

ENERGY NORTHWEST

P.O. Box 968 ■ Richland, Washington 99352-0968

August 27, 2002
GO2-02-135

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

**Subject: COLUMBIA GENERATING STATION, DOCKET NO. 50-397
REVISED REQUEST FOR AMENDMENT ON THE ALTERNATE
SOURCE TERM**

**Reference: Letter GO2-01-156, dated December 3, 2001, RL Webring to NRC, "License
Amendment Request – Alternative Source Term"**

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Energy Northwest hereby requests an amendment to the Columbia Generating Station operating license. Specifically, we are requesting a revision to licensing and design bases pertaining to the application of alternative source term methodology. This request is a revision to the amendment request indicated in the reference.

On August 19, 2002, in a telephone conversation with NRC Project Manager, BJ Benney, Energy Northwest agreed to revise the referenced request to retain operability requirements for secondary containment and its attendant equipment (i.e. secondary containment isolation instrumentation, secondary containment isolation valves, and standby gas treatment systems) when moving recently irradiated fuel. Recently irradiated fuel will be defined in the Technical Specifications Bases as fuel that has occupied part of the critical reactor core within the previous 24 hours. Energy Northwest requests this proposed change be reviewed and approved concurrent with the referenced amendment request.

The proposed change is submitted to accommodate the initial assumption in the fuel handling accident that the fuel had decayed 24 hours prior to fuel handling. The proposed revision to the amendment request does not change the evaluations submitted in support of the reference. The 10 CFR 50.92 evaluation of no significant hazards and the environmental considerations evaluation submitted in the reference are applicable to this request. However, to reflect the changes proposed in this amendment request, a 10 CFR 50.92 evaluation germane to this request is included in enclosure 1. Attachment 1 contains the marked up pages of the Technical Specifications showing the proposed changes. Attachment 2 contains the typed

A001

REQUEST FOR AMENDMENT

Page 2

Technical Specifications, as revised by this amendment request. For additional information, we have included attachment 3 to illustrate the changes as they would revise the pages of the request submitted in the reference. Technical Specifications bases changes associated with this proposed amendment request are also included.

This amendment request has been approved by the Columbia Generating Station Plant Operations Committee and reviewed by the Energy Northwest Corporate Nuclear Safety Review Board. In accordance with 10 CFR 50.91, the state of Washington has been provided a copy of this letter.

Respectfully,



RL Webring
Vice President, Operations Support/PIO
Mail Drop PE08

Enclosures:

1. Notarized affidavit
2. Evaluation of the proposed changes

Attachments:

1. Proposed Technical Specifications Changes (mark-up)
2. Proposed Technical Specifications pages (retyped)
3. Changes as they would revise the referenced amendment request (including Technical Specifications bases)

cc: EW Merschoff – NRC RIV
BJ Benney – NRC NRR
NRC Senior Resident Inspector/988C

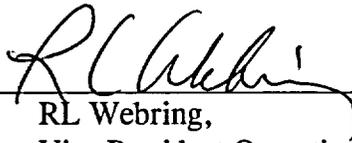
DL Williams – BPA/1399
TC Poindexter – Winston & Strawn
JO Luce – EFSEC

STATE OF WASHINGTON)
)
COUNTY OF BENTON)
)

Subject: Request for Amendment,
Technical Specification
LCO 3.3.6.2, 3.6.4.1, 3.6.4.2,
3.6.4.3

I, RL Webring, being duly sworn, subscribe to and say that I am the Vice President, Operations Support/PIO ENERGY NORTHWEST, the applicant herein; that I have the full authority to execute this oath; that I have reviewed the foregoing; and that to the best of my knowledge, information, and belief that the statements made in it are true.

DATE 8/27/02 2002



RL Webring,
Vice President Operations Support/PIO

On this date personally appeared before me RL Webring, to me known to be the individual who executed the foregoing instrument, and acknowledged that he signed the same as his free act and deed for the uses and purposes herein mentioned.

GIVEN under my hand and seal this 27th day of August 2002



Notary Public in and for the
STATE OF WASHINGTON



Residing at Benton County

My Commission expires 3-29-05

**LICENSE AMENDMENT REQUEST FOR REVISION TO ALTERNATIVE SOURCE
AMENDMENT REQUEST TERM**

Enclosure 2

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Licensee Evaluation

Subject: Revision to the Alternate Source Term Technical Specification amendment request

DESCRIPTION:

The proposed change would modify the referenced Technical Specifications amendment request to establish operability requirements for secondary containment and its attendant equipment (i.e. secondary containment isolation instrumentation, secondary containment isolation valves, and standby gas treatment systems) described in the safety analysis. This change is necessary to accommodate an assumption in the Columbia Generating Station design basis accident analysis. It is requested that this amendment request be reviewed and approved concurrent with the referenced amendment request.

PROPOSED CHANGE:

The proposed change would modify the referenced Technical Specification amendment request to require secondary containment to be operable during movement of recently irradiated fuel. Recently irradiated fuel is defined as fuel that has occupied part of the critical reactor core within the previous 24 hours. The proposed change is necessary to accommodate the initial assumption in the Fuel Handling Accident (FHA) that the fuel had decayed for 24 hours prior to fuel handling (ref: Columbia Generating Station FSAR 15.7.4.5). This accident analysis assumption is reasonable because it is highly unlikely that fuel could be removed from the reactor core within 24 hours after plant shutdown for refueling. The proposed revision to the amendment request will require secondary containment and its attendant equipment (i.e. secondary containment isolation instrumentation, secondary containment isolation valves, and standby gas treatment systems) to be operable during this 24-hour decay period following reactor criticality when moving recently irradiated fuel assemblies. The need for this proposed revision to the referenced amendment request was identified by NRR staff and communicated to Energy Northwest on August 19, 2002.

**LICENSE AMENDMENT REQUEST FOR REVISION TO ALTERNATIVE SOURCE
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Regulatory Safety Analysis

10 CFR 50.92 Evaluation

Columbia Generating Station has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of Amendment" as discussed below.

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

Response: No

The requirement for secondary containment operability while moving recently irradiated fuel is consistent with the current accident analysis. Furthermore, the accident analysis does not assume fuel movement from the reactor core can begin within 24 hours from reactor shutdown. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No

Because the requirement for secondary containment operability while moving recently irradiated fuel is consistent with the current accident analysis, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

Response: No

Secondary containment operability during movement of recently irradiated fuel maintains a current margin of safety. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

**LICENSE AMENDMENT REQUEST FOR REVISION TO ALTERNATIVE SOURCE
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Enclosure 2

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Evaluation of Environmental Considerations

Energy Northwest has evaluated the proposed amendment against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10CFR51.21. It has been determined that the proposed changes meet the criteria for categorical exclusion as provided for under 10CFR51.22(c)(9). This evaluation has determined that the change requested does not pose a significant hazards consideration nor does it involve an increase in the amounts, or a change in the types of any effluent that may be released off-site. Additionally, this request does not involve a significant increase in individual or cumulative occupational radiation exposure.

**LICENSE AMENDMENT REQUEST FOR REVISION TO ALTERNATIVE SOURCE
AMENDMENT REQUEST TERM**

Attachment 1

Proposed Technical Specifications Changes (mark-up)

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 AND OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level - Low Low, Level 2	1,2,3.(a)	2 ^(c)	SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≥ -58 inches
2. Drywell Pressure - High	1,2,3	2 ^(c)	SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≤ 1.88 psig
3. Reactor Building Vent Exhaust Plenum Radiation - High	1,2,3, (a),(b)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≤ 16.0 mR/hr
4. Manual Initiation	1,2,3, (a),(b)	4	SR 3.3.6.2.4	NA

- (a) During operations with a potential for draining the reactor vessel.
- (b) During CORE ALTERATIONS, and during movement of irradiated fuel assemblies in the secondary containment.
- (c) Also required to initiate the associated LOCA Time Delay Relay Function pursuant to LCO 3.3.5.1.

RECENTLY

3.6 CONTAINMENT SYSTEMS

3.6.4.2 Secondary Containment Isolation Valves (SCIVs)

LCO 3.6.4.2 Each SCIV shall be OPERABLE.

RECENTLY

APPLICABILITY: MODES 1, 2, and 3.
 During movement of irradiated fuel assemblies in the secondary containment,
 During CORE ALTERATIONS,
 During operations with a potential for draining the reactor vessel (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. <u>AND</u>	8 hours (continued)

ACTIONS

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 <i>RECENTLY</i> NOTE LCO 3.0.3 is not applicable.</p> <p>Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p>D.2 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p>D.3 Initiate action to suspend OPDRVs.</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.

RECENTLY

APPLICABILITY: MODES 1, 2, and 3,
During movement of irradiated fuel assemblies in the secondary containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor vessel (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, during CORE ALTERATIONS, or during OPDRVs.	<p>NOTE - LCO 3.0.3 is not applicable.</p>	
	C.1 Place OPERABLE SGT subsystem in operation. <u>OR</u>	Immediately

RECENTLY

(continued)

ACTIONS

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

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.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Secondary containment inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p> <p><i>RECENTLY</i></p>	<p>C.1 NOTE: LCO 3.0.3 is not applicable.</p> <p><i>RECENTLY</i> Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p>C.2 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p>C.3 Initiate action to suspend OPDRVs.</p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p>

**LICENSE AMENDMENT REQUEST FOR REVISION TO ALTERNATIVE SOURCE
AMENDMENT REQUEST TERM
Attachment 2**

Proposed Technical Specifications Pages (retyped)

Secondary Containment Isolation Instrumentation
3.3.6.2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.6.2.2 Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.6.2.3 Perform CHANNEL CALIBRATION.	18 months
SR 3.3.6.2.4 Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

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 AND OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level - Low Low, Level 2	1,2,3,(a)	2 ^(c)	SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≥ -58 inches
2. Drywell Pressure - High	1,2,3	2 ^(c)	SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≤ 1.88 psig
3. Reactor Building Vent Exhaust Plenum Radiation - High	1,2,3, (a),(b)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≤ 16.0 mR/hr
4. Manual Initiation	1,2,3, (a),(b)	4	SR 3.3.6.2.4	NA

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

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

(c) Also required to initiate the associated LOCA Time Delay Relay Function pursuant to LCO 3.3.5.1.

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 Suspend movement of recently irradiated fuel assemblies in the secondary containment.	Immediately
	<u>AND</u> C.2 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.1	Verify secondary containment vacuum is > 0 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 each secondary containment access inner door or each secondary containment access outer door in each access opening is closed.	31 days
SR 3.6.4.1.4	Verify each SGT subsystem can maintain ≥ 0.25 inch of vacuum water gauge in the secondary containment for 1 hour at an inleakage flow rate ≤ 2240 cfm.	24 months on a STAGGERED TEST BASIS

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. (continued)</p>	<p>A.2 -----NOTE----- Isolation devices in high radiation areas may be verified by use of administrative means. ----- Verify the affected penetration flow path is isolated.</p>	<p>Once per 31 days</p>
<p>B. -----NOTE----- Only applicable to penetration flow paths with two isolation valves. ----- One or more penetration flow paths with two SCIVs inoperable.</p>	<p>B.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>4 hours</p>
<p>C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.</p>	<p>C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 4.</p>	<p>12 hours 36 hours</p>

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
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.	D.1 Suspend movement of recently irradiated fuel assemblies in the secondary containment.	Immediately
	<u>AND</u> D.2 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.4.2.1 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Valves and blind flanges in high radiation areas may be verified by use of administrative controls. 2. Not required to be met for SCIVs that are open under administrative controls. <p>-----</p> <p>Verify each secondary containment isolation manual valve and blind flange that is required to be closed during accident conditions is closed.</p>	<p>31 days</p>
<p>SR 3.6.4.2.2 Verify the isolation time of each power operated and each automatic SCIV is within limits.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.6.4.2.3 Verify each automatic SCIV actuates to the isolation position on an actual or simulated automatic isolation signal.</p>	<p>24 months</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,
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 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

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. 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>C.1 Place OPERABLE SGT subsystem in operation.</p> <p><u>OR</u></p> <p>C.2.1 Suspend movement of recently irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p>C.2.2 Initiate action to suspend OPDRVs.</p>	<p>Immediately</p> <p>Immediately</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 recently irradiated fuel assemblies in the secondary containment or during OPDRVs.</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>	<p>Immediately</p> <p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each SGT subsystem for ≥ 10 continuous hours with heaters operating.	31 days
SR 3.6.4.3.2	Perform required SGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3	Verify each SGT subsystem actuates on an actual or simulated initiation signal and reaches ≥ 5000 cfm in ≤ 2 minutes.	24 months
SR 3.6.4.3.4	Verify each SGT filter cooling recirculation valve can be opened and the fan started.	24 months

**LICENSE AMENDMENT REQUEST FOR REVISION TO ALTERNATIVE SOURCE
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Attachment 3

Changes as they would revise the reference amendment request (including Technical Specifications bases)

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 AND OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level – Low Low, Level 2	1,2,3,(a)	2 ^(c)	SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≥ -58 inches
2. Drywell Pressure – High	1,2,3	2 ^(c)	SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≤ 1.88 psig
3. Reactor Building Vent Exhaust Plenum Radiation – High	1,2,3, (a),(b)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≤ 16.0 mR/hr
4. Manual Initiation	1,2,3, (a),(b)	4	SR 3.3.6.2.4	NA

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

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

(c) Also required to initiate the associated LOCA Time Delay Relay ~~Function~~ pursuant to LCO 3.3.5.1. *Function*

3.6 CONTAINMENT SYSTEMS

3.6.4.1 Secondary Containment

LC0 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.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Secondary containment inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p>	<p>C.1 ---NOTE--- LC0 3.0.3 is not applicable.</p> <p>Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p>AND</p> <p>C.2 Suspend CORE ALTERATIONS.</p> <p>AND</p> <p>C.3 Initiate action to suspend OPDRVs.</p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p>

ACTIONS

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>D.1 -----NOTE----- LCO 3.0.3 is not applicable.</p> <p>Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p>D.2 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p>D.3 Initiate action to suspend OPDRVs.</p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p>

recently

recently

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

~~Suspend CORE ALTERATIONS.~~

ACTIONS

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

BASES

APPLICABLE
SAFETY ANALYSES,
LCO, and
APPLICABILITY

3. Reactor Building Vent Exhaust Plenum Radiation—High
(continued)

isolation and actuation of the SGT System are initiated to limit the release of fission products, as assumed in the FSAR safety analyses (Ref. 2).

Secondary containment is not credited for the fuel handling accident.

The Reactor Building Vent Exhaust Plenum Radiation—High signals are initiated from radiation detectors that are located in the ventilation exhaust plenum, which is the collection point of all reactor building and refueling floor air flow prior to its exhaust to atmosphere. The signal from each detector is input to an individual monitor whose trip outputs are assigned to an isolation channel. Four channels of Reactor Building Vent Exhaust Plenum Radiation—High Function are available and are required to be OPERABLE to ensure that no single instrument failure can preclude the isolation function.

The Allowable Value is chosen to promptly detect gross failure of the fuel cladding.

The Reactor Building Vent Plenum Exhaust Radiation—High Function is required to be OPERABLE in MODES 1, 2, and 3 where considerable energy exists; thus, there is a probability of pipe breaks resulting in significant releases of radioactive steam and gas. In MODES 4 and 5, the probability and consequences of these events are low due to the RCS pressure and temperature limitations of these MODES; thus, this Function is not required. In addition, the Function is 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 dose limits are not exceeded.

recently

INSERT X

4. Manual Initiation

The Manual Initiation switch and push button channels introduce signals into the secondary containment isolation logic that are redundant to the automatic protective instrumentation channels, and provide manual isolation capability. There is no specific FSAR safety analysis that

(continued)

BASES

APPLICABLE
SAFETY ANALYSES,
LCO, and
APPLICABILITY

4. Manual Initiation (continued)

takes credit for this Function. It is retained for the overall redundancy and diversity of the secondary containment isolation instrumentation as required by the NRC approved licensing basis.

There are four switch and push buttons (with two channels per switch and push button) for the logic, two switch and push buttons per trip system. Eight channels of the Manual Initiation Function are available and are required to be OPERABLE in MODES 1, 2, and 3 and during ~~CORE ALTERATIONS~~, OPDRVs, and movement of irradiated fuel assemblies in the secondary containment, since these are the MODES and other specified conditions in which the Secondary Containment Isolation automatic Functions are required to be OPERABLE.

recently

There is no Allowable Value for this Function since the channels are mechanically actuated based solely on the position of the switch and push buttons.

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 or

(continued)

BASES

APPLICABLE
SAFETY ANALYSES
(continued)

associated leakage rates assumed in the accident analysis, and 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 Reference

2
3

LCO

An OPERABLE secondary containment provides a control volume into which fission products that bypass or leak from primary containment, or are released from the reactor coolant pressure boundary components located in secondary containment, can be diluted and 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.

INSERT A

APPLICABILITY

NOTE:
~~Handling a cask/canister loaded with spent fuel, after the canister is seal welded and leak tested, is not considered to be movement of irradiated fuel.~~

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.

recently
INSERT X

(continued)

Secondary containment is not credited in the analysis of the fuel handling accident
Revision 28

BASES (continued)

ACTIONS

A.1

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 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 the 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 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~~

2

recently

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.

recently

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.

(continued)

BASES

ACTIONS

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

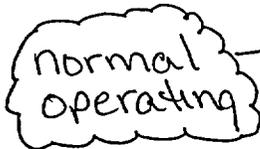
~~LCO 3.0.3 is not applicable while in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, Required Action C.1 has been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify 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. 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.

Normal
operating



Furthermore, the 24 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal secondary containment vacuum condition.

SR 3.6.4.1.2 and SR 3.6.4.1.3

Verifying that secondary containment equipment hatches and each inner access door or each outer access door in each access opening are closed ensures that the infiltration of outside air of such a magnitude as to prevent maintaining the desired negative pressure does not occur. Verifying that all such openings are closed provides adequate assurance that exfiltration from the secondary containment will not occur. SR 3.6.4.1.2 also requires equipment hatches to be sealed. In this application, the term "sealed" has no connotation of leak tightness. Maintaining

(continued)

BASES

APPLICABILITY
(continued)

OPERABLE 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.

INSERT X →

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 in continuous communication with the control room, at the controls of the isolation device. In this way, the penetration can be rapidly isolated when the need for secondary containment isolation is indicated.

The second Note provides clarification that, for the purpose of this LCO, separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable SCIV. Complying with the Required Actions may allow for continued operation, and subsequent inoperable SCIVs are governed by subsequent Condition entry and application of associated Required Actions.

The third Note ensures appropriate remedial actions are taken, if necessary, if the affected system(s) are rendered inoperable by an inoperable SCIV.

A.1 and A.2

In the event that there are one or more penetration flow paths with one SCIV inoperable, the affected penetration flow path(s) must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criteria are a closed and de-activated automatic SCIV, a closed manual valve, and a blind flange. For penetrations isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available device to

(continued)

BASES

ACTIONS

B.1 (continued)

considering the time required to isolate the penetration and the low probability of a DBA, which requires the SCIVs to close, occurring during this short time.

The Condition has been modified by a Note stating that Condition B is only applicable to penetration flow paths with two isolation valves. This clarifies that only Condition A is entered if one SCIV is inoperable in each of two penetrations.

C.1 and C.2

If any Required Action and associated Completion Time cannot be met, 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.

D.1, ~~D.2~~, and D.²

If any Required Action and associated Completion Time cannot be 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, action 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

(continued)

BASES

ACTIONS

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

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 3.6.4.2.1

This SR verifies each secondary containment isolation manual valve and blind flange that 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.

Since these SCIVs are readily accessible to personnel during normal unit operation and verification of their position is relatively easy, the 31 day Frequency was chosen to provide added assurance that the SCIVs are in the correct positions.

Two Notes have been added to this SR. The first Note applies to valves and blind flanges located in high radiation areas and allows them to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, and 3 for ALARA reasons. Therefore, the probability of misalignment of these isolation devices, once they have been verified to be in the proper position, is low.

A second Note has been included to clarify that SCIVs that are open under administrative controls are not required to meet the SR during the time the SCIVs are open. These controls consist of stationing a dedicated operator at the

(continued)

BASES

APPLICABILITY
(continued)

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 OPERABLE 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



INSERT X

ACTIONS

A.1

With one SGT subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status within 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)

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 be immediately placed in operation. This Required Action ensures that the remaining subsystem is OPERABLE, that no failures that could prevent automatic actuation will occur, and that any other failure would be readily detected.

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

~~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 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 radioactive release control function. Therefore, actions are required to enter LCO 3.0.3 immediately.

(continued)

BASES

ACTIONS
(continued)

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

recently

When two SGT subsystems are inoperable, if applicable, ~~CORE ALTERATIONS~~ and 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 to minimize the probability of a vessel draindown and subsequent potential for fission product release. Action must continue until OPDRVs are suspended.

~~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 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 sufficient reason to require a reactor shutdown.~~

SURVEILLANCE
REQUIREMENTS

SR 3.6.4.3.1

Operating (from the control room) each SGT subsystem for ≥ 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 (automatic heater cycling to maintain temperature) for ≥ 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.

(continued)

INSERT A [B 3.6.4.1 -- LCO]

In addition, secondary containment must be maintained at a vacuum during normal operation to ensure secondary containment effluent is monitored. In the event that the normal secondary containment ventilation system is secured, secondary containment could become pressurized such that the maximum accident design basis pressure of \geq 0.25-inch vacuum water gauge on all surfaces of secondary containment is exceeded. Therefore, operating the SGT System when the normal secondary containment ventilation system is secured provides assurance that secondary containment is operable.

INSERT - X

(i.e., fuel that has occupied part of the critical reactor core within the previous 24 hours)