

U. S. Department of
Homeland Security

United States
Coast Guard



Commandant
United States Coast Guard

2100 Second Street, S.W.
Washington, DC 20593-0001
Staff Symbol: G-ICA
Phone: (202) 366-4280
FAX: (202) 366-7124

DEPARTMENT OF HOMELAND SECURITY

U. S. COAST GUARD

STATEMENT OF

REAR ADMIRAL THOMAS H. GILMOUR

ON

COAST GUARD'S ROLE IN LNG SAFETY AND SECURITY

BEFORE THE

**SUBCOMMITTEE ON ENERGY POLICY, NATURAL RESOURCES AND
REGULATORY AFFAIRS**

COMMITTEE ON GOVERNMENT REFORM

U. S. HOUSE OF REPRESENTATIVES

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REAR ADMIRAL THOMAS H. GILMOUR
Assistant Commandant for Marine Safety,
Security and Environmental Protection
United States Coast Guard



Rear Admiral Gilmour became the Assistant Commandant for Marine Safety, Security and Environmental Protection on June 30, 2003. In this capacity, he directs national and international regulatory programs for commercial vessel safety, port safety and security, waterways management, and marine environmental protection.

His first flag assignment was Commander of Maintenance and Logistics Command Pacific, Alameda, California from 2001-2003, where he directed logistical and system support for all units and personnel in the Pacific Area.

A 1972 Graduate of the Coast Guard Academy, RADM Gilmour later attended the University of Michigan earning Master of Science degrees in both Naval Architecture and Marine Engineering, and Mechanical Engineering.



In 1996 RADM Gilmour was assigned to the Chief of Naval Operations Strategic Studies Group as a CNO Fellow. He worked with eight Navy Captains and one Marine Colonel to develop revolutionary concepts for future naval warfighting, reporting directly to the Chief of Naval Operations.

RADM Gilmour's field assignments have been in the Marine Safety and Operations Ashore areas. From 1993-1996 he served as Captain of the Port and Group Commander for the Port of New York. While there his command provided security for the 50th anniversary of the United Nations and the Haitian Peace Talks, as well as responding to over 3,900 search and rescue cases and 2,200 chemical and oil spills. He also formed and was the first Commanding Officer of Activities New York in 1996, which combined all operational units in New York into the largest operational command in the Coast Guard. Other operational assignments include Executive Officer and Alternate Captain of the Port at Marine Safety Office, San Francisco Bay; Marine Inspector and New Construction Branch Chief at Marine Inspection Office New Orleans; Commanding Officer LORAN Station Cape Athol, Greenland; and Operations Officer on the Coast Guard cutter MODOC in Coos Bay, Oregon.

RADM Gilmour's staff assignments include: Chief of Staff of the 13th Coast Guard District in Seattle, Washington, from 2000-2001 and Director of Field Activities for the Assistant Commandant for Marine Safety and Environmental Protection where he oversaw all Marine Safety Operations, from 1997-2000. He also headed the U.S. Delegation to the Flag State Implementation Sub-Committee at the International Maritime Organization in London. He was Executive Director of the Interagency Ship Structure Committee where he also served as a United States delegate to the International Ship Structures Congress, from 1986-1989. Earlier he was an engineer in the Marine Technical and Hazardous Materials Division. He also served as Staff Naval Architect in the Merchant Marine Technical Division in the Eighth Coast Guard District in New Orleans, LA.

His awards include the Legion of Merit, Meritorious Service Medal, Coast Guard Commendation Medal, Coast Guard Achievement Medal, Commandant Letter of Commendation Ribbon, Unit Commendation Ribbon, and Special Operations Ribbon among many others.

Rear Admiral Gilmour is married to the former Janice Graden of Springfield, Oregon. They have three children, Scott, Elizabeth, and David.

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REAR ADMIRAL THOMAS H. GILMOUR
ASSISTANT COMMANDANT FOR MARINE SAFETY, SECURITY AND
ENVIRONMENTAL PROTECTION
ON THE
COAST GUARD'S ROLE IN LIQUEFIED NATURAL GAS SAFETY AND
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Introduction

Good morning Mr. Chairman and distinguished members of the Subcommittee. I am Rear Admiral Thomas Gilmour, Assistant Commandant for Marine Safety, Security and Environmental Protection. It is my pleasure to appear before you today to discuss the Coast Guard's role in the safety and security of Liquefied Natural Gas (LNG) vessels and facilities, and how the Coast Guard is cooperating with other Federal Agencies on this important National issue.

As the Federal Government's lead agency for Maritime Homeland Security, the Coast Guard plays a major role in ensuring that all facets of marine transportation of LNG, including LNG vessels, shoreside terminals, and proposed LNG deepwater ports, are operated safely, and that the risks associated with the marine transportation of LNG are managed responsibly. Today, I will briefly review the applicable laws and regulations that provide our authority and the requirements for the safe and secure operation of the vessels, shoreside terminals, and deepwater ports. I will also describe how the Coast Guard is working with the other Federal entities here today, as fellow stakeholders in LNG safety and security.

LNG Vessel Safety

Today, there are approximately 150 LNG vessels operating worldwide; only two of these vessels are U.S. flag, the POLAR EAGLE and the ARCTIC SUN, which operate out of the export facility in Kenai, AK. Although the majority of the world's LNG fleet is foreign flag, all LNG vessels calling in the U.S. must meet both our domestic regulations and international requirements. Our domestic regulations for LNG vessels were developed in the 1970s under the authority of the various vessel inspection statutes now codified in Title 46, United States Code. Relevant laws providing the genesis for LNG vessel regulation include the Tank Vessel Act (46 U.S.C. 391a) and the Ports and Waterways Safety Act of 1972, as amended by the Port and Tanker Safety Act of 1978 (33 U.S.C. 1221, *et. seq.*). Regulations located in Title 46, Code of Federal Regulations (CFR) Part 154, "Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gasses," specify requirements for the vessel's design, construction, equipment and operation. Our domestic regulations closely parallel the applicable international requirements, but are more stringent in the following areas: the requirements for

enhanced grades of steel for crack arresting purposes in certain areas of the hull, specification of higher allowable stress factors for certain independent type tanks, and prohibiting the use of cargo venting as a means of cargo temperature or pressure control.

All LNG vessels in international service must comply with the major maritime treaties agreed to by the International Maritime Organization (IMO), such as the International Convention for the Safety of Life at Sea, popularly known as the “SOLAS Convention” and the International Convention for the Prevention of Pollution from Ships, popularly known as the “MARPOL Convention.” In addition, LNG vessels must comply with the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, known as the “IGC Code.”

Before being allowed to trade in the United States, operators of foreign flag LNG carriers must submit detailed vessel plans and other information to the Coast Guard’s Marine Safety Center (MSC) to establish that the vessels have been constructed to the higher standards required by our domestic regulations. Upon satisfactory review of the plan by the MSC and on-site verification by Coast Guard marine inspectors, the vessel is issued a Certificate of Compliance. This indicates that it has been found in compliance with applicable design, construction and outfitting requirements.

The Certificate of Compliance is valid for a two-year period, subject to an annual examination by Coast Guard marine inspectors, who verify that the vessel remains in compliance with all applicable requirements. As required by 46 U.S.C. 3714, this annual examination is required of all tank vessels, including LNG carriers.

The Coast Guard has long recognized the unique safety and security challenges posed by transporting millions of gallons of LNG or “cryogenic methane.” Accordingly, LNG vessels typically undergo a much more frequent and rigorous examination process than conventional crude oil or product tankers. LNG vessels are boarded by marine safety personnel prior to each U.S. port entry to verify the proper operation of key navigation safety, fire fighting and cargo control systems.

LNG Vessel Security

In addition to undergoing a much more rigorous and frequent examination of key operating and safety systems, LNG vessels are subject to additional measures of security. Many of the special security precautions the Coast Guard has established for LNG vessels derived from our analysis of “conventional” navigation safety risks such as groundings, collisions, propulsion or steering system failures. These precautions predated the September 11, 2001 tragedy, and include such things as special vessel traffic control measures that are implemented when an LNG vessel is transiting the port or its approaches, safety zones around the vessel to prevent other vessels from approaching nearby, escorts by Coast Guard patrol craft, and, as local conditions warrant, coordination with other Federal, State and local transportation, law enforcement and/or emergency management agencies to reduce the risks to, or minimize the interference from other port area infrastructure or activities. These activities are conducted under the authority of existing port safety and security statutes, such as the Magnuson Act (50 U.S.C. 191 *et seq.*) and the Ports and Waterways Safety Act, as amended.

Since September 11, 2001, additional security measures have been implemented, including the requirement that all vessels calling in the U.S. must provide the Coast Guard with a 96 hours advance notice of arrival (increased from 24 hours advance notice pre-9/11). This notice includes information on the vessel's last ports of call, crew identities, and cargo information. The Coast Guard has classified LNG vessels as "High Interest Vessels," and now subjects them to at-sea boardings, where Coast Guard personnel conduct special "security sweeps" of the vessel and ensure "positive control" of the vessel is maintained throughout its port transit. This is in addition to the safety oriented boardings previously described.

Of course, one of the most important post-9/11 maritime security developments has been the passage of the Maritime Transportation Security Act of 2002 (MTSA). Under the authority of MTSA, the Coast Guard developed a comprehensive new body of security measures applicable to vessels, marine facilities and maritime personnel. Our domestic maritime security regime is closely aligned with the International Ship and Port Facility Security (ISPS) Code. The ISPS Code, a mandatory requirement of the SOLAS Convention, was adopted at the IMO in December 2002 and comes into effect on July 1st of this year. Under the ISPS Code, vessels in international service, including LNG vessels, must have an International Ship Security Certificate (ISSC). To be issued an ISSC by its flag state, the vessel must develop and implement a threat-scalable security plan that, among other things, establishes access control measures, security measures for cargo handling and delivery of ships stores, surveillance and monitoring, security communications, security incident procedures, and training and drill requirements. The plan must also identify a Ship Security Officer who is responsible for ensuring compliance with the ship's security plan. The Coast Guard will rigorously enforce this international requirement by evaluating security compliance as part of our ongoing port state control program.

Shoreside LNG Terminal Safety

Presently there are six shoreside LNG terminals in the U.S. and U.S. Territories: the export facility in Kenai, AK; and, import terminals in Everett, MA; Cove Point, MD; Elba Island, GA; Lake Charles, LA; and Penuelas, PR. Regulations developed under the authority of the Ports and Waterways Safety Act assign the Coast Guard the responsibility for safety issues within the "marine transfer area" of LNG terminals. These regulations are located in Title 33 CFR Part 127. The "marine transfer area" is defined as that part of a waterfront facility between the vessel, or where the vessel moors, and the first shutoff valve on the pipeline immediately before the receiving tanks. The Department of Transportation (DOT) Research and Special Programs Administration's (RSPA) Office of Pipeline Safety has jurisdiction from that point inland. Safety issues within our purview in the marine transfer area include electrical power systems, lighting, communications, transfer hoses and piping systems, gas detection systems and alarms, firefighting equipment, and operational matters such as approval of the terminal's Operations and Emergency Manuals and personnel training.

Shoreside LNG Terminal Security

New "Maritime Security Regulations for Facilities", found in Title 33 CFR Part 105, were developed under the authority of MTSA. These regulations require the LNG terminal operator to conduct a facility security assessment and develop a threat-scalable security plan that addresses the risks identified in the assessment. Much like the

requirements prescribed for vessels, the facility security plan establishes access control measures, security measures for cargo handling and delivery of supplies, surveillance and monitoring, security communications, security incident procedures, and training and drill requirements. The plan must also identify a Facility Security Officer who is responsible for ensuring compliance with the facility security plan. The six existing U.S. LNG terminals were required to submit their security plans to the Coast Guard for review and approval last December, and full implementation of the plan is required by July 1, 2004. These reviews have been completed, and the terminals' compliance with the plans will be verified by local Coast Guard port security personnel through scheduled on-site examinations. In contrast to our safety responsibility, whereby our authority is limited to the "marine transfer area," our authority regarding the security plan can, depending upon the particular layout of the terminal, encompass the entire facility.

Shoreside LNG Terminal Siting

The Federal Energy Regulatory Commission (FERC) has siting authority for LNG terminals. However, the Coast Guard plays a role in the siting process. As required by 33 CFR 127.007, an owner or operator who intends to build a new LNG facility, or who plans new construction on an existing facility, must submit a "Letter of Intent" to the Coast Guard Captain of the Port in whose zone the facility is located. This letter must be submitted no later than 60 days prior to construction and must provide information on: the physical location of the facility; a description of the facility; the characteristics of the vessels intended to visit the facility and the frequency of visits; and, charts that show waterway channels and identify commercial, industrial, environmentally sensitive, and residential areas in and adjacent to the waterway to be used by vessels enroute to the facility, within 15.5 miles of the facility.

The Captain of the Port reviews the information provided by the applicant and makes a determination on the suitability of the waterway for LNG vessels. Factors considered include: density and characteristics of marine traffic in the waterway; locks, bridges or other man made obstructions in the waterway; the hydrologic features of the waterway, e.g., water depth, channel width, currents and tides, natural hazards such as reefs and sand bars; and underwater pipelines and cables. As required by 33 CFR 127.009, the Captain of the Port issues a "Letter of Recommendation" to the owner or operator of the proposed facility, and to the state and local government agencies having jurisdiction, as to the suitability of the waterway for the proposal.

On February 10, 2004, the Coast Guard entered into an Interagency Agreement with FERC and RSPA to work in a coordinated manner to address issues regarding safety and security at waterfront LNG facilities, including terminal facilities and tanker operations, to avoid duplication of effort, and to maximize the exchange of relevant information related to the safety and security aspects of LNG facilities and the related maritime concerns. An example work product of the enhanced cooperation between FERC and the Coast Guard brought about by this Interagency Agreement, is the recently completed Final Environmental Impact Statement (EIS) for the proposed Freeport, TX, LNG Import Terminal Project (FERC Docket CP03-75-000). In addition to more timely and efficient interaction between the local Coast Guard Captain of the Port and FERC staff, this LNG terminal EIS was the first to take into account the security measures required by MTSAs, as well as the recent study sponsored by FERC, entitled: *Consequence Assessment Methods for Incidents Involving Releases from Liquefied Natural Gas Carriers*.

The issue of constructing new shoreside LNG terminals has been controversial, due in large part to public concerns over the safety and security of LNG vessel operations. Although there is no specific regulatory requirement to take into account the capacity of the LNG vessel when calculating the size of the exclusion zone surrounding the facility, this factor is considered in the EIS. The models presented in the FERC study are but one tool used to determine the overall suitability of the terminal site. In this regard, it is important to note that all the work in this area of science is theoretical, as a large scale marine release of LNG has not occurred in the history of this industry. Therefore, the Coast Guard is focusing on deterrent measures, which can be taken to responsibly manage the risks associated with the marine transportation of LNG.

LNG Deepwater Ports: Authority and Agency Relationships

The Coast Guard's authority to regulate deepwater ports (DWPs) derives from the Deepwater Port Act of 1974 (DWPA); and, the regulations pertaining to the licensing, design, equipment and operation of DWPs are found in Title 33 CFR Subchapter NN (Parts 148, 149 and 150). Originally pertaining only to oil, the MTSA amended the Deepwater Port Act to include natural gas. This Act allows for the licensing of deepwater ports in the Exclusive Economic Zone along all maritime coasts of the United States. The Secretary of Homeland Security and the Secretary of Transportation delegated the processing of deepwater port applications to the Coast Guard and the Maritime Administration (MARAD), respectively. MARAD is the license issuing authority, while the Coast Guard is the lead on the application review, and has primary jurisdiction over design, equipment and operations. The DWPA establishes a specific time frame of 330 days from the date of publication of a Federal Register notice of a "complete" application to the date of approval or denial of a deepwater port license. Among other requirements, an applicant for a DWP license must demonstrate consistency with the Coastal Zone Management Plan of the adjacent coastal States.

The Coast Guard and MARAD, in cooperation with other Federal agencies, must comply with the requirements of the National Environmental Policy Act in processing DWP applications within the timeframes prescribed in the Deepwater Port Act. Currently, the Coast Guard is processing eight DWP applications, including two that have already been licensed: Chevron-Texaco's Port Pelican project and El Paso Corporation's Energy Bridge project, both of which are located offshore of Louisiana. A variety of energy corporations have announced their intentions to submit future applications for LNG DWPs.

To expedite the application review process, and more efficiently coordinate the activities of the numerous stakeholder agencies, the Coast Guard entered into a Memorandum of Understanding (MOU), involving more than a dozen agencies, including FERC, the National Ocean Service, the Environmental Protection Agency, the U.S. Department of the Interior, and the Minerals Management Service. The MOU obliges the participating agencies to work with each other, and with other entities as appropriate, to ensure that timely decisions are made and that the responsibilities of each agency are met. Briefly, these responsibilities include: assessing their particular role in the environmental review of DWP licenses; identifying agency contacts for the proposed project; meeting with prospective applicants and other agency representatives to identify areas of potential concern and to assess the need for and availability of agency resources

to address issues related to the proposed project; and identifying environmental issues and concerns related to the proposed project that need to be addressed in order for the lead agency to meet its obligations.

LNG Deepwater Ports Safety and Security

While conventional crude oil DWPs have been in operation around the world for many years, LNG DWPs are an emerging concept; currently there are none in operation anywhere. There are a variety of different designs under development that borrow from designs and technology that have been time-tested in the crude oil and the LNG industries. Proposals include ship-shaped hull designs similar to existing Floating Production, Storage and Offloading (FPSO) units, platform based storage and degasification units, gravity based structures, and innovative docking structures that attach directly to the LNG carrier as it ties off to a single point mooring. Because this is a new concept, the Coast Guard's regulations apply a "design basis" approach, rather than mandate a series of prescriptive requirements. Under a "design basis" approach, each concept is evaluated on its own technical merits, using relevant engineering standards and concepts that have been approved by recognized vessel classification societies and other competent industrial and technical bodies. In addition, the Coast Guard's DWP regulations require that all LNG DWPs develop and implement a security plan that addresses the key security plan elements provided in Title 33 CFR Part 106, "Maritime Security: Outer Continental Shelf Facilities."

Thank you for giving me this opportunity to discuss the Coast Guard's role in LNG safety and security and our relationships with other stakeholder agencies. I will be happy to answer any questions you may have.