



FPL Energy
Seabrook Station

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JAN 10 2005

Docket No. 50-443

SBK-L-04053

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Seabrook Station
License Amendment Request 04-07
Revision to Technical Specification Surveillance Requirement 4.6.1.3b.,
Containment Air Lock Interlock

FPL Energy Seabrook, LLC, (FPL Energy Seabrook) is providing within the enclosed, License Amendment Request (LAR) 04-07. LAR 04-07 is submitted pursuant to the requirements of 10 CFR 50.90 and 10 CFR 50.4. This LAR proposes to revise the surveillance interval associated with Technical Specification Surveillance Requirement 4.6.1.3b. from once every 6 months to once every 24 months for verification that only one door in each containment air lock can be opened at a time.

As discussed in Section IV of the enclosed, the proposed change does not involve a significant hazard consideration pursuant to 10 CFR 50.92. A copy of this letter and the enclosed LAR has been forwarded to the New Hampshire State Liaison Officer pursuant to 10 CFR 50.91(b). FPL Energy Seabrook requests NRC Staff review of LAR 04-07 and issuance of a license amendment by December 30, 2005.

FPL Energy Seabrook has determined that LAR 04-07 meets the criterion of 10 CFR 51.22(c)(9) for a categorical exclusion from the requirements for an Environmental Review (see Section VI of Enclosure 1).

The Station Operation Review Committee and the Company Nuclear Review Board have reviewed LAR 04-07.

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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: S. J. Collins, NRC Region I Administrator
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Enclosure to SBK-L-04053



FPL Energy
Seabrook Station

SEABROOK STATION UNIT 1

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

License Amendment Request 04-07
Revision to Technical Specification Surveillance Requirement 4.6.1.3b.,
Containment Air Lock Interlock

This License Amendment Request is submitted by FPL Energy Seabrook, LLC, pursuant to 10CFR50.90. The following information is enclosed in support of this License Amendment Request:

- Section I - Introduction and Safety Assessment for Proposed Change
- Section II - Markup of Proposed Change
- Section III - Retype of Proposed Change
- Section IV - Determination of Significant Hazards for Proposed Change
- Section V - Proposed Schedule for License Amendment Issuance
And Effectiveness
- Section VI - Environmental Impact Assessment

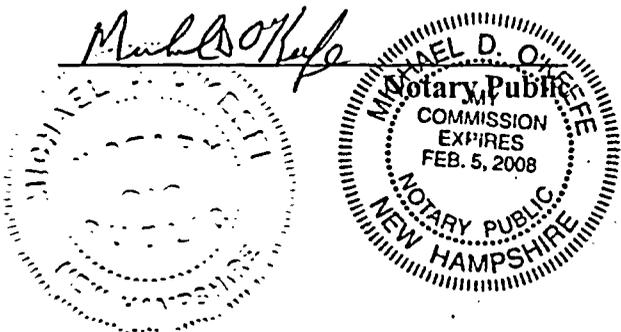
I, Mark E. Warner, Site Vice President of FPL Energy Seabrook, LLC, hereby affirm that the information and statements contained within License Amendment Request 04-07 are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

Sworn and Subscribed
before me this

10 day of January, 2005



Mark E. Warner
Site Vice President



SECTION I
INTRODUCTION AND SAFETY ASSESSMENT FOR PROPOSED CHANGE

I. INTRODUCTION AND SAFETY ASSESSMENT OF PROPOSED CHANGE

A. Introduction

License Amendment Request (LAR) 04-07 proposes to revise the surveillance interval associated with Technical Specification (TS) Surveillance Requirement 4.6.1.3b. from once every 6 months to once every 24 months for verification that only one door in each containment air lock can be opened at a time. Revising the surveillance will provide flexibility for scheduling testing of the interlocks in a mode where the interlocks are not required and lessen degradation of air lock mechanisms. In addition, reducing excess testing at power will reduce personnel radiation exposure.

B. Safety Assessment of Proposed Change

Seabrook Station's containment building has two air locks for personnel ingress and egress. Normal access is through the personnel hatch air lock. The second air lock is mainly for emergency egress and is part of the containment building's equipment hatch. The air locks are designed with an inner and outer door, each with a double seal, sufficient to provide a leak tight barrier to withstand the maximum expected post accident containment pressure. Closure of either door will support containment operability. Nevertheless, both doors are maintained closed when the air lock is not being used for normal entry into or exit from the containment building.

The air locks are equipped with an interlock feature to prevent simultaneous opening of both the inner and outer doors on each air lock. Thus, the door interlock feature supports containment operability while the air lock is being used for personnel transit in and out of the containment during at-power operations. Seabrook Station procedures require that when an air lock is opened during times when containment integrity is required, the operator first checks that one door is completely shut before attempting to open the other door. Thus, the interlocks are normally not challenged except during actual testing of the interlock. The interlocks are physical backups to procedural controls. The personnel hatch air lock is designed with two interlocks, one mechanical and one electrical to backup the mechanical (either interlock may be used as the sole interlock to meet TS 3.6.1.3 requirements). The equipment hatch air lock is designed with a mechanical interlock, only. Additionally, limit switches for each door provide control room indication of door position. During periods when containment integrity is not required to be maintained operable, the door interlock mechanism(s) may be disabled allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary, e.g., refueling outages. Station procedures control the disabling and re-enabling of the interlocks.

As stated above, Technical Specification Surveillance Requirement 4.6.1.3b. requires these interlocks to be functionally tested at least once every 6 months. The performance of the interlock test requires entry into the air lock to perform the test. Entry into the air lock additionally requires that a door seal test be performed. Testing the interlock involves verification that the closed door does not open during attempts when the other door is open. This surveillance is contrary to FPL Energy Seabrook's normal operating practices, policies, training

and conservative philosophy in that it requires an operator to challenge an interlock during a mode of operation when the interlock function is required. Typically, the interlock is installed after each refueling outage, verified Operable with this surveillance and not disturbed until the next refueling outage. Should the need for interlock maintenance arise during Modes 1 through 4 operation, following maintenance, the performance of the interlock surveillance test per TS 4.6.1.3.b requirements would be performed as part of post-maintenance testing. The door interlock mechanism cannot be readily bypassed; linkages must be removed, which are under the control of station processes such as station procedures and outage schedules. In addition, persons performing the procedure for disabling and re-enabling the interlocks are selected by Operations Department management and meet special task qualifications.

Testing the door seals is done with either the use of a permanently installed test station at each air lock that can be operated either automatically or manually via push buttons with display, or with the use of portable test equipment. The test involves pressurizing the interstitial space between each door's double seal arrangement with either air or nitrogen to 50 (+2, -0) psig (Pa = 49.6 psig) while measuring the leakage rate past each door's double seals. Door seal leakage rate must be less than 0.01 La (13.37 lb/day). The Containment Leakage Rate Testing Program (TS 6.15) requires the door seal test to be performed every 7 days when the air lock is used for multiple entries and within 7 days of being opened.

Prior to 1998 FPL Energy Seabrook experienced problems with the mechanical interlock cables (a set of two) and attachments associated with the personnel hatch air lock. Following several modifications and eventual replacement of one original cable with a new design in 1998, reliability of the cable improved resulting in no signs of failure over the past six years¹. In March 2004, the other cable (old style original) on the personnel hatch air lock experienced the same failure² and has been replaced with a similar cable of new design. FPL Energy Seabrook expects the recently replaced cable to perform as well as the other cable of new design that was installed in 1998. The cables associated with the mechanical interlock for the personnel hatch air lock are easily accessible for visual inspection and are inspected during the interlock test to note any degradation. In addition, to ensure early detection for signs of cable degradation between surveillance tests, a preventative maintenance (PM) procedure is being developed to periodically inspect the cables for both air locks on a more frequent basis; with the personnel hatch air lock interlock cables being inspected more frequently due to the air lock's more frequent use as the primary access point for transiting the containment building.

The equipment hatch air lock has never experienced a mechanical interlock failure and every interlock surveillance test since January 1990 has passed satisfactorily.

¹ Historical records over the past fourteen years (as far back as January 1990, before commercial operation) provide evidence that every interlock surveillance test up to March 2004 passed satisfactorily, even with the experienced cable problems.

² The surveillance test failed due to one of the cables failing the visual inspection aspect of the surveillance procedure. Nonetheless, the aspect of the surveillance procedure to verify the interlock function to prevent both doors being simultaneously open was satisfactory because of the electrical interlock.

From a radiological perspective, personnel exposure is mostly experienced with performance of the equipment hatch air lock interlock and door seal tests, due to its relative location in the containment building³. Personnel exposure associated with testing the personnel hatch air lock is insignificant⁴.

Review of exposure history for performing the equipment hatch air lock tests over the past five years was 0.553 Rem, total. Zero rem was recorded for each of the equipment hatch air lock tests performed during the four refueling outages (OR06 through OR09) during this five-year period. The recorded radiation exposure was attributable to the nine on-line tests performed during this five-year period, equating to approximately 60 mrem per test event; which, according to test and health physics personnel, is the approximate average for each test event. Though the dosage is relatively small, continuing this testing at a six-month frequency over the projected remaining lifetime of the plant⁵ is estimated to add an additional personnel exposure burden of approximately 6 Rem. Extending the surveillance interval for this test, in combination with performance during a refueling outage would significantly reduce accumulated personnel exposure.

Historically, this interlock verification has had its frequency chosen to coincide with the frequency of the overall airlock leakage test. According to 10 CFR 50 Appendix J, Option A, this frequency is once per 6 months. However, Appendix J, Option B, (which Seabrook Station is licensed), allows for an extension of the overall air lock leakage test frequency to a maximum of 30 months.

For the above reasons, it is proposed to change the required frequency for this surveillance to 24 months (and, with the allowance of TS 4.0.2, this provides a total of 30 months, which corresponds to the overall air lock leakage test frequency). In this manner, the interlock can be tested in a Mode when containment integrity is not required.

The proposed amendment will neither effect nor change any design function, or method of performing or controlling design functions, or any analysis that verifies the capability of structures, systems and components (SSCs) to perform their designed function(s). The proposed amendment will have no adverse effect on plant operation or its controlled configuration. As a

³ Due to the containment building's layout and its large equipment hatch, which is essentially in-line with the refueling cavity, a large streaming path exists at the equipment hatch air lock. Also, the platform outside the equipment hatch does not drop down below the streaming path where test personnel can entirely remove themselves from the streaming path during the test. In addition, the installation and use of portable test equipment for the performance of the equipment hatch air lock door seals test adds additional time and dose to test personnel.

⁴ Streaming is more collimated at the personnel hatch air lock due to its smaller size as compared to the equipment hatch and test personnel can drop down and away from the streaming path during the test. The permanently installed door seal test station for the personnel air lock is reliable thereby eliminating the need to install and use portable test equipment. Therefore, less time is required for performance of the personnel air lock door seal test, resulting in less dose as compared to the equipment hatch air lock test.

⁵ Assuming future license amendment requests for license recapture and 20-year plant life extension.

result, the proposed amendment will not change assumptions, or change, degrade or prevent actions described or assumed in accidents evaluated and described in the Seabrook Station Updated Final Safety Analysis Report (UFSAR). The proposed change to the Surveillance Requirement testing interval does not adversely affect performance of the Surveillance Requirement that verifies the functional status of the air lock interlock to prevent both air lock doors to be open simultaneously. In addition, the established minimum requirements of 10 CFR Part 50 Appendix A General Design Criteria Criteria 16 and 53 are not affected by the proposed amendment. The GDC criteria for leak tightness of the containment building and associated systems will continue to be maintained and tested periodically to assure prevention against the uncontrolled release of radioactivity to the environment. Therefore, the proposed amendment does not adversely affect nuclear safety or continued safe operation of Seabrook Station, or result in an increase in the radiological consequences of any accident described in the Seabrook Station UFSAR.

Conclusion:

In conclusion, FPL Energy Seabrook believes that extending the surveillance interval for testing the interlocks on both air locks from an interval of at least once every 6 months to at least once every 24 months will not adversely affect nuclear safety or continued safe operation of Seabrook Station because:

1. The excellent operational history of the mechanical interlock associated with the equipment hatch air lock and the improved cable design for the mechanical interlock on the personnel hatch air lock with no failure or degradation seen to date.
2. The interlocks are normally not challenged since station procedures require strict adherence to single door opening when the containment air lock is used for entry and exit.
3. The additional burden of accumulating personnel radiation exposure dosage when testing on-line, particularly when operating experience indicates a burden of practically zero man-rem when performed during refueling outages.
4. TSTF Traveler 17, Rev. 2, to Surveillance Requirement 3.6.2.2 in the Improved Standard Technical Specifications for Westinghouse Plants, NUREG 1431, Rev. 3, recognizes that interlock testing at a refueling interval is considered adequate given that the interlocks are not challenged during the use of the air lock and operating experience has shown these components usually pass the Surveillance.
5. The increased potential for degradation of air lock mechanisms and possible loss of containment OPERABILITY (with resultant plant transient to affect a shutdown) when frequently testing on-line will be lessened.

SECTION II

MARKUP OF PROPOSED CHANGE

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

The following Technical Specification change is included in the attached markup:

<u>Technical Specification</u>	<u>Title</u>	<u>Page</u>
4.6.1.3b.	Containment Air Locks	3/4 6-8

CONTAINMENT SYSTEMS

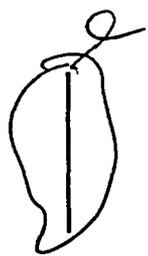
PRIMARY CONTAINMENT

CONTAINMENT AIR LOCKS

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

- a. With the leakage rate in accordance with the Containment Leakage Rate Testing Program.
- b. At least once per ²⁴6 months by verifying that only one door in each air lock can be opened at a time.



SECTION III

RETYPE OF PROPOSED CHANGE

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

<u>Technical Specification</u>	<u>Title</u>	<u>Page</u>
4.6.1.3b.	Containment Air Locks	3/4 6-8

· CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT

CONTAINMENT AIR-LOCKS

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

- a. With the leakage rate in accordance with the Containment Leakage Rate Testing Program.
- b. At least once per 24 months by verifying that only one door in each air lock can be opened at a time.

SECTION IV

DETERMINATION OF SIGNIFICANT HAZARDS FOR PROPOSED CHANGE

IV. DETERMINATION OF SIGNIFICANT HAZARDS FOR PROPOSED CHANGE

License Amendment Request (LAR) 04-07 proposes a change to Seabrook Station Unit 1 Technical Specification (TS) to revise the surveillance interval associated with Surveillance Requirement 4.6.1.3b. from once every 6 months to once every 24 months for verification that only one door in each containment air lock can be opened at a time. Revising the surveillance will provide flexibility for scheduling testing of the interlocks in a mode where the interlocks are not required and lessen degradation of air lock mechanisms. In addition, reducing excess testing at power will reduce personnel radiation exposure.

In accordance with 10 CFR 50.92, FPL Energy Seabrook, LLC (FPL Energy Seabrook) has concluded that the proposed change does not involve a significant hazards consideration. The basis for the conclusion that the proposed change does not involve a significant hazards consideration is as follows:

1. *The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.*

The proposed amendment will neither effect nor change any design function, or method of performing or controlling design functions, or any analysis that verifies the capability of structures, systems and components (SSCs) to perform their designed function(s). The proposed amendment will have no adverse effect on plant operation or its controlled configuration. As a result, the proposed amendment will not change assumptions, or change, degrade or prevent actions described or assumed in accidents evaluated and described in the Seabrook Station Updated Final Safety Analysis Report (UFSAR). The proposed change extends the surveillance interval from 6 months to 24 months to verify proper functioning of the containment air lock interlocks. The proposed change to the Surveillance Requirement testing interval does not adversely affect performance of the Surveillance Requirement that verifies the functional status of the air lock interlock to prevent both air lock doors to be open simultaneously. Containment integrity is not affected by the proposed amendment. The radiological consequences of an event are unchanged, since the functional status of the air lock interlock is not adversely affected and the air lock doors' ability to withstand the maximum expected post accident containment pressure is not adversely affected by the proposed change. Therefore, the proposed amendment does not adversely affect nuclear safety or continued safe operation of Seabrook Station, or result in an increase in the radiological consequences of any accident described in the Seabrook Station UFSAR.

Therefore, it is concluded that the proposed change does not involve a significant increase in the probability or consequence of an accident previously evaluated.

2. *The proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.*

The proposed amendment will neither effect nor change any design function, or method of performing or controlling design functions, or any analysis that verifies the capability of structures, systems and components (SSCs) to perform their designed function(s). The proposed amendment will have no adverse effect on plant operation or its controlled configuration. As a result, the proposed amendment will not change assumptions, or change, degrade or prevent actions described or assumed in accidents evaluated and described in the Seabrook Station UFSAR. There are no changes associated with extending the surveillance interval for the air lock interlock that could potentially introduce new failure modes or accident initiators.

Therefore, it is concluded that the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. *The proposed change does not involve a significant reduction in the margin of safety.*

The proposed change extends the surveillance interval from 6 months to 24 months to verify proper functioning of the containment air lock interlock. The containment air lock interlocks are normally not challenged and operating experience has shown these components have an excellent surveillance pass rate. Furthermore, increasing the surveillance interval has no affect on the air lock doors' ability to withstand the maximum expected post accident containment pressure. Containment integrity is not affected by the proposed amendment. The proposed amendment will neither effect nor change any design function, or method of performing or controlling design functions, or any analysis that verifies the capability of structures, systems and components (SSCs) to perform their designed function(s). The functional status of the containment air lock interlocks will continue to be verified.

Therefore, it is concluded that the proposed change does not involve a significant reduction in the margin of safety.

Based on the above evaluation, FPL Energy Seabrook, LLC concludes that the proposed change does not constitute a significant hazard.

SECTIONS V AND VI
PROPOSED SCHEDULE FOR LICENSE AMENDMENT ISSUANCE
AND EFFECTIVENESS
AND
ENVIRONMENTAL IMPACT ASSESSMENT

V. PROPOSED SCHEDULE FOR LICENSE AMENDMENT ISSUANCE AND EFFECTIVENESS

FPL Energy Seabrook, LLC requests NRC review of License Amendment Request 04-07, and issuance of a license amendment by December 30, 2005, having immediate effectiveness and implementation within 90 days.

VI. ENVIRONMENTAL IMPACT ASSESSMENT

FPL Energy Seabrook, LLC has reviewed the proposed license amendment against the criteria of 10 CFR 51.22 for environmental considerations. The proposed change does not involve a significant hazards consideration, nor increase the types and amounts of effluent that may be released offsite, nor significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, FPL Energy Seabrook, LLC concludes that the proposed change meets the criterion delineated in 10 CFR 51.22(c)(9) for a categorical exclusion from the requirements for an Environmental Impact Statement.