



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 16, 2010

Thomas Burack, Commissioner
Department of Environmental Services
29 Hazen Drive
PO Box 95
Concord, NH 03302-0095

SUBJECT: SEABROOK STATION LICENSE RENEWAL APPLICATION REVIEW

Dear Mr. Burack:

The U.S. Nuclear Regulatory Commission (NRC or the staff) is reviewing an application submitted by NextEra Energy Seabrook, LLC, for the renewal of the operating license for Seabrook Station, Unit 1 (Seabrook Station). Seabrook Station is located 13 miles south of Portsmouth, NH. The application for renewal was submitted by NextEra Energy Seabrook, LLC, in a letter dated May 25, 2010, pursuant to Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54). The NRC has established that, as part of the staff's review of any nuclear power plant license renewal application, a site-specific Supplemental Environmental Impact Statement (SEIS) to its *Generic Environmental Impact Statement for License Renewal of Nuclear Plants*, NUREG-1437, will be prepared under 10 CFR Part 51, the NRC's regulation that implements the National Environmental Policy Act of 1969, as amended.

NextEra Energy Seabrook, LLC, stated that it has no plans to alter current operations over the license renewal period and that Seabrook Station, operating under a renewed license, would use existing plant facilities and transmission lines and would not require additional construction or disturbance of new areas. According to NextEra Energy Seabrook, LLC, any maintenance activities would be limited to previously disturbed areas. The site consists of 889 acres divided into two lots. Lot 1 is approximately 109 acres, is mostly developed, and holds most of the operating facility. Lot 2 is approximately 780 acres and consists mainly of natural areas available for wildlife resources. The natural areas are characterized by broad open areas of level tidal marsh veined with man-made linear drainage ditches and tidal creeks. Wooded islands and peninsulas rise from the marsh to elevations of 20 to 30 feet above sea level. The site is on a peninsula of land, which is bordered on the north by the Browns River and on the south by Hunts Island Creek. Estuarine marshlands bound the site to the east. It is estimated that approximately 300 acres of the site are upland and 600 acres are marsh/wetland areas. Please see the maps in Enclosures 1, 2, and 3 for further detail.

Seabrook Station is a single unit, pressurized-water reactor plant. Seabrook Station employs a once-through heat dissipation system designed to remove waste heat from the plant. Its circulating water system provides cooling water to the main condensers to remove the heat that is rejected by the turbine cycle and auxiliary system and to the plant's service water system. Water for these systems is carried to and from the Atlantic Ocean to the plant through long tunnels drilled through the underlying bedrock. The tunnels are hydraulically connected to the ocean by way of concrete shafts that extend approximately 6000 feet offshore, with the intake and discharge points approximately 60 feet below sea level. Please see Enclosure 4 for a drawing of the system. During normal operations, the circulating water system provides a

continuous flow of approximately 390,000 gallons per minute (gpm) to the main condenser and 21,000 gpm to the service water system. Fresh water is purchased from the Town of Seabrook, and sanitary waste water is discharged back to the town system.

As part of the SEIS preparation, the applicable transmission line corridors will be reviewed. The Seabrook Station 345 kilovolt (kV) switchyard is adjacent to the plant on the north side of the property. From here, three 345 kV transmission lines connect Seabrook Station to the New England electric grid. These lines deliver power to three substations: at Scobie Pond, near Derry, New Hampshire; at Tewksbury, Massachusetts; and at Newington, New Hampshire. The transmission lines include approximately 86 miles of corridor with approximately 1,061 acres of right-of-way in New Hampshire and 662 acres of right-of-way in Massachusetts for the specific purpose of connecting Seabrook Station to the transmission system. Please see the map in Enclosure 5 for further detail.

To support the SEIS preparation process, the staff plans to hold two public environmental scoping meetings on August 19, 2010, at the Galley Hatch Conference Center, 815 Lafayette Road, Hampton, NH 03842. The first meeting will convene at 1:30 p.m. and will continue until 3:30 p.m., as necessary. The second meeting will convene at 7:00 p.m., with a repeat of the overview portions of the first meeting, and will continue until 9:00 p.m., as necessary. In addition, during the week of October 4, 2010, the staff plans to conduct a site audit at Seabrook Station. You and your staff are invited to attend both the site audit and the public meetings. Your office will receive a copy of the draft SEIS along with a request for comments. The anticipated publication date for the draft SEIS is May 2011.

The Seabrook Station license renewal application is available at:

<http://www.nrc.gov/reactors/operating/licensing/renewal/applications/seabrook.html>.

If you have any questions concerning the staff's review of this license renewal application, please contact Mr. Jeremy Susco, Project Manager, at (301) 415-2927 or by e-mail at Jeremy.Susco@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Bo Pham', written over a horizontal line.

Bo Pham, Chief
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

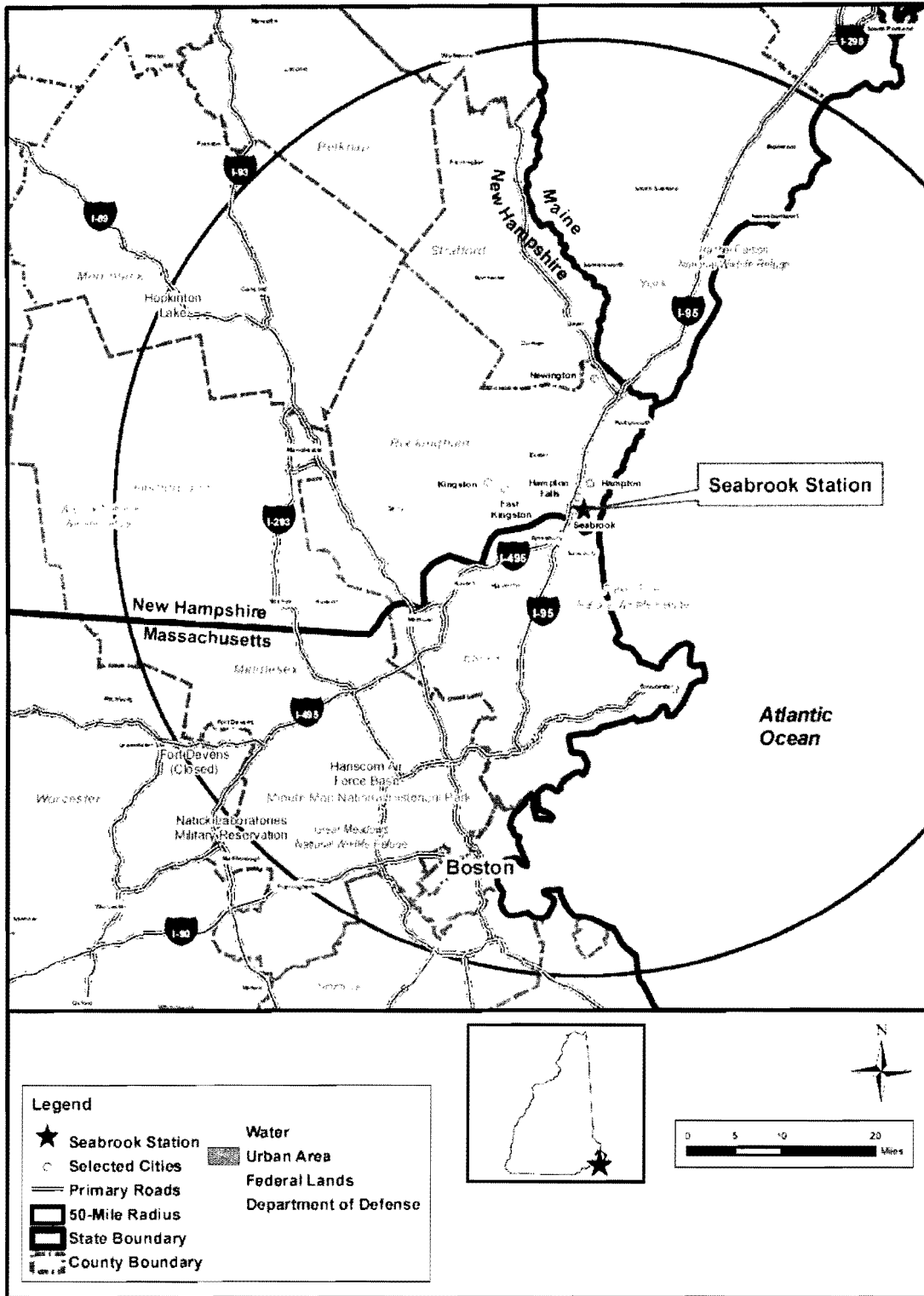
Docket No. 50-443

Enclosures:

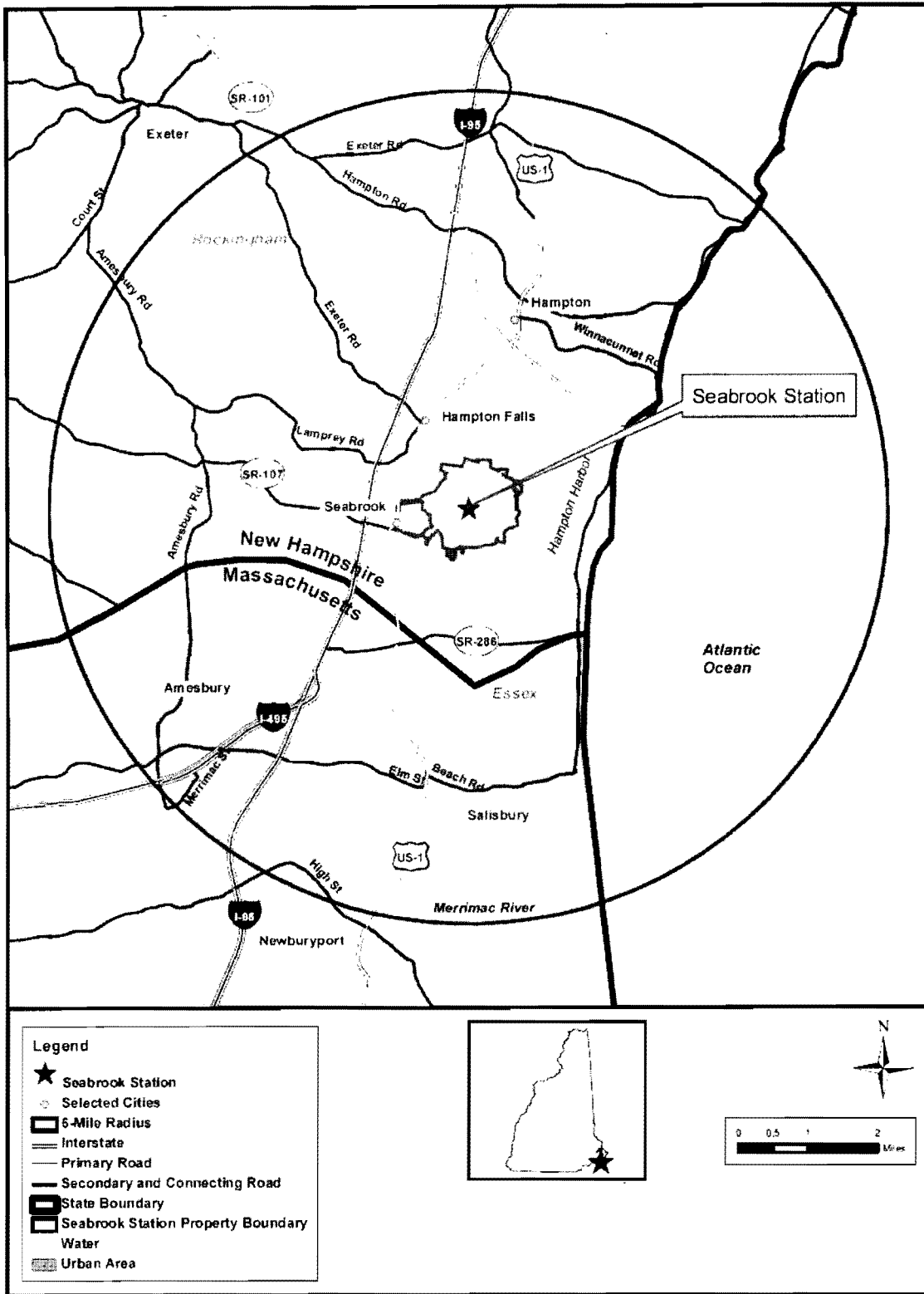
1. Area Map, 50-mile radius
2. Area Map, 6-mile radius
3. Site Area Map
4. Intake/Discharge Tunnels and Shafts Diagram
5. Transmission Line Map

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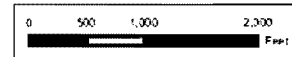
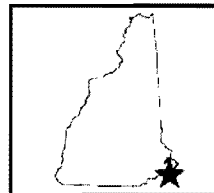
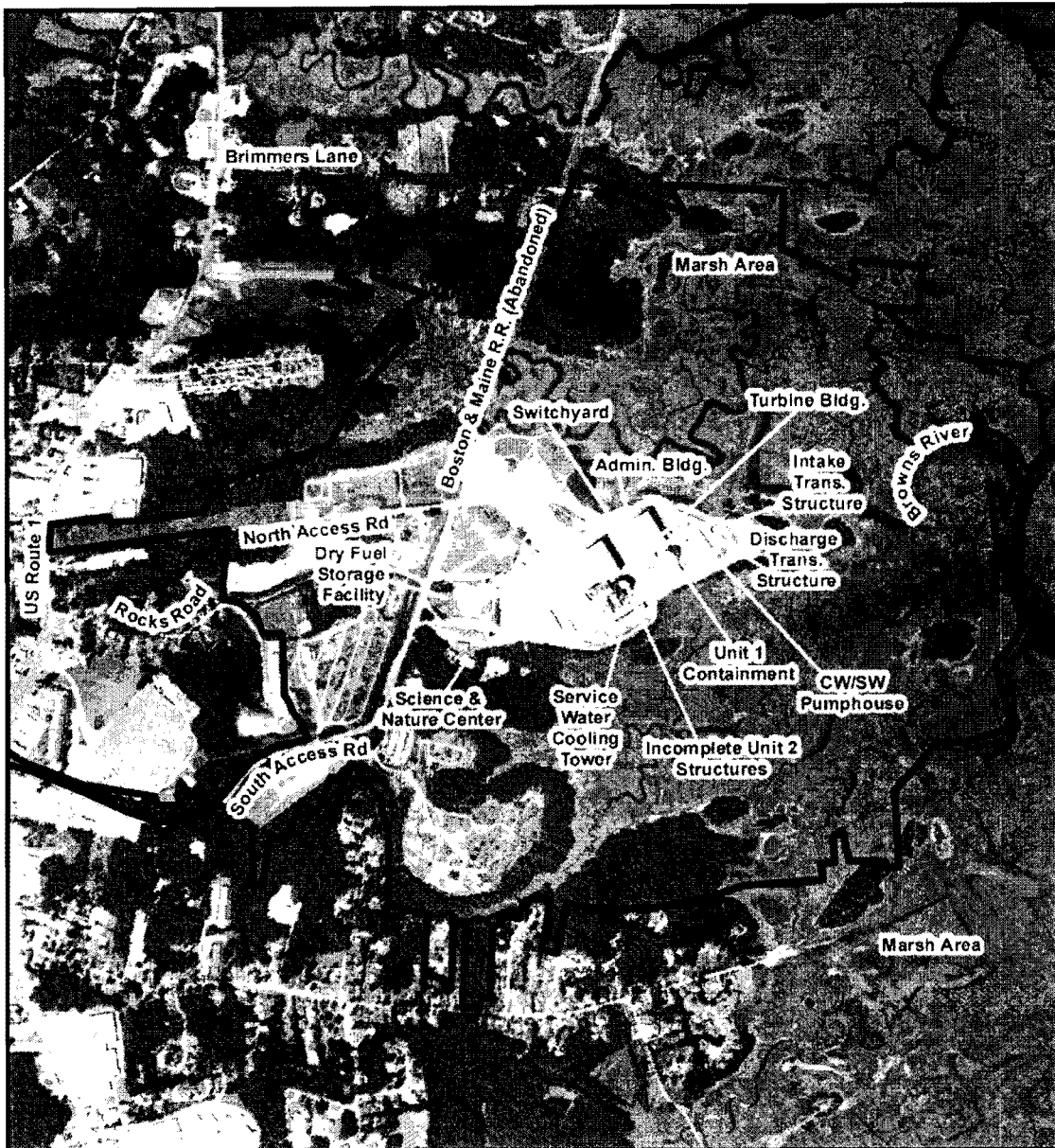
Area Map, 50-Mile Radius



Area Map, 6-Mile Radius



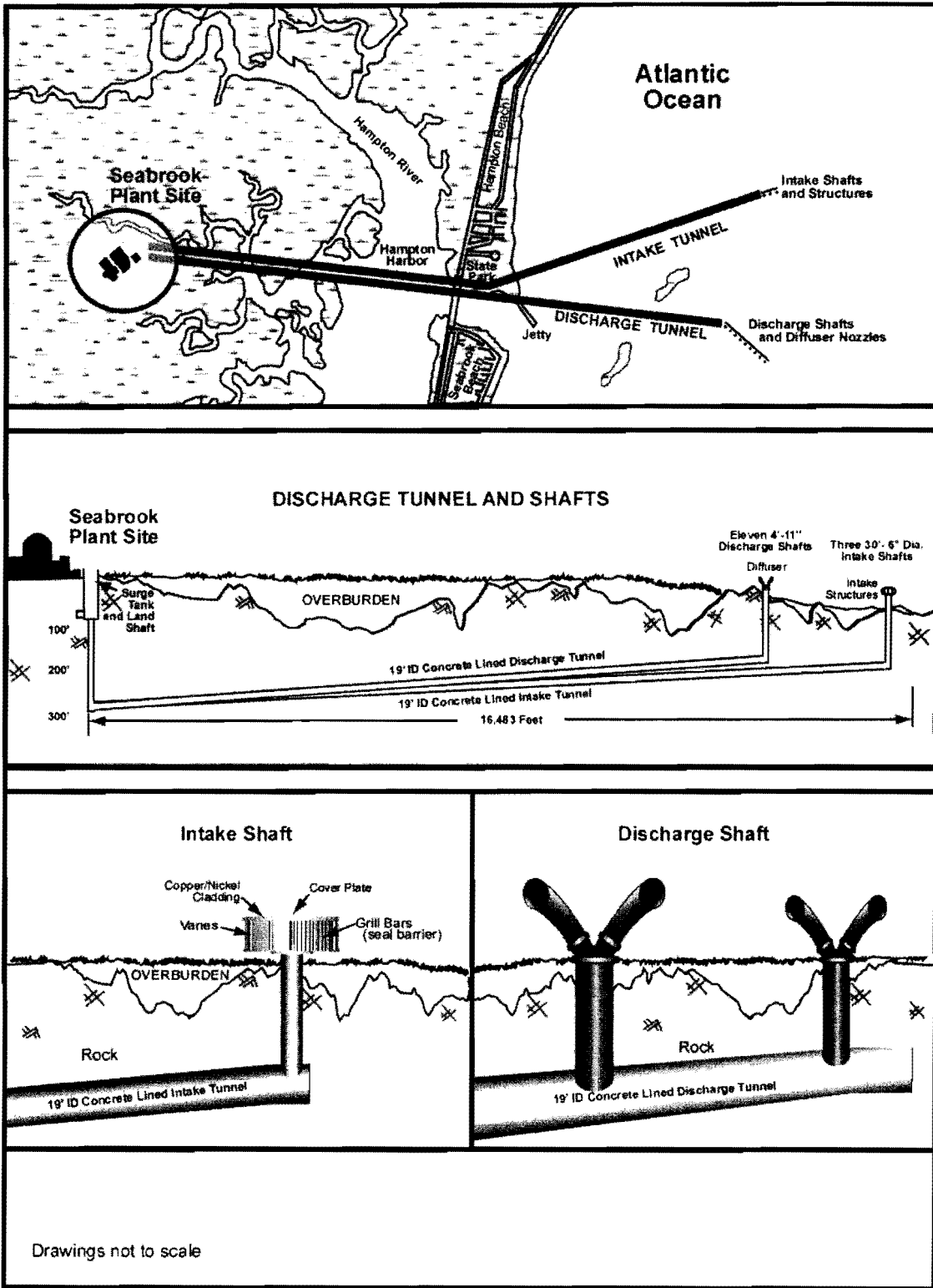
Site Area Map



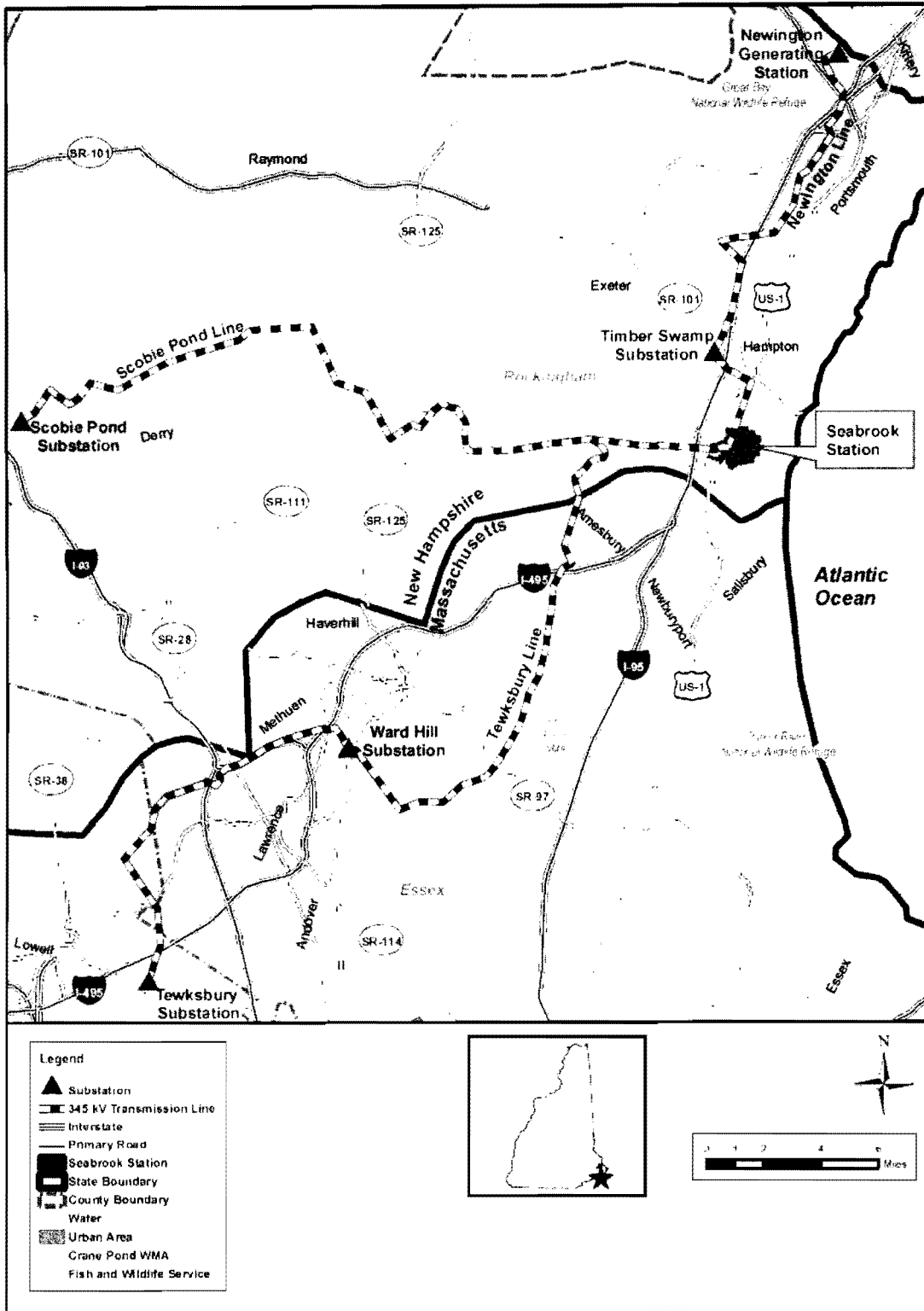
Legend

 Site Boundary

Intake/Discharge Tunnels and Shafts Diagram

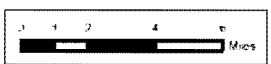
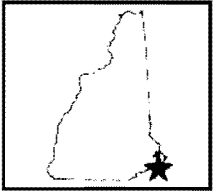


Transmission Line Map



Legend

- ▲ Substation
- ▬ 345 kV Transmission Line
- ▬ Interstate
- ▬ Primary Road
- Seabrook Station
- ▬ State Boundary
- ▬ County Boundary
- Water
- Urban Area
- Crane Pond WMA
- Fish and Wildlife Service



If you have any questions concerning the staff's review of this license renewal application, please contact Mr. Jeremy Susco, Project Manager, at (301) 415-2927 or by e-mail at Jeremy.Susco@nrc.gov.

Sincerely,

/RA/

Bo Pham, Chief
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosures:

1. Area Map, 50-mile radius
2. Area Map, 6-mile radius
3. Site Area Map
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5. Transmission Line Map

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