NEXTera ENERGY SEABROOK

APR 21 2009

Docket No. 50-443

SBK-L-09087

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

Seabrook Station
2008 Annual Environmental Operating Report

NextEra Energy Seabrook, LLC has enclosed the 2008 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, 2008 to December 31, 2008. This report is submitted pursuant to the requirements of Section 5.4 of the Seabrook Station Environmental Protection Plan.

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

Very truly yours,
NextEra Energy Seabrook, LLC

Michael O'Keefe
Licensing Manager

Enclosure

cc: S. J. Collins, NRC Region I Administrator
D. Egan, NRC Project Manager, Project Directorate I-2
W. J. Raymond, NRC Senior Resident Inspector

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ENCLOSURE TO SBK-L-09087

Seabrook Station
Annual Environmental Operating Report
January 1, 2008 to December 31, 2008

Environmental Monitoring Program

The following provides a summary of the reports related to Seabrook Station Aqautic Monitoring in accordance with Subsection 4.2 of the Environmental Protection Plan.

- FPL Energy Seabrook Letter SBK-L-08035, "2007 Hydrological Monitoring Report" dated February 28, 2008. 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 2007. 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 ocean area within 300 feet of the submerged diffuser in the direction of discharge.

- FPL Energy Seabrook Letter SBK-L-08036, "2007 Chlorine Minimization Report" dated February 28, 2008. This letter was submitted to the EPA in accordance with the NPDES Permit and demonstrated compliance with the NPDES Permit limits on the chlorine levels discharged by Seabrook Station's cooling water system. During 2007, 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.

- FPL Energy Seabrook Letter SBK-L-08126, "2008 Environmental Monitoring Mid-Year Report" dated July 28, 2008. This letter was submitted to the EPA in accordance with the NPDES Permit and provided a mid year status of the continuing 2008 Biological, Hydrological and Chlorination Monitoring Programs. The report concluded that Seabrook Station's Environmental Monitoring Program continues to demonstrate that Seabrook Station has not had a significant impact on the balanced indigenous populations in the coastal waters of New Hampshire.

- FPL Energy Seabrook Letter SBK-L-08143, "2007 Environmental Monitoring Report" dated August 28, 2008. This letter was submitted to the EPA in accordance with the NPDES Permit and describes the environmental monitoring program for Seabrook Station. The 2007 Environmental Monitoring Report provides a comparison of 2007 environmental monitoring data to previous years and continues to demonstrate that Seabrook Station has not had an adverse effect upon the balanced indigenous populations in the Hampton-Seabrook area.

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

- During 2008, there were no changes in Station design or operation, tests and equipment that involved a potentially unreviewed environmental question. Environmental screening of these changes was performed as required by the Seabrook Station Environmental Compliance Manual.

Environmental Protection Plan Noncompliance Reports

- FPL Energy Seabrook made a verbal notification to EPA Region I and NH Department of Environmental Services on April 14, 2008, for an exceedance of a maximum daily discharge limit contained in the NPDES Permit. The written report was submitted on April 21, 2008 by FPL Energy Seabrook Letter SBK-L-08068. The circumstances were as follows:

  On April 14, 2008, the Seabrook Station Chemistry Department performed the required weekly pH measurement of the ocean discharge (Outfall 001) at the normal sampling point in the Discharge Transition Structure. At approximately 0945, the measured pH value at Outfall 001 was 8.2. The NPDES Permit limit for this parameter is specified as a range of 6.5 to 8.0. The NPDES Permit (Part I, Section D) allows for a deviation from this range if the naturally occurring pH of the receiving water is equivalent to the pH of the effluent water. Measurements of the receiving water pH were subsequently performed at the Intake Transition Structure. The pH of the Intake Transition Structure water was determined to be 7.9. As the pH of the Outfall 001 effluent water exceeded 8.0 and the receiving water pH was 7.9, the condition was reported to EPA Region I and NH Department of Environmental Services as an exceedance of the maximum daily discharge limit. The period of noncompliance was of a short duration. Additional measurements of the Outfall 001 pH were performed at 1650 on April 14, 2008, with a resultant pH of 8.0. Samples were also analyzed on April 15, 2008, with a resultant pH of 8.0. No further pH analyses of Outfall 001 were performed after two consecutive compliant samples were obtained.

  At the time of the noncompliance Seabrook Station was shut down for a scheduled refueling outage. The ocean cooling water flow was being supplied by a single Service Water Pump at approximately 11,500 gallons per minute, a small percentage of the normal operating flow which is approximately 400,000 gallons per minute.

  Upon discovery of the noncompliance expeditious corrective actions were taken to identify the potential source for the pH increase. These actions included a walkdown of all potential inputs to the Discharge Transition Structure and Intake Structure to determine if abnormal conditions existed. No abnormal conditions were noted. The Operations Department confirmed that there were no level changes in chemical tanks containing caustic (Sodium Hydroxide and Sodium Hypochlorite). Samples and pH measurements were also performed at potential inputs to the Discharge Transition Structure and Intake Structure to determine if a high pH condition were present in any of the inputs. The storm water system discharge into

the Intake Transition Structure was measured at a pH of 8.3. The storm drain system at the time was being used to convey ocean water back to the Intake Transition Structure after the removal of silt from the Circulating Water Pumphouse forebay maintenance cleaning. The Service Water System intake forebay was measured at a pH of 8.2. The Service Water System intake forebay takes water directly from the Intake Transition Structure through a supply pipe into the forebay. No process water is discharged into the supply pipe between the Intake Transition Structure and the Service Water System intake forebay. The Service Water System provides cooling water to plant auxiliary systems and is then discharged to the Discharge Transition Structure.

There was no definitive cause established for the high pH condition. One suspected cause was that the storm drain water discharge into the Intake Transition Structure, which was measured at a pH of 8.3, was the principal contributor to the pH 8.2 water in the Discharge Transition Structure possibly due to a transient condition associated with removal of silt from the Circulating Water Pumphouse forebay. The storm drain water enters the Intake Transition Structure along the same wall that the Service Water System supply pipe takes flow from the Intake Transition Structure. It is suspected that the predominant flow into the Service Water System supply pipe was the storm drain system water due to the physical proximity of the two pipes.

Nonroutine Reports

There were no nonroutine reports submitted during 2008.