

## Industry/TSTF Standard Technical Specification Change Traveler

### Administratively Control Containment Penetrations

Classification: 5) Plant Variation

NUREGs Affected:  1430  1431  1432  1433  1434

**Description:**

Add a note under LCO 3.9.4 allowing penetration flow path(s) that have a direct access from the containment atmosphere to the outside atmosphere to be unisolated under administrative control.

**Justification:**

LCO 3.6.3, Containment Isolation Valves, ACTION Note 1 allows CIVs to be opened in MODES 1 - 4 under administrative control. In this condition, the accident analyses credit the containment as a barrier. In the lower energy conditions of LCO 3.9.4, opening CIVs under administrative control is less risk significant. Therefore, this change is proposed to provide a consistent approach to containment boundary issues that utilizes previously approved acceptable compensatory measures.

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### Revision History

**OG Revision 0**

**Revision Status: Closed**

Revision Proposed by: Wolf Creek

Revision Description:  
Original Issue

#### Owners Group Review Information

Date Originated by OG: 10-Oct-96

Owners Group Comments  
(No Comments)

Owners Group Resolution: Approved Date: 10-Oct-96

#### TSTF Review Information

TSTF Received Date: 11-Oct-96 Date Distributed for Review 29-Oct-96

OG Review Completed:  BWOG  WOG  CEOG  BWROG

**TSTF Comments:**

CEOG - Applicable and CEOG rejects.  
BWOG/BWROG - WOG to rewrite justification and bring back to TSTF

New justification to be based on the allowance to have containment penetrations open during Modes 1 - 4 under administrative control and the lack of the ability to do the same in Modes 5 and 6, when the need for containment integrity is less.

TSTF Resolution: Superceeded Date: 19-Dec-96

7/16/99

**OG Revision 1****Revision Status: Closed**

Revision Proposed by: WOG

Revision Description:

Revised justification to address TSTF comments.

**Owners Group Review Information**

Date Originated by OG: 04-Jun-98

Owners Group Comments  
(No Comments)

Owners Group Resolution: Approved Date: 04-Jun-98

**TSTF Review Information**

TSTF Received Date: 04-Apr-98 Date Distributed for Review 28-May-98

OG Review Completed:  BWOG  WOG  CEOG  BWROGTSTF Comments:  
(No Comments)

TSTF Resolution: Approved Date: 10-Jul-98

**NRC Review Information**

NRC Received Date: 13-Nov-98

NRC Comments:

4/22/99 - Will go to Tech Review Branch with TSTF-51.

6/16/99 - In PSB.

7/17/99 - Comments received from NRC regarding the addition of a Reviewer's Note and two editorial corrections.

Final Resolution: Superseded by Revision

Final Resolution Date: 17-Jul-99

**TSTF Revision 1****Revision Status: Active****Next Action: NRC**

Revision Proposed by: NRC

Revision Description:

The NRC recommended three changes. First, a Reviewer's Note is added to the LCO Bases. The Reviewer's Note is consistent with the Note used in TSTF-68. Second, the location of Insert 2 for BWOG is corrected by moving it from the end of the Applicable Safety Analysis section to the end of the LCO section. Third, the WOG Insert "Insert LCO" is corrected to label it "Insert 2."

**TSTF Review Information**

TSTF Received Date: 17-Jul-99 Date Distributed for Review 17-Jul-99

OG Review Completed:  BWOG  WOG  CEOG  BWROGTSTF Comments:  
(No Comments)

TSTF Resolution: Approved Date: 17-Jul-99

7/16/99

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**TSTF Revision 1**

**Revision Status: Active**

**Next Action: NRC**

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**Incorporation Into the NUREGs**

File to BBS/LAN Date:

TSTF Informed Date:

TSTF Approved Date:

NUREG Rev Incorporated:

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**Affected Technical Specifications**

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LCO 3.9.3	Containment Penetrations	NUREG(s)- 1430 1432 Only
LCO 3.9.3 Bases	Containment Penetrations	NUREG(s)- 1430 1432 Only
LCO 3.9.4	Containment Penetrations	NUREG(s)- 1431 Only
LCO 3.9.4 Bases	Containment Penetrations	NUREG(s)- 1431 Only

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7/16/99

Insert 1

-----NOTE-----

Penetration flow path(s) providing direct access from the containment atmosphere to the outside atmosphere may be unisolated under administrative controls.

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Insert 2

The LCO is modified by a Note allowing penetration flow paths with direct access from the containment atmosphere to the outside atmosphere to be unisolated under administrative controls. Administrative controls ensure that 1) appropriate personnel are aware of the open status of the penetration flow path during CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, and 2) specified individuals are designated and readily available to isolate the flow path in the event of a fuel handling accident.

Insert 3

----- REVIEWERS NOTE -----

The allowance to have containment personnel airlock doors open and penetration flow paths with direct access from the containment atmosphere to the outside atmosphere to be unisolated during fuel movement and CORE ALTERATIONS is based on (1) confirmatory dose calculations of a fuel handling accident as approved by the NRC staff which indicate acceptable radiological consequences and (2) commitments from the licensee to implement acceptable administrative procedures that ensure in the event of a refueling accident (even though the containment fission product control function is not required to meet acceptable dose consequences) that the open airlock can and will be promptly closed following containment evacuation and that the open penetration(s) can and will be promptly closed. The time to close such penetrations or combination of penetrations shall be included in the confirmatory dose calculations.

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3.9 REFUELING OPERATIONS

3.9.3 Containment Penetrations

- LCO 3.9.3 The containment penetrations shall be in the following status:
- a. The equipment hatch closed and held in place by four bolts;
  - b. One door in each air lock closed; and
  - c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere either:
    - 1. closed by a manual or automatic isolation valve, blind flange, or equivalent, or
    - 2. capable of being closed by an OPERABLE Containment Purge and Exhaust Isolation System.

Insert 1 →

APPLICABILITY: During CORE ALTERATIONS,  
During movement of irradiated fuel assemblies within containment.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more containment penetrations not in required status.	A.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u> A.2 Suspend movement of irradiated fuel assemblies within containment.	Immediately

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BASES (continued)

APPLICABLE  
SAFETY ANALYSES

During CORE ALTERATIONS or movement of fuel assemblies within containment with irradiated fuel in containment; the most severe radiological consequences result from a fuel handling accident. The fuel handling accident is a postulated event that involves damage to irradiated fuel (Ref. 2). Fuel handling accidents, analyzed in Reference 3, include dropping a single irradiated fuel assembly and handling tool or a heavy object onto other irradiated fuel assemblies. The requirements of LCO 3.9.6, "Refueling Canal Water Level," and the minimum decay time of [100] hours prior to CORE ALTERATIONS ensure that the release of fission product radioactivity subsequent to a fuel handling accident results in doses that are within the requirements specified in 10 CFR 100. The acceptance limits for offsite radiation exposure are contained in Reference 2.

Containment penetrations satisfy Criterion 3 of the NRC Policy Statement.

LCO

Insert 3

This LCO limits the consequences of a fuel handling accident in containment by limiting the potential escape paths for fission product radioactivity from containment. The LCO requires any penetration providing direct access from the containment atmosphere to the outside atmosphere to be closed except for the OPERABLE containment purge and exhaust penetrations. For the OPERABLE containment purge and exhaust penetrations, this LCO ensures that these penetrations are isolable by the RB purge isolation signal. The OPERABILITY requirements for this LCO ensure that the automatic purge and exhaust valve closure times specified in the FSAR can be achieved and therefore meet the assumptions used in the safety analysis to ensure releases through the valves are terminated such that radiological doses are within the acceptance limit.

Insert 2

APPLICABILITY

The containment penetration requirements are applicable during CORE ALTERATIONS or movement of irradiated fuel assemblies within containment because this is when there is a potential for a fuel handling accident. In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1. In MODES 5 and 6, when CORE ALTERATIONS or movement of irradiated fuel assemblies within containment

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3.9 REFUELING OPERATIONS

3.9.4 Containment Penetrations

- LCO 3.9.4 The containment penetrations shall be in the following status:
- a. The equipment hatch closed and held in place by [four] bolts;
  - b. One door in each air lock closed; and
  - c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere either:
    - 1. closed by a manual or automatic isolation valve, blind flange, or equivalent, or
    - 2. capable of being closed by an OPERABLE Containment Purge and Exhaust Isolation System.

*Insert Note*

APPLICABILITY: During CORE ALTERATIONS,  
During movement of irradiated fuel assemblies within containment.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more containment penetrations not in required status.	A.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u> A.2 Suspend movement of irradiated fuel assemblies within containment.	Immediately

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BASES

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BACKGROUND  
(continued)

must be isolated on at least one side. Isolation may be achieved by an OPERABLE automatic isolation valve, or by a manual isolation valve, blind flange, or equivalent. Equivalent isolation methods must be approved and may include use of a material that can provide a temporary, atmospheric pressure, ventilation barrier for the other containment penetrations during fuel movements (Ref. 1).

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APPLICABLE  
SAFETY ANALYSES

During CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, the most severe radiological consequences result from a fuel handling accident. The fuel handling accident is a postulated event that involves damage to irradiated fuel (Ref. 2). Fuel handling accidents, analyzed in Reference 3, include dropping a single irradiated fuel assembly and handling tool or a heavy object onto other irradiated fuel assemblies. The requirements of LCO 3.9.7, "Refueling Cavity Water Level," and the minimum decay time of 100 hours prior to CORE ALTERATIONS ensure that the release of fission product radioactivity, subsequent to a fuel handling accident, results in doses that are well within the guideline values specified in 10 CFR 100. Standard Review Plan, Section 15.7.4, Rev. 1 (Ref. 3), defines "well within" 10 CFR 100 to be 25% or less of the 10 CFR 100 values. The acceptance limits for offsite radiation exposure will be 25% of 10 CFR 100 values or the NRC staff approved licensing basis (e.g., a specified fraction of 10 CFR 100 limits).

Containment penetrations satisfy Criterion 3 of the NRC Policy Statement.

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LCO

Insert 3

This LCO limits the consequences of a fuel handling accident in containment by limiting the potential escape paths for fission product radioactivity released within containment. The LCO requires any penetration providing direct access from the containment atmosphere to the outside atmosphere to be closed except for the OPERABLE containment purge and exhaust penetrations. For the OPERABLE containment purge and exhaust penetrations, this LCO ensures that these penetrations are isolable by the Containment Purge and Exhaust Isolation System. The OPERABILITY requirements for this LCO ensure that the automatic purge and exhaust valve

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BASES

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LCO  
(continued)

closure times specified in the FSAR can be achieved and, therefore, meet the assumptions used in the safety analysis to ensure that releases through the valves are terminated, such that radiological doses are within the acceptance limit.

Insert  
2 →

APPLICABILITY

The containment penetration requirements are applicable during CORE ALTERATIONS or movement of irradiated fuel assemblies within containment because this is when there is a potential for a fuel handling accident. In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1. In MODES 5 and 6, when CORE ALTERATIONS or movement of irradiated fuel assemblies within containment are not being conducted, the potential for a fuel handling accident does not exist. Therefore, under these conditions no requirements are placed on containment penetration status.

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ACTIONS

A.1 and A.2

If the containment equipment hatch, air locks, or any containment penetration that provides direct access from the containment atmosphere to the outside atmosphere is not in the required status, including the Containment Purge and Exhaust Isolation System not capable of automatic actuation when the purge and exhaust valves are open, the unit must be placed in a condition where the isolation function is not needed. This is accomplished by immediately suspending CORE ALTERATIONS and movement of irradiated fuel assemblies within containment. Performance of these actions shall not preclude completion of movement of a component to a safe position.

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SURVEILLANCE  
REQUIREMENTS

SR 3.9.4.1

This Surveillance demonstrates that each of the containment penetrations required to be in its closed position is in that position. The Surveillance on the open purge and exhaust valves will demonstrate that the valves are not blocked from closing. Also the Surveillance will

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3.9 REFUELING OPERATIONS

3.9.3 Containment Penetrations

LCO 3.9.3 The containment penetrations shall be in the following status:

- a. The equipment hatch closed and held in place by [four] bolts;
- b. One door in each air lock closed; and
- c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere either:
  - 1. closed by a manual or automatic isolation valve, blind flange, or equivalent, or
  - 2. capable of being closed by an OPERABLE Containment Purge and Exhaust Isolation System.

Insert 1 →

APPLICABILITY: During CORE ALTERATIONS,  
During movement of irradiated fuel assemblies within containment.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more containment penetrations not in required status.	A.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u> A.2 Suspend movement of irradiated fuel assemblies within containment.	Immediately

BASES

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BACKGROUND  
(continued)

must be isolated on at least one side. Isolation may be achieved by an OPERABLE automatic isolation valve, or by a manual isolation valve, blind flange, or equivalent. Equivalent isolation methods must be approved and may include use of a material that can provide a temporary, atmospheric pressure ventilation barrier for the other containment penetrations during fuel movements (Ref. 1).

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APPLICABLE  
SAFETY ANALYSES

During CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, the most severe radiological consequences result from a fuel handling accident. The fuel handling accident is a postulated event that involves damage to irradiated fuel (Ref. 2). Fuel handling accidents, analyzed in Reference 3, include dropping a single irradiated fuel assembly and handling tool or a heavy object onto other irradiated fuel assemblies. The requirements of LCO 3.9.6, "Refueling Water Level," and the minimum decay time of [72] hours prior to CORE ALTERATIONS ensure that the release of fission product radioactivity, subsequent to a fuel handling accident, results in doses that are well within the guideline values specified in 10 CFR 100. The acceptance limits for offsite radiation exposure are contained in Standard Review Plan Section 15.7.4, Rev. 1 (Ref. 2), which defines "well within" 10 CFR 100 to be 25% or less of the 10 CFR 100 values.

Containment penetrations satisfy Criterion 3 of the NRC Policy Statement.

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LCO

Insert 3

This LCO limits the consequences of a fuel handling accident in containment by limiting the potential escape paths for fission product radioactivity released within containment. The LCO requires any penetration providing direct access from the containment atmosphere to the outside atmosphere to be closed except for the OPERABLE containment purge and exhaust penetrations. For the OPERABLE containment purge and exhaust penetrations, this LCO ensures that these penetrations are isolable by the Containment Purge and Exhaust Isolation System. The OPERABILITY requirements for this LCO ensure that the automatic purge and exhaust valve closure times specified in the FSAR can be achieved and therefore meet the assumptions used in the safety analysis

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BASES

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LCO  
(continued)

to ensure releases through the valves are terminated, such that the radiological doses are within the acceptance limit.

Insert 2 →

APPLICABILITY

The containment penetration requirements are applicable during CORE ALTERATIONS or movement of irradiated fuel assemblies within containment because this is when there is a potential for a fuel handling accident. In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1, "Containment." In MODES 5 and 6, when CORE ALTERATIONS or movement of irradiated fuel assemblies within containment are not being conducted, the potential for a fuel handling accident does not exist. Therefore, under these conditions no requirements are placed on containment penetration status.

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ACTIONS

A.1 and A.2

With the containment equipment hatch, air locks, or any containment penetration that provides direct access from the containment atmosphere to the outside atmosphere not in the required status, including the Containment Purge and Exhaust Isolation System not capable of automatic actuation when the purge and exhaust valves are open, the unit must be placed in a condition in which the isolation function is not needed. This is accomplished by immediately suspending CORE ALTERATIONS and movement of irradiated fuel assemblies within containment. Performance of these actions shall not preclude completion of movement of a component to a safe position.

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SURVEILLANCE  
REQUIREMENTS

SR 3.9.3.1

This Surveillance demonstrates that each of the containment penetrations required to be in its closed position is in that position. The Surveillance on the open purge and exhaust valves will demonstrate that the valves are not blocked from closing. Also, the Surveillance will demonstrate that each valve operator has motive power, which will ensure each valve is capable of being closed by an

(continued)