



**FPL Energy**  
**Seabrook Station**

FPL Energy Seabrook Station  
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April 22, 2003  
Docket No. 50-443

NYN-03036

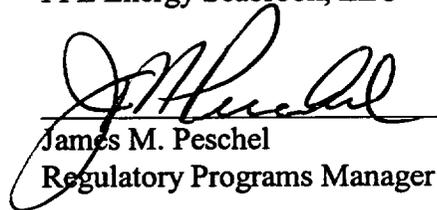
U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555-0001

Seabrook Station  
2002 Annual Environmental Operating Report

FPL Energy Seabrook, LLC (FPLE Seabrook) encloses the 2002 Annual Environmental Operating Report for Seabrook Station. The enclosed report is a summary of the implementation of the Environmental Protection Plan (EPP) for the period of January 1, 2002 to December 31, 2002. This report is submitted pursuant to the requirements of 10 CFR 50.36b and Section 5.4 of the Seabrook Station Environmental Protection Plan.

Should you have any questions concerning this response, please contact Mr. Allen Legendre, Environmental Compliance Supervisor, at (603) 773-7773.

Very truly yours,  
FPL Energy Seabrook, LLC

  
James M. Peschel  
Regulatory Programs Manager

Enclosure

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

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**ENCLOSURE TO NYN-03036**

**Seabrook Station  
Annual Environmental Operating Report  
January 1, 2002 to December 31, 2002**

**Environmental Monitoring Program**

The following provides a summary of the reports related to the Seabrook Station Environmental Monitoring Program and Water Quality Monitoring Program that were submitted to the Environmental Protection Agency (EPA) pursuant to NPDES Permit No. NH0020338.

1. Seabrook Station Letter NYE-02002, "Comments on Draft NPDES Permit," dated January 16, 2002. This letter was submitted to the EPA and provided comments to the EPA on the draft NPDES Permit issued on November 30, 2001 (the EPA subsequently issued the NPDES Permit on February 12, 2002 with an effective date of April 1, 2002).
2. Seabrook Station Letter NYE-02003, "2001 Environmental Monitoring Program Mid-Year Report," dated February 27, 2002. This letter was submitted to the EPA in accordance with the NPDES Permit and summarized the Biological, Hydrological and Chlorination Monitoring Program results. The report concluded that that after eleven years of commercial operation, the Environmental Monitoring Program continues to demonstrate that Seabrook Station has not had a deleterious impact on the balanced indigenous populations in the coastal waters of New Hampshire.

Seabrook Station Letter NYE-02005, "2001 Hydrological Monitoring Report," dated February 27, 2002. This letter was submitted to the EPA in accordance with the NPDES Permit and demonstrated compliance with the NPDES Permit limits on the thermal component of the cooling water system discharge from Seabrook Station in 2001. Seabrook Station's NPDES Permit sets thermal discharge limits during station operation. Specifically, the thermal component of the discharge cannot increase the surface temperature in the near-field jet-mixing region by more than 5° F. The jet-mixing region is the receiving water within 300 feet of the submerged diffuser in the direction of discharge. This temperature difference, or  $\Delta T$ , is the parameter of interest in demonstrating permit compliance.

The largest  $\Delta T$  values in 2001 occurred during cold-weather months when isothermal ocean conditions exist. The maximum monthly  $\Delta T$  was 3.15° F and occurred during the month of February. Negative monthly mean  $\Delta T$  values occurred for the months of June through September. This condition is a result of thermally stratified ocean conditions when the relatively cold bottom water mixes with the discharge plume and rises to the surface. The surface temperature at Monitoring Station DS is thus less than the temperature at the Reference Station T7, which is not influenced by colder bottom water.

3. Seabrook Station Letter NYE-02007, "Notice of Intent for Storm Water Discharges Under the Multi-Sector General Permit," dated March 25, 2002. This letter notified the EPA that Seabrook Station meets the eligibility conditions of the Storm Water Multi-sector General Permit and agrees to comply with the terms and conditions of the Permit. Seabrook Station stated that the Storm Water Pollution Prevention Plan was updated to meet the requirements of the Storm Water Multi-sector General Permit for Steam Electric Generating Facilities.
4. Seabrook Station Letter NYE-02009, "Cleaning of Chlorination Line," dated April 4, 2002. This letter was submitted to inform the EPA of plans to perform a cleaning of Seabrook Station's chlorination line. The cleaning operation involved the removal of a calcium carbonate obstruction in the chlorination line using hydrochloric acid. This obstruction was preventing adequate flow of sodium hypochlorite solution used to control macrofouling in the intake tunnel by organisms such as mussels and barnacles. Continuous pH monitoring of the Circulating Water System would be employed during cleaning operation to demonstrate that the ocean discharge was unaffected.
5. Seabrook Station Letter NYE-02011, "2002 Chlorine Transit Study Proposal," dated May 1, 2002. This letter was submitted to the EPA in accordance with the NPDES Permit. This letter described the studies to be performed to confirm that the permitted Total Residual Oxidant (chlorine) concentration in the Circulating Water System discharge satisfies New Hampshire water quality standards for chlorine in the receiving waters.
6. Seabrook Station Letter NYE-02013, "Environmental Monitoring Program Description," dated May 1, 2002. This letter was submitted to the EPA in accordance with the NPDES Permit. The letter described Seabrook Station's Environmental Monitoring Program which is based on the 1996 Monitoring Program proposal approved by the EPA and NHDES in 1997 as well as modifications to the Program approved by the renewed NPDES Permit (effective April 1, 2002).
7. Seabrook Station Letter NYE-02012, "2001 Chlorine Minimization Report," dated May 13, 2002. This letter was submitted to the EPA in accordance with the NPDES Permit and described compliance with the NPDES Permit limits on the chlorine levels discharged by Seabrook Station's cooling water system. During 2001, chlorine levels discharged from Seabrook Station, measured as the Total Residual Oxidant (chlorine), were below the NPDES Permit limits of 0.2 ppm daily maximum and 0.15 ppm monthly average.
8. Seabrook Station Letter LIC-02076, "2002 Annual Report on Seal Entrapment Mitigation Measures and Request for LOA Reissuance," dated June 6, 2002. This report to the National Marine Fisheries Service (NMFS) was submitted in accordance with the NMFS Letter of Authorization (LOA) to take a small number of seals incidental to intake cooling water system operations. The report stated that no seals had been entrapped since the installation of the Seal Deterrent Barriers in August 1999. The submittal also requested renewal of the NMFS Letter of Authorization.

9. Seabrook Station Letter NYE-02018, "2002 Environmental Monitoring Program Mid-Year Report," dated July 31, 2002. This letter was submitted to the EPA in accordance with the NPDES Permit and summarized the Biological, Hydrological and Chlorination Monitoring Program results. The report concluded that after twelve years of commercial operation, the Environmental Monitoring Program continued to demonstrate that Seabrook Station has not had a deleterious impact on the balanced indigenous populations in the coastal waters of New Hampshire.
  
10. Seabrook Station Letter NYE-02021, "2001 Environmental Monitoring Report," dated August 29, 2002. This letter was submitted to the EPA and provided the results of the 2001 Environmental Monitoring Program and responded to the New Hampshire Fish and Game Department's comments on the 1999 Report. Environmental monitoring for Seabrook Station began in the early 1970's, about 20 years before the plant went into full power operation in 1990, and has continued during the twelve years of plant operations. Major elements of the program include:
  - Water Quality (temperature, salinity, dissolved oxygen)
  - Zooplankton (bivalve larvae, macrozooplankton)
  - Fish (impingement, entrainment, otter trawl, seine)
  - Macrobenthos (macroalgae, macrofauna)
  - Epibenthic crustacea (lobsters, crabs)
  - Soft-shell clam

The report concluded that after twelve years of operation, Seabrook Station has not adversely affected the balanced indigenous populations in the Hampton-Seabrook area.

11. FPL Energy Seabrook, LLC became the operator and majority owner of Seabrook Station on November 1, 2002. Written notifications were made as required to effect the change of ownership and operator in Seabrook Station's environmental permits. The U. S. Nuclear Regulatory Commission was notified of the transfer of Seabrook Station's NPDES Permit from North Atlantic Energy Service Corporation to FPL Energy Seabrook, LLC. (Seabrook Station Letter NYN-03002, "Notification of Changes to NPDES Permit Number NH0020338," dated January 9, 2003).
  
12. Seabrook Station Letter NYE-02026, "Chlorine Transit Study Results for November 2002," dated December 4, 2002. This letter was submitted to the EPA in accordance with the NPDES Permit and documents the results of the November 2002 Chlorine Transit Study. This letter reported that chlorine consumption in the Circulating Water System discharge tunnel was greater than 50 percent. This result confirmed that the permitted Total Residual Oxidant (chlorine) concentration in the Circulating Water System discharge satisfies New Hampshire water quality standards for chlorine in the receiving waters.

### **EPP Non-Compliance and Corrective Actions**

There was one NPDES Permit exceedence reported to the EPA in the monthly Seabrook Station Discharge Monitoring Reports (DMRs) for the 2002 operating period and is described below.

On April 22, 2002, a pH value of 8.2 was obtained from NPDES Permit Outfall 001 (ocean discharge). The NPDES Permit limit for pH at Outfall 001 is 6.5 to 8.0 or as naturally occurring in the receiving waters. A pH value of 8.2 would not constitute a maximum daily exceedence if it had been determined that the Circulating Water System influent pH was also 8.2. The Chemistry Department Technician assigned to collect the sample determined that a pH sample of the influent would be obtained from the Intake Transition Structure (ITS) at a later date due to the rainfall at the time. Access to the ITS sample point is via an outdoor twenty-foot ladder that is slippery when it is raining. The technician was unaware that it was necessary to immediately obtain an influent pH sample, regardless of weather conditions, in order to demonstrate that the discharge pH of 8.2 was not an exceedence.

It is not believed that the pH value of 8.2 was an actual NPDES Permit exceedence, however, it was reported to the EPA as such since a pH sample of the influent was not immediately taken.

Seabrook Station implemented corrective actions to preclude this situation from recurring. These included reinforcing with all Chemistry Department personnel the need to immediately obtain a pH sample at the ITS when the discharge pH is greater than 8.0. An alternative influent pH sample point was also established in the Circulating Water System Pumphouse forebay.

### **Changes in Station Design or Operation, Tests and Experiments Involving a Potentially Unreviewed Environmental Question**

During 2002, there were no changes in Station design or operation, tests and equipment that involved a potentially unreviewed environmental question.

### **Non-Routine Reports**

None