

Chapter C1: Background

INTRODUCTION

This chapter presents an overview of the Phase II facilities in the North Atlantic study region and summarizes their key operating, economic, technical, and compliance characteristics. For further discussion of operating and economic characteristics of Phase II facilities, refer to Chapter A3 of the *Economic and Benefits Analysis for the Final Section 316(b) Phase II Existing Facilities Rule*; for further discussion of the technical and compliance characteristics of Phase II facilities, refer to the *Technical Development Document for the Final Section 316(b) Phase II Existing Facilities Rule* (U.S. EPA, 2004a,b).

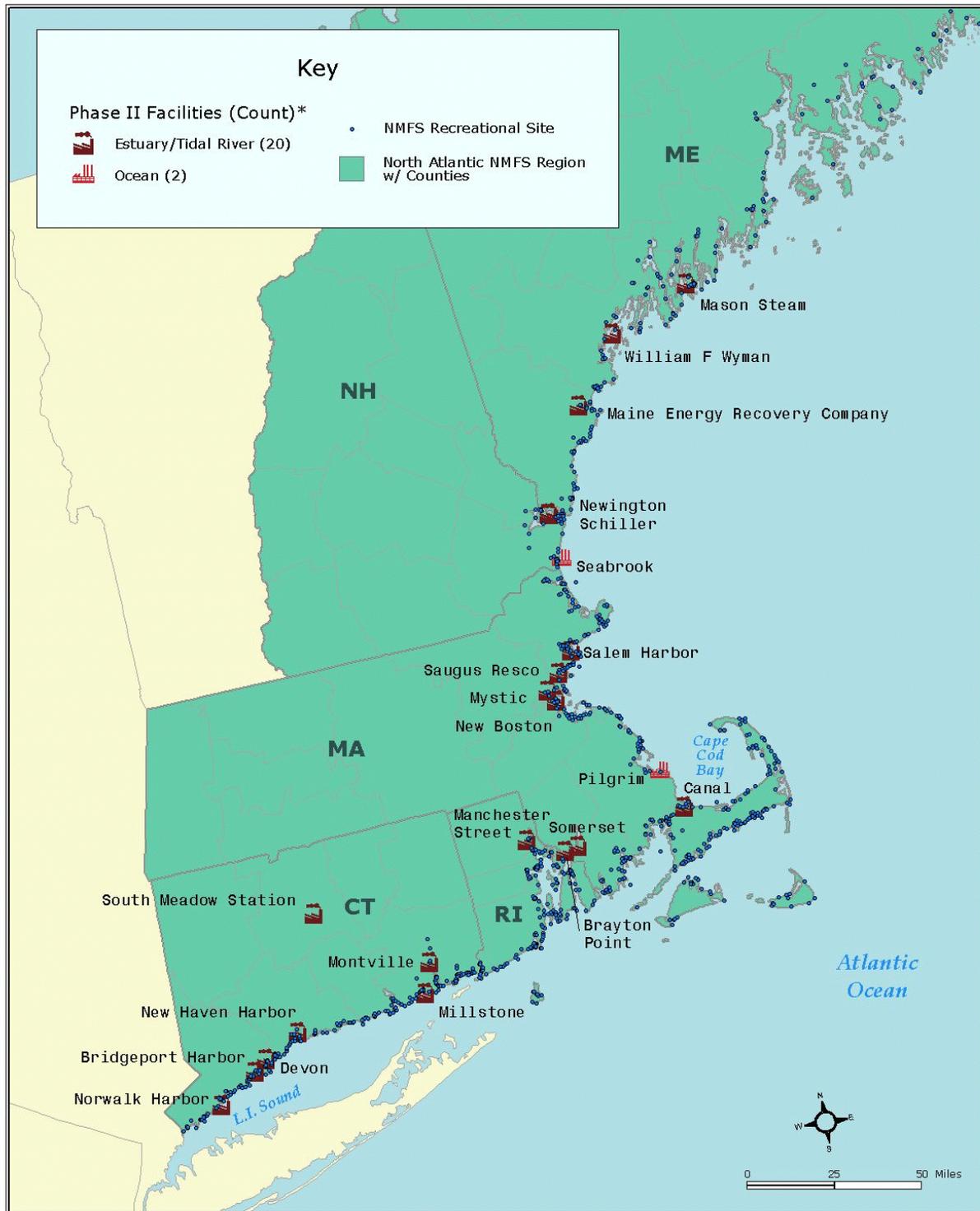
CHAPTER CONTENTS

C1-1	Overview	C1-1
C1-2	Operating and Economic Characteristics ..	C1-3
C1-3	Technical and Compliance Characteristics	C1-4
C1-4	Phase II Facilities in the North Atlantic Regional Study	C1-5

C1-1 OVERVIEW

The North Atlantic Study includes 22 facilities that are in scope for the final Phase II regulation. Twenty of the 22 facilities withdraw cooling water from an estuary or tidal river while 2 withdraw water from the Atlantic Ocean. Figure C1-1 presents a map of the 22 in-scope Phase II facilities located in the North Atlantic Study area.

Figure C1-1: In-Scope Phase II Facilities in the North Atlantic Regional Study



Source: U.S. EPA analysis for this report.

C1-2 OPERATING AND ECONOMIC CHARACTERISTICS

Half of the 22 North Atlantic Study facilities (11) are oil/gas facilities; four are coal steam facilities; three are nuclear facilities; three facilities use another type of steam electric prime mover; and one is a combined-cycle facility. In 2001, these 22 facilities accounted for 14 gigawatts of generating capacity, 59,000 gigawatt hours of generation, and \$2 billion in revenues.

The operating and economic characteristics of the North Atlantic Study facilities are summarized in Table C1-1. Section C1-4 provides further information on each facility [including facility state, North American Electric Reliability Council (NERC) region, plant type, capacity, 2001 generation, and whether impingement and entrainment estimates were developed for the facility].

Waterbody Type	Number of Facilities by Plant Type ^a						Total Capacity (MW) ^b	Total Generation (MWh) ^b	Electric Revenue (millions)
	Coal Steam	Combined Cycle	Nuclear	Oil/Gas Steam	Other Steam	Total			
Estuary/Tidal									
CT	1	-	1	4	1	7	4,549	20,897,629	\$673
MA	2	-	-	4	1	7	5,620	19,709,028	\$728
ME	-	-	-	2	1	3	975	1,255,362	\$60
NH	1	-	-	1	-	2	585	1,241,215	\$89
RI	-	1	-	-	-	1	489	2,023,063	\$76
<i>Subtotal</i>	<i>4</i>	<i>1</i>	<i>1</i>	<i>11</i>	<i>3</i>	<i>20</i>	<i>12,218</i>	<i>45,126,297</i>	<i>\$1,625</i>
Ocean									
MA	-	-	1	-	-	1	670	5,144,033	\$147
NH	-	-	1	-	-	1	1,242	8,692,743	\$243
<i>Subtotal</i>	<i>-</i>	<i>-</i>	<i>2</i>	<i>-</i>	<i>-</i>	<i>2</i>	<i>1,912</i>	<i>13,836,776</i>	<i>\$390</i>
TOTAL	4	1	3	11	3	22	14,130	58,963,073	\$2,015

^a Based on largest steam-electric capacity at facilities.

^b MW is an abbreviation for megawatt; MWh is an abbreviation for megawatt hour.

Sources: Plant type (IPM Analysis, U.S. EPA, 2002; Form EIA-860, U.S. DOE, 2001a); capacity (Form EIA-860, U.S. DOE, 2001a); generation (Form EIA-906, U.S. DOE, 2001c); revenue (Form EIA-861, U.S. DOE, 2001b; Form EIA-906, U.S. DOE, 2001c).

C1-3 TECHNICAL AND COMPLIANCE CHARACTERISTICS

The 22 North Atlantic Study facilities have a combined design intake flow of almost 14,000 million gallons per day (MGD). All 22 facilities employ a once-through cooling system in the baseline and incur a combined pre-tax compliance cost of \$13.3 million. Table C1-2 summarizes the flow, compliance responses, and compliance costs for these 22 facilities.

Table C1-2: Technical and Compliance Characteristics of Phase II Facilities	
	Cooling Water System (CWS) Type
	Once-Through
Design Flow (MGD)	13,804
Number of Facilities by Compliance Response	
Fish H&R	1
Fine Mesh Traveling Screens w/Fish H&R	8
Relocate Intake to Submerged Offshore with Passive Screen	1
Double-Entry, Single-Exit with Fine Mesh and Fish H&R	1
Multiple	2
None	9
Total	22
Compliance Cost (2002\$; millions)	\$13.3

Source: U.S. EPA analysis for this report.

C1-4 PHASE II FACILITIES IN THE NORTH ATLANTIC REGIONAL STUDY

Table C1-3 presents economic and operating characteristics of the North Atlantic Study facilities.

Table C1-3: Phase II Facilities in the North Atlantic Study							
EIA Code	Plant Name	Plant State	NERC Region	Steam Plant Type	2001 Capacity (MW)	2001 Net Generation (MWh)	I&E Data?
Estuary/Tidal River							
544	Devon	CT	NPCC	O/G Steam	398	742,474	N
546	Montville	CT	NPCC	O/G Steam	495	637,057	N
548	Norwalk Harbor	CT	NPCC	O/G Steam	343	823,435	N
566	Millstone	CT	NPCC	Nuclear	2,163	13,816,761	Y
568	Bridgeport Harbor	CT	NPCC	Coal Steam	600	2,442,420	N
6156	New Haven Harbor	CT	NPCC	O/G Steam	460	1,899,022	N
54945	South Meadow Station	CT	NPCC	Other Steam	90	536,460	N
1588	Mystic	MA	NPCC	O/G Steam	1,100	1,742,706	N
1589	New Boston	MA	NPCC	O/G Steam	736	1,133,960	N
1599	Canal	MA	NPCC	O/G Steam	1,164	4,381,910	N
1613	Somerset	MA	NPCC	Coal Steam	150	782,332	N
1619	Brayton Point	MA	NPCC	Coal Steam	1,611	8,205,951	Y
1626	Salem Harbor	MA	NPCC	O/G Steam	805	3,224,942	N
50880	Saugus Resco	MA	NPCC	Other Steam	54	237,227	N
1496	Mason Steam	ME	NPCC	O/G Steam	107	0	N
1507	William F Wyman	ME	NPCC	O/G Steam	846	1,106,656	N
10338	Maine Energy Recovery Co.	ME	NPCC	Other Steam	22	148,706	N
2367	Schiller	NH	NPCC	Coal Steam	171	799,052	N
8002	Newington	NH	NPCC	O/G Steam	414	442,163	N
3236	Manchester Street	RI	NPCC	Combined Cycle	489	2,023,063	N
Ocean							
1590	Pilgrim	MA	NPCC	Nuclear	670	5,144,033	Y
6115	Seabrook	NH	NPCC	Nuclear	1,242	8,692,743	Y

Source: U.S. EPA analysis for this report.