

December 6, 2005

Mr. Gene F. St. Pierre, Site Vice President  
c/o James M. Peschel  
Seabrook Station  
PO Box 300  
Seabrook, NH 03874

SUBJECT: SEABROOK STATION, UNIT NO. 1 - ENVIRONMENTAL ASSESSMENT  
(TAC NO. MC6548)

Dear Mr. St. Pierre:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for amendment dated March 28, 2005. The proposed amendment would extend the expiration date of the operating license for the Seabrook Station from October 17, 2026 to March 15, 2030.

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

*/RA/*

G. Edward Miller, Project Manager  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosure: As stated

cc w/encl: See next page

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Division of Operating Reactor Licensing  
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UNITED STATES NUCLEAR REGULATORY COMMISSIONFPL ENERGY SEABROOK, LLCDOCKET NO. 50-443SEABROOK STATION UNIT NO. 1ENVIRONMENTAL ASSESSMENT ANDFINDING OF NO SIGNIFICANT IMPACT

The Nuclear Regulatory Commission (NRC or the Commission) is considering issuance of an amendment pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, for Facility Operating License No. NPF-86 issued to FPL Energy Seabrook, LLC (the licensee), for operation of Seabrook Station, Unit No. 1 (Seabrook), located in Rockingham County, New Hampshire. Therefore, as required by 10 CFR 51.21, the NRC is issuing this environmental assessment and finding of no significant impact.

ENVIRONMENTAL ASSESSMENTIdentification of the Proposed Action:

The proposed action would extend the expiration date of the operating license for Seabrook from October 17, 2026, to March 15, 2030.

The proposed action is in accordance with the licensee's application for amendment dated March 28, 2005, as supplemented September 23, 2005.

The Need for the Proposed Action:

The current operating licensed term for Seabrook ends on October 17, 2026. This is 40 years from the date of the zero-power operating license, which was issued on October 17, 1986. The amendment would extend the expiration date of the operating license from October 17, 2026, to March 15, 2030. The extended date for termination of the operating

license would be 40 years after issuance of the full-power operating license which was issued on March 15, 1990. This would allow the licensee to recapture approximately 41 months of additional plant operation for the unit. This proposed amendment is not a request for license renewal pursuant to 10 CFR Part 54.

Environmental Impacts of the Proposed Action:

The NRC has completed its evaluation of the proposed action and concludes that there are no significant environmental considerations involved with the proposed action. The extension of the operating licenses does not affect the design or operation of the plant, does not involve any modifications to the plant or any increase in the licensed power for the plant, and will not create any new or unreviewed environmental impacts that were not considered in the Final Environmental Statement (FES) related to the operation of Seabrook, NUREG-0895, dated December 1982. The evaluations presented in the FES were of the environmental impacts of generating power at Seabrook and the basis for granting a 40-year operating license for Seabrook. The environmental impacts of the proposed action are based on the evaluations in the FES. It should be noted that the Seabrook license was amended on February 28, 2005, to allow an increase in maximum core power by 5.2% (from 3411 megawatts thermal (MWt) to 3587 MWt). The environmental assessment of the power uprate was published in the FEDERAL REGISTER on February 14, 2005 (70 FR 7525).

The FES which, in general, assesses various impacts associated with operation of the facility in terms of annual impacts, and balances these against the anticipated annual energy production benefits.

The offsite exposure from releases during postulated accidents has been previously evaluated in the Updated Final Safety Analysis Report (UFSAR) for Seabrook. The results are acceptable when compared with the criteria defined in 10 CFR Part 100, as documented in the

Commission's Safety Evaluation Report, NUREG-0896, dated March 1983, and its nine supplements. As a result of this action there is no change in the types, frequency, or consequences of design-basis accidents.

The NRC staff has concluded that the impacts associated with the addition of approximately 41 months to the license expiration date are not significantly different from the operating license duration assessed in the Seabrook FES. Therefore, the staff concluded that the FES sufficiently addresses the environmental impacts associated with a full 40-year operating period for Seabrook.

The annual occupational exposure of workers at the plant, station employees and contractors, is reported in the Annual Operating Report submitted by the licensee. The lowest exposure value is for a year without a refueling outage, and the highest value is for a year with a refueling outage. In Section 5.9.3.1.1 of the FES, the average occupational exposure for a pressurized water reactor was reported as 440 person-rems. Therefore, the expected annual occupational exposure for the proposed extended period of operation does not change previous conclusions presented in the FES on occupational exposure.

The offsite exposure from releases during routine operations has been previously evaluated in Section 5.9.3 of the FES. During the low-power license, the plant was restricted to no more than five percent of rated power for no longer than 0.75 effective full power hours, and the generation of radioactivity at the plant was significantly smaller than would have occurred if the plant were at full-power operation. Therefore, the addition of approximately 41 months of operation that the licensee has requested does not change previous conclusions presented in the FES on annual public doses.

The proposed action will not significantly increase the probability or consequences of accidents, no changes are being made in the types of effluents that may be released off site,

and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does not have a potential to affect any historic sites. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the proposed action.

Accordingly, the NRC concluded that there are no significant environmental impacts associated with the proposed action.

Environmental Impacts of the Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the “no-action” alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources:

The action does not involve the use of any different resource than those previously considered in the FES for Seabrook.

Agencies and Persons Consulted:

On December 8, 2005, the staff consulted with the New Hampshire State official, Mr. Mike Nawoj, and the Massachusetts State official, Mr. James Muckerheid, regarding the environmental impact of the proposed action. The State officials had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concluded that the proposed action will not have a significant effect on the quality of the human environment. Accordingly,

the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated March 28, 2005 as supplemented September 23, 2005. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS, should contact the NRC PDR reference staff by telephone at 1-800-397-4209 or 301-415-4737, or by e-mail to [pdrc@nrc.gov](mailto:pdrc@nrc.gov).

Dated at Rockville, Maryland, this 6th day of December 2005.

FOR THE NUCLEAR REGULATORY COMMISSION

**/RA/**

Darrell J. Roberts, Branch Chief  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation