Chapter F1: Background

INTRODUCTION

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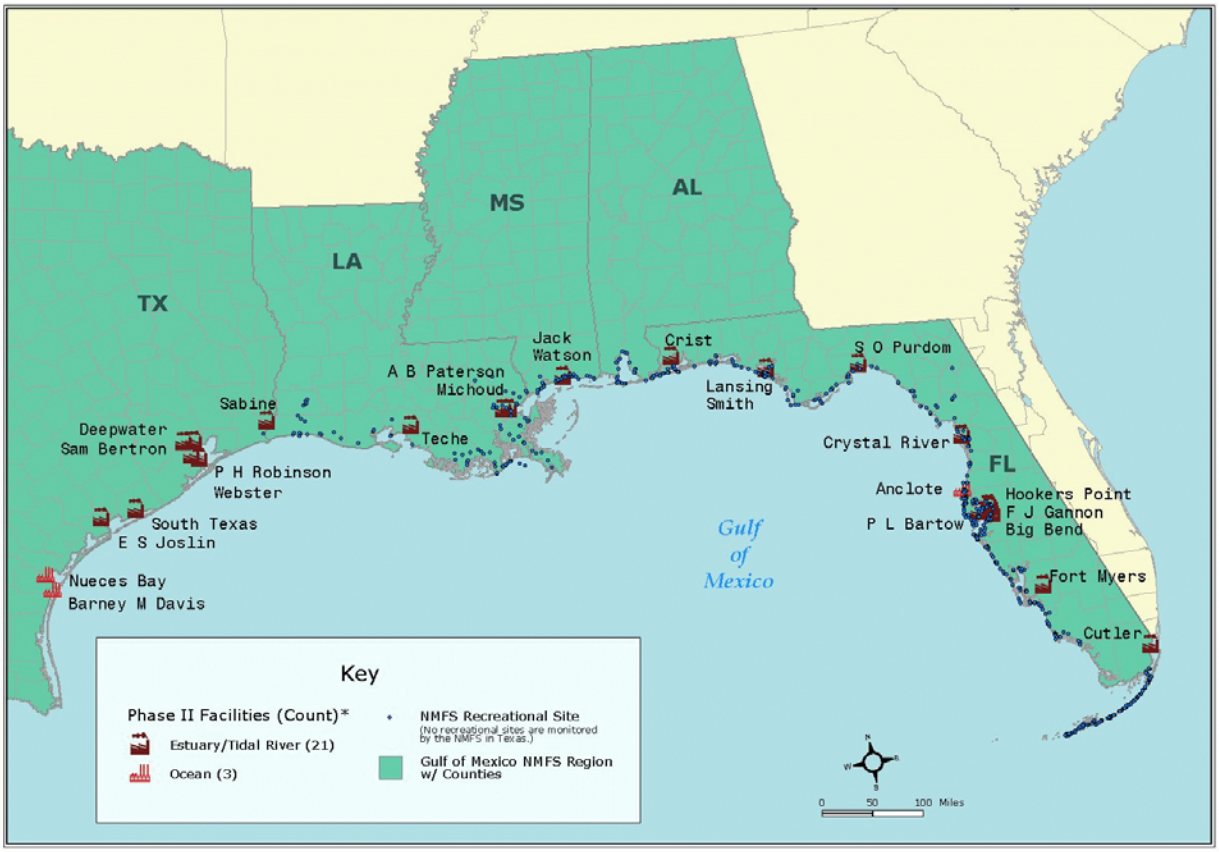
This chapter presents an overview of the Phase II facilities in the Gulf of Mexico study region and summarizes their key operating, economic, technical, and compliance characteristics. For further discussion of operating and economic characteristics of Phase II facilities, refer to Chapter A3 of the *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).

F1-1 OVERVIEW

The Gulf of Mexico Study includes 24 facilities that are in scope for the final Phase II regulation. Twenty-one of the 24 facilities withdraw cooling water from an estuary or tidal river, and three withdraw water from the Gulf of Mexico. Figure F1-1 presents a map of the 24 in-scope Phase II facilities located in the Gulf of Mexico study region.

Figure F1-1: In-Scope Phase II Facilities in the Gulf of Mexico Regional Study



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

F1-2 Operating and Economic Characteristics

Most of the 24 Gulf of Mexico Study facilities (17) are oil/gas facilities; five are coal steam facilities; one is a nuclear facility; and one is a combined-cycle facility. In 2001, these 24 facilities accounted for nearly 25 gigawatts of generating capacity, 102,000 gigawatt hours of generation, and $4.7 billion in revenues.

The operating and economic characteristics of the Gulf of Mexico Study facilities are summarized in Table F1-1. Section F1-4 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].

Table F1-1: Operating and Economic Characteristics of Phase II Facilities

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	Total			
Estuary / Tidal								
FL	4	1	-	5	10	11,067	49,335,059	$2,327
LA	-	-	-	3	3	1,536	3,584,231	$223
MS	1	-	-	-	1	1,051	4,868,196	$203
TX	-	-	1	6	7	8,825	35,696,589	$1,515
Subtotal	*5*	*1*	*1*	*14*	*21*	*22,478*	*93,484,075*	*$4,268*
Ocean								
TX	-	-	-	2	2	1,267	4,835,268	$249
FL	-	-	-	1	1	1,112	4,124,241	$229
Subtotal	-	-	-	*3*	*3*	*2,379*	*8,959,509*	*$478*
TOTAL	**5**	**1**	**1**	**17**	**24**	**24,857**	**102,443,584**	**$4,746**

[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).

F1-3 Technical and Compliance Characteristics

Twenty of the 24 Gulf of Mexico Study facilities employ a once-through cooling system in the baseline; three facilities employ a combination cooling system; and a single facility employs a recirculating cooling system. The 20 facilities with once-through systems incur a combined pre-tax compliance cost of $16.4 million, and the three facilities with combination cooling systems incur a combined pre-tax compliance cost of $0.6 million. Table F1-2 summarizes the flow, compliance responses, and compliance costs for these 24 facilities.

Table F1-2: Technical and Compliance Characteristics of Phase II Facilities

	Cooling Water System (CWS) Type[a]			
	Once-Through	**Recirculating**	**Combination**	**All**
Design Flow (MGD)	**18,114**	**776**	**3,879**	**22,770**
Number of Facilities by Compliance Response				
Fish H&R	6	-	-	6
Fine Mesh Traveling Screens w/Fish H&R	2	-	1	3
New Larger Intake Structure with Fine Mesh and Fish H&R	2	-	-	2
Passive Fine Mesh Screens	1	-	-	1
Fish Barrier Net/Gunderboom	1	-	-	1
Relocate Intake to Submerged Offshore with Passive Screen	1	-	-	1
Multiple	-	-	2	2
None	7	1	-	8
Total	**20**	**1**	**3**	**24**
Compliance Cost (2002$; millions)	**$16.4**	**w[b]**	**$0.6**	**w[b]**

[a] Combination CWSs are costed as if they were once-through CWSs.
[b] Data withheld because of confidentiality reasons.

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

F1-4 Phase II Facilities in the Gulf of Mexico Regional Study

Table F1-3 presents economic and operating characteristics of the Gulf of Mexico Study facilities.

Table F1-3: Phase II Facilities in the Gulf of Mexico 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							
610	Cutler	FL	FRCC	O/G Steam	237	245,846	N
612	Fort Myers	FL	FRCC	O/G Steam	1,302	3,499,471	N
628	Crystal River	FL	FRCC	Coal Steam	3,333	20,736,446	Y
634	P L Bartow	FL	FRCC	O/G Steam	717	2,141,129	Y
641	Crist	FL	FRCC	Coal Steam	1,229	4,488,205	N
643	Lansing Smith	FL	FRCC	Coal Steam	382	2,316,371	N
645	Big Bend	FL	FRCC	Coal Steam	1,998	9,259,719	Y
646	F J Gannon	FL	FRCC	Combined Cycle	1,302	5,083,474	N
647	Hookers Point	FL	FRCC	O/G Steam	233	(2,344)	N
689	S O Purdom	FL	FRCC	O/G Steam	335	1,566,742	N
1400	Teche	LA	SPP	O/G Steam	428	1,387,366	N
1407	A B Paterson	LA	SERC	O/G Steam	149	139,428	N
1409	Michoud	LA	SERC	O/G Steam	959	2,057,437	N
2049	Jack Watson	MS	SERC	Coal Steam	1,051	4,868,196	N
3436	E S Joslin	TX	ERCOT	O/G Steam	261	618,125	N
3459	Sabine	TX	SERC	O/G Steam	2,051	7,950,904	N
3461	Deepwater	TX	ERCOT	O/G Steam	188	83,471	N
3466	P H Robinson	TX	ERCOT	O/G Steam	2,315	5,703,777	N
3468	Sam Bertron	TX	ERCOT	O/G Steam	875	1,071,746	N
3471	Webster	TX	ERCOT	O/G Steam	426	427,968	Y
6251	South Texas	TX	ERCOT	Nuclear	2,709	19,840,598	N
Ocean							
3441	Nueces Bay	TX	ERCOT	O/G Steam	564	1,841,617	N
4939	Barney M Davis	TX	ERCOT	O/G Steam	703	2,993,651	N
8048	Anclote	FL	FRCC	O/G Steam	1,112	4,124,241	N

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