

October 3, 2003

Mr. Mark E. Warner, Site Vice President  
c/o James M. Peschel  
Seabrook Station  
PO Box 300  
Seabrook, NH 03874

SUBJECT: SEABROOK STATION, UNIT NO. 1 - ISSUANCE OF AMENDMENT RE:  
CHANGES TO TECHNICAL SPECIFICATIONS ASSOCIATED WITH  
SECONDARY COOLANT SPECIFIC ACTIVITY (TAC NO. MB7713)

Dear Mr. Warner:

The Commission has issued the enclosed Amendment No. 92 to Facility Operating License No. NPF-86 for the Seabrook Station, Unit No. 1, in response to your application dated February 3, 2003.

The amendment restricts the applicability of Technical Specification (TS) 3/4. 3.7.1.4, "Turbine Cycle - Specific Activity," while in MODE 4. Additionally, it revises the applicable surveillance requirement for TS 3.7.1.4 and adopts similar wording as presented in the improved Standard Technical Specifications for Westinghouse plants (NUREG-1431, Revision 2).

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

*/RA/*

Victor Nerses, Senior Project Manager, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosures: 1. Amendment No. 92 to NPF-86  
2. Safety Evaluation

cc w/encls: See next page

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\*See previous concurrence

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FPL ENERGY SEABROOK, LLC, ET AL.\*

DOCKET NO. 50-443

SEABROOK STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 92  
License No. NPF-86

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment filed by the FPL Energy Seabrook, LLC, et al. (the licensee), dated February 3, 2003, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public; and, (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and,
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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\*FPL Energy Seabrook, LLC (FPLE Seabrook), is authorized to act as agent for the: Hudson Light & Power Department, Massachusetts Municipal Wholesale Electric Company, and Taunton Municipal Light Plant and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-86 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 92, and the Environmental Protection Plan contained in Appendix B are incorporated into Facility License No. NPF-86. FPLE Seabrook shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

James W. Clifford, Chief, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: October 3, 2003

ATTACHMENT TO LICENSE AMENDMENT NO. 92

FACILITY OPERATING LICENSE NO. NPF-86

DOCKET NO. 50-443

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages as indicated. The revised pages are identified by amendment number and contain marginal lines indicating the area of change.

Remove

vii

3/4 7-7

3/4 7-8

B 3/4 7-2

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Insert

vii

3/4 7-7

3/4 7-8

B 3/4 7-2

B 3/4 7-2a

B 3/4 7-2b

B 3/4 7-2c

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 92 TO FACILITY OPERATING LICENSE NO. NPF-86

FPL ENERGY SEABROOK, LLC

SEABROOK STATION, UNIT NO. 1

DOCKET NO. 50-443

## 1.0 INTRODUCTION

By application dated February 3, 2003, FPL Energy Seabrook, LLC (the licensee), requested changes to the Technical Specifications (TSs) for Seabrook Station (Seabrook). The proposed changes would revise the Seabrook TS 3/4.7.1.4, "Turbine Cycle - Specific Activity." Specifically, the proposed changes would revise the applicability of TS 3/4.7.1.4 while in MODE 4. Additionally, it revises the applicable surveillance requirement (SR) for TS 3/4.7.1.4 and adopts wording similar to that presented in the improved Standard Technical Specifications (STS) for Westinghouse plants (NUREG-1431, Revision 2).

## 2.0 REGULATORY EVALUATION

The Seabrook Updated Final Safety Analysis Report (UFSAR) Section 15.1 provides analysis of the design-basis accidents (DBAs) that result in an increase in heat removal by the secondary system. Subsection 15.1.5 analyzes the consequences for a main steamline break (MSLB). In this analysis, it is assumed that iodine will be the dominant factor for release consequences. This is due to the operation of the Main Steam Condenser Evacuation System, which constantly removes the noble gas inventory of the secondary system. Section 15.B of the UFSAR lists the assumed initial specific activity of the secondary coolant system to be less than or equal to 0.1  $\mu\text{Ci/gm}$  DOSE Equivalent I-131 (DEI). Given this and other assumed initial conditions, the Seabrook UFSAR analysis shows that the dose consequences of a MSLB remain within the limits specified in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 100.

Section 50.36 of 10 CFR sets forth the regulatory requirements for the content of the TSs. This regulation requires, among other categories, that the TSs contain limiting conditions for operation (LCOs). Section 50.36(c)(2)(ii) of 10 CFR gives four criteria to be used in determining whether a LCO is required to be included in the TSs. These criteria are as follows:

1. Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.
2. A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

3. A structure, system, or component (SSC) that is part of the primary success path and which functions or actuates to mitigate a DBA or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
4. An SSC which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

Existing LCOs and related surveillances included as TS requirements which satisfy any of the criteria stated above must be retained in the TSs. Secondary specific activity limits satisfy Criterion 2 of 10 CFR 50.36(c)(2)(ii). The NRC has previously approved the similar changes on a plant specific basis. This includes North Anna Units 1 and 2, dated April 5, 2002, (ADAMS Accession Number ML021200265).

### 3.0 TECHNICAL EVALUATION

The licensee has proposed several changes to TS 3/4.7.1.4. The changes proposed would modify the LCOs applicability and SR. Additionally, the licensee has proposed administrative changes that use wording similar to that in the improved STS.

#### 3.1 LCO 3.7.1.4 Applicability

LCO 3.7.1.4 requires that the specific activity of the secondary coolant be less than or equal to 0.1  $\mu\text{Ci/gm}$  DEI to maintain the radiological consequences of a design basis MSLB within the required limit of 10 CFR Part 100. TS 3.7.1.4 is applicable in MODES 1, 2, 3 and 4. MODE 4 is generally a transitional mode of operation. In MODES 5 and 6, the steam generators (SGs) are not being used for heat removal. Both the Reactor Coolant System (RCS) and SGs are depressurized, and primary to secondary LEAKAGE is minimal. Therefore, monitoring of secondary specific activity is not required for MODES 5 and 6.

The licensee has proposed to condition the current TS Applicability for MODE 4 with the following footnote:

The provisions of Specification 4.0.4 are not applicable for entry into MODE 4, however, once steam generator pressure exceeds 100 psig, the requirements of Specification 4.7.1.4 must be met within 12 hours if not performed within the past 31 days.

The proposed note would allow entry into MODE 4 without performance of the SR (4.7.1.4) for LCO 3.7.1.4 within the stated surveillance interval. However, the note would also require that the requirements of SR 4.7.1.4 be met within 12 hours once the SG pressure exceeds 100 psig if the surveillance was not performed within the past 31 days.

The U.S. Nuclear Regulatory Commission (NRC or the Commission) staff evaluated the proposed note with respect to time, SR 4.7.1.4, and safety significance. This note would only be applicable in MODE 4 for a limited amount of time, i.e., entrance into MODE 4 up to the point where the SG pressure exceeds 100 psig for up to 12 hours. The revised SR 4.7.1.4, discussed in Section 3.2, requires verification of specific activity of the secondary coolant to be



less than or equal to 0.1  $\mu\text{Ci/gm}$  DEI. In order to get a representative sample, the SGs must have sufficient pressure, temperature, and levels. Therefore, SR 4.7.1.4 can only be performed at the upper operational conditions of MODE 4, i.e., SG pressure > 100 psig. In addition, the SGs are generally drained, sludge lanced, and refilled during refueling outages. Thus, a large amount of any activity that may be present in the SGs would be removed during these operations. Therefore, it is concluded that there would not be a significant amount of activity that could be released if a DBA occurred during the time of the footnote applicability. In addition, any leakage from the RCS into the SG will be limited by TS 3.4.6.2, "Reactor Coolant System Leakage, Operational Leakage," for entry into MODE 4. This leakage will be detected prior to the re-establishment of the ability to sample the SGs. Based on the above, the staff concludes that there is reasonable assurance that the secondary coolant will remain below design-basis considerations while in MODE 4 with SG pressure below 100 psig, therefore, maintaining the radiological consequence of a design basis MSLB within the required limit of 10 CFR Part 100.

### 3.2 SR 4.7.1.4

The current SR 4.7.1.4 states that the specific activity of the secondary coolant system shall be determined to be within the limit by performance of the sampling and analysis program of Table 4.7-1. Table 4.7-1 requires the measurement of gross radioactivity at least once per 72 hours and DEI concentration 1) once per 31 days when the gross radioactivity is greater than 10 percent of the allowable limit, and 2) once per six months when the gross radioactivity is less than or equal to 10 percent of the allowable limit. The licensee has proposed to delete Table 4.7-1 and incorporate the STS SR 3.7.18.1 wording. STS SR 3.7.18.1 requires the verification of specific activity of the secondary coolant is  $\leq 0.10 \mu\text{Ci/gm}$  DEI once every 31 days. The staff finds this change to be acceptable, as discussed below.

The purpose of measurement of the gross radioactivity (item 1 of Table 4.7-1) requirement is to determine the sampling frequency of DEI. The Seabrook UFSAR considers the contribution of I-131 to be the dominant to the radioactivity release in the event of a MSLB. The contribution of noble gases is considered to be negligible, due to their continuous removal by the Main Steam Condenser Evacuation System. Therefore, gross radioactivity is not considered as an initial condition in the consequence analysis of a MSLB (or any other transient) in the Seabrook UFSAR. Given this consideration, a measurement of gross radioactivity does not meet the four criteria of 10 CFR 50.36(c)(2), and is, therefore, not required to be included in SR 4.7.1.4.

Table 4.7-1, Item 2a, DEI measurement once per 31 days, is incorporated into the revised SR 4.7.1.4 and, therefore, is being maintained in the TSs. Table 4.7-1, Item 2b, allows the sampling frequency of DEI to be extended to once per six months whenever the gross radioactivity determination indicated the iodine concentrations are below 10 percent of the allowable limits. The revised SR 4.7.1.4 instead requires verification of specific activity of the secondary coolant every 31 days whenever the SR is applicable, regardless of the gross radioactivity determination. Therefore, the NRC staff finds this deletion is acceptable because it is more restrictive to have DEI analyzed every 31 days rather than allowing a frequency extension based on the gross radioactivity determination.

### 3.3 Administrative Changes

The licensee has proposed the following administrative changes:

- a) deletion of Table 4.7-1 from the index. The index will state "This table number is not used"
- b) replace "microCurie/gram" in the LCO and Action Statement with "μCi/gm;" and
- c) replacing "Secondary Coolant System" in the LCO and Action Statement with "secondary coolant."

The NRC staff has reviewed these changes and found them to be administrative in nature having no impact on the public health and safety, and are therefore, acceptable.

### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Hampshire and Massachusetts State officials were notified of the proposed issuance of the amendment. The State officials had no comments.

### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes SRs. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (68 FR 22748). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

### 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (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.

Principal Contributor: K. Kavanagh

Date: October 3, 2003