50-317/318

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
COMMANDER
FIFTH COAST GUARD DISTRICT
FEDERAL BUILDING
431 CRAWFORD STREET
PORTSMOUTH, VIRGINIA 23705

9 MAR 1978

CHESAPEAKE BAY LNG OPLAN

LETTER OF PROMULGATION

1. Purpose. This plan establishes procedures to ensure the safe arrival, transit, and departure of vessels carrying liquefied natural gas on the Chesapeake Bay and establishes operational requirements for the safe transfer of LNG at the Cove Point LNG Terminal, Cove Point, MD.

2. Background. The transit and discharge operations of LNG vessels require precautionary measures due to both the flammable nature of the cargo and the public's concern. There has never been a marine transportation-related casualty involving LNG. In an effort to perpetuate this record, LNG facilities and LNG vessels intended for operation in United States waters are required to be built in accordance with the highest safety standards and are subjected to a comprehensive periodic inspection program to ensure that the preventive maintenance efforts of their owners and operators are effective.

3. Action. The procedures and operating requirements contained herein are promulgated under the authority of the Ports and Waterways Safety Act as contained in Title 33, Code of Federal Regulations, Part 160, and the regulations contained in Title 33, Code of Federal Regulations (Parts 3, 6, 121, and 124-128), and Title 46, Code of Federal Regulations (Parts 30-40 and 154). This OPLAN constitutes a COTP Order issued pursuant to 33 USC 1224 and 33 CFR 160 and, since the LNG operations in the Chesapeake Bay area will encompass two COTP zones, this order is issued jointly by the Captain of the Port, Baltimore, MD, and the Captain of the Port, Hampton Roads, VA. All licensed officers and pilots aboard LNG carriers shall be familiar with the provisions of this plan and ensure that all LNG operations conducted on the Chesapeake Bay comply. Each Captain of the Port shall periodically review this plan to ensure that adequate precautions are being undertaken to provide for the safe transit and handling of this cargo, to ensure that Coast Guard inspectors involved are adequately trained and to ensure that such transit will not needlessly hinder other maritime commerce throughout the Bay. Changes to this operations plan will be issued jointly to update portions of the plan as necessary. Nothing in this plan shall preclude a Captain of the Port from imposing additional requirements upon vessels and facilities

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engaged in LNG operations when he has determined that such actions are necessary in the interest of safety.

K. B. SCHUMACHER
Captain of the Port
Baltimore, MD

C R. THOMPSON
Captain of the Port
Hampton Roads, VA

Distribution:
COMDT (G-W) (1)
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USCGC POINT HURON (1)
USCGC POINT BROWN (1)
Group Chincoteague (2)
Columbia LNG Corporation (3)
El Paso Marine Company (3)
Association of Maryland Pilots (2)
Virginia Pilots Association (2)

U. S. COAST GUARD

CAPTAIN OF THE PORT

BALTIMORE/HAMPTON ROADS

CHESAPEAKE BAY LNG OPLAN

CONTENTS

RECORD OF CHANGES

CHANGE NO.	DATE	PERSON ENTERING CHANGES

BACKGROUND INFORMATION

Liquefied Natural Gas or LNG is basically methane, a flammable gas found in nature which has been liquefied by decreasing the temperature to 260°F. The process decreases the volume of the gas approximately 600 times, making it economically feasible to transport it from one point to another. Liquefaction by refrigeration is advantageous in that the LNG is carried at or near ambient pressure.

The largest LNG terminal in the United States is at Cove Point, MD. It was built by Columbia LNG Corporation and receives base loads of LNG from dedicated carriers owned or chartered by a subsidiary of the El Paso Company. The initial nine carriers were built by Avondale Shipyards, Inc., Avondale, LA; Newport News Shipbuilding, Newport News, VA; and Chantier de France-Dunkerque, Dunkerque, France.

The terminal's receiving facility is located one mile offshore and is connected to the storage tanks by a three-section tunnel. The approach to the pier covers a 90-mile expanse of the Chesapeake Bay. This area is removed from major population centers.

The capital outlay involved in procuring the vessels and the receiving facility is significant. Columbia LNG Corporation and Consolidated Systems LNG Corporation spent 300 million dollars to build the Cove Point facility. The replacement cost of an El Paso vessel has been established at 160 million dollars by insurance appraisers.

The Coast Guard, as the federal agency responsible for regulating the entire transit and transfer of LNG between vessels and facilities, will continuously monitor critical phases of the operations. In addition, operational requirements have been imposed on both the vessels and the terminal. These requirements were developed taking the following factors into consideration.

> That which is best for the public interest, from the standpoint of both safety and the national economy; the effects of the geographic configuration of the waterway involved; the expected prudent seamanship of the professional licensed mariners who will be operating the vessels involved; the conscientiousness of the owners and operators of both the vessels and the facilities involved and the very high standards to which both the vessels and the facilities are required to be built and maintained.

Furthermore, LNG vessel and facility operators must adhere strictly to their own transit and transfer procedures manuals. These manuals must be found acceptable in all respects by the Coast Guard prior to any LNG operation being authorized. Qualified Coast Guard personnel will be present during each transfer operation to insure that all the requirements of this order are met throughout all transfer operations.

PART I--THE VESSEL

1. LNG vessels shall give the COTP Baltimore 72-hours advance notice of arrival at Cape Henry enroute the LNG facility at Cove Point, MD. This advance notice of arrival shall include the vessel's draft and a statement by the master to the effect that:

> "To the best of my knowledge and belief, there are no known casualties to this vessel or its machinery which might affect her seaworthiness. I further state that all cryogenic-handling and detection equipment is in proper operating condition, except (enter any exceptions)_____
> _____
> _____
>
> MASTER: _____

Should any such deficiency develop subsequent to sending the 72-hour advance message, another message describing the discrepancy in detail shall be sent to COTP Baltimore immediately. It is anticipated that the maximum draft of the LNG vessels which are going to transit Chesapeake Bay will be 36 feet. Should the draft of a particular vessel vary from this by more than one foot, that vessel shall include its expected draft on arrival at Chesapeake Bay in its 72-hour advance notice message.

2. Each U. S. flag vessel shall have on board a valid Certificate of Inspection and foreign flag vessels shall have a current Letter of Compliance or an IMCO Gas Code Certificate. All vessels shall have on board all appropriate ships documents and an up-to-date set of plans in English covering:

a. Cargo tank arrangement

b. Cargo tank venting arrangement

c. Cargo piping arrangement

d. Capacity plan

e. Firefighting plan

f. Safety plan

g. Up-to-date standard operating procedures for cargo systems

3. In addition, at least one licensed officer capable of speaking fluent English and knowledgeable in the vessel's cargo systems must be aboard at all times. When the officer in charge of cargo transfer does not speak English, there must also be an English-speaking interpreter on watch with him.

4. Crews aboard foreign LNG vessels shall have specialized LNG-related training or experience of a level comparable to or greater than that originally required of the crews of the dedicated U. S. flag LNG carriers calling at Cove Point, MD. Foreign vessels shall also be manned with licensed officers at a level comparable to or greater than that required by the U. S. Certificate for like-size vessels.

5. Initial Letter of Compliance (LOC) inspections will be completed prior to entry into Chesapeake Bay. It is intended to conduct these LOC inspections at sea. Arrangements for boarding of Coast Guard inspectors will be made on a case-by-case basis.

6. Masters of all vessels are reminded of the requirements of the Navigation Safety Regulations (33 CFR 164) and the Regulated Navigation Area (33 CFR 128).

7. A joint Captain of the Port and Officer in Charge, Marine Inspection, boarding shall be made when each vessel makes its initial call to a United States port. The purpose of these boardings is to examine the vessels immediately prior to entering a U. S. port for the first time to ensure that the vessel meets the required standards and to establish any special standards that might be peculiar to a certain vessel. Inspectors from the Marine Safety Office, Hampton Roads, shall board all LNG vessels on subsequent arrivals at Cape Henry to ensure that all of the standards set during a vessel's initial examination continue to be met.

PART II--THE TRANSIT

1. All LNG vessels, upon entering U. S. waters and when approaching Chesapeake Bay, shall notify the Captain of the Port, Hampton Roads, of the vessel's position, course, speed, and visibility. This notification shall be made by an initial call on Channel 16 (156.8 Mhz), with the report being passed on Channel 12 (156.6 Mhz). In addition, each LNG vessel navigating in U. S. waters, either inbound or outbound, shall immediately notify the cognizant Captain of the Port, via Channel 16 (156.8 Mhz), of the vessel's position, course, speed, and visibility in each instance when visibility decreases to less than accepted navigational limits.

2. All LNG vessels shall guard Channel 13 (156.65 Mhz) and 16 (156.8 Mhz) and have the ability to communicate on Channel 12 (156.6 Mhz). All communications shall be in English. Prior to arrival at Cape Henry, a Local Notice to Mariners will be issued by the Coast Guard advising the marine community of transit and transfer operations. The entire transit to Cove Point shall take place during daylight hours and shall not begin unless visibility in the vicinity of Cape Henry is three miles or greater. All LNG vessels will arrive at the pilot station after sunrise and prior to 10 hours before sunset.

3. The Captain of the Port, Baltimore, shall notify Captain of the Port, Hampton Roads, in advance of the arrival of all LNG vessels. Upon notification, the Captain of the Port, Hampton Roads, shall make arrangements to board the vessels in the vicinity of Cape Henry, VA, (via the Maryland Pilot Launch) for a safety inspection. The inspection will be conducted by personnel from the Marine Safety Office, Hampton Roads, while the vessel is underway enroute Cove Point, MD. Upon satisfactory completion of the inspection, the inspection party shall immediately notify the Captain of the Port, Hampton Roads, who shall, in turn, notify the Captain of the Port, Baltimore, by message. To facilitate a timely boarding and inspection, a conservative 12-hour ETA is requested with the vessel adjusting speed to meet same.

4. Under normal operating conditions, a vessel in U. S. waters shall not vent cargo vapors to the atmosphere as a means of pressure/temperature control. Should emergency venting become necessary, the master of an LNG vessel shall immediately notify the COTP in whose zone the vessel is located. This notification shall include the location, the amount of venting, the cause of the emergency venting, and the wind velocity and direction at the time of venting.

5. All LNG vessels shall notify the Captain of the Port, Baltimore, of any changes or update to its estimated time of arrival at the Cove Point terminal of 30 minutes or more.

6. In an emergency situation, the vessel may be directed to anchor at a site selected by the cognizant Captain of the Port (if south of Smith Point, Captain of the Port, Hampton Roads; if north, Captain of the Port, Baltimore). If an emergency occurs where radio communications are inadequate and the Marine Safety Office cannot be immediately contacted, messages can be relayed via Coast Guard Group Hampton Roads in the lower Chesapeake Bay, Coast Guard Group Chincoteague (Chink-O-tig) in mid-Chesapeake Bay, or Coast Guard Group Baltimore in the upper Chesapeake Bay.

7. No LNG vessel shall enter Thimble Shoals Channel, unless that vessel is gas freed, without the expressed permission of the COTP Hampton Roads. LNG vessels with all cargo tanks certified to be gas free are not governed by the provisions of this OPLAN.

8. An inspection or test that indicates a circumstance exists that would cause any doubt as to a safe transfer of cargo shall be repeated after a satisfactory repair or correction is made. A satisfactory result shall be observed and recorded prior to commencing the transfer operations.

9. If an LNG vessel anchors for any reason (master's judgement/Coast Guard direction), the vessel shall inform the cognizant COTP of the conditions and location of the vessel. The COTP shall broadcast a Notice to Mariners advising caution while transiting the anchorage area and take what action he deems appropriate for the situation (surveillance, escort, etc.). When, in the judgement of the master or by direction of the Coast Guard, the vessel is ready to leave anchorage, the vessel shall inform the Coast Guard of her intentions and the COTP shall respond appropriately.

10. An uncorrectable discrepancy noted at the safety boarding which will:

a. Hazard the Chesapeake Bay during transit, or

b. Make transfer impossible or dangerous,

will be cause for the safety inspector to immediately direct the vessel to return to international waters. Other discrepancies noted shall be relayed to COTP's Hampton Roads and Baltimore for consideration as to action to be taken (See Annex I).

11. The LNG vessel shall be accompanied by a Coast Guard vessel during the inbound transit of Chesapeake Bay. The anticipated speed of advance will be approximately 12 knots with possible modifications due to weather/sea conditions. The Coast Guard vessel shall be assigned on a dedicated basis and may not be diverted for routine SAR cases, but on occasion may participate in a rescue of opportunity. If the accompanying Coast Guard vessel is diverted, the LNG vessel may continue its transit. In this event, the master shall pass the vessel's position to the Marine Safety Office, Baltimore, or the Marine Safety Office, Hampton Roads, every half hour.

12. During heavy ice years, there have been draft limitations of 34 feet in the vicinity of York Spit Channel and the Rappahannock Shoal Channel. The possibility exists that the aids to navigation marking these channels will be obliterated or off station due to the ice, and that said draft limitations may again be imposed. Any restrictions imposed apply to all vessels transiting the Bay.

13. The Maryland pilots shall be alert and well rested prior to assuming duty on board an LNG carrier.

PART III--VESSEL REQUIREMENTS ON BERTHING

1. The vessel must be suitably moored prior to commencing transfer operations. Sufficient mooring lines must be used to control forward and aft motion. Breast lines will be used to maintain the vessel's position. The vessel must provide suitable tow wire at the bow and stern rigged for emergency use.

2. A joint pre-transfer briefing with Coast Guard, facility, and vessel personnel shall be held at the facility on each vessel's port call. This briefing is to ensure that the vessel and the facility are in compliance with the requirements established by COTP Baltimore and to ensure that there are no misunderstandings concerning the procedures that are required. Any discrepancies or unsatisfactory conditions revealed during the pre-transfer briefing will be corrected to the satisfaction of the COTP prior to commencing transfer operations.

3. Firefighting and first-aid equipment must either be laid out or accessible and ready, including self-contained breathing apparatus and heat-resistant, protective clothing. Gas detectors must be aboard and tested.

4. Vessel emergency shut-down equipment must be tested prior to commencing transfer operations.

5. Loading arms shall be adjusted to compensate for changes of tide and/or changes in the vessel's draft during cargo transfer.

6. All electrically powered systems used in any area where cargo or cargo vapor might be present during transfer operations (including lighting, alarm, pumping, and communication systems) shall be an approved explosion-proof or an intrinsically safe type on both the facility and the vessel, and shall adhere to applicable Coast Guard, NFPA, UL, API, and state codes, regulations, and standards.

7. If gas-freeing of cargo tanks is necessary, gas-freeing must be accomplished utilizing inert gas.

8. LNG vessels shall not attempt to moor if the sustained wind speed is greater than 35 knots. When moored and transferring, transfer operations shall be halted and the loading arm disconected if the sustained wind speed is greater than 35 knots. The vessel shall get underway if the sustained wind speed is greater than 45 knots. Sustained wind speed denotes a duration of 10 minutes with a constant velocity.

PART IV--WATERFRONT FACILITY REQUIREMENTS

1. The Cove Point LNG terminal shall be maintained in complinace with provisions of 33 CFR 126.15 and 126.16 in order to retain its designation as a facility of particular hazard. Should the facility fail to maintain this compliance posture, the designation as a facility of particular hazard shall be withdrawn and all transfer operations of LNG between vessels and the facility shall be prohibited until such time the conditions of 33 CFR 126.15 and 126.16 are met and the COTP Baltimore reinstates the designation.

2. The facility was granted designation after the Captain of the Port evaluated the potential for hazard at the location, approved the facility's operating procedures, and inspected it for compliance with the provisions of 33 CFR 126.15 and 126.16.

3. The facility operator submitted a detailed operating plan to the Captain of the Port for review. The plan covered standard operating and emergency procedures, shutdown, and other steps to ensure that the escape of gas or liquid is promptly cut off. The plan provides a detailed description of firefighting equipment. The operating plan will be updated to include significant changes as they occur.

4. The waterfront facility must possess the necessary permits and certificates to assure that the facility complies with the regulations, ordinances, and standards of the state, county, and municipality.

5. The Captain of the Port must be provided with a list of terminal employees and supervisors certified by the facility operator to be professionally qualified to handle LNG.

6. The mooring areas must be adequately lighted to assure that passing vessels will see the moored vessel. On the terminal, the location and amount of lighting must be sufficient to ensure safe handling of the product.

7. Portable fire extinguishers or fixed systems suitable for gas fires (preferably of the dry-chemical type) must be available at strategic locations within the facility.

8. Whenever an LNG vessel that is <u>not</u> gas free is moored at the facility, facility monitoring and supervisory personnel shall utilize portable gas indicators capable of detecting concentrations of flammable gas at or below 30% of the lower flammable limit of LNG.

9. The facility cargo-transfer system must have an emergency shutdown with personnel present for immediate activation. There must be a means of communication between shut-down locations and the person on the vessel in charge of transfer operations.

10. All piping to the pier must be color coded or labeled. Provisions must be made for expansion and contraction of the pipeline.

11. All electrical equipment, fixtures, switches, boxes, etc., located in hazardous areas where LNG or LNG vapor might be present must be of an approved explosion-proof or intrinsically safe design.

12. Current federal regulations regarding LNG facilities are contained in 46 CFR 192 which incorporates NFPA Standard 59a. Compliance with these regulations is mandatory. The facility operator shall certify compliance to the Captain of the Port in writing prior to initial operations and shall certify continued compliance at the beginning of each calendar year thereafter.

13. Facility personnel used for LNG transfer operations shall be certified as having been thoroughly trained regarding the controls and piping systems on the LNG piers, the uses and limitations of the fire-fighting equipment on the LNG piers, and the personnel hazards of LNG including the dangers to human tissue.

14. The facility operator shall ensure that the facility receives any required reinspections by local agencies to assure continuing compliance with all local and state ordinances. Coast Guard personnel who monitor the LNG transfer operations shall ensure that all the required permits are kept current. If any permit is found to be expired, or a provision to have lapsed, the Coast Guard monitor shall report such deficiency immediately to COTP Baltimore. If the deficiency noted poses a hazard or threat to the LNG transfer operation, the COTP shall withdraw the authority for the facility to operate as a facility of particular hazard, and he shall order that all transfer operations cease until the deficiency is corrected.

PART V--TRANSFER OPERATIONS

1. Transfer operations shall not begin until expressly authorized by the COTP or his authorized representative. This authorization shall be given only after the vessel and terminal personnel agree that all systems are set for safe transfer operations.

2. Welding, burning, hot work, smoking, open flames, or similar activities are not allowed on the vessel or on the facility during transfer except with specific approval of COTP Baltimore.

3. The persons in charge of the LNG transfer, both on the vessel and the facility, shall be stationed at their respective cargo-control stations during transfer operations so they can respond immediately to an emergency situation. Persons qualified and assigned as "in charge of the transfer operations" shall be designated in writing. This designation shall be readily available to the Coast Guard monitor during any transferring of LNG.

4. Where the emergency shutdown is remote from the cargo control station, access must be clear at all times. The shutdown stations shall be clearly marked and readily available to the crew in an emergency.

5. Unauthorized boats are prohibited from transiting or "hovering" in the vicinity of the Cove Point LNG terminal and the vessel moored thereto due to the hazard that they could present by their presence. A permanent area of restricted navigation will be established around the terminal by COTP Baltimore.

6. In accordance with NFPA Standard 59a, general cargo operations (the handling of ships stores) shall not be conducted within 100 feet of the LNG transfer point (unloading arms). Specific authorization shall be obtained from the COTP or his authorized representative prior to conducting any general cargo operations.

7. The facility operator shall ensure that the facility and its personnel adhere to all appropriate safety regulations during all LNG transfer operations.

8. No vehicles shall be operated within 100 feet of the unloading arms during LNG transfer operations. Suitable warning signs/signals shall be used when transfer operations are in progress. Only those types of vehicles deemed suitable for operation in atmospheres containing flammable vapors (in accordance with 46 CFR 35.70-7) shall be used on the LNG piers.

PART VI--EMERGENCY PLANS

1. Prior to the authorization of any LNG transfer operation at the Cove Point terminal, the owners and operators of the facility and the LNG vessels shall develop emergency plans for the purpose of preventing the accidental discharge of LNG. These plans shall address all actions to be taken to reduce the level of danger incurred should an uncontrolled discharge of LNG occur. These plans shall be submitted to the cognizant COTP for review and acceptance prior to any LNG vessel transiting Chesapeake Bay with cargo on board. The Coast Guard has also developed emergency procedures in the form of MSO Contingency Plans to aid the facility or vessels in their response efforts. These plans include a description of particulars of transfer including: product, vessels, facility, cargo operations, and Coast Guard resources. They also address types of emergencies along with corrective scenarios including rupture of lines or tanks; fire and firefighting techniques spotlighting secondary fires and control of unignited pools; grounding; collision; personnel hazards; a complete CHRIS solution; and emergency anchorage parameters.

2. Maintenance of these plans; the education and training of those personnel who will implement the plan; and the coordination with the Coast Guard, local, state, and federal resources; is mandatory to ensure the maximum safety of all concerned.

ANNEX A--MARINE SAFETY OFFICE, HAMPTON ROADS

Upon notification of arrival of an LNG vessel from the Captain of the Port, Baltimore, the following events will take place:

a. Chief, Port Operations, Hampton Roads, advises all branches of the vessel's scheduled ETA, draft, load condition, amount of cargo, amount of cargo to be transferred, and any other pertinent data (enclosure 1).

b. Chief, Port Operations, Hampton Roads, will initiate an action file, disseminate information to MSO personnel, Group Hampton Roads, and appropriate agencies, and maintain an action file (enclosure 2).

c. Chief, Port Operations, Hampton Roads, shall ensure that the request for NTM is initiated (see enclosure 3).

d Establish communications with the vessel directly or via COTP Baltimore prior to arrival at Cape Henry and establish an accurate ETA for boarding purposes.

e. MSO Hampton Roads will board and conduct a safety inspection upon arrival (enclosures 4 and 5).

f. Personnel from MSO Hampton Roads will initiate any follow-up action required. Upon completion of the action file, it shall be submitted to the Chief, Port Operations, for review and filing. To ensure the proper and complete performance of boardings and inspections by the MSO, the following forms will be used:

Advance Notice of Arrival Check List (enclosure 1)
Vessel Movement (enclosure 2)
Arrival/Departure NTM Request (enclosure 3)
Safety Inspection Form (enclosure 4)
Inspection at Cape Henry (enclosure 5)

LNG ADVANCE NOTICE OF ARRIVAL CHECK LIST

1. NAME: _____

2. CALL SIGN: _____

3. FLAG: _____

4. IF FOREIGN VESSEL, LIST LETTER OF COMPLIANCE DATA OR IMCO GAS CODE CERTIFICATE: _____

_____

5. LENGTH: _____

6. BEAM: _____

7. DRAFT: _____

8. SHIPPER (COMPANY NAME, ADDRESS, PHONE, CONTACT'S NAME): _____

_____

_____

_____

9. AGENT (COMPANY NAME, ADDRESS, PHONE, CONTACT'S NAME): _____

_____

_____

10. ESTIMATED DATE AND TIME OF ARRIVAL: _____

11. CARGO (AMOUNT ON BOARD/AMOUNT TO BE TRANSFERRED): _____

_____

12. MISCELLANEOUS DATA: _____

_____

_____

VESSEL MOVEMENT

Subj: The LNG vessel _____( ) is scheduled to transit through the port from sea enroute Cove Point, MD, on

_____ at _____Q (R).

1. Three days prior to arrival

   a. Draft NTM _____

   b. Notify MSO inspection team

      (1) _____ _____

      (2) _____ _____

   c. Notify Group Hampton Roads _____

2. One day prior to arrival, notify Pilots Association.

   HOT LINE _____

3. Day of arrival

   a. Conduct safety boarding

   b. Radio Comms among the vessel, MSO, and the accompanying Coast Guard vessel.

   c. Forward results of safety inspection boarding to COTP Baltimore

_____

4. Miscellaneous: Receive updated FTA and take appropriate action

_____

ARRIVAL/DEPARTURE NTM REQUEST

P

FM COGARD MSO HAMPTON ROADS VA

TO CCGDFIVE PORTSMOUTH VA

UNCLAS

TO OAN

1. REQUEST THE FOL NTM BE BROADCAST COMMENCING _____ AND RUN UNTIL _____. QUOTE: VIRGINIA, MARYLAND, CHESAPEAKE BAY, HAMPTON ROADS. ON OR ABOUT _____ UNTIL _____ THE S/S _____(___) CALL SIGN (____) CARRYING LIQUEFIED NATURAL GAS WILL TRANSIT THE BAY FROM CAPE HENRY TO THE COVE POINT TERMINAL, COVE POINT, MD. REMAIN CLEAR OF THE VESSEL DURING ITS TRANSIT AND TRANSFER. VESSELS WHOSE INTENDED COURSE WILL GIVE A CLOSEST POINT OF APPROACH OF LESS THAN ONE MILE SHOULD COMMUNICATE NAVIGATIONAL INTENTIONS WITH THE S/S _____ ____ PRIOR TO APPROACHING WITHIN THREE MILES OF SAID VESSEL. WHEN OFFLOADED THE VESSEL WILL RETURN TO SEA. UNQUOTE.

NOTE: (1) BEGIN BROADCAST _____Z_____78 AND RUN UNTIL VESSEL ARRIVES AT FACILITY.

DRAFTED: _____ RELEASED: _____

SAFETY INSPECTION FORM

BOARDED AT _____ DATE/TIME _____

NAME OF VESSEL _____ NATIONALITY _____

OFF NO. _____ CALL SIGN _____ HOME PORT _____

GT _____ LENGTH _____ PROPULSION _____ H/P _____

DRAFT _____

MASTER _____ ADDRESS _____

OWNER _____ ADDRESS _____

CHARTERER _____ ADDRESS _____

AGENT _____ ADDRESS _____

TYPE OF CHARTER _____ VOYAGE NO. _____

LAST PORT _____ NEXT PORT _____

CERTIFICATE OF INSPECTION OR LOC _____

ISSUED BY _____ DATE _____ EXPIRES _____

LOADLINE CERT. ISSUED BY _____ DATE _____ EXPIRES _____

CARGO SHIP SAFETY EQUIP. CERT. ISSUED BY _____ EXPIRES _____

CERT. OF FINANCIAL RESPONSIBILITY NO. _____

TYPE/QUANTITY OF CARGO _____

AMVER PARTICIPANT _____

INSPECTOR _____

To the best of my knowledge and belief, there are no known casualties to this vessel or its machinery which might affect her seaworthiness. I further state that all cryogenic-

handling and detection equipment is in proper operating condition, except _____

MASTER _____

SAFETY INSPECTION VESSEL_____ DATE_____

1. The following shall be cause for denying the vessel entry into Chesapeake Bay.

a. Inoperability of the gas-detection system (complete system failure).

b. Inoperability of temperature-sensing system (complete system failure).

c. Abnormal gas-detection and temperature readings signifying a probable leak in the primary barrier.

d. Major derangement of propulsion machinery (inability to back down, etc.).

e. Steering gear inoperable.

f. All gyros inoperative.

g. All radars inoperative.

Inspector shall inform COTP Hampton Roads of entry denial and reason by MSG ASAP.

2. Upon satisfactorily ascertaining that no prohibitive problems exist, the following checks shall be made prior to the vessel's passage through the Chesapeake Bay Bridge Complex:

	SAT	UNSAT
a. Proper operation of gas detection system.		
(1) Instrument alarms set (at or below 30% LEL) (LEL = 5% Methane)		
(2) Stations checked with span gas.		
(a)		
(b)		
(c)		
(d)		

(Continue on back as required)

SAT UNSAT

(3) Cycle completion time (less than 30 mins.)____ _____

b. Proper operation of gas burning and related systems _____

(1) Doors, ports, and other openings to boiler hood secured or are of the self-closing type and operating properly. _____

(2) Gas supply to boilers secured when:

(a) Boiler hood exhaust gas detector activated (use SPAN gas) _____

(b) Exhaust fan not operating (no air flow) _____

(3) Boil off/excess steam control systems _____

(a) Steam dumping system _____

(b) Main condenser circulating pumps _____

c. Cargo, secondary barrier and inner hull temperatures and pressures. (Particularly note abnormal conditions) _____

Normal/Actual	Location

d. Navigation safety regulations, log entries (No more then 12 hours before arrival) _____

(1) Primary and secondary steering gear. _____

(2) Internal vessel control communications and vessel control alarms. _____

	SAT	UNSAT
(3) Standby or emergency generators.		
(4) Standby or emergency generators starting system (ready)		
(5) Main propulsion machinery--ahead/astern		
e. Checks completed, no major discrepancies noted, vessel proceeding (MSG to CAPT Hampton Roads)		

* All unsatisfactory checks and abnormal readings shall be reported to the COTP Hampton Roads. Discrepancies that cannot be corrected immediately shall be reported by message for evaluation. Uncorrected discrepancies may be cause for the COTP Hampton Roads to direct the vessel to return to sea.

3. The following additional checks shall be made:

a. Cargo-tank and cargo-piping relief valves set and sealed by Classification Society or Safety Administration, with certification of set pressure on board. If not sealed, suitable official records available to determine that no changes have been made by ship's personnel. (Note--Certification good for four years)		
b. Electrical equipment and lighting in hazardous location are explosion proof or intrinsically safe and intact. (On deck, cargo compressor room, longitudinal passageway, etc.)		
c. Firefighting equipment:		
(1) Dry chemical units		
(2) Fire pumps and associated suction and discharge valves operated		

	SAT	UNSAT
(3) Water spray system. When?		
(a) Cargo pipe lane _____		
(b) Cargo control room _____		
(c) Deckhouse front _____		
(4) International shore connections. (P/S)		
(5) Special tools available (Portable hydraulic pumps, wrenches, etc.)		

ANNEX B--MARINE SAFETY OFFICE, BALTIMORE

1. MSO Baltimore will receive notice of arrival for LNG vessels at the Cove Point facility and relay relevant information via message to CCGD5, MSO Hampton Roads, and MSD Cove Point.

2. Prior to the vessel's offloading, personnel from MSD Cove Point will inspect the terminal guided by a check list (enclosure 1) to ensure the integrity of the cargo-handling and safety equipment.

3. Personnel from MSD Cove Point will conduct a pre-transfer inspection of each LNG vessel using the check list in enclosure (1), paying particular attention to cargo-handling and safety equipment. Should any unsatisfactory conditions be found, they will be corrected prior to commencement of cargo-transfer operations.

4. No vessel carrying LNG cargo shall moor at the Columbia LNG Corporation piers at Cove Point, MD, without the expressed permission of COTP Baltimore or his authorized representative. Wind conditions which would prohibit mooring are described in Part III of the Chesapeake Bay LNG OPLAN.

5. The transfer of product will be continuously monitored using guidelines in enclosure (2). Cove Point personnel will inspect the cargo-handling hookup and confirm that it is safe to transfer LNG. The Coast Guard monitor shall make hourly rounds about the terminal and vessel; personally receive verification from the pulpit operator, the person in charge of the transfer aboard the vessel, and the facility's control room operator that the transfer is proceeding safely and that there are no abnormal conditions present. If any of these personnel deem that a hazard exists by continuing transfer operations, the transfer shall be suspended. When transfer operations are halted due to a potential hazardous situation, the Supervisor, MSD Cove Point, will be notified and, in turn, will notify COTP Baltimore and CCGD5(rcc) via land line.

6. During the transfer operations, the Coast Guard monitor will maintain contact with Supervisor, MSD Cove Point, and make reports on the progress of the transfer operations. The Coast Guard will also monitor the working frequency of the terminal. Upon completion of the transfer, a summation report shall be sent via message to CCGD5, MSO Baltimore, and MSO Hampton Roads with the ETA at their zone boundary. Any irregularities or unusual occurrences shall be noted in the message.

7. During normal operations, the Coast Guard monitor shall stand an eight-hour watch. The relief monitor shall be thoroughly briefed concerning the status and conditions of the transfer operation prior to assuming his duties. He shall review the check list and make a joint tour of the vessel and terminal with the person he is relieving. He shall then sign the check list indicating the date and time that he assumes the duties of monitoring the LNG transfer operation.

Encl: (1) Vessel Inspection Record
(2) Guide for LNG Vessel Inspection

VESSEL INSPECTION RECORD

RELIEF VALVES

SET AND SEALED _____ (date) BY _____ SETTING _____

GAS DETECTION SYSTEM

OBSERVE SYSTEM OPERATION AND NOTE ANY UNUSUAL READINGS _____

	Yes	No
Alarms set at 30% LEL	___	___
Audio and visual alarm at cargo-control station	___	___
Log for readings during voyage	___	___
Frequency of readings and cycle time _____		

If possible, obtain a statement signed by the master concerning a history of presence or absence of any abnormal temperatures, pressures, or accumulations in tanks, voids, or barrier spaces. Review voyage log for indications of emergencies (fire, engineering casualty, excessive gas venting, etc.) during current voyage.

Yes	No	
___	___	Gauges functioning properly, calibrated
___	___	Gas detection system tested with 50% LEL span gas
___	___	Audio and visual alarms in gas-detection system operable and set at 30% LEL
___	___	Cargo pumps in good condition, remote shutdown operable
___	___	Firefighting equipment and system in good condition, last hose test _____ at _____ lbs.
___	___	Flanges, expansion joints, relief valves, gauges, and cargo valves show no signs of deterioration or leaks
___	___	Intrinsically safe equipment in good condition
___	___	Electrical cables, explosion-proof lighting, and switches in good condition
___	___	No hot work or other unauthorized shipboard activities
___	___	Designated smoking areas listed and posted at gangway
___	___	Cargo-control officer fluently speaks and understands English
___	___	Vessel's fire system compatible to facility fire system
___	___	Temperature-sensing system operable with readings logged
___	___	Liquid-level alarm system, hi and low, operable

Yes	No	
____	____	Current records of tests and inspections available

BOILER BURN-OFF SYSTEM

____	____	Supply piping in good condition and double walled
____	____	Alarm system working and interlocked
____	____	Hood for boiler-front ventilation and air sweep operable
____	____	Automatic valves in burner fuel line in working order
____	____	Master line valve is located away from machinery spaces, automatic or manual shutdown operates
____	____	Shutdown instructions posted in English and language of operating personnel

OFFSHORE FACILITY INSPECTION

____	____	Current drawings are available indicating the intended routing of cargo from dock to storage tanks, with details showing valving of loading lines
____	____	Automatic controls, gas detectors, fire detectors, and instruments certified as operating properly by person in charge of unloading
____	____	If air is present in line, are they purged with inert gas or low pressure LNG vapor
____	____	Piping cooled prior to transfer
____	____	Designated person in charge of unloading in attendance during all cargo operations
____	____	Current list of persons designated by terminal manager to certify and verify equipment and tests on file at the COTP
____	____	Fire watch and portable fire equipment are present at connect and disconnect
____	____	Offshore facility lighting adequate
____	____	Fire water monitors in the open position on the unloading platform
____	____	Smoking permitted in designated areas only
____	____	Transfer valve shutdowns operable from pulpit
____	____	Upon completion of cargo transfer, unloading arms unloaded into closed containers
____	____	List of qualified persons in charge is available
____	____	Emergency alarms on offshore facility operable
____	____	Terminal personnel in appropriate control pulpit offshore and in main terminal control room and person in charge of unloading aboard ship are in communication with each other
____	____	Back-up radio system in operation
____	____	All security and off-limits signs at appropriate locations

Yes	No	
___	___	Grounding system in operation and grounding switch closed on offshore facility before gangway is connected to ship

_____

Inspector

GUIDE FOR LNG VESSEL INSPECTION

This inspection guide is based on Subchapter D of 46 CFR which regulates all vessels and barges as outlined in Subpart 30.01.

1. Inspection procedure to be completed prior to connection of unloading arms.

a. General

(1) Check the cargo manifest against the Letter of Compliance, the tank plan and the cargo-piping schematic to be sure that there are no incompatible cargoes. See NVIC 4-75 "A Guide to Compatibility of Chemicals"

(2) Consulting the Safety Plan, a thorough check should be made to assure that the equipment, outfit, and safety devices shown on the plan are in place and are operable. A checklist for the safety equipment outfit inspection follows (all of the following items may not be required, and the approved Safety Plan should govern):

(a) Fire main and sprinklers: At least one fire pump should be running on the fire main and fire hoses at the cargo crossover charged. If sprinkler systems are installed about the cargo tanks or the cargo piping system, these should be charged up to the last stop valve. Locate the International Shore Connection and be sure it is readily available for use.

(b) CO_2, chemical foam, and dry powder firefighting systems, if installed: Locate the system release mechanisms and be sure they are free. Locate the application equipment, horns, hoses, nozzles, etc., and be sure they are operable and ready for use. Note the date of last servicing of the CO_2 supply.

(c) Check portable fire extinguishers.

(d) Protective clothing: Locate and be sure it is in satisfactory condition and ready for use.

(e) Air breathing apparatus: Locate and be sure it is in satisfactory condition for use.

(3) Check to see that the red flag (day) or red light (night) is displayed and visible all around.

(4) Check to see that warning signs (no open lights, no smoking and additional wording descriptive of the special hazards of the cargoes carried) are posted.

(5) Check to see that the vessel has on board information concerning the properties and hazards of the cargo carried. This information should be at least equivalent to that contained in the "Chemical Data Guide for Bulk Shipment by Water" (CG-388).

b. Cargo Transfer System on Deck

(1) Survey the cargo transfer system in general, being alert for corrosion which may indicate piping leaks, wet/soggy pipe insulation which may cause pipe corrosion, and frost accumulation which may indicate leaking valves (including relief valves) or fittings.

Pay special attention to bellows-type expansion joints in cargo piping. Check for incipient cracks and abnormally great misalignment in pipelines connecting to bellows joint. Such misalignment will overstress and cause early failure in bellows.

Check for tightness of expansion joints between low temperature tank domes and the adjacent deck.

(2) Locate the remote shut-down actuators for the cargo-piping system (refer to Safety Plan) and be sure they appear to be free and operable. Separate operators may be installed for cargo valves, pumps, compressors, and ventilators. Be sure these are sensibly located for quick use in an emergency and that the crew knows their functions.

(3) Locate and inspect any fusible elements installed in the control lines for the cargo valves, which should be located in the areas of greatest exposure to heat from possible cargo fires on deck.

(4) Check to see that drip pans or other suitable equipment is in place under flanged piping connections where leakage is possible due to making and breaking joints during the unloading process.

(5) Instrumentation on the tank domes should be checked to be sure it is operable. Restricted (or closed) gaging systems should be checked to be sure these actually function as designed. Open gauging is not allowed.

(6) Locate and check the local relief valves installed in the cargo piping system runs and be sure these appear clean and operable. Relief valves are usually required in any section of cargo piping which can be isolated by stop valves.

c. Cargo Transfer System Pump and Compressor Rooms, Motor Rooms, and Control Rooms

(1) Be alert for the general condition and upkeep of the machinery and equipment in these spaces. Be conscious of smells resulting from leaked products. Check the control-room instrumentation and be satisfied that the cargo is in a stable, controlled condition and is safe for pumping and transfer. If possible, check pressure and temperature histories of the cargo to be sure that radical changes are not occurring.

(2) No electrical equipment or switches of any kind are allowed in the compressor rooms, with the exception of explosion-proof lighting (with switches outside the space) and intrinsically safe equipment. Cargo pumps and compressors with electric prime movers must be driven through gas-tight deck or bulkhead seals and these seals should be inspected for wear. Unless installed in nonhazardous locations safe from cargo liquids or vapors, belt or chain-driven pumps are not allowed. Steam turbine drives may be used in the pump or compressor rooms.

(3) Check the ventilation for the pump and compressor rooms, the motor room, and control room. Referring to the ventilation diagram, be sure air movement is in the proper direction. Try to estimate whether air flow rate is up to that specified in the drawing. In general, the pump and compressor rooms are to be maintained at a slight under-pressure compared with atmospheric, so that possible cargo leakage gas will be discharged out the vents and not be forced through bulkhead seals into the motor room. Conversely, motor rooms and control rooms will generally be maintained at a slight over-pressure or at not less than atmospheric pressure.

(4) If air locks are installed, it is important to consult the Safety Plan, the General Arrangement Drawing, and the Vent Diagram to be sure these have been approved. Air locks should be checked to be sure ventilation is adequate and in the right direction.

(5) Consult the Safety Plan and the General Arrangement Drawing and identify "hazardous areas" (generally, any area within a 10' radius of a cargo tank or piping system). The major part of the main deck will be designated hazardous as well as cargo-handling spaces. Throughout the "hazardous areas," check the electrical outfit and be sure the installation (the equipment itself and the details of installing it) is explosion proof. In particular, be sure that explosion-proof seals (not just stuffing tubes and filler putty) have been installed at all electric conductor penetrations to junction boxes, switches, motors, lighting, etc.

(6) In the cargo-control room, check to the extent possible that cargo-system alarms are operable. Be sure that separate and independent means are provided for normal liquid-level guaging of tanks and gauging for high-level alarm.

(7) Check the operation of the gas detector/gas analyzer. Be sure it is faithfully sampling and testing the programmed locations. In particular, try to determine the recent history of gas detector results to be sure that conditions in all spaces are stable. Sample readings which are increasing with time (even though each discrete reading is low) are an indication of probable cargo leakage. The leak detection system must accomplish the following:

(a) Capable of measuring the full range of cargo concentrations (0-100%)

(b) Audio and visual alarm at 30% lower explosion limit

(c) Test each space at least once every 30 minutes

(d) Vessel has test gas for calibration of instruments

(8) Check the general condition of the cargo-loading arm. Be certain the gasket materials are suitable for LNG.

2. Inspection procedures after hookup and during cargo transfer.

a. Both liquid and vapor shore connections are required. Discharge of gas to the atmosphere from the ship is not permitted. After the cargo arms are connected and the unloading system is lined up ready for service, check the actual operation of the remote controls and of the emergency shutdowns for the cargo valves, the pumps, and the compressors.

b. Check the cargo system on deck for leakages, being alert for "fog" and frost buildup. In low-temperature cargo systems, it is frequently necessary to tighten up or adjust flanged joints after cooldown to prevent leakage.

c. Check the operation of the liquid level gauges and pressure/temperature instrumentation during cargo transfer to be sure these are functioning and accurate.

d. Check any cargo pump and compressor rooms to be sure the equipment is operating safely and normally. Be especially alert for undesired or unexplained smells and frost or ice accumulations. Check ventilation.

e. Check the cargo motor room for gas tightness, especially at bulkhead seals common to the pump or compressor rooms. Check ventilation.

Time of Round		Discrepancies/Corrective Action	Signature of Monitor
Out	In		

ANNEX C--LNG EMERGENCY CONTINGENCY PLANS

1. The design and construction standards that have been developed for vessels and facilities, and the engineering review of the various containment systems provide what the Coast Guard believes is a consistent and reasonable level of safety for the containment and transportation of LNG. Further, the operating requirements developed by the Captain of the Port, Hampton Roads, VA, and the Captain of the Port, Baltimore, MD, are designed to ensure that LNG operations conducted on the Chesapeake Bay proceed without incident. In the event that an incident does occur, however, comprehensive contingency plans have been developed to contain and minimize the impact of the incident.

2. The Captain of the Port has statutory authority and responsibility to provide for safety and security throughout his zone. This authority extends to all facets of maritime commerce and has vested authority in the Captain of the Port to pursue defined courses of action to meet this responsibility. While the owner or operator of a facility or vessel retains the primary responsibility of providing and maintaining emergency response capabilities, the Captain of the Port must ascertain that such measures are adequate. In addition, the Captain of the Port must maintain the capability to assemble and direct additional emergency response resources. The extent of Coast Guard involvement depends upon the nature and circumstances of the incident.

3. The Columbia LNG Corporation and the El Paso Marine Company have developed emergency contingency plans. These plans have been reviewed and accepted by each COTP. These contingency plans include the identity of emergency response resources; a description of built-in safety, fire-fighting, and communications systems and devices including their capabilities, limitations, and how they should be used; and the emergency logistics and organization plans. Also included is a list identifying personnel certified to be thoroughly trained in emergency responses.

4. The preparation of coordinated Captain-of-the-Port Contingency Plans requires close liaison with the maritime industry as well as the various federal, state, and local regulatory and response agencies. The very nature of these plans requires continuous revision to keep them accurate and current, particularly with respect to resource capability and availability. Each Captain of the Port, therefore, maintains an emergency data base where this information is compiled and continuously updated. In addition, these plans provide for timely and accurate hazard assessment, planned deployment of resources, communication plans, and anticipated responses to specific contingencies.

5. LNG Behavior.

a. Cryogenic Temperatures. LNG is transported at its boiling point, -260° F., at a pressure close to one atmosphere. Such cold temperatures present certain problems. Most metals become brittle when subjected to such cold temperatures. To avoid such a problem on LNG vessels and facilities, containment systems are made of stainless steel, aluminum, or a special alloy called invar. It should be recognized that even a small spill of LNG presents a degree of hazard to mild steel decks and to human tissue. Personnel responding to any release of LNG must keep this characteristic of LNG foremost in their minds.

b. Pool Behavior. When spilled on water, LNG continuously spreads until evaporation is complete. Evaporation is rapid because of the large temperature difference between the water and the LNG. Although the vaporization rate per unit area remains constant with time, as the pool size increases with time, the vaporization rate for the entire pool area increases until shortly before vaporization is complete.

c. Pool Fire. As with all liquids, the liquid itself does not burn, but all of the vapor is burned as soon as it evolves. Because of the increasingly rapid vaporization rate, a pool fire burns very rapidly, producing a high rate of thermal radiation and a large flame height. Thus, an LNG fire is characterized as brief, but intense.

d. Vapor Cloud. If the LNG vapors do not immediately ignite, a vapor cloud may form. The vapor cloud is long, thin, and cigar shaped. Under adverse meteorological conditions, it may travel a great distance before its concentration falls below the lower flammable limit. Experiments show that neither the sun nor water warms the cloud very much; and since the air-gas is almost always denser than warm air, the cloud hugs the ground and vertical dispersion is suppressed. In this way, the LNG cloud "produces" its own thermal inversion. The threat here is that the cloud may reach an ignition source and flash back to the pool.

e. Burning. There is little known regarding the behavior of the large burning cloud of LNG, and there is considerable debate over whether or not the burning process could accelerate to the point of detonation involving the entire cloud. No documented evidence has shown this to occur, in either experiments or an actual situation. Significant hazards, nonetheless, are recognized; and current response planning is geared to preventing the cloud, if at all possible, from reaching a populated area.

6. The following is extracted from CG-478, entitled "LNG Views and Practices, Policy, and Safety."

a. If all preventive measures fail and a major collision occurs, the Coast Guard envisions the accident scenario as follows: The released cargo will probably ignite within a few seconds due to the frictional heating caused by the collision, or by other nearby ignition sources. Great frictional heating is inevitable because a high-energy collision is required to breach the cargo-containment system of an LNG carrier. The vessels are designed so that no cargo will be released in low-energy collisions.

b. Current vessel designs, materials, and construction methods strongly suggest that only one tank would be ruptured in a major collision. The largest cargo tanks are about 25,000m^3, and the largest vessels carry five of these tanks. In view of the American harbor depth limitations and current land terminal practices, the 125,000m^3 (length 900 feet, beam 150 feet, depth 80 feet) LNG carrier is the current maximum size for use in this country, although larger ships are projected. To simplify the analysis of a single-tank spill, the entire tank's contents are modeled as an instantaneous release. While this is unrealistic, it is a conservative approximation of the hazard from such an event.

c. A fire from a 25,000m^3 spill should last 10-15 minutes. If, in the unlikely circumstance that the spilled LNG did not immediately ignite due to frictional heating, the resulting LNG cloud would drift downwind until an ignition source may be reached. Ignition is likely to occur if the cloud passes over a ship, or when the cloud starts to pass over inhabited land. Once ignitied, that portion of the cloud with concentrations within the flammable limit will rapidly burn as a premixed flame, but the over-rich portion of the cloud will burn more slowly as a turbulent diffusion flame.

d. If the pool of liquid is not yet completely vaporized, the flame will propagate to the pool and consume the vapors as they evolve, preventing the formation of another vapor cloud. Since LNG vapors hug the ground, a continuous path of vapor exists back to the pool as long as there is a pool. Current evidence suggests that a transition from deflagration to detonation of the gas cloud without a strong initiator is impossible.

7. COTP LNG Contingency Plans. Contingency Plans and associated data bases have been developed by the Captain of the Port, Hampton Roads, VA, and the Captain of the Port, Baltimore, MD, to organize Coast Guard responses to LNG-related emergencies or casualties. These plans address essentially the same contingencies, but differ primarily in the descriptions of federal, state, and local resources available for

response and in the geographic configurations of the respective Captain-of-the-Port zones. Each plan contains procedures for implementing the following activities:

a. Notification.

(1) Communications will be established and maintained with the involved vessel, facility, owners, agents, etc., as appropriate.

(2) Communications will be established to notify appropriate Coast Guard units.

b. Deployment of Coast Guard Resources.

(1) Marine safety casualty investigators or monitoring/response personnel, as appropriate, will be sent to the scene.

(2) Coast Guard vessels or patrol craft may be deployed for vessel escort, assistance, or vessel-movement control activities.

(3) Coast Guard aircraft may be deployed to assist in aerial surveillance to provide casualty assessment information or to provide transportation of personnel or equipment.

(4) The On-Scene Coordinator may establish an on-scene command post.

(5) The Atlantic Strike Team may be deployed as necessary.

c. Assistance from Other Agencies.

(1) The initial response activity will be to accurately identify the nature of the immediate emergency and to make an accurate assessment of the major hazards involved. This may be accomplished through communications with the involved vessel or facility, deployment of marine safety investigators, or through other appropriate means.

(2) Once the emergency has been assessed, measures will be taken to isolate the major hazard involved in the incident. These may include movement of a vessel away from a facility, another vessel, shoreside structure, or bridge; or, if the vessel cannot or should not be moved, efforts may include isolation of the vessel through security zones, safety zones, controlled access, or, if necessary, evacuation procedures.

(3) After the problem has been identified and isolated, all subsequent response activities will be directed toward mitigating further damage to life and property. Fire-fighting activities must be tempered by the extent of the fire and circumstances of the incident. Fire fighters must be thoroughly briefed on the hazards of LNG. In all cases, Coast Guard assistance in fire-fighting activities will be commensurate with personnel and resource capabilities.