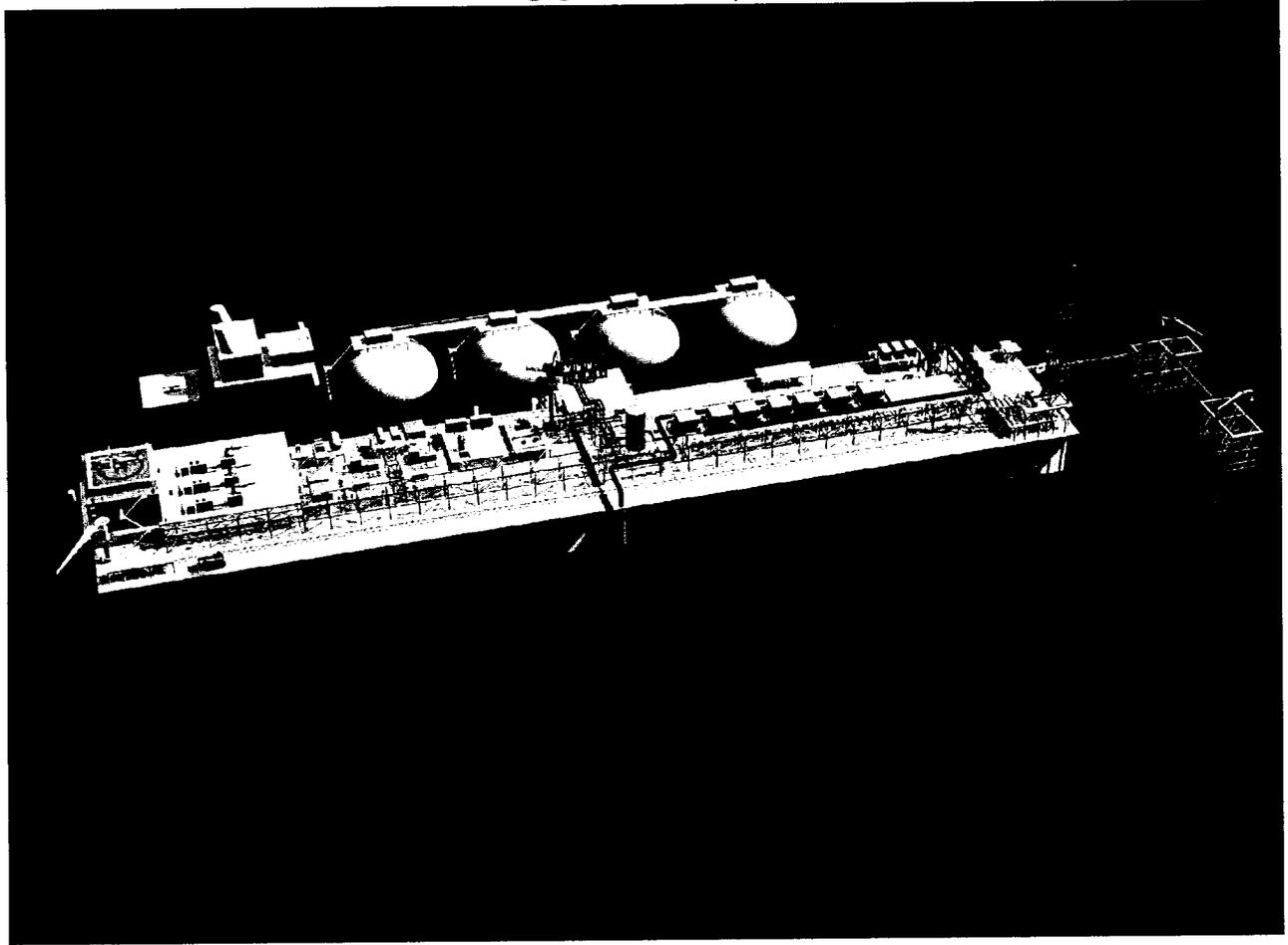


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Draft
Environmental Impact Statement
for the
Gulf Landing LLC
Deepwater Port License Application

USCG-2004-16860-29



June 2004





DRAFT
ENVIRONMENTAL IMPACT STATEMENT FOR
THE GULF LANDING LLC DEEPWATER PORT LICENSE APPLICATION

Location: Gulf of Mexico (GOM), approximately 61 km (38 mi) due south of the Louisiana coast line in West Cameron Area, Lease Block 213 (WC-213).

Docket Number: USCG-2004-16860

Prepared By: The lead agencies, U.S. Coast Guard (USCG) and the Maritime Administration (MARAD) and their contractor, engineering-environmental Management, Inc. (e²M).

Cooperating Agencies: U.S. Environmental Protection Agency, Department of Interior – Minerals Management Service and U.S. Fish and Wildlife Service, and Federal Energy Regulatory Commission.

Contact Information: Mark Prescott (G-MSO-5), 2100 Second Street, SW, Washington, DC 20593-0001, (202) 267-0225, mprescott@comdt.uscg.mil.

Abstract: Gulf Landing LLC proposes to construct a deepwater port and associated anchorages in the GOM, approximately 61 km (38 mi) south of Cameron, Louisiana, in WC-213, in water depth of approximately 55 feet, and adjacent to an existing shipping fairway servicing the Calcasieu River and area ports. If approved, it is estimated that construction and installation of the Port would be completed by late 2008, and operations would begin in 2009. The proposed Port would consist principally of a Terminal to receive, store, and regasify liquefied natural gas (LNG) and five pipelines to transport the gas from the Terminal to the existing offshore gas-gathering system. The Terminal would be capable of storing up to 180,000 cubic meters (6,357,000 cubic feet) of LNG, which equals approximately 3.8 billion cubic feet of natural gas. The facility would vaporize and send out up to 1.2 billion cubic feet per day (Bcf/d) with an annual daily average of 1.0 Bcf/d.

Date of Publication: June 2004

Draft

**ENVIRONMENTAL IMPACT STATEMENT
FOR THE
GULF LANDING LLC DEEPWATER
PORT LICENSE APPLICATION**

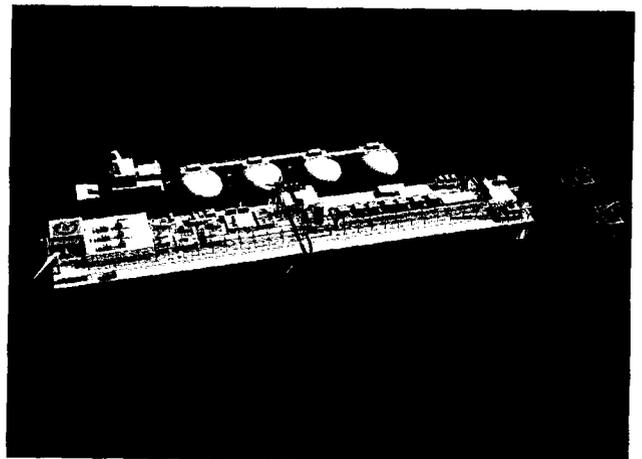
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June 2004

Executive Summary



Executive Summary

Introduction

The Deepwater Port Act of 1974, as amended, establishes a licensing system for ownership, construction, and operation of manmade structures beyond the U.S. territorial sea. The Act promotes the construction and operation of deepwater ports as a safe and effective means of importing oil into the United States and transporting oil from the Outer Continental Shelf (OCS), while minimizing tanker traffic and associated risks.

All deepwater ports must be licensed. The Deepwater Port Act requires a license applicant to submit detailed plans for its facility to the Secretary of Transportation. The Secretary has delegated the processing of deepwater port applications to the U.S. Coast Guard (USCG) and the Maritime Administration (MARAD).

The USCG retains this responsibility with its transfer to the Department of Homeland Security. On June 18, 2003, the Secretary also delegated to the Maritime Administrator his authority to issue, transfer, amend, or reinstate a license for the construction and operation of a deepwater port. Hereafter, "the Secretary" represents the Maritime Administrator's actions and responsibilities as the delegated representative of the Secretary.

On November 3, 2003, Gulf Landing LLC, a subsidiary of Shell Oil and Gas (also referred to as "the Applicant"), submitted to USCG and MARAD an application for all Federal authorizations required for a license to own, construct, and operate a deepwater port off the coast of Louisiana. Proposed facilities would consist principally of a terminal to receive, store, and regasify liquefied natural gas (LNG) and five take-away pipelines that would interconnect with existing natural gas pipelines in the Gulf of Mexico (GOM). Gas would then be delivered to the onshore national pipeline grid for delivery to any consumption market east of the Rocky Mountains. On January 22, 2004, USCG and MARAD issued a Notice of Application in the *Federal Register* summarizing the application. Under procedures set forth in the Deepwater Port Act, USCG and MARAD have 240 days from the date of the Notice of Application to hold one or more public hearings in the adjacent coastal state. Louisiana was designated as the adjacent coastal state. Approval or denial of the license application must occur not more than 90 days after the last public hearing.

The Deepwater Port Act provides that for all applications, the Secretary, in cooperation with other involved Federal departments and agencies, will comply with the National Environmental Policy Act (NEPA) of 1969. Consistent with the Deepwater Port Act, this environmental impact statement (EIS) evaluates the potential environmental effects associated with construction and operation of the facilities proposed by Gulf Landing LLC.

Purpose and Need

The purpose of the proposed Gulf Landing Deepwater Port project (referred to hereafter as "the proposed Port") is to help meet the growing national energy demand by importing clean-burning natural gas into the U.S. Gulf Coast via the existing natural gas transmission infrastructure in the GOM and southern Louisiana. Intrinsic to the general purpose of the proposed Port is the use of worldwide sources of natural gas, thereby diversifying sources of natural gas input into the existing pipeline infrastructure in the United States. To ensure the intended purpose of the proposed Port is encouraged, the Deepwater Port Act allows the proposed Port to operate under a strategy of "exclusive use" dedicating the entire capacity of

the facility for its own purposes, without being subject to the requirements of open access or common carriage.

The proposed Port would help meet the gas supply need by enabling regasified LNG to be delivered into the existing pipeline infrastructure in the GOM and connect with existing offshore third-party pipelines. This gas would then be redelivered by shippers into the national gas pipeline grid through connections with other major interstate and intrastate pipelines. The proposed Port would provide significant volumes of natural gas to the Nation's gas distribution market, improving the efficiency and flexibility of the existing offshore pipeline infrastructure, and providing supply diversification.

Scope of the EIS

USCG and MARAD are responsible for processing license applications to own, construct, and operate deepwater ports. Application review and EIS development has been conducted in cooperation with the U.S. Environmental Protection Agency (USEPA); U.S. Department of the Interior, Minerals Management Service (MMS) and U.S. Fish and Wildlife Service (USFWS), and the Federal Energy Regulatory Commission (FERC).

The primary purposes of this EIS are

- To provide an environmental analysis sufficient to support the Secretary's licensing decisions.
- To facilitate a determination of whether the Applicant has demonstrated that the deepwater Port would be located, constructed, and operated in a manner that represents the best available technology necessary to prevent or minimize any adverse effects on the marine environment.
- To aid in USCG's and MARAD's compliance with NEPA.
- To facilitate public involvement in the decisionmaking process.

Public Review and Comment

In the February 27, 2004, *Federal Register*, USCG and MARAD published a Notice of Intent (NOI) to prepare an EIS, notice of public meeting and informational open house, and request for public comments. The notice informed agencies and the public that comments on the scope of the EIS could be submitted by mail, hand delivery, facsimile, or electronic means.

The scoping process involved a mailing to state, Federal, and other interested parties. The mailing included an Interested Party Letter, the NOI that was published in the *Federal Register*, and a fact sheet describing the project. Public comments were considered during the preparation of this EIS.

As an additional mechanism to facilitate public participation in the scoping process, the USCG and MARAD held an informational open house at the Marriott Courtyard in Lafayette, Louisiana, on March 16, 2004. Twenty-seven individuals attended the open house. No comments were submitted during the open house.

The USCG and MARAD will provide a 45-day period for the public and agencies to review and comment on the draft EIS. The review period will commence upon USEPA's publication of a Notice of Availability in the *Federal Register*.

Alternatives

In approving a license application, the Secretary may impose enforceable conditions as part of the license. Consistent with NEPA, in determining the provisions of the license, the Secretary may also consider alternative means to construct and operate a deepwater port. Alternatives for a natural gas deepwater port may extend to matters such as its specific location, methods of construction and platform layout, and technologies for storing and regasifying LNG. Considering alternatives helps to ensure that ultimate decisions concerning the license are well founded and, as required by the Deepwater Port Act, are in the national interest and consistent with national security and other national policy goals and objectives.

Upon application of the screening criteria, alternatives that were eliminated from detailed consideration included those involving use of alternative onshore projects, oil deepwater ports, natural gas deepwater port locations outside the GOM, LNG deepwater port concepts, natural gas pipelines, regasification technologies, and construction methods.

The Deepwater Port Act provides for action to authorize and regulate the "... location, ownership, construction, and operation of deepwater ports" (emphasis added). Application of screening criteria and consideration of purpose and need resulted in identification of a potential alternative location in the GOM for Gulf Landing. Alternatives to be evaluated in detail in this EIS are the Applicant's proposal for siting of the deepwater Port in West Cameron Block 213 (WC-213), an alternative deepwater port location in West Cameron Block 183 (WC-183), and the No Action Alternative (denial of the license).

Description of the Proposed Action

Gulf Landing LLC proposes to construct a port off the shore of Louisiana in the GOM designed to receive, store, and vaporize (regasify) LNG. The proposed Port would consist principally of a Terminal and five take-away pipelines that would distribute natural gas to existing pipelines in the GOM. The preferred location for the proposed Port is in WC-213, which is approximately 61 kilometers (km) (38 miles [mi]) south of Cameron, Louisiana, in water depth of approximately 16.8 meters (m) (55 feet [ft]) and adjacent to an existing shipping fairway servicing the Calcasieu River and area ports. The alternative location is in WC-183, which is slightly closer to shore than WC-213, and is approximately 16.5 m (54 ft) deep.

The Terminal would consist of two gravity-based structures (GBSs) that would provide the base for LNG storage, process equipment, and ancillary facilities. The Terminal, which would be sized at 335 m (1,100 ft) long, 76 m (248 ft) wide, and 35 m (114 ft) tall (above the sea bottom), would be capable of storing up to 200,000 cubic meters (m³) (7,000,000 cubic feet [ft³]) of gross LNG, with an operational net storage capacity of 180,000 m³ (6,400,000 ft³). Gulf Landing LLC proposes to use open-rack vaporizer (ORV) technology for LNG regasification. ORV technology uses seawater flowing over a series of panel coils to warm the LNG flowing countercurrent within the panels. The facility would vaporize and distribute up to 1.2 billion cubic feet per day (Bcfd).

Five offshore take-away pipelines, ranging from 16 to 36 inches (1.3 to 3 ft) in diameter, would be constructed and traverse a combined 65.7 nautical miles. Each pipeline would transport gas from the Terminal to an existing transmission pipeline where it would deliver the gas to the onshore U.S. gas pipeline network. Gulf Landing LLC expects that the Terminal would vaporize and deliver an average of 1.0 Bcfd of natural gas to the pipelines, with a peak daily send-out rate of 1.2 Bcfd.

If approved, it is estimated that construction and installation of the Port would be completed by late 2008, and operations would begin in 2009. Facilities would be designed, constructed, and operated in

accordance with Federal, state, and local codes and standards. The proposed Port would be designed for a 30-year service life. At the end of this period, the Port would be decommissioned.

Proposed Action Environmental Impacts

Implementation of the Proposed Action at WC-213 would result in a combination of adverse and beneficial impacts of varying duration. The following summarizes the impacts identified in the EIS.

Water Quality. A combination of long- and short-term minor adverse effects on water quality would be expected. These would occur with respect to both marine and coastal waters. Short-term direct minor adverse impacts would include resuspension of sediments that would occur during installation of the proposed Terminal and pipelines. Water quality would not be affected as a result of the hydrostatic integrity testing of the proposed pipelines. The ORV water discharge would have several effects on water quality within 100 m (328 ft) of the proposed Terminal, including decreased water temperature, increased turbidity, and increased dissolved oxygen content. Anchoring of LNG carriers (LNGCs) in the Applicant's proposed Anchorage Areas in proximity to the Terminal might have short-term, minor adverse effects on water quality. Spills of hazardous substances, such as hydrocarbons (petroleum, oils, and lubricants), might result in direct adverse effects on water quality, which are expected to be minor and short in duration. No adverse impacts on water quality would be expected from an accidental spill or release of LNG since the LNG would spread on the surface of the water, gasify, and rapidly dissipate. Long-term minor adverse effects would be expected in connection with activities in coastal waters. Discharge from vessels and onshore facilities would be the primary sources of impacts on water quality in coastal waters.

Biological Resources. Long- and short-term minor adverse effects on biological resources would be expected. These impacts would occur in connection with construction and operation of Gulf Landing, potential LNG spills, and several miscellaneous circumstances associated with the Proposed Action (e.g., use of the GBSs as an artificial reef, increased vessel traffic, hazards posed by debris in the marine environment). Effects on commercial and recreational fisheries would also occur. The establishment of the 500-m Safety Zone around the proposed Terminal would result in an extremely localized long-term loss of commercial fisheries. The Proposed Action, however, would not displace recreational fishing in the vicinity of the deepwater Port for its expected 30-year operational period because there is currently no such recreational activity at the proposed site. The placement of the GBSs in the GOM would potentially create an artificial reef, resulting in minor but temporary beneficial effects on commercial and recreational fisheries stocks. The Proposed Action is not likely to adversely affect federally listed threatened and endangered species that occur in proximity to or migrate through the Proposed Port area. Minor adverse effects might occur from the impingement and entrainment of ichthyoplankton (fish eggs and larvae); however, none of the potential effects on essential fish habitat would be expected to result in population-level effects or a reduction in biomass for any stock. None of the expected effects on biological resources would be significant.

Cultural Resources. No effects on cultural resources would be expected. Geotechnical surveys of the proposed Terminal area and take-away pipeline routes recorded several unidentified anomalies. These anomalies have not been evaluated to determine their cultural significance; however, all of the anomalies would be avoided during Terminal and pipeline installation activities. Avoidance of the unidentified anomalies, and adherence to unanticipated discovery procedures and mitigation measures would ensure no adverse effects on significant cultural resources.

Geological Resources. Local short-term minor and long-term negligible adverse effects on geological resources would be expected. Through a geophysical study of the proposed Terminal area, preferential siting of the GBSs would be employed, thereby minimizing the amount of disturbance to undesirable

seafloor sediments and reducing the effect of local geologic hazards. The effects would be associated with installation and operation of the proposed Terminal (LNGC anchoring and sediment displacement), installation of the take-away pipelines (sediment displacement), and decommissioning.

Socioeconomics. Long- and short-term minor adverse effects and short-term minor beneficial effects would be expected on socioeconomic conditions due to construction impacts on commercial fisheries. The establishment of the 500-m Safety Zone around the proposed Terminal would result in an extremely localized long-term loss of commercial fisheries. A majority of the Proposed Action would occur in GOM waters. Impacts on residential areas, regardless of ethnic and minority composition, would be avoided. The Proposed Action would not cause adverse environmental impacts or disproportionate human health effects on minority or low-income communities.

Recreation. Long-term minor adverse and minor beneficial effects on recreation would be expected. No effects on shore-related recreational activities would be anticipated. The Proposed Action, however, would not displace recreational fishing in the vicinity of the deepwater Port for its expected 30-year operational period because there is currently no such recreational activity at the proposed site. Placement of the GBSs in the GOM would potentially create an artificial reef, resulting in minor beneficial effects on recreational fisheries stocks.

Transportation. Long-term minor adverse effects on transportation would be expected. These effects would occur in connection with increased LNGC use of established fairways, LNGC traffic from existing fairways to the proposed Terminal location along primary and secondary Recommended Routes, and supply vessels and helicopters transiting the GOM between onshore bases in Louisiana and the proposed Terminal location.

Air Quality. Long-term minor adverse effects on air quality would be expected. These effects would be associated primarily with operation of equipment on the Terminal. Criteria pollutant emissions would not exceed annual USEPA-permitted emissions levels. In addition, based on the emissions rate and the distance to the nearest nonattainment areas, the Proposed Action would not adversely affect the air quality of onshore nonattainment areas.

Noise. Long- and short-term minor adverse effects on the noise environment would be expected. These impacts would arise in facilities construction, installation, and operation. Increased noise levels would result from the proposed Terminal and take-away pipeline installation, and could adversely impact fish, sea turtles, marine mammals, and seabirds. However, any such impacts would be expected to be minimal and temporary. Noise generated during operation of the proposed Terminal as well as noise generated from helicopter and vessel traffic could impact biological resources. However, any such impacts would be expected to be minor. Noise generated at the proposed Terminal operations would not affect noise-sensitive receptors onshore due to the distance from the shore. Support vessels and helicopters would have the potential to affect noise sensitive receptors onshore.

Reliability and Safety. No effects connected to reliability and safety issues to personnel, the public of the environment would be expected from the Proposed Action.

Alternate Siting Location Environmental Impacts

Implementation of the Alternate Siting Location in WC-183 would result in impacts essentially similar to those predicted to occur in WC-213. The moderate difference in water depth between the two locations and their essentially equal distances from shore would not result in effects different from those already described for WC-213 for most resource areas.

Cultural Resources. No hazard or cultural resources survey has been conducted in this lease block. Therefore, no statement regarding environmental or cultural resources impacts can be made at this time. If WC-183 were selected as the Terminal site for this project, a hazard and cultural resources survey would have to be conducted.

No Action Alternative

Under the No Action Alternative, the Secretary would deny the license application preventing construction and operation of this deepwater Port. If the Secretary pursues the No Action Alternative, potential short- and long-term environmental effects identified in this EIS would not occur. Existing conditions would prevail and there would be no contribution to the Nation's natural gas supply from this source. Because of the existing and predicted demand for natural gas, it would be necessary to find other means to facilitate the importation of natural gas from foreign markets that would equal the contribution from the proposed Port. Strategies to meet this need could include other deepwater port applications, expansion of existing or construction of new onshore LNG ports, or increased use of other energy sources.

Mitigation

The Deepwater Port Act requires that an applicant demonstrate that a proposed deepwater port would be constructed and operated using the best available technology, thereby preventing or minimizing the adverse impact on the marine environment. Several mitigation measures were identified as a result of the EIS. No mitigation measures have been identified for recreational resources, transportation, or noise.

Additional mitigations are expected to be developed during the course of the pipeline and Terminal engineering review, and during the analysis and approval process of the Port Operations Manual. All mitigations to reduce effects on the environment, and risks to offshore infrastructure and personnel engaged in offshore activities would be included in the license, if issued, or the Port Operations Manual.

Water Resources. Gulf Landing LLC submitted a National Pollutant Discharge Elimination System permit application in October 2003 for all of the regulated discharges anticipated in association with operations of the proposed Port. This permit is required under conditions of the Clean Water Act and USCG regulations to prevent long-term impacts on water quality. If granted, the permit would describe the conditions and mitigation measures required for compliance. In addition, a Facility Response Plan, Port Operations Manual, and any other required spill prevention plans would be developed to meet or exceed the requirements of all applicable and appropriate regulations and guidelines.

Biological Resources. To avoid and minimize the impact of entrainment/impingement the following mitigations would be incorporated into the design and operation of the ORV system and would be expected as a condition of the license should such a license be issued

- the center of the seawater intake array would be sited at 11 m (36 ft) below mean sea level;
- a maximum seawater through-screen intake velocity of 0.15 meters per second (0.5 ft per second) would be maintained; and
- a monitoring plan, approved by National Oceanic and Atmospheric Administration (NOAA) Fisheries, would be established and implemented to measure the levels of mortality to marine fisheries species (including ichthyoplankton) associated with the operation of the ORV seawater intake.

The Applicant would coordinate with NOAA Fisheries throughout the development of the monitoring plan. To minimize potential fisheries impacts associated with the decommissioning of the proposed Terminal facilities, it would be possible to leave some of the facility's underwater structure in place to function as an artificial reef. All decommissioning activities would be conducted in accordance with approved plans required by the licensing authority, and in compliance with all applicable and appropriate regulations and guidelines in place at the time of decommissioning.

Cultural Resources. Several unidentified anomalies were recorded as part of the geotechnical surveys of the proposed Terminal area and take-away pipeline routes. All of the anomalies would be avoided during Terminal and pipeline installation activities. Avoidance of the unidentified anomalies, and adherence to unanticipated discovery procedures and mitigation measures would ensure no adverse effects on significant cultural resources.

Geological Resources. Any significant geological hazard encountered during construction of the proposed Port would be avoided. Additional geophysical surveys will be conducted for any alternative Terminal or pipeline routes selected for licensing.

Socioeconomics. Mitigation for commercial and recreational fisheries losses would not be necessary. Loss of commercial fishing in the Safety Zone represents too small of an area for mitigation. Mobile fauna would readily relocate and benthic organisms would recolonize other areas of sea floor without the need for mitigation due to construction and Terminal operations impacts. Leaving some of the facility's underwater structure in place to function as an artificial reef would mitigate the loss of hard substrata habitat from removal of surface infrastructure. Gulf Landing LLC would take precautions as appropriate to minimize impacts on the pipeline crossed during construction of the take-away pipelines, including using an approved anchoring plan.

Air Quality. Air quality impacts from the regulated pollutants would be mitigated through the Title V air permitting process.

Cumulative Impacts

Several cumulative impacts would occur upon implementation of the Proposed Action. Most would arise in connection with other OCS oil and gas activities. None would be significant.

For the purposes of this EIS, assessment of potential effects cumulative with the proposed Gulf Landing LLC Port will be limited to complete Deepwater Port applications for facilities in the GOM west of the Mississippi River discharge plume. To date, actions cumulative with Gulf Landing are limited to the Port Pelican, and El Paso Energy Bridge deepwater port proposals. These proposed ports are located 30 and 116 mi off of the Louisiana coast. The proposed locations for the three ports are between 45 mi and 90 mi from each other.

The USCG and MARAD would not expect operation of the proposed Port to result in cumulative impacts on several resources in the GOM. These include coastal barrier beaches and associated dunes, wetlands, seagrass communities, recreational beaches, land use and coastal infrastructure, demographics, and environmental justice. Potential cumulative impacts associated with onshore port construction will be addressed in supplemental NEPA documentation.

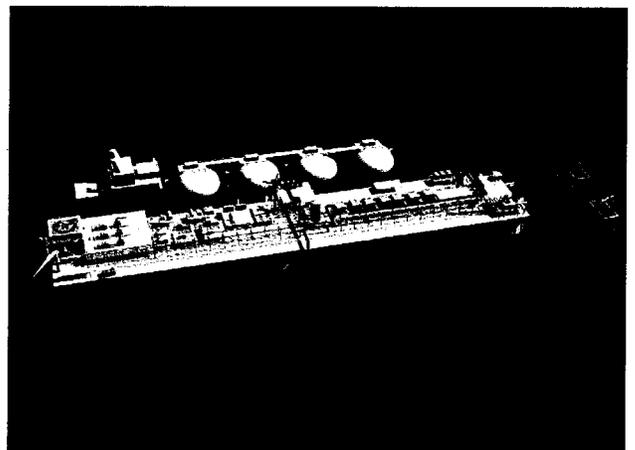
The installation schedules for the proposed ports do not coincide with each other and no cumulative installation impacts are anticipated.

Long term impacts from port operations on water quality, socioeconomic, recreation, transportation and risk management (safety) would be localized to the port facilities. Due primarily to the distance between the ports (45 mi to 90 mi), these impacts are not synergistic and do not overlap in any measurable way.

Based on the existing air modeling for the ports it does not appear that air emissions plumes would commingle or be cumulative to any identified sensitive resource. Mitigation associated with the required EPA air permits would further reduce the potential for cumulative air quality impacts.

Some minor cumulative impacts on EFH may be associated with the sea water intake for the warming water systems. Based on very conservative estimates presented in Sections 4.2 and 5.0, a small but measurable cumulative loss of age-1 fish species would be expected. The impacts identified are negligible, relative to the estimated regional fish stocks and the annual take by fishing. These assessments support a conclusion that any cumulative impacts would not be significant.

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For the Gulf Landing LLC Deepwater Port License Application**

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Acronyms and Abbreviations

°C	degrees Celsius	CPO	chlorine-produced oxidants
°F	degrees Fahrenheit	CWA	Clean Water Act
ac	acres	CY	calendar year
ACHP	Advisory Council on Historic Preservation	CZMA	Coastal Zone Management Act
AFB	aquatic filter barrier	CZMP	Coastal Zone Management Program
APE	Area of Potential Effect	dB	decibels
API	American Petroleum Institute	DO	dissolved oxygen
B.P.	Before Present	DOE	U.S. Department of Energy
BA	Biological Assessment	DOI	U.S. Department of the Interior
BACT	Best Available Control Technologies	EEZ	Exclusive Economic Zone
bbl	barrels	EFH	essential fish habitat
Bcf	billion cubic feet	EIS	Environmental Impact Statement
Bcfd	billion cubic feet per day	EO	Executive Order
BHP	brake horsepower	ESA	Endangered Species Act
BLEVE	Boiling Liquid Expanding Vapor Explosion	FAA	Federal Aviation Administration
BO	Biological Opinion	FERC	Federal Energy Regulatory Commission
BOD	biological oxygen demand	FFMZ	Federal Fishery Management Zone
BOG	boil-off gas	FMP	Fishery Management Plan
Btu	British Thermal Units	FSP	Facility Security Plan
CAA	Clean Air Act	FSRU	floating, storage, and regasification unit
CAAA	Clean Air Act Amendments	ft	feet
CAM	Compliance Assurance Monitoring	ft/s	feet per second
CBRA	Coastal Barrier Resources Act	ft ²	square feet
CEQ	Council on Environmental Quality	ft ³	cubic feet
CFR	Code of Federal Regulations	ft ³ /hr	cubic feet per hour
cm	centimeters	ft ³ /s	cubic feet per second
cm/hr	centimeters per hour	g	grams
cm/s	centimeters per second	gal	gallons
cm ³	cubic centimeters	GBS	gravity-based structure
CO	carbon monoxide	GEODAS	Geophysical Data System
CO ₂	carbon dioxide	GMFMC	Gulf of Mexico Fishery Management Council
COMDINSTT	Commandant's Instruction	GOM	Gulf of Mexico
CORMIX	Cornell Mixing Zone Expert System		

GPD	gallons per day	m ³ /hr	cubic meters per hour
GPM	gallons per minute	m ³ /min	cubic meters per minute
GPS	Global Positioning System	m ³ /s	cubic meters per second
HAP	hazardous air pollutant	MARAD	Maritime Administration
HMS	highly migratory species	MBTA	Migratory Bird Treaty Act
hp	horsepower	mg/L	milligrams per liter
hr	hours	mg/m ²	milligrams per square meter
Hz	Hertz	mg/m ³	milligrams per cubic meter
IFV	intermediate fluid vaporizer	MGD	million gallons per day
IMO	International Maritime Organization	mi	statute miles
in	inches	mi ²	square miles
in/hr	inches per hour	million/d	million per day
in ³	cubic inches	MLLW	mean low low water
IWC	International Whale Commission	mm	millimeters
JPT	Journal of Petroleum Technology	MMPA	Marine Mammal Protection Act
kg	kilograms	MMS	U.S. Department of the Interior - Minerals Management Service
kg/m ³ /m	kilogram per cubic meter per meter	MPa	Mega Pascal
kHz	kilo-Hertz	MPRSA	Marine Protection, Research and Sanctuaries Act
km	kilometers	MRFSS	Marine Recreational Fishery Statistics Survey
km ²	square kilometers	MSA	Magnuson-Stevens Fishery Conservation and Management Act
kW	Kilowatts	MT	metric tons
L	liters	MTSA	Maritime Transportation Security Act
LAC	Louisiana Administrative Code	MW	megawatts
lbs	pounds	NAAQS	National Ambient Air Quality Standards
LCAA	Louisiana Clean Air Act	NEPA	National Environmental Policy Act
LDNR	Louisiana Department of Natural Resources	NERR	National Estuarine Research Reserves
LFL	lower flammability limit	NESHAPS	National Emissions Standards for Hazardous Air Pollutants
LLC	Limited Liability Company	NGDC	National Geophysical Data Center
LNG	liquefied natural gas	NHPA	National Historic Preservation Act
LNGC	liquefied natural gas carriers	NM	nautical miles
LOEC	lowest observed effect concentration	NMS	National Marine Sanctuary
LOOP	Louisiana Offshore Oil Port	NMSA	National Marine Sanctuaries Act
m	meters		
m/s	meters per second		
m ²	square meters		
m ³	cubic meters		

NO ₂	nitrogen dioxide	s	seconds
NOA	Notice of Availability	scf/hr	standard cubic feet per hour
NOAA	National Oceanic and Atmospheric Administration	SCFD	standard cubic feet per day
NOEC	no observed effect concentration	SCV	submerged combustion vaporizer
NOI	Notice of Intent	SEAMAP	South East Area Monitoring Assessment Program
NOSAC	National Offshore Safety Advisory Committee	SMYS	specified minimum yield stress
NO _x	nitrogen oxide	SO ₂	sulfur dioxide
NPDES	National Pollutant Discharge Elimination System	SPE	Society of Petroleum Engineers
NPS	National Park Service	STV	shell and tube vaporizer
NRHP	National Register of Historic Places	tcf	trillion cubic feet
NSPS	New Source Performance Standards	tpy	tons per year
NSR	New Source Review	TRC	total residual chlorine
NTL	Notice to Lessees and Operators	TSP	total suspended particulate
NWR	National Wildlife Refuge	U.S.	United States
O ₃	Ozone	U.S.C.	United States Code
OCS	Outer Continental Shelf	UNCLOS	United Nations Convention on the Law of the Sea
OPS	Office of Pipeline Safety	USCG	U.S. Coast Guard
ORV	open-rack vaporizer	USDOT	U.S. Department of Transportation
PAH	polynuclear aromatic hydrocarbons	USEPA	U.S. Environmental Protection Agency
Pb	Lead	USFWS	U.S. Fish and Wildlife Service
PCB	polychlorinated biphenyls	VOC	volatile organic compound
PCPT	piezocone penetration test	WC-183	West Cameron Block 183
PM _{2.5,10}	particulate matter equal to or greater than 2.5, 10 microns	WC-213	West Cameron Block 213
ppb	parts per billion	µg/m ³	micrograms per cubic meter
ppm	parts per million	µmol/L	micromole per liter
ppt	parts per trillion	µPa	micro-Pascal
PSD	Prevention of Significant Deterioration		
psi	pounds per square inch		
psig	pounds per square inch gauge		
psu	practical salinity unit		
ROG	reactive organic gases		
ROI	region of influence		
ROW	right-of-way		
RPT	rapid phase transition		

Common Conversion Equations

TEMPERATURE

°F = °C x 1.8 + 32
 °C = (°F - 32) ÷ 1.8

LENGTH/DISTANCE

1 in = 2.540 cm
 1 in = 25.40 mm
 1 ft = 0.3048 m
 1 m = 3.2808 ft
 1 mi = 1.6093 km
 1 km = 0.6214 mi
 1 NM = 1.15 mi

VOLUME

1 ft³ = 0.02832 m³
 1 gal = 0.003785 m³
 1 m³ = 264.172 gal
 1 gal = 0.0238 bbl
 1 m³ = 6.29 bbl
 1 MG = 23,800 bbl

MASS

1 g = 0.0022 lb
 1 lb = 0.453592 kg
 1 kg = 2.205 lb
 1 ton = 0.9072 MT

FLOW RATE (UNIT VOLUME PER TIME)

1 bbl/hr = 0.1192 m³/hr
 1 ft³/s = 0.028316 m³/s
 1 ft³/s = 448.8 GPM
 1 GPD = 0.003785 m³/day
 1 GPM = 0.00379 m³/min
 1 MGD = 0.0438 m³/s

VELOCITY

1 ft/s = 0.3048 m/s
 1 ft/s = 30.48 cm/s
 1 m/s = 1.467 ft/s

CONCENTRATION

1 mg/L = 1 ppm (in water)
 1 mg/L = 1 x 10⁶ µg/m³

ENERGY

1 Btu = 2.9308 x 10⁻⁴ kW-hr

POWER

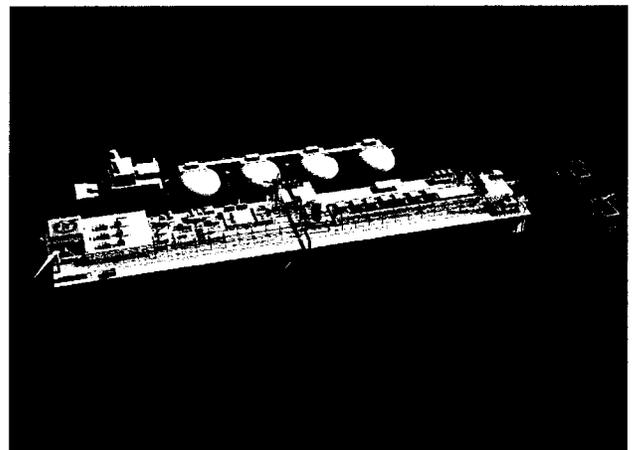
1 kW = 1.340 hp
 1 hp = 0.746 kW

PRESSURE

1 psi = psig + atmospheric
 1 psi = 0.0689476 bar
 1 µPa = 145 psi

Section 1

Introduction



1. Introduction

1.1 Deepwater Port License Application

The Deepwater Port Act of 1974, as amended,¹ establishes a licensing system for ownership, construction, and operation of man-made structures beyond the U.S. territorial sea. The Act promotes the construction and operation of deepwater ports as a safe and effective means of importing oil into the United States and transporting oil from the Outer Continental Shelf (OCS), while minimizing tanker traffic and associated risks. In 2002, the Maritime Transportation Security Act² (MTSA) amended the definition of “deepwater port” to include natural gas.

All deepwater ports must be licensed. The Deepwater Port Act requires a license applicant to submit detailed plans for its facility to the Secretary of Transportation (Secretary). The Secretary has delegated the processing of deepwater port applications to the U.S. Coast Guard (USCG) and the Maritime Administration (MARAD).

The USCG retains this responsibility with its transfer to the Department of Homeland Security.³ On June 18, 2003, the Secretary delegated authority to the Maritime Administrator to issue, transfer, amend, or reinstate a license for the construction and operation of a deepwater port.⁴ Hereafter, “the Secretary” represents the Maritime Administrator’s actions and responsibilities as the delegated representative of the Secretary.

On November 3, 2003, Gulf Landing LLC, a subsidiary of Shell Oil and Gas (also referred to as “the Applicant”), submitted to the USCG and MARAD an application for all Federal authorizations required for a license to own, construct, and operate a deepwater port off the coast of Louisiana. Proposed facilities would consist principally of a terminal to receive, store, and regasify liquefied natural gas (LNG) and five take-away pipelines that would interconnect with existing natural gas pipelines in the Gulf of Mexico (GOM). Gas would then be delivered to the onshore national pipeline grid for delivery to any consumption market east of the Rocky Mountains. On January 22, 2004, the USCG and MARAD issued a Notice of Application in the *Federal Register* summarizing the application.⁵ Under procedures set forth in the Deepwater Port Act, the USCG and MARAD have 240 days from the date of the Notice of Application to hold one or more public hearings in the adjacent coastal state. Louisiana was designated as the adjacent coastal state. Approval or denial of the license application must occur not more than 90 days after the last public hearing.

The Deepwater Port Act provides that for all applications, the Secretary, in cooperation with other involved Federal departments and agencies, will comply with the National Environmental Policy Act (NEPA) of 1969. Consistent with the Deepwater Port Act, this environmental impact statement (EIS)

¹ Public Law 93-627, Sec. 3, January 3, 1975, 88 Stat. 2127, as amended, codified to 33 U.S. Code (U.S.C.) 1501 – 1524.

² Public Law 107-295.

³ Title XV (Transition) of the Homeland Security Act provides that “pending matters,” including license applications currently being processed, will continue without regard to the transfer of USCG from the Department of Transportation. Even though the function of processing applications has been transferred with USCG to the Department of Homeland Security, the Secretary of Transportation retains ultimate authority to issue, transfer, amend, or reinstate licenses under the Deepwater Port Act.

⁴ Vol. 68, *Federal Register*, No. 117, Wednesday, June 18, 2003, pp 36,496–97.

⁵ Vol. 69, *Federal Register*, No. 14, Thursday, January 22, 2004, pp 3,165–67. The USCG and MARAD published a correction to reflect that the application pertained to West Cameron Block 213 vice South Cameron Block 213 as originally indicated. Vol. 69, *Federal Register*, No. 39, Friday, February 27, 2004, p. 9,344.

1 evaluates the potential environmental effects associated with installation at sea and operation of the
2 facilities proposed by Gulf Landing LLC. Onshore construction will be evaluated in supplemental NEPA
3 documentation.

4 **1.2 Purpose and Need**

5 The Deepwater Port Act requires the Secretary to approve or deny a deepwater port license application.
6 In issuing this decision, it is the purpose and need of the Secretary to carry out the Congressional intent
7 expressed in the Deepwater Port Act, which is to

- 8 • “authorize and regulate the location, ownership, construction, and operation of deepwater ports in
9 waters beyond the territorial limits of the United States.
- 10 • “provide for the protection of the marine and coastal environment to prevent or minimize any
11 adverse impact which might occur as a consequence of the development of such ports.
- 12 • “protect the interests of the United States and those of adjacent coastal States in the location,
13 construction, and operation of deepwater ports.
- 14 • “protect the rights and responsibilities of States and communities to regulate growth, determine
15 land use, and otherwise protect the environment in accordance with law.
- 16 • “promote the construction and operation of deepwater ports as a safe and effective means of
17 importing oil and natural gas into the United States and transporting oil and natural gas from the
18 outer continental shelf while minimizing tanker traffic and the risks attendant thereto.
- 19 • “promote oil and natural gas production on the outer continental shelf by affording an economic
20 and safe means of transportation of outer continental shelf oil and natural gas to the United States
21 mainland.”⁶

22 Within this broad framework of Congressional intent in the Deepwater Port Act, there are several factors
23 that define an appropriate deepwater port. These factors further refine the Secretary’s purpose and need
24 to define reasonable alternatives to consider in determining whether or not to approve a deepwater port
25 license application. The following paragraphs describe these factors in detail.

26 **Function.** The Secretary is to promote both oil and natural gas deepwater ports equally, without
27 comparison or preference to either. These deepwater ports may be used for importing oil and natural gas
28 into the United States and transporting oil and natural gas from the OCS.

29 **Location.** The Deepwater Port Act applies that platforms located outside U.S. territorial waters. In
30 concept, this would include any location at least 12 statute miles (mi) offshore of the maritime coastline in
31 the U.S. Exclusive Economic Zone (EEZ) in the Atlantic Ocean, Pacific Ocean, or GOM. Platforms must
32 not be sited in areas specially designated as vessel navigation routes, cargo operations areas (lightering
33 zones), or environmental protection and conservation areas. Additionally, both safety and environmental
34 considerations must be studied and evaluated.

35 **Financial Responsibility.** To assure that the applicant is able to construct and operate a deepwater port to
36 the high standards demanded by the Deepwater Port Act and to avoid the potential for abandoned
37 structures on the OCS, the applicant must be financially responsible. Numerous factors contribute to
38 financial responsibility. These include, for instance, the Applicant’s financial strengths, third party
39 financing and guarantees, due consideration of market supply and demand, appropriate conceptualization
40 of the project, adherence to construction and engineering standards to preclude loss of life and property,

⁶ 33 U.S.C. 1501(a)

1 and use of appropriate technologies. Certain considerations of location, such as proximity to existing
2 offshore and onshore pipeline distribution systems and support infrastructure, would also influence the
3 economic viability of a deepwater port and therefore the applicant's financial responsibility. Financial
4 responsibility is considered throughout the life cycle of the Port ensuring that all Port components will be
5 decommissioned in accordance with standards in effect at the time of decommissioning.

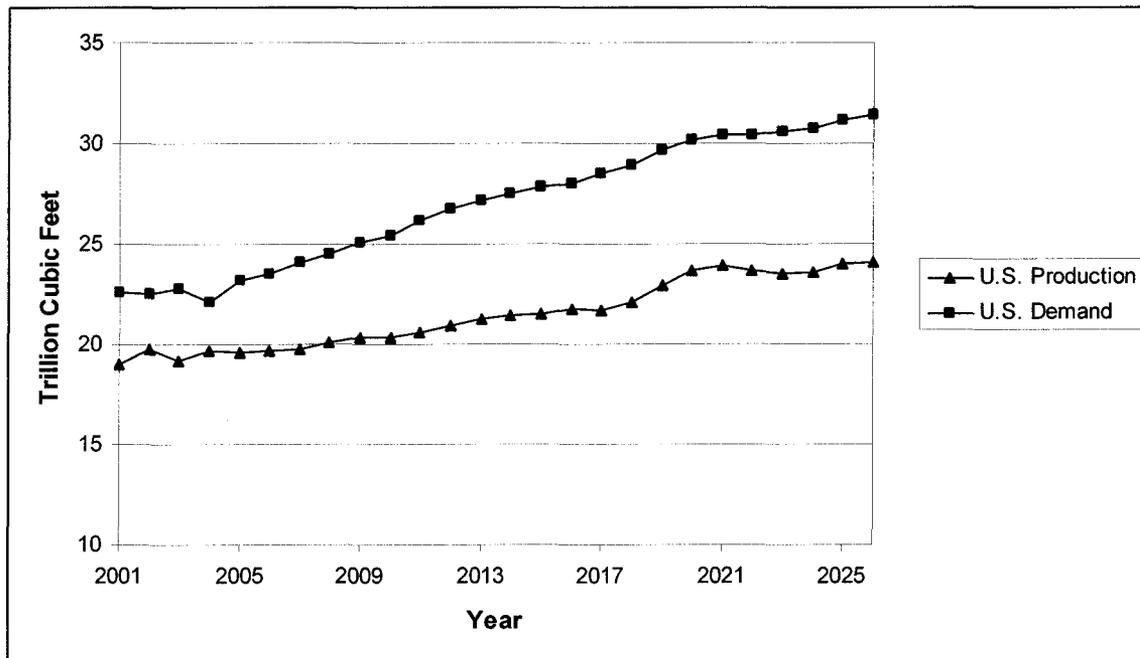
6 **Protection of the Environment.** The Deepwater Port Act specifies that terminals be licensed and
7 operated in a manner that protects the marine and coastal environment by preventing or minimizing any
8 adverse impact that might occur as a consequence of the development of such ports. Multiple Federal and
9 state programs, both regulatory and nonregulatory, exist to protect the environment. By adhering to these
10 Federal and state programs, development of the OCS has proceeded in a manner that is consistent with the
11 regulatory protection of natural resources. Deepwater ports that pose a high probability of resulting in
12 significant adverse environmental impacts would not be consistent with the requirements of the
13 Deepwater Port Act and the precedents established by prior development, and they would contradict
14 national interests to protect the environment. Examples of unacceptable proposals include those that
15 would result in significant adverse effects on cultural resources, losses of protected species, or high
16 probability of water degradation through hydrocarbon spills.

17 **Safety.** Deepwater ports that place human safety, property, or resources at unacceptable risk of injury or
18 loss, and thereby possibly lead to significant adverse impacts on the environment, are not reasonable. The
19 potential for safety risks and the ability to control the risks associated with a deepwater liquefied natural
20 gas (LNG) port will be evaluated. The various risks associated with the deepwater port could result from
21 a variety of factors associated with alternative locations, nature of a proposed design, and the various
22 operational requirements, such as shipping the LNG, offloading the LNG carrier (LNGC), storing the
23 LNG, processing the LNG into natural gas, and delivery of the natural gas to shore. Potential safety risks
24 and potential control measures would be unique to the location and concept of each deepwater port
25 proposal. Safety risks are typically assessed through a process that involves identification of potential
26 safety hazards and the magnitude and probability for injury or loss associated with those safety hazards.
27 The assessment of these risks at offshore locations must take into account the potential for severe weather
28 and wave conditions inherent in the location. Risks might be reduced to acceptable levels by applying
29 sound engineering and operational procedures. If alternatives are not effective in reducing risk to
30 acceptable levels, then they are deemed unreasonable.

31 **National and State Interests.** The Secretary also has the responsibility to protect the interests of the
32 adjacent coastal states(s) in the location, construction, and operation of deepwater ports. In the process of
33 reviewing and approving a deepwater port license, the Secretary must protect the rights and
34 responsibilities of states and communities to regulate growth, determine land use, and otherwise protect
35 the environment in accordance with law. Designation of at least one adjacent coastal state and
36 coordination with that state throughout the application review process is used by the Secretary to fulfill
37 this purpose.

38 Intrinsic to this Congressional intent is the need to meet the Nation's existing and increasing demand for
39 natural gas supplies by increasing access to worldwide sources. As discussed below, this approach is a
40 key component of the Nation's energy and economic strategy.

41 The Department of Energy's Energy Information Administration projects that demand for natural gas in
42 the United States could reach 31.4 trillion cubic feet (tcf) annually by 2025 (EIA 2004). This compares to
43 an annual consumption of 22.8 tcf in 2002 (EIA 2004) (Figure 1-1). Despite the forecasts of increased
44 production within the lower 48 states, especially from unconventional sources, the Energy Information
45 Administration predicts that increased imports of natural gas will be required to meet domestic demand.



1
2 Source: EIA 2004

3 **Figure 1-1. Projected U.S. Production vs. Consumption of Natural Gas**

4 To meet part of this demand, LNG imports are expected to increase from 0.2 tcf in 2002 to 4.8 tcf
5 annually in 2025, equal to 15 percent of total U.S. gas supply. This will require all the existing facilities
6 to be fully operational with expansions completed, as well as the construction and operation of new U.S.
7 LNG import terminals.

8 LNG imports have become attractive and can contribute to the overall supply of natural gas. Without the
9 certainty of access to stable gas markets, potential LNG producers will not make the massive capital
10 investments necessary to enable the liquefaction of gas and transportation of LNG. “Stranded” reserves
11 of natural gas in producing areas of the world can be used to increase the supply of gas in the United
12 States. For these supplies to reach the United States, they must be liquefied prior to transport.
13 Specialized transport ships must then carry the LNG to a regasification facility near the final market for
14 the gas.

15 On July 10, 2003, Federal Reserve Chairman, Alan Greenspan, before the Senate Energy and Natural
16 Resources Committee, called for a “major expansion” of U.S. LNG facilities as a way to help keep gas
17 prices stable. Greenspan said, “Access to world natural gas supplies will require a major expansion of
18 LNG terminal import capacity and development of the newer offshore regasification technologies.”
19 Greenspan added, “Without the flexibility such [LNG import] facilities will impart, imbalances in supply
20 and demand must inevitably engender price volatility... More LNG imports could provide a price-
21 pressure safety valve” (Baltimore 2003). Chairman Greenspan reiterated his call for a “major expansion”
22 of U.S. LNG facilities on April 27, 2004 before the Center for Strategic & International Studies.

23 The proposed Port would provide a new facility for receiving specialized LNGCs from foreign markets
24 and for transferring natural gas into the U.S. market via the existing natural gas transmission
25 infrastructure in southern Louisiana. Intrinsic to this purpose is the need to meet the Nation’s existing
26 and increasing demand for natural gas supplies by increasing access to worldwide sources. Use of
27 worldwide sources of natural gas would diversify sources of natural gas input into the existing pipeline

1 infrastructure in the United States. To ensure that the intended purpose of natural gas deepwater ports is
2 encouraged, the Deepwater Port Act allows the proposed Port to operate under a strategy of “exclusive
3 use,” dedicating the entire capacity of the facility for its own purposes without being subject to the
4 requirements of open access or common carriage.

5 The proposed Port would help meet the Nation’s gas supply need by enabling regasified LNG to be
6 delivered into the existing pipeline infrastructure in the GOM, ultimately connecting to the onshore U.S.
7 pipeline network. The proposed Port would provide significant volumes of natural gas to the Nation’s
8 natural gas distribution market, increasing the use of the existing pipeline infrastructure and providing
9 supply diversification.

10 1.3 Scope of This EIS

11 The USCG and MARAD are responsible for processing license applications to own, construct, and
12 operate deepwater ports. The function of this EIS is to provide the primary mechanism to determine
13 whether a proposed deepwater port meets the elements of the Secretary’s purpose and need (see Section
14 1.2) defined by *Location* and *Protection of the Environment*. Where applicable, this EIS also considers
15 *Safety* but does not function as the final safety screening. All aspects of port safety, including
16 transportation routes near oil and gas production facilities, will be addressed in the Port Operations
17 Manual, which will require USCG approval prior to initiation of Port operations. *Financial*
18 *Responsibility* is being evaluated within MARAD as a separate task, and will be considered along with
19 this EIS as part of the final licensing decision.

20 This EIS assesses the potential environmental impacts associated with the offshore installation, operation,
21 and decommissioning of the project. Onshore Port infrastructure construction will be assessed in
22 supplemental NEPA documentation. This document has been prepared to comply with NEPA, the
23 Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal
24 Regulations [CFR] 1500-1508), Department of Transportation (USDOT) Order 5610.1C (*Procedures for*
25 *Considering Environmental Impacts*), and USCG policy (Commandant’s Instruction [COMDINSTT]
26 M16475.1D).

27 On January 6, 2004, USCG published a temporary interim rule to modernize existing deepwater port
28 regulations by adding specific considerations applicable to deepwater ports for LNG.⁷ The temporary
29 interim rule prescribes requirements for licensing deepwater ports and contains environmental review
30 criteria for evaluating license applications. Pending issuance of final rules, the Secretary uses these
31 regulations as a guide.

32 The U.S. Environmental Protection Agency (USEPA), U.S. Department of the Interior (DOI) – Minerals
33 Management Service (MMS), U.S. Fish and Wildlife Service (USFWS), and the Federal Energy
34 Regulatory Commission (FERC) have joined USCG and MARAD as cooperating agencies in the
35 preparation of this EIS.

⁷ Vol. 69, *Federal Register*, No. 3, Tuesday, January 6, 2004, pp 723–87. The temporary interim rule amends 33 CFR Part 148, Deepwater Ports: General; 33 CFR Part 149, Deepwater Ports: Design, Construction, and Equipment; and 33 CFR Part 150, Deepwater Ports: Operations.

1 The primary purposes of this EIS are

- 2 • To provide an environmental analysis sufficient to support the Secretary's licensing decisions.
- 3 • To facilitate a determination of whether the Applicant has demonstrated that the deepwater Port
4 would be located, constructed, operated, and decommissioned in a manner that represents the best
5 available technology necessary to prevent or minimize any adverse effects on the marine
6 environment.
- 7 • To aid in USCG's and MARAD's compliance with NEPA.
- 8 • To facilitate public involvement in the decisionmaking process.

9 The affected environmental components encompassed by this EIS include water quality, biological
10 resources, cultural resources, geological resources, socioeconomics, recreation, transportation, reliability
11 and safety, and air quality. The EIS describes the Proposed Action and potential alternatives (Section
12 2.0), the affected environment as it currently exists (Section 3.0), the probable environmental
13 consequences that might result from operation of the proposed Port (Section 4.0), and cumulative impacts
14 and other considerations (Section 5.0). The following elaborates on the nature of the characteristics that
15 might relate to various impacts:

- 16 • *Short-term or long-term.* These characteristics are determined on a case-by-case basis and do not
17 refer to any rigid time period. In general, short-term impacts are those that would occur only with
18 respect to a particular activity or for a finite period or only during the time required for
19 construction or installation activities. Long-term impacts are those that are more likely to be
20 persistent and chronic. Several impacts associated with ongoing operations of the proposed
21 deepwater Port could occur for more than 30 years. For instance, air emissions associated with
22 vessel traffic at the Port would occur for the entire period of operation of the Port. Other types of
23 long-term impacts, however, might persist even beyond the Port's authorized operational period.
- 24 • *Direct or indirect.* A direct impact is caused by a proposed action and occurs contemporaneously
25 at or near the location of the action. An indirect impact is caused by a proposed action and might
26 occur later in time or be farther removed in distance but still be a reasonably foreseeable outcome
27 of the action. Indirect impacts might include induced changes in existing conditions, or might be
28 related to multiple resources (e.g., air, water, or other natural and social systems).
- 29 • *Negligible, minor, moderate, or significant.* These relative terms are used to characterize the
30 magnitude of an impact. Negligible impacts are generally those that may be perceptible but, in
31 their context, are not amenable to measurement because of their relatively minor character.
32 Minor or moderate impacts are those that are more perceptible and, typically, more amenable to
33 quantification or measurement. Significant impacts are those that, in their context and due to
34 their intensity (severity), have the potential to meet the thresholds for significance set forth in
35 CEQ regulations (40 CFR 1508.27) and, thus, warrant heightened attention and examination for
36 potential means for mitigation in order to fulfill the policies set forth in NEPA.
- 37 • *Adverse or beneficial.* An adverse impact is one having adverse, unfavorable, or undesirable
38 outcomes on the man-made or natural environment. A beneficial impact is one having positive
39 outcomes on the man-made or natural environment. A single act might result in adverse impacts
40 on one environmental resource and beneficial impacts on another resource.

41 **1.4 Public Review and Comment**

42 Agency and public participation in the NEPA process promotes open communication between the public
43 and the government and enhances decisionmaking. All persons and organizations having a potential

1 interest in the Secretary's decision whether to grant the license are encouraged to participate in the
2 decisionmaking process.

3 In the February 27, 2004, *Federal Register*, the USCG and MARAD published a Notice of Intent (NOI)
4 to prepare an EIS, notice of public meeting and informational open house, and request for public
5 comments.⁸ The notice informed agencies and the public that comments on the scope of the EIS could be
6 submitted by mail, hand delivery, facsimile, or electronic means.

7 The scoping process involved a mailing to state, Federal, and other interested parties. The mailing
8 included an Interested Party Letter, the NOI that was published in the *Federal Register*, and a fact sheet
9 describing the project (see Appendix A). Public comments submitted as part of the scoping process are
10 included in Appendix A and were considered during the preparation of this EIS.

11 As an additional mechanism to facilitate public participation in the scoping process, the USCG and
12 MARAD held an informational open house at the Marriott Courtyard in Lafayette, Louisiana, on March
13 16, 2004. Twenty-seven individuals attended the open house. No comments were submitted during the
14 open house.

15 The USCG and MARAD will provide a 45-day period for the public and agencies to review and comment
16 on the draft EIS. The review period will commence upon USEPA's publication of a Notice of
17 Availability (NOA) in the *Federal Register*. The NOA will also include the location and time for a public
18 informational open house for the Draft EIS.

19 **1.5 Permits, Approvals, and Regulatory Requirements**

20 As the lead agencies for administration of the Deepwater Port Act, the USCG and MARAD are
21 responsible for license application processing and issuance, NEPA compliance, and compliance with the
22 provisions of several environmental laws that require consultation with other agencies concerning specific
23 environmental resources. Examples of these include Section 7 of the Endangered Species Act (ESA), the
24 Magnuson-Stevens Fishery Conservation and Management Act (MSA), Section 106 of the National
25 Historic Preservation Act (NHPA), and Section 307 of the Coastal Zone Management Act (CZMA).
26 Descriptions of the requirements of these laws and their consultation obligations are presented below and,
27 where applicable, in Sections 3.0, 4.0, and 5.0. In addition, any enforceable conditions imposed as part of
28 an approved license must be consistent with the appropriate and applicable regulatory requirements.

29 For its part, the Applicant would be required to obtain and comply with all applicable and appropriate
30 permits, guidelines, and approvals, including sections of the CZMA, the Clean Water Act (CWA), and the
31 Clean Air Act (CAA), for any impacts on coastal resources, wastewater discharges, or regulated air
32 emissions to the environment. It is the Applicant's responsibility to provide the licensing agency with the
33 information necessary to evaluate potential compliance with the applicable regulations and guidelines.

34 Table 1-1 lists major Federal and state permits, approvals, and consultations required to construct and
35 operate a natural gas deepwater port. Appendix B identifies the principal laws and Executive Orders
36 (EOs) considered by the Secretary in formulating the license decision. Some of these authorities
37 prescribe standards for compliance. Others require that specific planning and management actions are
38 undertaken to protect environmental resources affected by issuance of a deepwater port license. The
39 authorities shown in Appendix A are addressed in various sections of the EIS when relevant to particular
40 environmental resources and conditions. Full text of the laws may be accessed at
41 <http://uscode.house.gov/uscode.htm>. EOs may be accessed at [http://www.archives.gov/
42 federal_register/executive_orders/disposition_tables.html](http://www.archives.gov/federal_register/executive_orders/disposition_tables.html).

⁸ Vol. 69, *Federal Register*, No. 39, February 27, 2004, pp 9,348-49.

1 **Table 1-1. Major Permits, Approvals, and Consultations for Natural Gas Deepwater Ports**

Agency	Permit/Approval/Consultation
U.S. Department of Homeland Security, USCG	License application processing
U.S. Department of Transportation, MARAD	License application processing and approval
U.S. Department of Transportation, Research and Special Programs Administration	Establish and enforce deepwater port pipeline safety regulations Consultation on LNG facility design
U.S. Department of the Interior, MMS	Advise USCG and MARAD concerning the potential impacts of Deepwater Port Act terminals to leased and unleased blocks on the OCS Pipeline right-of-way guidance and coordination Hazard surveys guidance and coordination Archaeological coordination
U.S. Department of the Interior, USFWS	Section 7 (ESA) coordination Migratory Bird Treaty Act (MBTA) coordination Coastal Barrier Resources Act (CBRA) coordination
U.S. Environmental Protection Agency	CWA National Pollutant Discharge Elimination System (NPDES) permit Title V (CAA) permit Marine Protection, Research and Sanctuaries Act (MPRSA) consistency
U.S. Department of Commerce, NOAA Fisheries	Section 7 (ESA) coordination Essential Fish Habitat (EFH) (MSA) coordination Marine Mammal Protection Act (MMPA) coordination
U.S. Department of Energy, Office of Fossil Energy	Import certificate under Section 3, Natural Gas Act
U.S. Army Corps of Engineers	Rivers and Harbors Act Section 10 Permit
U.S. Department of Defense	Consultation (review of license application adequacy and views on effects on departmental programs)
U.S. Department of State, Bureau of Oceans and International Environmental and Scientific Affairs	Consultation (review of license application adequacy and views on effects on departmental programs)
Advisory Council on Historic Preservation	Section 106 (NHPA) coordination
Federal Energy Regulatory Commission (FERC)	Certificates of public convenience and necessity for natural gas pipelines in interstate commerce
Governor of Louisiana	Consent to issue license
Louisiana Department of Natural Resources (LDNR), Coastal Management Division	CZMA Consistency Determination
Louisiana Department of Wildlife and Fisheries	Louisiana Endangered Species Act coordination
Louisiana State Historic Preservation Office, Department of Culture, Recreation, and Tourism	NHPA coordination
Federally recognized American Indian Tribes	Consultation regarding potential effects on cultural resources

1 **Provisions of the Endangered Species Act.** Section 7 of the ESA states that any project authorized,
2 funded, or conducted by any Federal agency should not "... jeopardize the continued existence of any
3 endangered species or threatened species or result in the destruction or adverse modification of habitat of
4 such species which is determined ... to be critical." The USCG and MARAD, or an applicant if
5 designated as a non-Federal representative, are required to "informally" consult with the USFWS and the
6 National Marine Fisheries Service (currently recognized as National Oceanic and Atmospheric
7 Administration [NOAA] Fisheries) to determine whether any federally listed or proposed endangered or
8 threatened species or their designated critical habitats occur near the proposed Port. If, upon review of
9 existing data or data provided by the Applicant, USCG and MARAD determine that these species or
10 habitats might be affected by the Proposed Action, USCG and MARAD must begin "formal" consultation
11 with the agencies and prepare a Biological Assessment (BA) to identify the nature and extent of adverse
12 impacts and recommend measures that would avoid the habitat or species or reduce potential impact to
13 acceptable levels. The BA would be used in the interagency consultation as a basis for determining
14 whether the adverse effects are likely to result in jeopardy to any listed species. After consultation,
15 NOAA Fisheries or the USFWS would issue a Biological Opinion (BO) on the potential for jeopardy. If
16 their opinion is that the project is not likely to jeopardize any listed species, they may also issue an
17 incidental take statement as an exception to the prohibitions in Section 9 of the ESA. If, however, the
18 USCG and MARAD determine that no federally listed or proposed endangered species or their designated
19 critical habitat would be affected by the Proposed Action, no further action is necessary under the ESA.
20 Section 2.0 and portions of Sections 3.2 and 4.2 of this EIS discuss the status of this review and serve as
21 the BA for the Proposed Action. Correspondence with the USFWS and NOAA Fisheries with respect to
22 the ESA is presented in Appendix C.

23 **Provisions of the Magnuson-Stevens Fishery Conservation and Management Act.** The MSA, amended
24 by the Sustainable Fisheries Act of 1996, establishes procedures designed to identify, conserve, and
25 enhance essential fish habitat (EFH) for those species regulated under a Federal Fisheries Management
26 Plan. The MSA requires Federal agencies to consult with NOAA Fisheries on all actions or proposed
27 actions authorized, funded, or undertaken by the agency that might adversely affect EFH. NOAA
28 Fisheries recommends consolidated EFH consultations with interagency coordination procedures required
29 by other statutes such as NEPA or the ESA (50 CFR 600.920(e)(1)) to reduce duplication and improve
30 efficiency. The mandatory contents of an EFH Assessment are detailed in 50 CFR 600.920(e)(3). As part
31 of the consultation process, Sections 3.2.6, 4.2.4, and 5.1.2 of this EIS serve as the EFH Assessment for
32 the Proposed Action. Correspondence with NOAA Fisheries with respect to the EFH is presented in
33 Appendix D.

34 **Provisions of the National Historic Preservation Act.** Section 106 of the NHPA requires USCG and
35 MARAD to consider the effects of its undertakings on properties listed on or eligible for listing on the
36 National Register of Historic Places (NRHP), including prehistoric or historic sites, districts, buildings,
37 structures, objects, or properties of traditional religious or cultural importance, and to allow the Advisory
38 Council on Historic Preservation (ACHP) to comment on the undertaking. The USCG and MARAD have
39 requested that Gulf Landing LLC, as a non-Federal party, assist in meeting the USCG's and MARAD's
40 obligations under Section 106 by preparing the necessary information and analysis as required by ACHP
41 procedures (36 CFR 800). See Sections 3.3 and 4.3 of this EIS for the status of this review.

42 **Provisions of the Coastal Zone Management Act.** The CZMA calls for the "effective management,
43 beneficial use, protection, and development" of the Nation's coastal zone and promotes active state
44 involvement in achieving those goals. To reach those goals, the CZMA requires participating states to
45 develop management programs that demonstrate how these states will meet their obligations and
46 responsibilities in managing their coastal areas. In Louisiana, the Department of Natural Resources

1 (LDNR) is the agency responsible for administering its Coastal Zone Management Program (CZMP).⁹
2 Gulf Landing LLC must prepare a consistency certification finding that its proposed activities would be
3 fully consistent with the enforceable policies of Louisiana's CZMP and submit it to the LDNR for review.

4 ***Provisions of the Marine Protection, Research and Sanctuaries Act.*** Under Section 101 of the Marine
5 Protection, Research and Sanctuaries Act (MPRSA), 33 United States Code (U.S.C.) 1401, no person
6 may transport material from the United States for the purpose of dumping it in ocean waters in the
7 absence of a permit issued by USEPA pursuant to Section 102 of the Act. "Dumping" does not, however,
8 include "construction of any fixed structure or artificial island nor the intentional placement of any device
9 in ocean waters, or on or in the submerged land beneath such waters, for a purpose other than disposal,
10 when such construction or such placement is otherwise regulated by Federal or state law..." The
11 construction of the proposed deepwater Port falls within the ambit of this statutory exclusion.

⁹ In the Notice of Application, the USCG designated the State of Louisiana as an adjacent coastal state. Vol. 69,
Federal Register, No. 14, Thursday, January 22, 2004, pp 3,165-67.