FPL Energy
Seabrook Station

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JUN 28 2004

Docket No. 50-443

NYN-04053

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

Seabrook Station
License Amendment Request (LAR) 04-01
"Application for Technical Specification Improvement to
Eliminate Requirements for Hydrogen Recombiners and Hydrogen Monitors
Using the Consolidated Line Item Improvement Process"

Pursuant to 10 CFR 50.90, FPL Energy Seabrook, LLC (FPLE Seabrook) hereby requests an amendment to the Technical Specifications (TS) for Seabrook Station.

The proposed amendment will delete the TS requirements related to hydrogen recombiners and hydrogen monitors. The proposed TS changes support implementation of the revisions to 10 CFR 50.44, "Standards for Combustible Gas Control System in Light-Water-Cooled Power Reactors," that became effective on October 16, 2003. The changes are consistent with Revision 1 of NRC-approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-447, "Elimination of Hydrogen Recombiners and Change to Hydrogen and Oxygen Monitors." The availability of this TS improvement was announced in the *Federal Register* on September 25, 2003 as part of the consolidated line item improvement process (CLIIP).

Attachment 1 provides a description of the proposed change, the requested confirmation of applicability, and plant-specific verifications and commitments. Attachment 2 provides the existing TS pages marked-up to show the proposed change, and Attachment 3 provides revised, clean TS pages. The proposed change also includes a new commitment as summarized in Attachment 4. Implementation of TSTF-447 involves a change to TS Bases 3/4.6.4, "Combustible Gas Control," which is included in this LAR

FPLE Seabrook requests NRC Staff review of LAR 04-01, and issuance of a license amendment by March 31, 2005, with the amendment being implemented within 90 days.

A001

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).

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

Michael Kiff for Mark Warner

Mark E. Warner
Site Vice President

cc: H. J. Miller, NRC Region I Administrator
S. P. Wall, NRC Project Manager, Project Directorate I-2
G.T. Dentel, NRC Senior Resident Inspector

Mr. Bruce Cheney, Director
New Hampshire Office of Emergency Management
State Office Park South
107 Pleasant Street
Concord, NH 03301

FPL Energy
Seabrook Station

SEABROOK STATION UNIT 1

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

License Amendment Request 04-01
Application for Technical Specification Improvement to
Eliminate Requirements for Hydrogen Recombiners and Hydrogen Monitors
Using the Consolidated Line Item Improvement Process

The following information is enclosed in support of this License Amendment Request:

- **Attachment 1 - Description and Assessment of Proposed Change**
- **Attachment 2 - Markup of Proposed Change**
- **Attachment 3 - Retype of Proposed Change**
- **Attachment 4 - Regulatory Commitment**

I, Michael Kiley, Operations Manager of FPL Energy Seabrook, LLC hereby affirm that the information and statements contained within License Amendment Request 04-01 are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

MICHAEL O'KEFE
COMMISSION
EXPIRES
FEB. 5, 2008
NOTARY PUBLIC
NEW HAMPSHIRE

Sworn and Subscribed before me this

28 **day of** June **, 2004**

Michael O'Kefe
Notary Public

Michael Kiley
Operations Manager

Attachment 1

Description and Assessment

Attachment 1

Description and Assessment

1.0 INTRODUCTION

The proposed license amendment deletes Technical Specifications (TS) 3.6.4.1, "Hydrogen Monitors;" TS 3.6.4.2, "Electric Hydrogen Recombiners;" and references to the hydrogen monitors in TS 3.3.3.6 (Table 3.3-10), "Accident Monitoring (PAM) Instrumentation." The proposed TS changes support implementation of the revisions to 10 CFR 50.44, "Standards for Combustible Gas Control System in Light-Water-Cooled Power Reactors," that became effective on October 16, 2003.

The changes are consistent with Revision 1 of NRC-approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-447, "Elimination of Hydrogen Recombiners and Change to Hydrogen and Oxygen Monitors." The availability of this TS improvement was announced in the *Federal Register* on September 25, 2003, as part of the consolidated line item improvement process (CLIIP).

2.0 DESCRIPTION OF PROPOSED AMENDMENT

Consistent with the NRC-approved Revision 1 of TSTF-447, the proposed TS changes include:

Table 3.3-10	Item 20, Containment Hydrogen Concentration	Deleted
TS 3.6.4.2	Electric Hydrogen Recombiners	Deleted

The proposed amendment includes an additional TS change that deviates slightly from the description provided in TSTF-447, which was modeled for NUREG 1430-1434, Improved Standard Technical Specifications (ISTS). The Seabrook TS are based on NUREG 0452, Standard Technical Specifications for Westinghouse Pressurized Water Reactors, and contain TS 3.6.4.1, "Hydrogen Monitors," which is not included in the ISTS. The ISTS eliminated TS 3.6.4.1 and incorporated the requirement for the hydrogen monitors into the Post Accident Monitoring Instrumentation Technical Specification (ISTS TS 3.3.3). The hydrogen monitors addressed in Seabrook TS 3.6.4.1 are the same instruments that are being deleted from the ISTS by TSTF-447; therefore, eliminating TS 3.6.4.1 with this amendment is acceptable.

TS 3.6.4.1	Hydrogen Monitors	Deleted

As described in NRC-approved revision 1 of TSTF-447, this proposed license amendment involves a change to TS Bases 3/4.6.4, "Combustible Gas Control," which is included in this LAR.

3.0 BACKGROUND

The background for this application is adequately addressed by the NRC Notice of Availability published on September 25, 2003 (68 FR 55416), TSTF-447, the documentation associated with the 10 CFR 50.44 rulemaking, and other related documents.

4.0 REGULATORY REQUIREMENTS AND GUIDANCE

The applicable regulatory requirements and guidance associated with this application are adequately addressed by the NRC Notice of Availability published on September 25, 2003 (68 FR 55416), TSTF-447, the documentation associated with the 10 CFR 50.44 rulemaking, and other related documents.

5.0 TECHNICAL ANALYSIS

FPLE Seabrook has reviewed the safety evaluation (SE) published on September 25, 2003 (68 FR 55416) as part of the CLIIP Notice of Availability. This verification included a review of the NRC staff's SE, as well as the supporting information provided to support TSTF-447. FPLE Seabrook has concluded that the justifications presented in the TSTF proposal and the SE prepared by the NRC staff are applicable to Seabrook and justify this amendment for the incorporation of the changes to the Seabrook TS.

The NRC staff's SE was modeled for the Improved Standard Technical Specifications (NUREG 1430 – 1434). However, the Seabrook TS are based on NUREG 0452, Standard Technical Specifications for Westinghouse Pressurized Water Reactors, and contain TS 3.6.4.1, "Hydrogen Monitors," which is not included in the ISTS. The ISTS eliminated TS 3.6.4.1 and incorporated the requirement for the hydrogen monitors into the Post Accident Monitoring Instrumentation Technical Specification (ISTS TS 3.3.3). The hydrogen monitors addressed in Seabrook TS 3.6.4.1 are the same instruments that are being deleted from the ISTS by TSTF-447; therefore, the SE establishes an acceptable basis for the elimination of TS 3.6.4.1.

6.0 REGULATORY ANALYSIS

A description of this proposed change and its relationship to applicable regulatory requirements and guidance was provided in the NRC Notice of Availability published on September 25, 2003 (68 FR 55416), TSTF-447, the documentation associated with the 10 CFR 50.44 rulemaking, and other related documents.

6.1 Verification and Commitments

As discussed in the model SE published in the Federal Register on September 25, 2003 (68 FR 55416) for this TS improvement, FPLE Seabrook is making the following verifications and regulatory commitments:

1. FPLE Seabrook has verified that a hydrogen monitoring system capable of diagnosing beyond design-basis accidents is installed at Seabrook and is making a regulatory commitment to maintain that capability. The hydrogen monitors will be included in the Technical Requirements Manual (TRM). This regulatory commitment will be implemented within 90 days of amendment issuance.

2. Seabrook does not have an inerted containment.

7.0 NO SIGNIFICANT HAZARDS CONSIDERATION

FPLE Seabrook has reviewed the proposed no significant hazards consideration determination published on September 25, 2003 (68 FR 55416) as part of the CLIIP. FPLE Seabrook has concluded that the proposed determination presented in the notice is applicable to Seabrook Station and the determination is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91 (a).

The proposed no significant hazards consideration determination was modeled for the Improved Standard Technical Specifications (NUREG 1430 – 1434). However, the Seabrook TS are based on NUREG–0452, Standard Technical Specifications for Westinghouse Pressurized Water Reactors, and contain TS 3.6.4.1, "Hydrogen Monitors," which is not included in the ISTS. The ISTS eliminated TS 3.6.4.1 and incorporated the requirement for the hydrogen monitors into the Post Accident Monitoring Instrumentation Technical Specification (ISTS TS 3.3.3). The hydrogen monitors addressed in Seabrook TS 3.6.4.1 are the same instruments that are being deleted from the ISTS by TSTF-447; therefore, the proposed no significant hazards consideration determination also applies to the elimination of TS 3.6.4.1.

8.0 ENVIRONMENTAL EVALUATION

FPLE Seabrook has reviewed the environmental evaluation included in the model SE published on September 25, 2003 (68 FR 55416) as part of the CLIIP. FPLE Seabrook has concluded that the staff's findings presented in that evaluation are applicable to Seabrook and the evaluation is hereby incorporated by reference for this application.

9.0 PRECEDENT

This application is being made in accordance with the CLIIP. FPLE Seabrook is not proposing variations or deviations from NRC staff's model SE published on September 25, 2003 (68 FR 55416).

The proposed TS change deviates slightly from the description provided in TSTF-447, which was modeled for the ISTS. The Seabrook TS are based on NUREG–0452, Standard Technical Specifications for Westinghouse Pressurized Water Reactors, and contain TS 3.6.4.1, "Hydrogen Monitors," which is not included in the ISTS. The ISTS eliminated TS 3.6.4.1 and incorporated the requirement for the hydrogen monitors into the Post Accident Monitoring Instrumentation Technical Specification (ISTS TS 3.3.3). The hydrogen monitors addressed in Seabrook TS 3.6.4.1 are the same instruments that are being deleted from the ISTS by TSTF-447; therefore, eliminating TS 3.6.4.1 with this amendment is acceptable.

10.0 REFERENCES

Federal Register Notice: Notice of Availability of Model Application Concerning Technical Specification Improvement To Eliminate Hydrogen Recombiner Requirement and Relax the Hydrogen and Oxygen Monitor Requirements for Light Water Reactors Using the Consolidated Line Item Improvement Process, published September 25, 2003 (68 FR 55416).

Attachment 2

Markup of the Proposed Change

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

The following Technical Specifications are included in the attached markup:

Technical Specification	Title	Page(s)
Index	Combustible Gas Control	vii
Table 3.3-10	Accident Monitoring Instrumentation	3/4 3-51
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3.6.4.2	Electric Hydrogen Recombiners	3/4 6-19
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TABLE 3.3-10 (Continued)

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	TOTAL NO. OF CHANNELS	MINIMUM CHANNELS OPERABLE
14. Intermediate Range Neutron Flux	2	1
15. Intermediate Range Neutron Flux Rate	2	1
16. Containment Isolation Valve Position*	2/Penetration	1/Penetration
17. Containment Enclosure Negative Pressure	2	1
18. Condensate Storage Tank Water Level**	2	1
19. Reactor Vessel Level Indication System	2	1
20. Containment Hydrogen Concentration	2	1

*Applies to penetrations with 2 active valves in series. These valves are moved to the closed position by automatic signals.

**Calculated on basis of pressure sensed at suction to the Emergency Feedwater Pumps.

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN MONITORS

LIMITING CONDITION FOR OPERATION

(THIS SPECIFICATION NUMBER IS NOT USED)

3.6.4.1 ~~Two independent containment hydrogen monitors shall be OPERABLE.~~

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With one hydrogen monitor inoperable, restore the inoperable monitor to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

b. With both hydrogen monitors inoperable, restore at least one monitor to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each hydrogen monitor shall be demonstrated OPERABLE by the performance of a CHANNEL CHECK at least once per 12 hours, an ANALOG CHANNEL OPERATIONAL TEST at least once per 92 days, and at least once each refueling interval by performing a CHANNEL CALIBRATION using sample gas containing:

a. One volume percent hydrogen, balance nitrogen; and

b. Four volume percent hydrogen, balance nitrogen.

COMBUSTIBLE GAS CONTROL

ELECTRIC HYDROGEN RECOMBINERS

LIMITING CONDITION FOR OPERATION

(THIS SPECIFICATION NUMBER IS NOT USED)

3.6.4.2 ~~Two independent Hydrogen Recombiner Systems shall be OPERABLE.~~

APPLICABILITY: MODES 1 and 2.

ACTION:

With one Hydrogen Recombiner System inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.2 Each Hydrogen Recombiner System shall be demonstrated OPERABLE at least once each refueling interval by:

a. Verifying during a Hydrogen Recombiner System functional test that the minimum heater sheath temperature increase to greater than or equal to 850°F within 90 minutes. Upon reaching 850°F, increase the power setting to maximum power for 2 minutes and verify that the power meter reads greater than or equal to 65 kW; and

b. Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits,

c. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiner enclosure (i.e., loose wiring or structural connections, deposits of foreign materials, etc.), and

d. Verifying the integrity of all heater electrical circuits by performing a resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 10,000 ohms.

3/4.6.3 CONTAINMENT ISOLATION VALVES (continued)

In the event that one containment isolation valve becomes inoperable, the valve must be restored to an operable status within four hours or the affected penetration must be isolated. Additionally, if the penetration is open, the second isolation barrier in the penetration (either another containment isolation valve or the associated closed system within containment) must remain operable. The operability of the closed system is established by its governing Technical Specification. For example, the SG U-tubes would comprise an operable closed system functioning as a containment barrier if tube leakage was within the leakage limitations of T.S. 3.4.6.2. For the hydrogen analyzer portion of the Combustible Gas Control system, the system outside of containment is qualified as an additional containment isolation barrier.

The method of isolating a penetration with an inoperable containment isolation valve must include the use of an isolation barrier that cannot be adversely affected by a single active failure. Barriers that meet this criterion include: (1) a deactivated automatic valves secured in the isolation position, (2) a closed manual valve, and (3) a blind flange. Closed systems within containment do not meet the isolation criterion because they are vulnerable to failures. Isolating a penetration with a deactivated automatic valve may be accomplished using either the inoperable valve, if it can be verified to be fully closed, or the operable automatic valve. Manual valves and blind flanges used to isolate a penetration must be within the penetration's ASME class boundary and qualified to ASME Class 2.

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with: (1) zirconium-water reactions, (2) radiolytic decomposition of water, and (3) corrosion of metals within containment. These hydrogen control systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," March 1971.

The Hydrogen Mixing Systems are provided to ensure adequate mixing of the containment atmosphere following a LOCA. This mixing action will prevent localized accumulations of hydrogen from exceeding the flammable limit.

Attachment 3

Retype of the Proposed Change

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 the Technical Specifications prior to issuance.

SECTION PAGE

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Internal Pressure 3/4 6-9
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Containment Vessel Structural Integrity 3/4 6-11
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TABLE 3.3-10 (Continued)

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	TOTAL NO. OF CHANNELS	MINIMUM CHANNELS OPERABLE
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18. Condensate Storage Tank Water Level**	2	1
19. Reactor Vessel Level Indication System	2	1

*Applies to penetrations with 2 active valves in series. These valves are moved to the closed position by automatic signals.

**Calculated on basis of pressure sensed at suction to the Emergency Feedwater Pumps.

3/4.6.4 COMBUSTIBLE GAS CONTROL

3.6.4.1 (THIS SPECIFICATION NUMBER IS NOT USED)

3.6.4.2 (THIS SPECIFICATION NUMBER IS NOT USED)

3/4.6.3 CONTAINMENT ISOLATION VALVES (continued)

In the event that one containment isolation valve becomes inoperable, the valve must be restored to an operable status within four hours or the affected penetration must be isolated. Additionally, if the penetration is open, the second isolation barrier in the penetration (either another containment isolation valve or the associated closed system within containment) must remain operable. The operability of the closed system is established by its governing Technical Specification. For example, the SG U-tubes would comprise an operable closed system functioning as a containment barrier if tube leakage was within the leakage limitations of T.S. 3.4.6.2. For the hydrogen analyzer portion of the Combustible Gas Control system, the system outside of containment is qualified as an additional containment isolation barrier.

The method of isolating a penetration with an inoperable containment isolation valve must include the use of an isolation barrier that cannot be adversely affected by a single active failure. Barriers that meet this criterion include: (1) a deactivated automatic valves secured in the isolation position, (2) a closed manual valve, and (3) a blind flange. Closed systems within containment do not meet the isolation criterion because they are vulnerable to failures. Isolating a penetration with a deactivated automatic valve may be accomplished using either the inoperable valve, if it can be verified to be fully closed, or the operable automatic valve. Manual valves and blind flanges used to isolate a penetration must be within the penetration's ASME class boundary and qualified to ASME Class 2.

3/4.6.4 COMBUSTIBLE GAS CONTROL

The Hydrogen Mixing Systems are provided to ensure adequate mixing of the containment atmosphere following a LOCA. This mixing action will prevent localized accumulations of hydrogen from exceeding the flammable limit.

Attachment 4

Regulatory Commitment

Attachment 4

Regulatory Commitment

The following table identifies those actions committed to by FPLE Seabrook in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments. Please direct questions regarding these commitments to Mr. James M. Peschel, Regulatory Programs Manager .

REGULATORY COMMITMENT	Due Date/Event
FPLE Seabrook will maintain a hydrogen monitoring system capable of diagnosing beyond design-basis accidents. The hydrogen monitors will be included in the Technical Requirements Manual (TRM).	To be implemented within 90 days following issuance of the license amendment.