses with ESW providing water to the cooling coils of the air handling units. The SR consists of a combination of testing and calculation. It is acceptable to perform the test using chilled water as the cooling medium to the cooling coils, but a calculation must be performed to ensure that the heat load can be removed with ESW at 85°F. The 24 month Frequency is appropriate since significant degradation of the Control Room AC System is not expected over this time period.

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REFERENCES

1. UFSAR, Section 9.9.3.11.
  2. 10 CFR 50.36(c)(2)(ii).
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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." In addition to the reserve AC sources described in LCO 3.8.1, during plant shutdown with the main generator off line, the plant emergency buses may be supplied using the 345 kV (backfeed) AC source. The 345 kV backfeed requires removing the main generator disconnect links that tie the main generator to the 24 kV bus, and providing power from the 345 kV transmission network to energize the main transformers (T1A and T1B), 24 kV bus, normal station service transformer (NSST) 71T-4, and subsequent 4.16 kV distribution and emergency buses. However, the backfeed AC Source is not considered a qualified offsite circuit.

recently

APPLICABLE SAFETY ANALYSES

The OPERABILITY of the minimum AC sources during MODES 4 and 5 and during movement of irradiated fuel assemblies in the secondary containment ensures that:

- a. The facility 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 plant status; and
- c. Adequate AC electrical power is provided to mitigate events postulated during shutdown, such as an inadvertent draindown of the vessel or a fuel handling accident.

Insert I

In general, when the plant is shutdown the Technical Specifications requirements ensure that the plant has the capability to mitigate the consequences of postulated accidents. However, assuming a single active component failure and concurrent loss of all offsite or loss of all onsite power is not required. The rationale for this is based on the fact that many Design Basis Accidents (DBAs) that are analyzed in MODES 1, 2, and 3 have no specific analyses in MODES 4 and 5. Postulated worst case bounding events are deemed not credible in MODES 4 and 5 because the energy contained within the reactor coolant pressure boundary (RCPB), reactor coolant temperature and pressure.

(continued)

BASES

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LCO  
(continued)

and one qualified offsite circuit, which may be the same circuit required above, capable of supplying the other division of the plant Class 1E AC power distribution subsystem(s) when a second division is required by LCO 3.8.8, ensures that all required loads are powered from offsite power. An OPERABLE EDG subsystem, associated with a 4.16 kV emergency bus required OPERABLE by LCO 3.8.8, ensures that a diverse power source is available for providing electrical power support assuming a loss of the offsite circuit. Together, OPERABILITY of the required offsite circuit and EDG subsystem ensures the availability of sufficient AC sources to operate the plant in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents and reactor vessel draindown). Automatic initiation of the required EDG during shutdown conditions is specified in LCO 3.3.5.1, "ECCS Instrumentation," and LCO 3.3.8.1, "LOP Instrumentation."

Insert J

The qualified offsite circuit(s) must be capable of maintaining rated frequency and voltage while connected to its respective 4.16 kV emergency bus(es), and of accepting required loads during an accident. Qualified offsite circuits are those that are described in LCO 3.8.1 Bases and the UFSAR and are part of the licensing basis for the plant. However, since the plant is shutdown, when two offsite circuits are required, they may share one of the incoming switchyard breakers provided the North and South bus disconnect is closed. Also, while in this condition, the automatic opening feature of the disconnect is not required to be OPERABLE. This is allowed since the two offsite circuits are not required to be independent while shutdown.

The required EDG subsystem must be capable of starting, accelerating to rated speed and voltage, force paralleling, and connecting to its respective emergency bus on detection of bus undervoltage. This sequence must be accomplished within 11 seconds. The required EDG subsystem must also be capable of accepting required loads within the assumed loading sequence intervals, and must continue to operate until offsite power can be restored to the emergency buses. These capabilities are required to be met with the EDG subsystem in standby condition.

Proper sequencing of loads, including tripping of nonessential loads, is a required function for EDG subsystem OPERABILITY. The necessary portions of the Emergency Service Water System and Ultimate Heat Sink are also

(continued)

BASES

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LCO  
(continued) required to provide appropriate cooling to the required EDG subsystem. In addition, proper sequence operation is an integral part of offsite circuit OPERABILITY since its inoperability impacts the ability to start and maintain energized loads required OPERABLE by LCO 3.8.8.

No automatic transfer capability is required for offsite circuits to be considered OPERABLE.

recently

APPLICABILITY The AC sources are required to be OPERABLE in MODES 4 and 5 and during movement of irradiated fuel assemblies in the secondary containment to provide assurance that:

- a. Systems providing adequate coolant inventory makeup are available for the irradiated fuel assemblies in the core in case of an inadvertent draindown of the reactor vessel;
- b. Systems needed to mitigate a fuel handling accident are available;
- c. Systems necessary to mitigate the effects of events that can lead to core damage during shutdown are available; and
- d. Instrumentation and control capability is available for monitoring and maintaining the plant in a cold shutdown condition or refueling condition.

Insert K

AC power requirements for MODES 1, 2, and 3 are covered in LCO 3.8.1.

recently

ACTIONS

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

A.1

An offsite circuit is considered inoperable if it is not available to one required 4.16 kV emergency bus. If two 4.16 kV emergency buses are required per LCO 3.8.8, one

(continued)

BASES

ACTIONS

A.1 (continued)

recently irradiated

division with offsite power available may be capable of supporting sufficient required features to allow continuation of CORE ALTERATIONS, fuel movement, and operations with a potential for draining the reactor vessel. By the allowance of the option to declare required features inoperable with no offsite power, appropriate restrictions can be implemented in accordance with the affected required feature(s) LCOs' ACTIONS.

A.2.1, A.2.2, A.2.3, A.2.4, B.1, B.2, B.3, and B.4

recently

With an offsite circuit not available to all required 4.16 kV emergency buses, the option still exists to declare all required features inoperable per Required Action A.1. Since this option may involve undesired administrative efforts, the allowance for sufficiently conservative actions is made. With the required EDG subsystem inoperable, the minimum required diversity of AC power sources is not available. It is, therefore, required to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies in the secondary containment, and activities that could result in inadvertent draining of the reactor vessel.

Suspension of these activities shall not preclude completion of actions to establish a safe conservative condition. These actions minimize the probability of 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 plant 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 plant safety systems may be without sufficient power.

Pursuant to LCO 3.0.6, the Distribution System 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 have been modified by a Note to indicate that when Condition A is entered with no AC power to any required 4.16 kV emergency bus, ACTIONS for LCO 3.8.8 must be immediately entered. This Note allows Condition A

(continued)

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.5 DC Sources - Shutdown

BASES

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BACKGROUND A description of the DC sources is provided in the Bases for LCO 3.8.4, "DC Sources - Operating."

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APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident and transient analyses in the UFSAR, Chapter 6 (Ref. 1) and Chapter 14 (Ref. 2), assume that Engineered Safeguards systems are OPERABLE. The DC electrical power system provides normal and emergency DC electrical power for the emergency diesel generators (EDGs), emergency auxiliaries, and control and switching during all MODES of operation and during movement of irradiated fuel assemblies in the secondary containment.

The OPERABILITY of the DC subsystems is recently consistent with the initial assumptions of the accident analyses and the requirements for the supported systems' OPERABILITY.

The OPERABILITY of the minimum DC electrical power sources during MODES 4 and 5 and during movement of irradiated fuel assemblies in the secondary containment ensures that:

- a. The facility 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 plant status; and
- c. Adequate DC electrical power is provided to mitigate events postulated during shutdown, such as an inadvertent draindown of the vessel or a refueling accident.

Insert L

In general, when the unit is shutdown, 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 based on the fact that many Design Basis Accidents (DBAs) that are analyzed in MODES 1, 2, and 3 have no specific analyses in MODES 4 and 5. Worst case bounding events are deemed not credible in MODES 4 and 5 because the energy contained within the

(continued)

BASES

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APPLICABLE  
SAFETY ANALYSES  
(continued)

reactor pressure boundary, reactor coolant temperature and pressure, and the corresponding stresses result in the probabilities of occurrence being significantly reduced or eliminated, and in minimal consequences. These deviations from DBA analysis assumptions and design requirements during shutdown conditions are allowed by the LCO for required systems.

The shutdown Technical Specification requirements are designed to ensure that the unit has the capability to mitigate the consequences of certain postulated accidents. Worst case Design Basis Accidents which are analyzed for operating MODES are generally viewed not to be a significant concern during shutdown MODES due to the lower energies involved. The Technical Specifications therefore require a lesser complement of electrical equipment to be available during shutdown than is required during operating MODES. More recent work completed on the potential risks associated with shutdown, however, have found significant risk associated with certain shutdown evolutions. As a result, in addition to the requirements established in the Technical Specifications, the industry has adopted NUMARC 91-06, "Guidelines for Industry Actions to Assess Shutdown Management," as an Industry initiative to manage shutdown tasks and associated electrical support to maintain risk at an acceptable low level. This may require the availability of additional equipment beyond that required by the shutdown Technical Specifications.

The DC sources satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 3).

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LCO

One 125 VDC electrical power subsystem consisting of one 125 V battery, one battery charger, and the corresponding control equipment and interconnecting cabling supplying power to the associated bus is required to be OPERABLE to support one DC distribution subsystem required OPERABLE by LCO 3.8.8, "Distribution Systems - Shutdown." This requirement ensures the availability of sufficient DC electrical power sources to operate the plant in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., refueling accidents and inadvertent reactor vessel draindown).

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(continued)

Insert J

recently

BASES (continued)

APPLICABILITY

The DC electrical power sources required to be OPERABLE in MODES 4 and 5 and during movement of irradiated fuel assemblies in the secondary containment provide assurance that:

- a. Required features to provide adequate coolant inventory makeup are available for the irradiated fuel assemblies in the core in case of an inadvertent draindown of the reactor vessel;
- b. Required features needed to mitigate a fuel handling accident are available;
- c. Required features necessary to mitigate the effects of events that can lead to core damage during shutdown are available; and
- d. Instrumentation and control capability is available for monitoring and maintaining the plant in a cold shutdown condition or refueling condition.

Insert K

The DC electrical power requirements for MODES 1, 2, and 3 are covered in LCO 3.8.4.

ACTIONS

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

recently

A.1, A.2.1, A.2.2, A.2.3, and A.2.4

By allowance of the option to declare required features inoperable with the associated DC electrical power subsystem inoperable, appropriate restrictions are implemented in accordance with the affected system LCOs' ACTIONS. However in many instances, this option may involve undesired administrative efforts. Therefore, the allowance for sufficiently conservative actions is made (i.e., to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies in the secondary containment, and any activities that could result in inadvertent draining of the reactor vessel).

(continued)

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.8 Distribution Systems - Shutdown

BASES

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BACKGROUND            A description of the AC and 125 VDC electrical power distribution system is provided in the Bases for LCO 3.8.7, "Distribution Systems - Operating."

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APPLICABLE SAFETY ANALYSES    The initial conditions of Design Basis Accident and transient analyses in the UFSAR, Chapter 6 (Ref. 1) and Chapter 14 (Ref. 2), assume Engineered Safeguards systems are OPERABLE. The AC and 125 VDC electrical power distribution systems are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to Engineered Safeguards systems so that the fuel, Reactor Coolant System, and containment design limits are not exceeded.

The OPERABILITY of the AC and 125 VDC electrical power distribution systems is consistent with the initial assumptions of the accident analyses and the requirements for the supported systems' OPERABILITY.

recently

The OPERABILITY of the minimum AC and 125 VDC electrical power sources and associated power distribution subsystems during MODES 4 and 5, and during movement of irradiated fuel assemblies in the secondary containment ensures that:

- a. The facility 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 plant status; and
- c. Adequate power is provided to mitigate events postulated during shutdown, such as an inadvertent draindown of the vessel or a fuel handling accident.

Insert M

The AC and 125 VDC electrical power distribution systems satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 3).

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LCO                      Various combinations of subsystems, equipment, and components are required OPERABLE by other LCOs, depending on the specific plant condition. Implicit in those requirements is the required OPERABILITY of necessary

(continued)

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BASES

LCO  
(continued)

support required features. This LCO explicitly requires energization of the portions of the electrical distribution system necessary to support OPERABILITY of Technical Specification required systems, equipment, and components - both specifically addressed by their own LCO, and implicitly required by the definition of OPERABILITY.

Maintaining these portions of the distribution system energized ensures the availability of sufficient power to operate the plant in a safe manner to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents and inadvertent reactor vessel draindown).

Insert J

APPLICABILITY

The AC and 125 VDC electrical power distribution subsystems required to be OPERABLE in MODES 4 and 5 and during movement of irradiated fuel assemblies in the secondary containment provide assurance that:

recently

- a. Systems to provide adequate coolant inventory makeup are available for the irradiated fuel in the core in case of an inadvertent draindown of the reactor vessel;
- b. Systems needed to mitigate a fuel handling accident are available;
- c. Systems necessary to mitigate the effects of events that can lead to core damage during shutdown are available; and
- d. Instrumentation and control capability is available for monitoring and maintaining the plant in a cold shutdown condition or refueling condition.

Insert K

The AC, and 125 VDC electrical power distribution subsystem requirements for MODES 1, 2, and 3 are covered in LCO 3.8.7.

ACTIONS

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

recently

(continued)

BASES

ACTIONS  
(continued)

A.1, A.2.1, A.2.2, A.2.3, A.2.4, and A.2.5

recently  
irradiated

Although redundant required features may require redundant divisions of electrical power distribution subsystems to be OPERABLE, one OPERABLE distribution subsystem division may be capable of supporting sufficient required features to allow continuation of CORE ALTERATIONS, fuel movement, and operations with a potential for draining the reactor vessel. By allowing the option to declare required features associated with an inoperable distribution subsystem inoperable, appropriate restrictions are implemented in accordance with the affected distribution subsystem LCO's Required Actions. In many instances this option may involve undesired administrative efforts. Therefore, the allowance for sufficiently conservative actions is made, (i.e., to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies in the secondary containment, and any activities that could result in inadvertent draining of the reactor vessel).

recently

Suspension of these activities shall not preclude completion of actions to establish a safe conservative condition. These actions minimize the probability of the occurrence of postulated events. It is further required to immediately initiate action to restore the required AC and 125 VDC electrical power distribution subsystems and to continue this action until restoration is accomplished in order to provide the necessary power to the plant safety systems.

Notwithstanding performance of the above conservative Required Actions, a required residual heat removal-shutdown cooling (RHR-SDC) subsystem may be inoperable. In this case, Required Actions A.2.1 through A.2.4 do not adequately address the concerns relating to coolant circulation and heat removal. Pursuant to LCO 3.0.6, the RHR-SDC ACTIONS would not be entered. Therefore, Required Action A.2.5 is provided to direct declaring RHR-SDC inoperable, which results in taking the appropriate RHR-SDC ACTIONS.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required distribution subsystems should be completed as quickly as possible in order to minimize the time the plant safety systems may be without power.

(continued)