FPL Energy
Seabrook Station

FPL Energy Seabrook Station
P.O. Box 300
Seabrook, NH 03874
(603) 773-7000

May 30, 2003

Docket No. 50-443
NYN-03043

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

Seabrook Station
Revision to License Amendment Request 02-07,
"Change to TS 3.9.4 Containment Building Penetrations"

By letter (NYN-02089) dated October 11, 2002, License Amendment Request (LAR) 02-07, "Change to TS 3.9.4 Containment Building Penetrations" was forwarded to the Nuclear Regulatory Commission (NRC) for review and approval. The main purpose of LAR 02-07 was to revise Seabrook Station Technical Specification (TS) 3.9.4.a, to permit the equipment hatch to be open during core alterations or during movement of irradiated fuel assemblies within the primary containment. LAR 02-07 also proposed the addition of a footnote to TS 3.9.4.b, pertaining to the status of the equipment hatch personnel airlock.

This letter and the attached enclosure supplement LAR 02-07 by providing clarifying information pertaining to the proposed changes and incorporating revisions to TS 3.9.4 to more closely conform to the methodology previously approved by the NRC in TSTF-51, Revision 2. Additionally, the footnote previously proposed to TS 3.9.4.b has been deleted. Enclosure 1 replaces Sections I, II, and III. As a result of the proposed revision to LAR 02-07, FPLE Seabrook shall implement the provisions of Section 11.3.6.5 of NUMARC 93-01, Rev. 3, guidelines on restoration capability of containment systems as recommended in TSTF-51.

FPL Energy Seabrook, LLC has determined that the additional information and changes provided herein do not change the conclusions reached in the original determination of no significant hazards and the environmental impact assessment provided in NYN-02089. The additional information and changes provided in the enclosed have been reviewed by the Station Operation Review Committee (SORC) and the Company Nuclear Review Board (CNRB). A copy of this letter has been forwarded to the State of New Hampshire pursuant to 10 CFR 50.91(b). Approval of LAR 02-07 is requested by September 15, 2003.

A001

Should you have any questions regarding this letter, please contact Mr. James M. Peschel, Regulatory Programs Manager at (603) 773-7194.

Very truly yours,

FPL Energy Seabrook, LLC

Mark E. Warner
Site Vice President

cc: H. J. Miller, NRC Regional Administrator
V. Nerses, NRC Project Manager, Project Directorate I-2
G. F. Dentel, NRC Senior Resident Inspector

Mr. Donald Bliss, Acting Director
New Hampshire Office of Emergency Management
State Office Park South
107 Pleasant Street
Concord, NH 03301

ENCLOSURE TO NYN-03043

FPL Energy
Seabrook Station

SEABROOK STATION UNIT 1

Facility Operating License NPF-86
Docket No. 50-443

Revision to License Amendment Request 02-07,
"Change to TS 3.9.4 Containment Building Penetrations"

FPL Energy Seabrook, LLC, pursuant to 10 CFR 50.90 submits this revision to License Amendment Request 02-07. The following information is enclosed in support of this revision to License Amendment Request 02-07:

- **Section I - Introduction and Safety Assessment of Proposed Changes**
- **Section II - Markup of Revised Proposed Changes**
- **Section III - Retype of Revised Proposed Changes**

I, Mark E. Warner, Site Vice President of FPL Energy Seabrook, LLC, hereby affirm that the information and statements contained within this revision to License Amendment Request 02-07 are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

Sworn and Subscribed
before me this
30th day of May, 2003

James W. Connolly
Notary Public

JAMES W. CONNOLLY
MY COMMISSION EXPIRES SEPT. 4, 2007
NOTARY PUBLIC
NEW HAMPSHIRE

Mark E. Warner
Site Vice President

SECTION I

INTRODUCTION AND SAFETY ASSESSMENT FOR PROPOSED CHANGES

I. INTRODUCTION AND SAFETY ASSESSMENT OF PROPOSED CHANGES

A. Introduction

License Amendment Request (LAR) 02-07 proposes to revise Technical Specifications (TS) 3.9.4, "Containment Building Penetrations," to permit the equipment hatch to be open during the movement of "non-recently" irradiated fuel assemblies within containment. The applicable TS Bases changes are also included within this submittal to reflect the proposed changes to TS 3.9.4. Technical Specification Task Force generic TS change TSTF-51, Rev. 2 was used as guidance in the development of this LAR.

The equipment hatch provides a means for moving large equipment and components into and out of containment. Technical Specification 3.9.4, "Containment Penetrations," currently requires that the equipment hatch be closed and held in place by four bolts during fuel movement and core alterations. This requirement ensures that a release of fission products within the containment will be restricted from escaping to the environment. The proposed change will revise the Applicability section of TS 3.9.4 to read as follows: "During movement of recently irradiated fuel within the containment." The proposed change will revise the Action section of TS 3.9.4 to read as follows: "With the requirements of the above specification not satisfied, immediately suspend all operations involving movement of recently irradiated fuel in the containment building." As a result, the proposed changes to TS 3.9.4 will allow the equipment hatch to be open during the movement of non-recently irradiated fuel assemblies within containment when the identified administrative actions are in place.

It is proposed that the word "OPRATION" be changed to "OPERATION" in TS 3/4.9.4 Limiting Condition for Operation to correct a previously existing typographical error.

It is also proposed that the TS Bases section 3/4.9.4 be revised to reflect the changes to TS 3.9.4 and the revised fuel handling accident analysis.

The fourth paragraph of TS Bases section 3/4.9.4 be revised to read as follows:

> "The Fuel handling accident analysis inside containment assumes all of the available activity is released instantaneously from the containment to the atmosphere."

The following paragraphs have been added as Insert 1:

> As described in the fuel handling analysis, there will be no pressurization of containment. Therefore, the requirements to isolate the containment from the outside atmosphere can be less stringent. The LCO requirements during movement of recently irradiated fuel assemblies within the containment are referred to as "containment closure" rather than containment OPERABILITY. The term "recently irradiated" fuel assemblies is defined as fuel that has occupied part of a critical reactor core within the previous 80 hours. For the containment to be OPERABLE, CONTAINMENT INTEGRITY must be maintained. Containment closure means that all potential release paths are closed or capable of being

closed. Closure restrictions must be sufficient to provide a barrier to restrict radioactive material released from a fuel element rupture during refueling operations.

During the movement of non-recently irradiated fuel assemblies within the containment, there are no specific requirements for containment building penetration closure and OPERABILITY to ensure that a release of fission product radioactivity within containment will be restricted from leaking to the environment. However, it is necessary to maintain the ability to isolate containment penetrations to meet the applicable action statement requirements of TS 3.9.8.1 and 3.9.8.2 in the event that no OPERABLE RHR loops are in operation. During the movement of non-recently irradiated fuel assemblies, the containment outage door may be installed as an alternative to installing the containment equipment hatch with a minimum of four bolts provided:

1. the reactor vessel upper internals have been removed; and

2. the water level above the top of the reactor vessel flange is greater than or equal to 23 feet.

The containment outage door will be designed to ensure a release of fission product radioactivity within containment will be restricted from leaking to the environment due to a fuel handling accident during refueling operations. When the containment outage door is installed and being used as a containment barrier in lieu of the equipment hatch, the following administrative requirements must be met:

1. The containment outage door will be installed and capable of being closed within 1 hour.

2. Hoses and cables being run through the containment outage door will employ a means to allow safe, quick disconnection or severance.

3. A designated individual is available and in direct communication with the control room with the responsibility for the expeditious closure (within 1 hour) of the containment outage door in the event of a fuel handling accident."

The proposed changes will permit the optimization of outages while also maximizing operational flexibility.

B. Safety Assessment of Proposed Changes

The Seabrook Station Primary Containment Building is a reinforced concrete structure in the form of a right vertical cylinder with a hemispherical dome and a flat foundation mat founded on bedrock. Containment penetrations are provided in the lower portion of the structure, and consist of a personnel lock and an equipment hatch/personnel lock, a fuel transfer tube and piping, electrical, instrumentation, and ventilation penetrations.

The equipment hatch consists of the barrel, the spherical dished cover plate with flange, and the air lock mounting sleeve. The hatch opening has an inside diameter of 27'-5". The equipment

hatch cover is fitted with two O-ring seals that enclose a space, which can be pressurized and tested. The flange of the cover plate is attached to the hatch barrel with 32 swing bolts. A leak chase system is provided over the barrel-liner joint of the equipment hatch for leak testing. The barrel, which is also the sleeve for the equipment hatch, is embedded in the shell of the concrete containment.

A containment enclosure building surrounds the containment structure and is designed in a similar configuration as a vertical right cylindrical reinforced concrete structure with dome and ring base. The containment enclosure is designed to entrap, filter and then discharge any leakage from the containment structure. To accomplish this, the space between the containment enclosure and the containment structure, as well as the penetration and safety-related pump areas, are maintained at a negative pressure following a loss-of-coolant accident by fans which take suction from the containment enclosure and exhaust to atmosphere through charcoal filters. To ensure air tightness for the negative pressure, leakage through all joints and penetrations has been minimized. The containment enclosure building has an access opening located directly opposite to, and of the same size as the containment hatch barrel. This opening consists of a steel plate barrel anchored into the wall of the containment enclosure building. The containment building and the enclosure building are seismically isolated from each other. The gap between the two structures at the hatch opening area (3") is filled with an elastic filler material. A continuous flexible rubber membrane seal along the inner circumference of the mating ends of the two barrels ensures that there is no communication between the containment enclosure and the outside atmosphere.

A missile shield structure is located in front of, and outside the Containment Equipment Hatch/Containment Enclosure access opening. The missile shield walls are located off of the outside face of this structure. The missile shield is made up of removable, interlocking, pre-cast, reinforced concrete panels. At the bottom, the panels are keyed into a slot at the equipment hatch access ramp, their tops are tied to the roof of the missile shield structure by swing bolts. Four tensioned tie rods threaded through the panels tie the individual blocks into a monolithic wall. This wall serves to protect the hatch from tornado-generated missiles. The missile shield structure is seismically isolated from the containment enclosure building by a weather tight seal.

When access to the containment is required the inner equipment hatch is removed and placed in the storage stands in the containment. The missile shield panels are de-tensioned and the central five panels are withdrawn. Specially designed bridging sections are installed to allow access to the interior of the containment. In accordance with the requirements of TS 3.9.4.a, the containment hatch must be in place prior to core alterations or fuel movement. Removing or reinstalling the containment equipment hatch is a lengthy evolution that requires approximately one shift to complete.

The proposed containment outage door will be installed in front of the missile shield panels. The containment outage door will be a metal door approximately 20'X28' in size and will allow the passage of the largest regularly scheduled component (Reactor Coolant Pump Motor and transport cart). The door will be configured to provide a tight closure and will be light enough to be closed and secured by one person with no special training required.

As identified in the fuel handling analysis, there is no containment pressurization. Therefore, the door will have no pressure retaining requirements. The door and its supporting components will be designed in accordance with the Seabrook Station design change process and installed per applicable station procedures. Other openings between structural elements and door/door mounting hardware will be sealed with approved materials. The only other paths for an air exchange are the doors that allow personnel access to the area of the equipment hatch missile shield structure. These are heavy metal security doors with a tight fit, which can be quickly and easily closed and secured when necessary. The station will develop appropriate administrative procedures governing the use and operation of the containment outage door.

The containment outage door will allow free access into and out of the containment for large vehicles, components and personnel during a refueling. Some of the installation work for the containment outage door and its required hardware can be completed while the plant is on line. The missile shield blocks can not be removed until the plant has entered mode 5 (Cold Shutdown). The proposed changes would permit the use of a containment outage door in lieu of the equipment hatch during the movement of non-recently irradiated fuel within the containment building.

Analysis of Changes to the Applicability and Action Sections of TS 3.9.4

The proposed changes to the applicability section of TS 3.9.4 will allow the equipment hatch to be open under administrative controls during movement of non-recently irradiated fuel assemblies within containment. Allowing the equipment hatch to be open during movement of non-recently irradiated fuel raises the concern that radioactive materials could potentially be released through the open hatch and vented to the outside environment should accidents that involve fission product releases occur. Postulated accidents that could result in a release of radioactive material through the open hatch include a fuel handling accident that results in breaching of the fuel rod cladding, and a loss of residual heat removal (RHR) cooling event that leads to core boiling. To provide the basis for justifying the proposed change, the concern with the potential radiological consequences of the two accidents that could result in a release of radioactive material through the open equipment hatch are discussed below.

Fuel Handling Accident

An analysis of the Fuel Handling Accident for Seabrook Station is described in section 15.7.4 of the Updated Final Safety Analysis Report. During movement of irradiated fuel assemblies within containment, the most severe radiological consequences are anticipated to result from a fuel handling accident. The most limiting fuel handling accident is defined as the dropping of a spent fuel assembly within an open containment resulting in the rupture of the cladding of all of the fuel rods in the assembly, despite administrative controls and physical limitations.

The radiological consequences of a design basis fuel handling accident in containment have been evaluated assuming that the containment is open to the outside atmosphere. The current fuel handling accident is assumed to occur 100 hours after plant shutdown consistent with the 100 hour time delay required by TS 3/4.9.3 prior to the movement of fuel. However, Seabrook Station has prepared an additional license amendment request, that is currently in NRC review

(LAR 02-06 dated 10/11/02), to decrease the number of hours of decay time prior to the movement of irradiated fuel from 100 to 80 hours. The dose levels identified in the table below for the fuel handling accident reflect the totals assuming an 80-hour and 100-hour decay time. The fuel handling accident within the containment does not result in containment pressurization. The conservative release model is based on releasing all of the radioactive gases from the primary containment instantaneously. The Exclusion Area Boundary (EAB) doses are calculated over a 0-2 hour time period, while the control room doses are evaluated over a 0-30 day release period. The EAB 0-2 hour resulting doses and the 0-30 day control room doses for the containment fuel handling accident are identified as follows:

Site	Fuel Handling Accident (REM)			Acceptance Criteria (REM)		
	Thyroid	Whole Body	Skin	Thyroid	Whole Body	Skin
Exclusion Area Boundary	69.6	2.2	0.55	75.0	6.25	N/A
	63.9[1]	1.98[1]	0.47[1]			
Control Room	7.38	0.31	1.5	30.0	5.0	30.0
	6.78[1]	0.29[1]	1.31[1]			

[1] This value is the total dose identified in the fuel handling accident analysis assuming a 100-hour decay period.

The calculated offsite and control room operator doses are within the acceptance criteria of USNRC NUREG-0800, "Standard Review Plan," section 15.7.4 "Radiological Consequence of Fuel Handling Accident," and 10 CFR 50, Appendix A, "General Design Criteria for Nuclear Power Plants," GDC-19, "Control Room." Therefore, allowing the equipment hatch to be open during core alterations or movement of irradiated fuel would not invalidate the conclusion that the potential dose consequences from a fuel handling accident will be within the 10 CFR 100 guideline limits.

Loss of RHR Cooling

A loss of residual heat removal (RHR) pressurization event is unlikely during the movement of non-recently irradiated fuel in the reactor containment building. This is largely based upon the requirements of TS 3.9.8.1, "Residual Heat Removal and Coolant Circulation High Water Level" and 3.9.8.2, "Residual Heat Removal and Coolant Circulation Low Water Level." TS 3.9.8.1 requires that at least one RHR loop be operable and in operation when the water level above the top of the reactor vessel flange is greater than or equal to 23 feet. When the water level above the top of the reactor vessel flange is less than 23 feet, TS 3.9.8.2 requires that at least two independent RHR loops be operable and at least one RHR loop shall be in operation. The requirement that at least one RHR loop be in operation ensures that: (1) sufficient cooling

capacity is available to remove decay heat and maintain the water in the reactor vessel below 140°F as required during the refueling mode, and (2) sufficient coolant circulation is maintained through the core to minimize the effect of a boron dilution incident and prevent boron stratification. The requirement to have two RHR loops operable when there is less that 23 feet of water above the reactor flange ensures that a single failure of the operating RHR loop will not result in a complete loss of residual heat removal capability. With the reactor vessel head removed and at least 23 feet of water above the reactor pressure vessel flange, a large heat sink is available for core cooling. Thus, in the event of a failure of the operating RHR loop, adequate time is provided to initiate emergency procedures to cool the core.

TS 3.9.8.1 and 3.9.8.2 require that corrective actions be taken immediately to restore the RHR cooling as soon as possible if RHR loop requirements are not met (by having one RHR loop operable and in operation). In addition, plant operators are required to close all containment penetrations providing direct access from the containment atmosphere to the outside environment within 4 hours. Since the time to boil in this condition (during core alterations or movement of irradiated fuel with at least 23 feet of water above the vessel flange, the reactor upper internals removed and after 80 hours of decay time) is approximately 8.3 hours, the risk associated with the potential for the coolant to boil and subsequently cause a release of radioactive gas to the containment atmosphere (if RHR cooling was not restored) is minimal. The requirements identified in TS 3.9.8.1 and 3.9.8.2 to close all containment penetrations within 4 hours will be met by closure of the containment outage door within a 1-hour period.

Administrative Controls

Seabrook Station has various station Technical Specification, Technical Requirements Manual and administrative controls in place to conduct core alterations or movement of irradiated fuel. Even though the closure of containment is not credited in the Fuel Handling Accident dose analysis previously described, Seabrook Station will implement additional controls as a defense in depth measure. Administrative controls consisting of written procedures will be established prior to the implementation of the proposed change. The following closure controls are applicable whenever the containment outage door is open during operations within containment involving the movement of recently irradiated fuel and are being added to TS Bases section 3/4.9.4:

1. The containment outage door will be installed and capable of being closed within 1 hour.

2. Hoses and cables being run through the containment outage door will employ a means to allow safe, quick disconnection or severance.

3. A designated individual is available and in direct communication with the control room with the responsibility for the expeditious closure (within 1 hour) of the containment outage door in the event of a fuel handling accident.

During core alterations, Seabrook Station Technical Requirement TR25-3.9.5, "Refueling Communications" requires that direct communications be maintained between the control room and personnel at the refueling station. When direct communications between the control room and personnel at the refueling station cannot be maintained, core alterations will be suspended. In

the event of a fuel handling accident inside containment, the Control Room would be immediately informed and actions would be promptly initiated in accordance with station procedures to mitigate the consequences, including coordinating the closure of the subject containment outage door.

Analysis of Changes to TS Bases 3/4.9.4

The proposed changes to TS Bases 3/4.9.4 will revise the fourth paragraph to read as follows:

"The fuel handling accident analysis inside containment assumes all of the available activity is released instantaneously from the containment to the atmosphere."

The change to the above paragraph reflects the revised fuel handling accident analysis.

The proposed changes to TS Bases 3/4.9.4 will add the following paragraphs to the end of the section:

> "As described in the fuel handling analysis, there will be no pressurization of containment. Therefore, the requirements to isolate the containment from the outside atmosphere can be less stringent. The LCO requirements during movement of recently irradiated fuel assemblies within the containment are referred to as "containment closure" rather than containment OPERABILITY. The term "recently irradiated" fuel assemblies is defined as fuel that has occupied part of a critical reactor core within the previous 80 hours. For the containment to be OPERABLE, CONTAINMENT INTEGRITY must be maintained. Containment closure means that all potential release paths are closed or capable of being closed. Closure restrictions must be sufficient to provide a barrier to restrict radioactive material released from a fuel element rupture during refueling operations.
>
> During the movement of non-recently irradiated fuel assemblies within the containment, there are no specific requirements for containment building penetration closure and OPERABILITY to ensure that a release of fission product radioactivity within containment will be restricted from leaking to the environment. However, it is necessary to maintain the ability to isolate containment penetrations to meet the applicable action statement requirements of TS 3.9.8.1 and 3.9.8.2 in the event that no OPERABLE RHR loops are in operation. During the movement of non-recently irradiated fuel assemblies, the containment outage door may be installed as an alternative to installing the containment equipment hatch with a minimum of four bolts provided:
>
> 1. the reactor vessel upper internals have been removed; and
>
> 2. the water level above the top of the reactor vessel flange is greater than or equal to 23 feet.
>
> The containment outage door will be designed to ensure a release of fission product radioactivity within containment will be restricted from leaking to the environment due to a

fuel handling accident during refueling operations. When the containment outage door is installed and being used for containment closure in lieu of the equipment hatch, the following additional administrative requirements must be met:

1. The containment outage door will be installed and capable of being closed within 1 hour.

2. Hoses and cables being run through the containment outage door will employ a means to allow safe, quick disconnection or severance.

3. A designated individual is available and in direct communication with the control room with the responsibility for the expeditious closure (within 1 hour) of the containment outage door in the event of a fuel handling accident."

The purpose of the subject paragraphs is to more clearly define the requirements for containment closure, to identify the basis for the changes to TS 3.9.4.a, and to identify the administrative requirements necessary to utilize the containment outage door in lieu of the equipment hatch during core alterations or movement of irradiated fuel within the containment. The above administrative controls provide reasonable assurance that containment closure, as a defense in depth measure, can be reestablished promptly following a fuel handling accident to limit radiological releases below the limits assumed in the dose calculations.

Conclusion:

In conclusion, based on the considerations discussed above, 1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, 2) such activities will be conducted in compliance with the Commission's regulations, and 3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

SECTION II

MARKUP OF PROPOSED CHANGES

Refer to the attached markup of the revised proposed changes to the Technical Specifications (TSs). The attached markup reflects the currently issued revision of the TSs listed below. Pending TS changes or TS changes issued subsequent to this submittal are not reflected in the enclosed markup.

The following TS changes are included in the attached markup:

Technical Specification	Title	Page(s)
3/4.9.4	Containment Building Penetrations	3/4 9-4
B 3/4.9.4	Containment Building Penetrations	B 3/4 9-2a
B 3/4.9.4	Containment Building Penetrations	B 3/4 9-2b

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

a. The equipment door closed and held in place by a minimum of four bolts,

b. A minimum of one door in each airlock is closed, however both doors of one personnel airlock may be open if:

1) One personnel airlock door is capable of being closed, and

2) A designated individual is available outside the personnel airlock to close the door.

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1) Closed by a manual or automatic isolation valve, blind flange, or equivalent; or

2) Be capable of being closed by an OPERABLE automatic Containment Purge and Exhaust Isolation System; or

3) Be capable of being closed by a designated individual available at the penetration.*

APPLICABILITY: During ~~CORE ALTERATIONS or~~ movement of recently irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving ~~CORE ALTERATIONS or~~ movement of recently irradiated fuel in the containment building.

* A designated individual shall not be used for manual isolation of valves CAP-V1, CAP-V2, CAP-V3, and/or CAP-V4.

BASES

3/4.9.2 INSTRUMENTATION

The OPERABILITY of the Source Range Neutron Flux Monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short-lived fission products. This decay time is consistent with the assumptions used in the safety analyses.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

The Limiting Condition for Operation (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, the approved alternate closure methods and the containment personnel airlock.

For the approved alternate closure methods, the LCO requires that a designated individual must be available to close or direct the remote closure of the penetration in the event of a fuel handling accident. "Available" means stationed at the penetration or performing activities controlled by a procedure on equipment associated with the penetration. The inside containment fuel handling accident analysis provides assurance that manual isolation of penetration valves up to a 12-inch diameter size, within the assumed time, can be attained with the use of a designated individual. With respect to the 36-inch diameter CAP valves, a designated individual is not allowed since manual closure would most likely exceed the assumed closure time.

For the personnel airlocks (containment or equipment hatch), the LCO ensures that the airlock can be closed after containment evacuation in the event of a fuel handling accident. The requirement that the airlock door is capable of being closed requires that the door can be closed and is not blocked by objects that cannot be easily and quickly removed. As an example, the use of removable protective covers for the door seals and sealing surfaces is permitted. The requirement for a designated individual located outside of the airlock area available to close the door following evacuation of the containment will minimize the release of radioactive material.

The fuel handling accident analysis inside containment assumes ~~both of the personnel airlock doors are open and an additional 12" diameter penetration (or equivalent area) is open. The analysis is bounded by these assumptions since~~ all of the available activity is assumed to be released instantaneously from the containment to the atmosphere.

The OPERABILITY of the Containment Purge and Exhaust Isolation System ensures that the containment vent and purge penetrations will be automatically isolated upon detection of high radiation levels within the containment. The OPERABILITY of this system is required to restrict the release of radioactive material from the containment atmosphere to the environment.

INSERT 1:

Insert 1

"As described in the fuel handling analysis, there will be no pressurization of containment. Therefore, the requirements to isolate the containment from the outside atmosphere can be less stringent. The LCO requirements during movement of recently irradiated fuel assemblies within the containment are referred to as "containment closure" rather than containment OPERABILITY. The term "recently irradiated" fuel assemblies is defined as fuel that has occupied part of a critical reactor core within the previous 80 hours. For the containment to be OPERABLE, CONTAINMENT INTEGRITY must be maintained. Containment closure means that all potential release paths are closed or capable of being closed. Closure restrictions must be sufficient to provide a barrier to restrict radioactive material released from a fuel element rupture during refueling operations.

During the movement of non-recently irradiated fuel assemblies within the containment, there are no specific requirements for containment building penetration closure and OPERABILITY to ensure that a release of fission product radioactivity within containment will be restricted from leaking to the environment. However, it is necessary to maintain the ability to isolate containment penetrations to meet the applicable action statement requirements of TS 3.9.8.1 and 3.9.8.2 in the event that no OPERABLE RHR loops are in operation. During the movement of non-recently irradiated fuel assemblies, the containment outage door may be installed as an alternative to installing the containment equipment hatch with a minimum of four bolts provided:

1. the reactor vessel upper internals have been removed; and

2. the water level above the top of the reactor vessel flange is greater than or equal to 23 feet.

The containment outage door will be designed to ensure a release of fission product radioactivity within containment will be restricted from leaking to the environment due to a fuel handling accident during refueling operations. When the containment outage door is installed and being used for containment closure in lieu of the equipment hatch, the following additional administrative requirements must be met:

1. The containment outage door will be installed and capable of being closed within 1 hour.

2. Hoses and cables being run through the containment outage door will employ a means to allow safe, quick disconnection or severance.

3. A designated individual is available and in direct communication with the control room with the responsibility for the expeditious closure (within 1 hour) of the containment outage door in the event of a fuel handling accident."

SECTION III

RETYPE OF REVISED PROPOSED CHANGES

Refer to the attached retype of the revised proposed changes to the Technical Specifications (TSs). The attached retype reflects the currently issued version of the TSs. Pending TS changes or TS changes issued subsequent to this submittal are not reflected in the enclosed retype. The enclosed retype should be checked for continuity with TSs prior to issuance.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

a. The equipment door closed and held in place by a minimum of four bolts,

b. A minimum of one door in each airlock is closed, however both doors of one personnel airlock may be open if:

1) One personnel airlock door is capable of being closed, and

2) A designated individual is available outside the personnel airlock to close the door.

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1) Closed by a manual or automatic isolation valve, blind flange, or equivalent; or

2) Be capable of being closed by an OPERABLE automatic Containment Purge and Exhaust Isolation System; or

3) Be capable of being closed by a designated individual available at the penetration.*

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

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving movement of recently irradiated fuel in the containment building.

* A designated individual shall not be used for manual isolation of valves CAP-V1, CAP-V2, CAP-V3, and/or CAP-V4.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of the Source Range Neutron Flux Monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short-lived fission products. This decay time is consistent with the assumptions used in the safety analyses.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

The Limiting Condition for Operation (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, the approved alternate closure methods and the containment personnel airlock.

For the approved alternate closure methods, the LCO requires that a designated individual must be available to close or direct the remote closure of the penetration in the event of a fuel handling accident. "Available" means stationed at the penetration or performing activities controlled by a procedure on equipment associated with the penetration. The inside containment fuel handling accident analysis provides assurance that manual isolation of penetration valves up to a 12-inch diameter size, within the assumed time, can be attained with the use of a designated individual. With respect to the 36-inch diameter CAP valves, a designated individual is not allowed since manual closure would most likely exceed the assumed closure time.

For the personnel airlocks (containment or equipment hatch), the LCO ensures that the airlock can be closed after containment evacuation in the event of a fuel handling accident. The requirement that the airlock door is capable of being closed requires that the door can be closed and is not blocked by objects that cannot be easily and quickly removed. As an example, the use of removable protective covers for the door seals and sealing surfaces is permitted. The requirement for a designated individual located outside of the airlock area available to close the door following evacuation of the containment will minimize the release of radioactive material.

The fuel handling accident analysis inside containment assumes all of the available activity is assumed to be released instantaneously from the containment to the atmosphere.

The OPERABILITY of the Containment Purge and Exhaust Isolation System ensures that the containment vent and purge penetrations will be automatically isolated upon detection of high radiation levels within the containment. The OPERABILITY of this system is required to restrict the release of radioactive material from the containment atmosphere to the environment.

"As described in the fuel handling analysis, there will be no pressurization of containment. Therefore, the requirements to isolate the containment from the outside atmosphere can be less stringent. The LCO requirements during movement of recently irradiated fuel assemblies within the containment are referred to as "containment closure" rather than containment OPERABILITY. The term "recently irradiated" fuel assemblies is defined as fuel that has occupied part of a critical reactor core within the previous 80 hours. For the containment to be OPERABLE, CONTAINMENT INTEGRITY must be maintained. Containment closure means that all potential release paths are closed or capable of being closed. Closure restrictions must be sufficient to provide a barrier to restrict radioactive material released from a fuel element rupture during refueling operations.

During the movement of non-recently irradiated fuel assemblies within the containment, there are no specific requirements for containment building penetration closure and OPERABILITY to ensure that a release of fission product radioactivity within containment will be restricted from leaking to the environment. However, it is necessary to maintain the ability to isolate containment penetrations to meet the applicable action statement requirements of TS 3.9.8.1 and 3.9.8.2 in the event that no OPERABLE RHR loops are in operation. During the movement of non-recently irradiated fuel assemblies, the containment outage door may be installed as an alternative to installing the containment equipment hatch with a minimum of four bolts provided:

1. the reactor vessel upper internals have been removed; and

2. the water level above the top of the reactor vessel flange is greater than or equal to 23 feet.

The containment outage door will be designed to ensure a release of fission product radioactivity within containment will be restricted from leaking to the environment due to a fuel handling accident during refueling operations. When the containment outage door is installed and being used for containment closure in lieu of the equipment hatch, the following additional administrative requirements must be met:

1. The containment outage door will be installed and capable of being closed within 1 hour.

2. Hoses and cables being run through the containment outage door will employ a means to allow safe, quick disconnection or severance.

3. A designated individual is available and in direct communication with the control room with the responsibility for the expeditious closure (within 1 hour) of the containment outage door in the event of a fuel handling accident."