

**UNITED STATES OF AMERICA
DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD**

**The Chesapeake Bay Liquefied Natural Gas (LNG)
Operations Management Plan**

Revised May 5, 2006



TABLE OF CONTENTS

Basic Plan..... 3
Annex A Vessel Operations 10
Annex B Facility Operations 30
Annex C Transfer Operations 31
Annex D Emergency Operations..... 39
Annex E Point of Contact / Telephone Numbers 44
Annex F Plan Review 47
Annex G References..... 48
Annex H Definitions 49

Basic Plan

1. Situation. The Cove Point Liquefied Natural Gas (LNG) facility in Lusby, MD was originally commissioned in 1978 and received approximately 90 shipments of LNG until a dispute with exporters, along with unfavorable natural gas market conditions, caused the facility to cease operations in 1980. In November 2000, the Williams Corporation based in Houston, Texas, submitted a Letter of Intent to the Coast Guard Captain of the Port (COTP) in Baltimore, Maryland and Hampton Roads, Virginia which outlined their plan to reactivate the Cove Point LNG facility and resume LNG imports. After soliciting public comments on the proposal and a series of three formal risk assessment workshops, the COTPs in Baltimore and Hampton Roads issued a Letter of Recommendation (LOR) in December 2002 in accordance with the requirements of Title 33 Code of Federal Regulations (CFR) Section 127.009. The LOR was issued to the Richmond, Virginia-based Dominion Resources Inc., who assumed ownership of the Cove Point LNG facility in 2002, and recommended the portion of the Chesapeake Bay between Cape Henry, Virginia and Cove Point, Maryland as suitable for LNG marine traffic.
2. Mission. The United States Coast Guard shall promote the safe and secure transport and transfer of LNG within the jurisdiction of the COTP/Officer in Charge, Marine Inspection (OCMI) zones of Baltimore, Maryland and Hampton Roads, Virginia.
3. Execution.
 - a. General. All LNG vessels transiting and facilities transferring LNG within the COTP Baltimore and Hampton Roads zones shall comply with the requirements of the Chesapeake Bay LNG Operation Management Plan hereafter referred to as the Plan. Nothing in this Plan excuses any vessel or facility from complying with applicable regulations.
 - b. Authority. The United States Coast Guard derives its authority to develop regulations governing LNG vessels and waterfront facilities from the following:
 - (1) Port and Tanker Safety Act of 1978 (46 United States Code (USC) § 3703 and 46 USC § 3305).
 - (2) Ports and Waterways Safety Act of 1972 (33 USC §1221 *et seq.*).
 - (3) The Magnuson Act (50 USC § 191).
 - (4) Executive Order 10173 (as amended by Executive Orders 10277, 10352 and 11249).
 - (5) Transportation Safety Act (49 USC § 1671 *et seq.*).
 - (6) Maritime Transportation Security Act of 2002 (Public Law 107-295)

c. Area of Responsibility.

(1) Sector Hampton Roads - Title 33 Code of Federal Regulations Section 3.25-10.

(2) Sector Baltimore - Title 33 Code of Federal Regulations Section 3.25-15.

4. Administration and Logistics.

a. Concept of Support. Normal channels of logistics and administrative support remain in place. All personnel, logistic, and finance requirements shall be coordinated in accordance with unit, District, and Area standard operating procedures.

b. Logistics.

(1) Non-U.S. flag vessels intending to transport liquefied gases in U.S. waters must first obtain a Certificate of Compliance from the U.S. Coast Guard. The procedures for obtaining a Certificate of Compliance are detailed in 46 CFR Part 154. U.S. flag vessels shall be certified in accordance with 46 CFR.

(2) Facility safety and security is a vital component of safe LNG operations. Facilities handling LNG must meet the regulations detailed in 33 CFR Part 127. These regulations govern the marine transfer area of LNG facilities pertaining to design, operations, and fire fighting. The regulations also require facilities to develop and maintain detailed Operations and Emergency Manuals.

5. Command and Control.

a. Command Relationships.

(1) COTP. Sector Baltimore and Sector Hampton Roads shall maintain authorities in their respective zones. Each COTP shall be the pre-designated Coast Guard Incident Commander for emergency response within their geographic area as defined in the Area Contingency Plan (ACP).

(2) Operations. For all other operations, the normal chain of command will be followed.

(3) Deviation from the Plan. Any deviation from this plan will only be conducted with the agreement of the cognizant COTP, the vessel master, State Pilot(s), and the facility operator.

b. Control Guidelines.

- (1) Notifications to the COTP. This plan contains requirements for giving notifications to the COTP in addition to the Advance Notice of Arrival requirements in 33 CFR Part 160 and the Hampton Roads Regulated Navigation Area (RNA) in 33 CFR Part 165. Additional notifications shall be made to the COTP Baltimore and Hampton Roads. Vessel Masters and agents are responsible for coordinating the vessel's arrival and operations in accordance with the plan, as well as applicable local, state, and federal regulations and requirements.
- (2) Changes in Vessel Status.
 - (a) Whenever there is a hazardous condition aboard a vessel or caused by a vessel or its operation, the owner, agent, Master, operator, or person in charge shall immediately notify the cognizant COTP in accordance with 33 CFR Part 160. The above notifications do not satisfy the reporting requirements of 46 CFR Part 4 to submit a written Report of Marine Casualty; Form CG-2692.
 - (b) In an emergency situation, the vessel may be allowed or directed to anchor at a site selected by the cognizant COTP, in consultation with the Master and Pilot.
 - (c) If an LNG vessel anchors for any reason, the vessel shall immediately inform the cognizant COTP of the reasons for anchoring and location of the vessel. The COTP may issue a Broadcast Notice to Mariners and take actions appropriate for the situation (surveillance, escort, etc.). When, in the judgment of the Master or by direction of the Coast Guard, the vessel is ready to leave anchorage, the vessel shall inform the cognizant COTP.
- (3) Vessel Transit Requirements.
 - (a) General. After consultation with local stakeholders it was determined that to facilitate traffic management of the Lower Chesapeake Bay channels, inbound transits of LNG vessels should be commenced from Cape Henry between the hours of 0600 and 1800. Commencement of transits outside these hours may be permitted by the cognizant COTP on a case-by-case basis with the concurrence of the pilots and facility. The request to transit outside the agreed upon hours must be made in writing to the appropriate Coast Guard COTP at least 48 hours in advance and generally will only be approved in the case of extenuating circumstances (e.g. Heavy Weather, safety concerns, etc.) No LNG vessel will be permitted to approach the Chesapeake Bay Bridge Tunnel prior to being cleared by the SCC/JHOC. No LNG vessel will

be permitted to come within 3.4 nautical miles of the Calvert Cliffs Nuclear Power Plant. Owners and operators are encouraged to maintain close communications with the vessel's Master and agent to monitor status, update schedules, and make necessary arrangements to assist with unforeseen events.

- (b) Venting Cargo Vapors. Under normal operating conditions, a vessel in U.S. territorial waters shall not vent cargo vapors to the atmosphere as a means of pressure or temperature control. Should emergency venting become necessary, the Master of an LNG vessel shall immediately notify the cognizant COTP. This notification shall include the location, the amount vented, the reason for emergency venting, and the wind velocity and direction at the time of venting.
- (c) LNG as Fuel. If LNG vapors are used as fuel in the main propulsion system of the vessel, the Master shall ensure that the fuel oil fired pilot is used when the vessel is on the navigable waters of the U.S. in accordance with 46 CFR 154.705.
- (d) Tugs. A minimum of three tractor tugs of at least 50-ton bollard pull each shall be available to the LNG vessel when it is mooring or getting underway. In the event that only two tractor tugs of at least 50-ton bollard pull each are available, the third tug to be used will be mutually agreed upon, at least 96 hours in advance, by the Association of Maryland Pilots and the LNG shipping company. Any disputes over the third tug to be used will be resolved by the COTP Baltimore. One tractor tug shall remain on scene in immediate standby (capable of getting underway in less than one minute) and two tugs in 10-minute standby while the LNG vessel is moored. If an LNG vessel is allowed or directed to anchor, the cognizant COTP may also require attending tugs. Except during an emergency, any proposed deviations from or equivalents to this tug policy shall be submitted in writing to the COTP Baltimore 96 hours prior to vessel arrival at the facility. These proposals will be reviewed on a case-by-case basis.
- (e) Anchoring. LNG vessels are not expected to anchor during transit and there are no designated anchorage areas in the vicinity of the transit route between Cape Henry, Virginia, and Cove Point, Maryland. Any request for an LNG vessel to anchor, except during an emergency, shall be authorized by the cognizant COTP.
- (f) Communications. The vessel shall maintain a continuous radio guard on VHF-FM, channels 13 and 16. At least one licensed officer capable of speaking fluent English and knowledgeable in the vessel's cargo

systems must be on board 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 for the cargo transfer. Primary ship-to-ship communications will be conducted via VHF-FM, channels 13 and 16. Additional communications with COTP Hampton Roads and COTP Baltimore may be with cell phones or fax to the appropriate Command Center as listed on the contact page of this Plan.

(g) Weather. The weather forecast, current weather, and ice conditions will be evaluated for Cove Point, Maryland, the Chesapeake Bay, and Cape Henry, Virginia for the duration of the LNG vessel's visit. The COTP Baltimore or Hampton Roads may delay transit should weather conditions in these areas preclude a safe vessel transit or cargo transfer operation. The following weather conditions are applicable for LNG vessels:

1. Visibility. A vessel shall not attempt to enter the Chesapeake Bay if the visibility measured at the Cape Henry pilot tower is less than three miles in the vicinity of Cape Henry. A vessel shall not attempt to moor or get underway from the LNG facility if the visibility is less than one mile.
2. Wind Speed. A vessel shall not attempt to enter the Chesapeake Bay if the wind speed measured at the Cape Henry pilot tower is greater than 35 knots in the vicinity of Cape Henry. Giving consideration to wind direction, a vessel may not be permitted to moor at the LNG facility if the wind speed is greater than 25 knots. When moored and transferring, transfer operations shall be halted if the sustained wind speed is greater than 30 knots, as outlined in the Cove Point LNG Port Regulations Manual. Appropriate measures shall be taken if the sustained wind speed is greater than 40 knots, which is the facility's moorings rating for an LNG vessel with a 148,000 m³ cargo capacity. Such measures may include, but are not limited to, the use of tugs to keep the vessel at the pier, additional mooring lines, or getting underway. Sustained wind speed denotes duration of 10 minutes with a constant velocity measured at the terminal.
3. Ice Conditions. During heavy icing conditions, transit restrictions may be imposed in accordance with the cognizant COTP Ice Operations Plans.

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- (h) Cruise Ships. Within the COTP Baltimore zone, loaded LNG vessels should maintain a 1 nautical mile separation while navigating.
- (i) Bunkering. It is expected that the vessel will have adequate fuel to make the transit to Cove Point without delays for bunkering. Bunkering may take place on the outbound transit or while moored in accordance with current COTP polices and/or facility procedures. Bunkering of LNG vessels in the COTP Hampton Roads zone is prohibited.
- (j) Additional Measures While Other LNG Vessels are in Port. If for any reason, two LNG vessels are moored at the facility at the same time, each vessel shall have dedicated to it all of the required safety and security measures. For example, if two vessels are moored and off-loading, each will have at least one small boat enforcing the fixed security zone and each will have one tug on immediate standby. During transit, two loaded LNG ships will be required to maintain a one nautical-mile separation while navigating.
- (k) Provisioning. It is expected that the vessel will have adequate supplies to make the transit to Cove Point without delays for provisioning. Provisioning may take place while moored or on the outbound transit in accordance with current COTP polices and/or facility procedures. Provisioning of LNG vessels in the COTP Hampton Roads zone is prohibited within the Regulated Navigation Area (RNA).
- (l) Crew and other Persons. The vessel will not be allowed to make any changes to the crew or take aboard any persons during transit without the approval of the cognizant COTP in coordination with the vessel and LNG facility.

(4) Vessel Boardings.

- (a) Security Boardings. LNG vessels may be subject to a Security Boarding prior to entry into the Hampton Roads COTP zone. For safety reasons, security boardings will normally be conducted during daylight hours.
- (b) Port State Control Exam. All LNG vessels are subject to a Biennial Inspection for issuance of a Certificate of Compliance (COC), or an annual Mid-Period Inspection to verify continued compliance with the previously issued COC. The Coast Guard may support overseas initial

COC exams on a case-by-case basis when requested and funded by the vessel representative.

- (c) Vessel Escorts. LNG vessels may be escorted by Coast Guard assets during any portion of the vessel transit. Coast Guard assets may be used to enforce safety/security zones during vessel transits, offloading of cargo, other evolutions at the facility, or at anchor.

(5) LNG Facility

- (a) Storage Space. Should the facility be unable to accommodate the intended volume of transfer from the vessel, the LNG vessel may be required to remain at sea until such storage space at the facility is available.
- (b) Personnel Training. All facility personnel involved in cargo transfer operations shall be thoroughly trained in accordance with 33 CFR Part 127. Records of all training shall be maintained by the facility for the length of each employee's employment on the facility plus 12 months.
- (c) The Coast Guard may request an opportunity to train personnel on LNG shipboard safety and security operations to include ship visits and ship rides
- (d) Security. In addition to the requirements of 33 CFR Part 127, the facility shall also comply with the provisions contained in 33 CFR Part 105.

Annex A Vessel Operations

1. General. The vessel is required to meet, at a minimum, all applicable federal regulations, COTP policies and the requirements of this Plan in order to transport LNG in the Chesapeake Bay. Should the vessel fail to meet these requirements, the vessel may not be allowed to transit or discharge its cargo in U.S. waters.
 - a. Vessel Security. All vessels shall comply with the provisions of 33 CFR Part 104.
 - b. Newport News Class LNG Vessel. LNG vessels, such as the M/V MATHEW and other sister vessels built for El Paso, shall be trimmed by the stern 1.5 meters during transits. Once assist tugs are made up to the vessel, an under keel clearance greater than 10% of the vessel's draft should be maintained while maneuvering.
2. Pre-arrival Arrangements.
 - a. Notice of Arrival.
 - (1) Advance Notice of Arrival (ANOA): The Master, agent or authorized representative shall submit all required notifications in accordance with 33 CFR Part 160.
 - (2) If an LNG vessel plans to depart Cove Point with cargo in excess of its heel per the vessel's operations manual, the vessel shall notify the COTP Hampton Roads and Baltimore in the 96-hour ANOA.
 - b. Pre-Arrival Inspection Checklist and Documents for First-time Visits to Cove Point.
 - (1) At least 24 hours prior to arrival at "CH" buoy in the Cape Henry Pilotage Area, the LNG vessel shall provide the following to both COTP Hampton Roads and COTP Baltimore. Facsimile is the recommended method.
 - (a) The most current International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk (COF).
 - (b) The most current Certificate of Compliance (COC).
 - (c) A completed Vessel Pre-Arrival Inspection Checklist Tab A to this Annex.
 - (d) ISSC
 - (2) The COC will be considered invalid if it is:
 - (a) Expired;

- (b) 90 days beyond the Mid-Period Inspection due date;
 - (c) Not accompanied by a current International COF for the cargo onboard; or
 - (d) If the vessel is not maintained to the safety and construction standards as examined (see SOLAS 74 Chapter I Regulation 11, Maintenance of Conditions after survey).
- (3) The following plans shall be up to date with at least one copy in English and readily available on board:
- (a) Cargo tank arrangement;
 - (b) Cargo tank venting arrangement;
 - (c) Cargo piping arrangement;
 - (d) Capacity plan;
 - (e) Fire fighting plan;
 - (f) Safety plan;
 - (g) Operating procedures for cargo and bunker systems; and
 - (h) Gas detection/instrument plan.
 - (i) Ship Security Plans in accordance with 33 CFR 104.
- (4) Written designation of the Person in Charge (PIC) of a transfer operation shall be available in the cargo control room, on the bridge, or in the vessel's office. Those designated as PIC shall be an appropriately licensed officer and thoroughly trained in the storage, transfer, and emergency response involving the cargo being transported.

c. COTP Preparatory Actions.

- (1) Paperwork review. Review all of the submitted paperwork (ANOA from the National Vessel Movement Center (NVMC), intended schedule, Pre-Arrival Safety Checklist, International Certificate of Fitness, and any other additional submitted paperwork). Problems or questions will be promptly addressed with the agent, and resolved prior to the vessel entering the COTP Hampton Roads zone.

- (2) Assignment of details. Respective COTPs will assign, schedule, and brief the security boarding team, the Port State Control exam team, and the vessel escort platforms, as required. The most current schedule and estimated time of arrival will be used to plan and coordinate necessary Coast Guard activities for the vessel's visit.
 - (3) Port operations review. COTP Baltimore and Hampton Roads will review scheduled port operations and current conditions within the ports. If there are any concerns, the agent will be contacted immediately.
 - (4) Vessel Risk Assessment, Boarding & Examination Priorities. Sector Hampton Roads and Sector Baltimore will conduct risk assessments, determine boarding priorities, determine examination priorities, conduct preliminary security reviews, and/or additional COTP actions for LNG vessels. The PSC Safety and Environmental Protection Compliance Targeting Matrix, the ISPS/MTSA Compliance Targeting Matrix, and the High Interest Vessel Matrix will be the primary tools used in decision-making. Problems or questions regarding this review will be promptly addressed with the agent, and resolved prior to vessel entering the COTP Hampton Roads zone.
 - (5) Broadcast Notice to Mariners. A Broadcast Notice to Mariners will be issued as appropriate by the assigned patrol commander or COTP. The vessel's cargo or position will not be broadcast. The message format shall be similar to Tab B of this Annex.
 - (6) Captain of the Port Orders. LNG vessels intending to enter the COTP Hampton Roads zone for transit to Cove Point, Maryland may be issued a COTP Order from COTP Hampton Roads as appropriate to address safety or security concerns. If necessary, the Order will give instructions for the vessel to receive a boarding team. Every effort will be made to prepare and deliver COTP Orders to the vessel's agent prior to the vessel's arrival off of Cape Henry.
3. Arrivals at Cape Henry – Captain of the Port Hampton Roads.
- a. General. Once inside the COTP Hampton Roads Regulated Navigation Area (RNA), the vessel is subject to the requirements of 33 CFR 165.501.
 - b. Sector Command Center/Joint Harbor Operations Center (SCC/JHOC). All vessels over 300 gross tons shall contact the Sector Command Center/Joint Harbor Operations Center (SCC/JHOC) prior to entering the COTP Hampton Roads RNA. The SCC/JHOC monitors channels 12, 13, 14 & 16, with 12 being the preferred control channel. The RNA covers the coastal waters of the Commonwealth of Virginia from the baseline out to 12 nautical miles. Prior to vessel arrival, the

SCC/JHOC prepares an authorized entry list for expected ship arrivals. After contacting the SCC/JHOC, permission for entry will be granted or denied based on the authorized entry list.

- c. Anchoring. If the vessel arrives early, it may wait at anchor outside or inside (with SCC/JHOC/COTP approval) of the RNA. The following applies to the anchoring of vessels:

- (1) Vessels shall continuously guard channels 13 and 16 VHF-FM.
- (2) A licensed deck officer shall be present on the bridge at all times.
- (3) The vessel shall notify COTP Hampton Roads of any activities that are out-of-the ordinary. Examples are unusual communications or approaches by unknown vessels or aircraft.
- (4) Any deviations from normal ship's operation must be reported to COTP Hampton Roads.

- d. Pilots. In order to transit to the Lynnhaven Roads Anchorage Area, Virginia, the vessel shall embark a Virginia Pilot. For the transit to Cove Point, Maryland, the vessel shall embark a Maryland Pilot.

- e. Vessel Boardings.

- (1) Security Boarding.

- (a) LNG vessels may be subject to a security boarding prior to entry into the COTP Hampton Roads zone. If inclement weather or operational considerations dictate, the vessel may be allowed or directed to move to a safe anchorage area. Safety of the security boarding team and vessel's crew will be the primary factor for this exception. For safety reasons, security boardings will normally be conducted during daylight hours. In the event that a security boarding is conducted while underway it shall be conducted during daylight hours and completed prior to the York Spit Channel.
- (b) A U.S. Coast Guard security boarding team will be delivered to each LNG vessel by Coast Guard or commercially available platform. The vessel will be contacted by the team on VHF-FM radio (channel 16), and pre-boarding instructions will be passed. If the vessel is met offshore at a reasonable distance, the team may allow the vessel to proceed towards Cape Henry while the security examination is underway. The vessel shall advise the SCC/JHOC of this movement.

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- (c) Once aboard, the team will conduct a comprehensive security examination. A typical security boarding will most likely take two to three hours to complete, but may take longer depending on circumstances.
- (d) The security boarding must be completed satisfactorily to allow the vessel to enter port and continue to the next phase of the arrival (anchor, Port State Control exam, rendezvous with escort or commencement of transit). No outstanding security issues shall be left unresolved. Any concerns will be expressed to the vessel Master either verbally by the security team, or by a COTP Order. The vessel must comply with any orders given verbally or in writing.
- (e) Once the security boarding team has departed, the vessel shall contact the SCC/JHOC and advise that the boarding is complete. If the vessel has not yet entered the RNA at that point, it shall request permission to enter. VHF-FM channel 12 is the preferred SCC/JHOC control channel.

(2) Port State Control (PSC) Exam.

- (a) After the security boarding is complete, if the vessel requires a Certificate of Compliance (COC) examination or is targeted using the vessel matrices, it will be boarded by a PSC exam team. For safety considerations, PSC exams will be conducted during daylight hours. This is to ensure the safety of the crew, vessel, exam team, and a thorough examination of the vessel.
- (b) If a PSC exam is scheduled, the LNG vessel may be required to wait offshore, wait at Lynnhaven Roads Anchorage Area, or move to another designated position. The most probable location for the PSC exam to occur will be the Lynnhaven Roads Anchorage Area.
- (c) Arrival time and other arrangements for the arrival of the PSC exam team will be detailed in the COTP Order, by the security boarding team, per COTP communication with the agent, or communicated directly to the ship.
- (d) When the examination is complete, any discrepancies will be addressed with the vessel Master using Port State Control Report of Inspection Forms A and B (Forms CG-5437A and CG-5437B, respectively). An uncorrectable discrepancy that will hazard the Port of Hampton Roads or the Chesapeake Bay during transit, or make cargo transfer impossible or dangerous, may be cause for the exam team leader to immediately direct the vessel to a designated location or

to depart U.S. waters. Vessels may be allowed to transit to Cove Point, Maryland with outstanding discrepancies and conditions of class at the discretion of the COTP on a case by case basis.

- (e) Upon satisfactory completion of the examination, the vessel will notify the SCC/JHOC (VHF-FM channel 12) and COTP Hampton Roads, who will notify the COTP Baltimore.
- (f) Tab D to this Annex is provided as guidance and may be used by vessel personnel to prepare for scheduled COC, mid-period examinations, or PSC exams.

4. Vessel Transits.

a. Inbound

(1) Lower Chesapeake Bay – COTP Hampton Roads zone.

- (a) LNG vessels may be escorted during the inbound transit. If required, the place and time for the escort will be detailed in a COTP Order, per discussion with the agent, or communicated directly to the ship.
- (b) The escort may begin anywhere from outside the RNA (12 nm) to the Lynnhaven Roads Anchorage Area, depending on the required boarding(s) and vessel schedules.

(2) Upper Chesapeake Bay – Captain of the Port Baltimore zone.

- (a) LNG vessels may be escorted by Coast Guard assets during any portion of the vessel transit.
- (b) A 30-minute communications schedule shall be established between the Coast Guard patrol commander and the LNG vessel. The Coast Guard patrol commander shall report to the COTP every half hour until the LNG vessel is moored.
- (c) The Coast Guard patrol commander will be assigned on a dedicated basis but may be diverted for SAR cases or to participate in a rescue of opportunity. If an 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 COTP Baltimore every 30 minutes.

(3) Vessel Escorts.

- (a) Coast Guard Escort Vessel.

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1. When an escort is to be conducted, the Coast Guard patrol commander shall establish and maintain communications with the LNG vessel on channels 13 and 16 VHF-FM prior to and during the escort, particularly in reduced visibility, to communicate all navigation information and intentions.
2. After taking station off the vessel, the patrol commander may make the first *securite'* broadcast on channels 13 and 16. Subsequent *securite'* broadcasts shall be made at least every hour.
3. The patrol commander will take station ahead of the LNG vessel. Additional escort vessels will be positioned as needed.
4. The patrol commander shall transmit position, on-scene weather, and operational status reports to the Sector Baltimore Command Center every hour.

(b) Escorted LNG Vessel.

1. Vessels shall maintain a safe speed and coordinate transit with the patrol commander.
2. The vessel's emergency steering station shall be manned and ready for immediate operation. Communications between this position and the bridge shall be maintained.
3. If conditions necessitate a change to the vessel's transit while it is en route to Cove Point, the vessel shall immediately notify the patrol commander of the vessel's position, course, speed, visibility, and intentions.

The Coast Guard escort shall be conducted in accordance with Coast Guard Marine Safety Manual Volume VII, Chapter 7 (COMDTINST M16000.12).

b. Outbound.

- (1) General. LNG vessels may be escorted on the outbound transit using the procedures listed in this Plan. If required, the place and time for the escort rendezvous will be passed through the agent, or communicated directly to the vessel.

(2) Outbound Transit.

- (a) All vessels over 300 gross tons shall contact the SCC/JHOC prior to entering the COTP Hampton Roads RNA. The SCC/JHOC monitors channels 12, 13, 14 & 16, with 12 being the preferred control channel.
- (b) LNG vessels with cargo in excess of their heel on an outbound voyage may be required to comply with all of the requirements for inbound transits identified in this plan and applicable regulations.

5. Vessel Operations at Cove Point.

- a. General. Vessel operations at the facility shall be conducted in accordance with applicable regulations, policies, vessel procedures, the facility Operations Manual and the Facility Security Plan. Specifics regarding the facility and transfer procedures are covered in Annex B and C.
- b. Getting Underway.
 - (1) The Master shall ensure the vessel is sufficiently manned and capable of getting underway in the event of an emergency at all times.
 - (2) A towing wire shall be made ready forward and aft with the towing eyes passed outboard and kept at about the waterline.
- c. Provisioning. Loading of stores shall not present a risk to the LNG cargo operation.
- d. Restricted Actions: Heat producing sources or activities (such as burning, hot work, smoking, open lights) are not permitted on the vessel or facility during cargo transfer without the specific approval of the COTP.

6. Coast Guard Inspection and Monitoring Activities.

- a. General. This section explains the different types of inspections and monitoring activities that Coast Guard personnel may conduct at the LNG facility or on the LNG vessel. Nothing in this section precludes the COTP from conducting additional examinations.
- b. LNG Vessel Inspection.
 - (1) Certificate of Compliance (COC) Examination.
 - (a) Before a non-U.S. flag vessel receives a COC endorsed for the carriage of LNG, the owner/operator shall submit an application to the

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U.S. Coast Guard Marine Safety Center (MSC) in accordance with 46 CFR 154.22. An examination will be conducted by the appropriate COTP to ensure compliance with the provisions of 46 CFR Part 154 prior to issuing a COC.

(b) Additional examinations may be conducted by either COTP to ensure continued compliance with 46 CFR Part 154.

(c) COTP Hampton Roads will not permit an LNG vessel to enter U.S. waters without a valid Certificate of Compliance.

(d) The Coast Guard may support overseas initial COC exams on a case-by-case basis when requested and funded by the vessel representative.

(2) Pre-Transfer Inspection. A pre-transfer inspection may be conducted in accordance with Tab A to Annex C by the Coast Guard to ensure that the port will not be endangered during cargo transfer operations. The Coast Guard will determine the scope and detail of this inspection and that the vessel is safe to transfer cargo. The master shall ensure that a designated PIC is present to assist the Coast Guard inspector during the inspection.

Tab A to Annex A. Vessel Arrival Checklist

INVOLVED PARTIES

OWNER: _____

OPERATOR: _____

CHARTERER: _____

The Master of the vessel shall ensure that the following systems and equipment are checked prior to entry into U.S. waters and that any discrepancies are reported on this checklist to the USCG Sector Baltimore and USCG Sector Hampton Roads.

Initials	Systems
	Electrical equipment & lighting in hazardous locations is explosion proof or intrinsically safe & intact (on deck, cargo compressor room, etc.).
	Dry chemical units are sufficient in quantity and in good service.
	Vessel's main & emergency fire pumps are operational; deck spray system tested.
	Compressed air breathing equipment inspected within last month
	Fixed extinguishing system in the cargo pump & compressor rooms are operational.
	Verify that the crew is qualified to handle the product carried. (STCW Endorsements for Liquefied Gas Tankers)
	Cargo inter-barrier spaces checked with portable/fixed gas detector for explosive atmosphere.
	Test cargo transfer emergency shutdowns.
	Calibrate the vessel's gas detection system.

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“To the best of my knowledge and belief, there are no known discrepancies or casualties to this vessel that might affect its seaworthiness. I further state that all cargo containment, cargo handling, vapor detection, emergency systems, and fire fighting equipment is in proper operating condition. All crew and officers meet the training and certification requirements of STCW. There are no outstanding Classification Society or Coast Guard requirements on this vessel other than items listed below.”

Master’s Signature:

	Check here if there are no discrepancies.
	Check here if there are discrepancies or outstanding Classification Society requirements.

The master shall then list all known discrepancies.

ITEM	DESCRIPTION
1.	

Tab B to Annex A. Sample Broadcast Notice to Mariners

P 031949Z JAN 04
FM COMCOGARD SECTOR BALTIMORE MD
TO CCGDFIVE PORTSMOUTH VA//DR/DP/DRMC/DPW//
AIG 11914
COGARD STA ST INIGOES MD
COGARD CAMSLANT CHESAPEAKE VA
COGARD CAMSPAC PT REYES CA
INFO COGARD STA OXFORD MD
COGARD SECTOR HAMPTON ROADS VA
BALTIMORE PILOTS ASSN BALTIMORE MD//87-574 MARPILOTS//
VIRGINIA PILOTS ASSN NORFOLK VA//90-1100 VAPILOT UD//
BT

UNCLAS //N16604//
SUBJ: SAFETY BROADCAST NOTICE TO MARINERS
BROADCAST AT 1200R AND EVERY HOUR FROM #####R XXX 04 UNTIL THE LNG
VESSEL DEPARTS COTP BALTIMORE ZONE
BAL BNM ###-04

MD-CHESAPEAKE BAY-SMITH POINT TO SANDY POINT
1. THE T/V XXXXXXXXXXXX WILL TRANSIT THE CHESAPEAKE BAY ON
saturday/sunday, month ##, 2004. A 500 YARD MOVING SAFETY AND
SECURITY ZONE IS IN PLACE AROUND THE VESSEL. THIS ZONE CONSISTS OF
ALL WATERS WITHIN A 500 YARD RADIUS, FROM THE SURFACE TO THE BOTTOM
FROM ##:## AM/PM (example 6:00 PM) ON SEPTEMBER ##, 2004 UNTIL
CANCELED.

2. EXCEPT FOR PERSONS OR VESSELS AUTHORIZED BY THE CAPTAIN OF THE
PORT BALTIMORE, NO PERSON OR VESSEL MAY ENTER INTO, OR OPERATE
WITHIN THIS AREA. AN OPERATOR OF ANY VESSEL WITHIN OR IN THE
IMMEDIATE VICINITY OF THIS ZONE SHALL PROCEED AS DIRECTED
BY A REPRESENTATIVE OF THE CAPTAIN OF THE PORT. MARINERS DESIRING
TO TRANSIT THE AREA MAY REQUEST PERMISSION BY CONTACTING THE COAST
GUARD ESCORT OR COAST GUARD SECTOR BALTIMORE ON VHF-FM CH 16 OR
BY CALLING 410-576-2693.

BT
NNNN

HAMPTON ROADS BROADCAST NOTICE TO MARINERS

SUBJ: SAFETY BROADCAST NOTICE TO MARINERS
COASTAL VIRGINIA, CHESAPEAKE BAY FROM CAPE HENRY TO MARYLAND

1. THE M/V (NAME) WILL TRANSIT FROM CAPE HENRY TO THE MARYLAND BORDER ON THE
CHESAPEAKE BAY ON (DAY). DURING THIS TRANSIT A 500 YARD MOVING SECURITY ZONE WILL
BE IN PLACE AROUND THE VESSEL.

2. EXCEPT FOR PERSONS OR VESSELS AUTHORIZED BY THE CAPTAIN OF THE PORT HAMPTON
ROADS, NO VESSEL MAY APPROACH WITHIN 500 YARDS OF THE M/V (NAME) UNLESS TRAVELING
AT THE MINIMUM SPEED NECESSARY TO NAVIGATE SAFELY. NO VESSEL IS PERMITTED TO
APPROACH WITHIN 100 YARDS OF THE M/V (NAME) AT ANY TIME. OPERATORS OF VESSELS IN OR
NEAR THE SECURITY ZONE MUST PROCEED AS DIRECTED BY A REPRESENTATIVE OF THE
CAPTAIN OF THE PORT.

3. MARINERS MAY CONTACT THE COAST GUARD OR LAW ENFORCEMENT ESCORT VESSEL ON
VHF-FM CH 16. THE CAPTAIN OF THE PORT'S DUTY OFFICER MAY BE CONTACTED BY
TELEPHONE AT 757-668-5555.

FOR OFFICIAL USE ONLY

BT

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Note: The broadcast will be issued one hour before the vessel begins transit from offshore, and repeated at one-hour intervals until the vessel passes the MD state line.

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Tab C to Annex A. Vessel Safety Checklist

NAVIGATIONAL SAFETY		
(33 CFR 164)		
	SAT	UNSAT
Charts		
Publications*		
U.S. Coast Pilot		
Light List		
Notice to Mariners		
Tide Tables		
Current Tables		
RADAR		
Primary		
Secondary		
ARPA		
Compass		
Illuminated magnetic steering compass		
Magnetic compass deviation table		
Gyrocompass		
Maneuvering information displayed		
Automated Identification System		
Echo sounding device		
Steering gear		
Tested from bridge & remote steering room		
Port unit		
Specific unit		
Together		
Internal communications & control		
Electronic positioning device		
Navigation lights		
VHF-FM radio		
Required tests & logbook entries (33 CFR 164.25)		
Bridge relative motion plotting equipment		
Deviations being reported		

*Note: format is not important, the information is; material can be original pub or copy.

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FIRE PROTECTION EQUIPMENT (46 CFR 154.1105-.1170, IMO 11)		
	SAT	UNSAT
Fire pump		
Fire pump		
Emergency fire pump		
Water spray system		
Witness operation (above freezing)		
Checked for plugged nozzles		
Focus on cargo area, control room, tank tops		
Dry chemical system)		
Inspected. Last service date: _____		
Cover all above deck cargo area		
Self contained units with inert gas pressuring		
Fire control plan		
On deck in area of gangway		
International shore connection		
Threads match vessel's piping		
Gasket, bolts, nuts, both halves present		
General alarm system		
Tested from: _____		

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SAFETY EQUIPMENT		
(46 CFR 154.1400-.1440, IMO 14)		
	SAT	UNSAT
Breathing apparatus		
Number: _____		
Type: _____		
Last date of service: _____		
Number of cylinders: _____		
Air compressor		
Equipment lockers		
Locations: _____, _____		
Condition: _____, _____		
Protective clothing		
Number: _____		
Type: _____		
Stretcher		
Location: _____		
Condition: _____		
Compressor		

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ENGINEERING & ELECTRICAL (46 CFR 154.1000-.1020, IMO 10)		
	SAT	UNSAT
Emergency generator		
Note engineering problems: _____		

CARGO & PROCESS PIPING SYSTEM (46 CFR 154.500-.550, IMO 5)		
	SAT	UNSAT
Emergency shutdown system		
Fusible elements (melt between 208° and 220°F)		
Elements located at tank domes & manifolds		
Activates shut down of compressors & cargo pumps (closes in 30 seconds or less)		
Actuated by a single control		
Test location: _____		
Cargo piping		
Must be thermally insulated from adjacent hull structure		
Tanks and piping separated from vessel's structure, electrically bonded		
Suitable means to relieve pressure and remove liquid content from loading, discharging, and crossover headers		
Piping relief valves		
Must be discharged into cargo vent mast		
Must supply means for detection and removal of liquid cargo		

CARGO VENT SYSTEM (46 CFR 154.801-.806, IMO 8)		
	SAT	UNSAT
Relief valves		
Installed on all tanks		
One installed on tanks with volume of 20m ³ or less		
Two installed on tanks with volume of more than 20m ³		
Valves set and sealed		

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USE OF CARGO AS FUEL (46 CFR 154.703-.709, IMO 16)	SAT	UNSAT
General		
Only methane may be used in boilers, combustion engines, and inert gas systems located in machinery space		
Piping: Connection for inert gas to gas free		
Must have fuel oil fired pilot if gas is shut off		
Fuel lines		
Double walled pipe with inert gas at pressure above that of the fuel oil		
Alarm installed for loss of inert gas pressure		
Installed in mechanically exhaust-vented pipe with a rate of 30 changes/hour		
Continuous gas detection installed		
Valves		
Two fail-closed automatic valves installed to boiler		
Valves installed in series		
Third valve installed to vent to atmosphere		
Activates closed on loss of forced draft, flame failure, and abnormal gas supply		
Master gas valve		
Located outside machinery space		
Operates from valve and inside machinery space		
Will close if gas detected, loss of ventilation, or loss of inert gas in double walled pipe occurs.		
Gas detection		
Continuous gas detection system		
Audible and visual alarms in machinery space and pilot house		
Activated if gas concentration reaches 1.5% by volume (30% LEL)		
Closes the master gas valve before concentration reaches 3% by volume (60% LEL)		
Test location: _____		

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INSTRUMENTATION		
(46 CFR 154.1300-.1375, IMO 13)		
	SAT	UNSAT
Liquid Level Alarm System		
Installed on all tanks		
Pressure gauge		
Pressure gauge installed to monitor each cargo tank		
Remote readout at cargo control room		
Installed on cargo pump discharge & manifold valves		
Marked with maximum/minimum allowable pressures		
Temperature measuring		
Devices that measure at bottom and near top of tank		
Readout in cargo control room		
Marked to show lowest approved temperature (U.S. and new vessels must show continuous temperature readings or at regular intervals of one hour or less)		
Fixed gas detection system		
Installed with audible and visual alarm		
Samples cargo pump room, cargo compressor room, cargo control room, air locks (if equipped), interbarrier spaces, hold spaces, ventilation hoods, and gas ducts		
Activates at required levels for tank type		
Monitors each sample point in 30 minutes or less		
Alarm for power failure and loss of gas sample flow		
Span gas available for testing and calibration		
Calibration procedures available		
Locations tested: _____		
Portable gas detection		
Two units available to monitor LEL		
Portable oxygen analyzer		
One unit available to measure levels in inert atmosphere		
NITROGEN PURGING SYSTEM (if equipped)		
Daily consumption		
Highest amount & date: _____		
Lowest amount & date: _____		

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OPERATION		
(46 CFR 154 Subpart E, IMO 18)		
	SAT	UNSAT
Certificates, letters, and endorsements		
Vessel certificates on board and current		
Description and arrangement plan for inerting		
Description of cargo tank, gauging equipment		
Description and instruction manual for calibration of the gas detection system		
Schematic showing location of gas detectors		
Description of the systems for cargo temperature and pressure		
Cargo manual		
Warning sign		
Posted at gangway facing outboard		
Black on white background		
Three inch high letters		
Must have the following: Warning. Dangerous Cargo. No Visitors. No Smoking. No Open Lights.		
Protective clothing		
Each person involved in cargo operations must wear, except those in gas-safe control room		
Cargo system, controls and alarms		
Master shall ensure cargo emergency shutdown tested and working before cargo is transferred		

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Annex B Facility Operations

LNG MARINE TRANSFER AREA
PRE-ARRIVAL FACILITY CHECKLIST

Vessel Name:ETA:

USCG LNG TRANSFER OPS Coordinator:

	SAT	UNSAT
LNG Terminal Operations/Emergency Procedures Manual located at dockside transfer control area.		
LNG Terminal marine transfer area adequately lighted.		
Appropriate WARNING signs posted.		
Min. of two (2) portable gas detectors (0-100% LEL methane) readily available at transfer area.		
No dangerous maintenance supplies stored in transfer area. (One day supply permitted).		
Cameras at transfer area operating correctly.		
Communications systems operational: Phone Radios Paging System Hotline.		
Safety, life saving equipment, fire monitors, equipment available.		
Ultraviolet (UV) sensors and alarms functioning correctly.		
Remote dry chemical hydraulic control systems operable.		
Dry chemical nitrogen cylinders at proper pressure.		
Fire suppression systems in active position in the Main Control Room.		
Foam system in active position and operable. Last foam analysis date: _____		
Fire water system operable. Last test date: _____		
Transfer area fire monitors, hoses, fire pump discharge valves, etc. lined up and operable.		
Diesel powered fire pumps operable. Date of last test: _____		
Emergency electrical power generator operational. Date of last test: _____		
Loading arms over-slew shutdown and alarms operable. Date of last test: _____		
Loading arms over-extension shutdown and alarms operable. Date of last test: _____		

Remarks/Comments

USCG Inspector's Signature:

Annex C Transfer Operations

1. General. This annex explains the transfer requirements and monitoring activities that Coast Guard personnel may conduct at the LNG facility or on the LNG vessel. Nothing in this section precludes the COTP from conducting additional examinations.
 - a. Approval for Transfer. No transfer of cargo or vapor may be conducted without the approval of the COTP. The COTP will concurrently issue approval for the transfer to both the vessel and facility after the completion of the requirements of this section.
 - b. Advance Notification of Transfer Completion. The COTP shall be advised approximately one hour in advance of the completion of cargo transfer operations.
 - c. Completion of Transfer. Upon completion of transfer, the product lines and transfer arms connected to the vessel flanges shall be drained and purged into the closed vent system prior to disconnecting the vessel from the facility.

2. Pre-transfer Requirements.
 - a. General. Prior to transferring cargo or vapor, a pre-transfer inspection may be conducted by Coast Guard. The COTP will consider the following in determining if a pre-transfer inspection is necessary:
 - (1) Vessel has outstanding deficiencies or deficiencies identified by the vessel's Master.
 - (2) Vessel has changes in critical operational procedures.
 - (3) Vessel has significant changes to the crew.
 - (4) Vessel has recently re-flagged.
 - (5) Vessel is making its first port call in the COTP zone.
 - (6) Facility has outstanding deficiencies or deficiencies identified by the operator.
 - (7) Facility has changes in critical operational procedures.

 - b. Inspection.
 - (1) General. The scope and detail of this inspection will be thorough enough to satisfy the Coast Guard that the vessel and facility are ready to transfer cargo. When the Coast Guard conducts a pre-transfer inspection, the master of the vessel and the facility operator shall ensure that a designated PIC is present to assist. The inspection plan contained in Annex C Tab A and B of this section shall be used as guidance when conducting pre-transfer inspections. Records

of the pre-transfer inspections shall be kept on board the vessel and at the facility.

- (2) Inspection Discrepancies. Any unsatisfactory pre-transfer discrepancy shall be corrected and tested prior to transfer of cargo. Any uncorrectable discrepancy that interferes with safe transfer operations shall be reported immediately to the COTP.

c. Procedures.

- (1) Hookup. The facility may hookup to the vessel's cargo and vapor lines to purge and pressure test connections for leaks. Connections may be made prior to the completion of the pre-transfer inspection with permission of the attending Coast Guard inspectors.
- (2) Persons-in-Charge (PIC). Prior to commencing cargo transfer operations, the PICs aboard the vessel and at the facility shall ensure that all transfer equipment is functioning normally. This shall include a test, automatically and manually, of the emergency shutdown systems. The names of the PIC for the vessel and the facility shall be posted near the facility loading platform and on the vessel.
- (3) Pre-Transfer Conference. After their individual inspections, both PICs shall hold a pre-transfer conference where they shall discuss transfer procedures, emergency procedures, names and location of transfer personnel, and applicable laws and regulations. They shall ensure that adequate communications exist between the vessel and the facility as required.
- (4) Declaration of Inspection. Prior to commencing cargo transfer, both PICs shall jointly complete a Declaration of Inspection (DOI) containing the information required by 33 CFR Part 127 and a summary of the facility requirements. Both the vessel and facility shall keep a copy of the DOI in the area of the transfer. Both copies shall be signed by the oncoming PIC, prior to the change of the watch, and after verification of compliance with applicable requirements.
- (5) Declaration of Security. A Declaration of Security (DOS) shall be completed in accordance with 33 CFR Sections 104.255 and 105.245.

3. Transfer Requirements.

- a. General. Cargo Transfer Operations should be conducted in accordance with the approved facility operations manual and applicable regulations.

b. Personnel.

- (1) During all phases of an LNG transfer, the LNG facility shall have one person on the unloading platform to simultaneously view the vessel's and facility's cargo manifold and one person in the control room.
- (2) All personnel directly involved in the transfer operation shall speak and understand English.
- (3) Vessel personnel involved in cargo transfer operations shall meet the requirements of the International Convention on Standards for Training, Certification, and Watchkeeping (STCW) for Seafarers to assume duty during any phase of the cargo transfer operation.
- (4) Facility personnel involved in cargo transfer operations shall be able to perform the duties as outlined in the facility operations manual.
- (5) The length of time on duty for any person involved in transfer operations shall not exceed 12 hours.

c. Communications. The required primary and emergency communications systems shall be maintained to provide consistently reliable communications between all critical areas of the facility and vessel.

d. Restricted Areas. All transfer areas are restricted to essential personnel only and appropriate signs posted. The restricted area shall include the entire LNG pier and the vessel moored at the pier.

e. Termination due to Extraordinary Conditions. The COTP shall be immediately notified of any extraordinary condition that results in the unplanned termination of the cargo transfer. During any of the below situations, the vapor line should remain in use to prevent the vessel from having to vent to the atmosphere. The vapor line may, however, be removed if its continued operation poses a threat to the facility or vessel safety. Cargo transfer shall be terminated for any of the following conditions:

- (1) Either PIC leaves their station for any reason.
- (2) Development of a continuous liquid cargo leak of sufficient quantity that it falls into containment underneath the piping or manifold before evaporating.
- (3) An alarm condition is reached which should have automatically activated the emergency shutdown system, but failed to do so.
- (4) As soon as a fire is detected at the facility or on board the vessel.

- (5) The presence of extreme weather conditions, such as a hurricane, tornado, thunderstorm, electrical storm, or wind speeds sufficient to threaten the integrity of the transfer arms or the vessel's moorings.
 - (6) Any extraordinary security situations including, but not limited to, civil disturbances or bomb threats at the facility, vessel, or adjacent areas.
- f. Temporary Shutdowns. A Declaration of Inspection (DOI) need not be re-completed if the shutdown is less than two hours and all other conditions remain the same and are confirmed by the PICs of the vessel and the facility.
4. Coast Guard Monitor Detail.
- a. General. LNG Cargo transfer operations may be partly or entirely monitored by a Coast Guard monitoring detail at the discretion of the COTP.
 - b. COTP Notifications. In the absence of a USCG cargo monitor detail, Sector Baltimore Command Center shall be notified when any of the following occur in addition to the notification requirements in 3.e. of this Annex:
 - (1) Any termination of the transfer.
 - (2) Any venting of LNG vapor.
 - (3) Any alarm condition.
 - (4) When the transfer is 3 hours from completion.

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Tab A to Annex C Pre-Transfer Vessel Checklist

LNG MARINE TRANSFER AREA
PRE-TRANSFER VESSEL CHECKLIST

Vessel Name: _____

ETA: _____

USCG LNG TRANSFER OPS Coordinator: _____

<u>CHECKLIST</u>	SAT	UNSAT
<p>1. Verify validity of and compliance with the following documentation:</p> <p>Foreign flag vessels: Certificate of Compliance, inspect Examination Record Card for outstanding discrepancies.</p> <p>U.S. flag vessels: Certificate of Inspection, inspect Bridge Record Card for outstanding discrepancies.</p> <p>SOLAS, Loadline, IMO and COFR Certificates, Officers' licenses. Cargo manifest against cargoes authorized by the COC, COI and IMO Certificate</p>		
<p>2. Test the quick closing valves by activating the emergency shutdown system. This test shall only be conducted under any of the following conditions:</p> <p>The cargo & vapor connection flange plates are securely in place at all manifolds.</p> <p>The vessel has connected to the facility's cargo and vapor lines and these connections have been purged and pressure tested with satisfactory results.</p>		
3. Inspect compressors and compressor rooms.		
4. Inspect electrical equipment in hazardous areas.		
5. Inspect relief valves for proper settings, seals, and certification.		
<p>6. Inspect fire fighting equipment:</p> <p>Test fire pumps including the emergency pump.</p> <p>Inspect fire stations.</p> <p>Inspect dry chemical systems.</p> <p>Inspect emergency outfits.</p> <p>Ensure water spray system is operational.</p>		

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7. Inspect and test all fixed and portable gas detectors.		
8. Verify compliance with pollution regulations.		
9. Check cargo instrumentation and ensure the gauges read within normal operating ranges.		
10. Spot check the vessel pre-transfer inspection if conducted by vessel personnel without Coast Guard oversight.		
11. Ensure the facility and vessel emergency shutdown systems properly actuate.		
12. Inspect the completed Declaration of Inspection for compliance.		

USCG Inspector's Signature: _____

Tab B to Annex C Pre-Transfer Facility Checklist

**LNG MARINE TRANSFER AREA
PRE-TRANSFER FACILITY CHECKLIST**

USCG LNG TRANSFER OPS Coordinator: _____

Date:	Vessel Name:	SAT	UNSAT
	Facility security adequate		
	Preliminary transfer inspection completed by facility person in charge in accordance with 33 CFR 127.315		
	Warning signs in place as prescribed in 33 CFR 127		
	Offshore generator room inspected / fire main engaged		
	Platform fire fighting appliances operable and free of ice		
	Offshore halon racks fully charged		
	Nitrogen leak test of vessel manifold to facility loading arm connections completed, 50 psi (3.5 bar) liquid lines, 30 psi (2.1 bar) vapor line		
	O ₂ level tested in each transfer arms (liquid and vapor). All arms less than 1% O ₂ as prescribed by the facility operations manual		
	Drip pans, water curtain, or other form of hull protection in place under cargo manifold connections		
	Vessel fire systems operable (hoses made ready and free of ice)		
	Emergency tow cables led to waters' edge		
	No cargo vented to atmosphere		
	Vessel prepared to get underway within 60 minutes under own power / with tug assistance (on scene in 30 min)		
	Emergency shutdown systems operable.		
	Tests completed: vessel to facility / facility to vessel		

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Adequate personnel on duty. Two rested cargo officers, one additional deck officer, two deck hands. Those directly involved with transfer speak and understand English.		
No stores being loaded / unloaded during cargo transfer unless the transfer operations do not present a hazard to the LNG transfer operations		
Ship to Shore communications operable. Y / N Primary Y / N Secondary Y / N		
Pre-transfer conference held and Declaration of Inspection completed		
Declaration of Security completed 90-day Continual DOS Y / N		

Notes: _____

USCG Inspector's Signature: _____

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Tab C to Annex C LNG Cargo Monitor Checklist

	SAT	UNSAT
Inspect compressors and compressor rooms.		
Inspect electrical equipment in hazardous areas.		
Inspect relief valves for proper settings, seals, and certification.		
Inspect fire fighting equipment:		
Inspect fire stations.		
Inspect dry chemical systems.		
Inspect emergency outfits.		
Ensure water spray system is operational.		
Verify compliance with pollution regulations.		
Inspect and test all fixed and portable gas detectors.		
Check cargo instrumentation and ensure the gauges read within normal operating ranges.		
Spot check the vessel pre-transfer inspection if conducted by vessel personnel without Coast Guard oversight.		

Annex D Emergency Operations

1. Situation.

- a. General. The intent of this section is to provide general information concerning response to emergencies involving LNG. The Area Contingency Plan (ACP) for each COTP will detail specific response actions for emergencies within their zones. For an LNG carrier, this section applies to emergencies such as a cargo release, fire, collision or allision, injury of more than one crewmember, grounding, oil spill, or any mechanical failure that affects safe ship operation. At the LNG facility while the vessel is in the vicinity, this section applies to emergencies related to a cargo release, problem with the transfer operation, fire, injury of more than one person, or any mechanical failure that affects safe operation of the facility. Other types of emergencies may also apply.
- b. Coordination. In any emergency response, maritime professionals must rely on the training and experience of the vessel's crew, facility emergency response teams, and local responders. Coordination, cooperation, and jointly established priorities are the keys to successfully managing any emergency.
- c. Incident Commander. During an emergency, the first responding public safety official, in coordination with the senior Coast Guard member present, will serve as Incident Commander (also known as On-Scene Commander). This will normally be a Fire Chief or other local public safety official. For a search and rescue evolution while the vessel is underway, it may be a Coast Guard representative. The primary goal of the Incident Commander is to stabilize the situation and provide lifesaving services. This will be accomplished through the use of the Incident Commander's standard operating procedures and command and control structure.
- d. Federal On-Scene Coordinator. The cognizant Coast Guard COTP will serve as the Federal On-Scene Coordinator (FOSC) for their respective zone. If the vessel is in transit near the border, the two offices will coordinate their actions. The FOSC will provide emergency resources to stabilize the situation, mitigate the impact, and prepare for consequence management activities. This will be accomplished through the use of the appropriate ACP and the Coast Guard's command and control system. The FOSC will use the Incident Command System (ICS) for incident management.
- e. Federal Maritime Security Coordinator. The cognizant Coast Guard COTP will serve as the Federal Maritime Security Coordinator (FMSC) for their respective zone. While some situations are addressed in other contingency plans, all security or law enforcement emergencies will be addressed on a case-by-case basis, and resolved by the most appropriate law enforcement agency and in accordance with the applicable Area Maritime Security Plan.

2. Emergency Operations for Vessel Transit Incidents.

- a. General. For any emergency, appropriate actions shall be taken to prevent or minimize damage to the vessel, public health and welfare, and the environment. These actions may include investigating the cause of the problem, emergency notifications, securing certain shipboard operations, damage control, breaking out and staging equipment, preparing for salvage operations, and other conservative measures. The ship's emergency plans and procedures are the first, and best, line of defense.
- b. Response Priorities. For any emergency, response priorities should be established which provide for:
 - a. Safety of the crew and responders.
 - b. Safety of the vessel.
 - c. Public health and safety, based on the vessel's location and potential scale of the emergency.
 - d. Protection of the environment.
- c. Resources. The resources needed and used for emergency response depend on the situation. LNG carriers rely on the same resources available for any vessel transit in the Chesapeake Bay. Because of the greater potential consequences for an emergency affecting the ship's cargo, fire is a primary concern. During inbound transit, the primary response resource is the Hampton Roads Maritime Incident Response Team (MIRT). The MIRT is a firefighting resource available through the Coast Guard COTP Hampton Roads. While its normal operating area is the Hampton Roads, Virginia area, the MIRT is available on request to assist anywhere in Chesapeake Bay.
- d. LNG Releases. In the case of a large uncontrolled LNG release where ignition has not yet occurred, the following should be considered:
 - (1) Secure the area of the leak or release.
 - (2) Eliminate all sources of ignition.
 - (3) Determine the direction in which the vapor plume will track, accounting for prevailing wind conditions.
 - (4) As soon as possible, all information regarding the incident should be passed to emergency responders, to enable planning for the possible evacuation of populated areas in the path of a plume.

e. LNG Fire. The following should be considered when responding to LNG fires:

- (1) There are times when extinguishing an LNG fire may create a greater hazard than letting it burn. If a burning pool of LNG is extinguished, vapors could create a vapor cloud. An ignition of such a flammable vapor cloud can result in greater damage.
- (2) A dry chemical fire-extinguishing agent is most effective in fighting LNG fires. Carbon dioxide and halogenated hydrocarbons can also extinguish LNG fires. Foam and water will not extinguish LNG fires, although foam can be used to control the rate of vaporization of a pool of LNG.
- (3) Do not extinguish the fire until the source has been secured.
- (4) Do not direct a fire-extinguishing agent at the surface of an LNG pool. This disturbs the surface causing the liquid to vaporize at a greater rate, creating a larger fire.

f. Containment, Cleanup, and Disposal. Containment of LNG at ambient conditions outside of its shipping or storage system is impossible due to the gas expansion rate. Small releases at pipe joints and valves may be controlled by high velocity water fog or the use of a wet rag to provide a temporary patch. There are no recommended cleanup or disposal methods. Focus is on fire prevention and personnel safety until the released material dissipates.

3. Emergency Operations for Terminal Incidents.

a. General. Emergency operations conducted at the terminal shall be the primary responsibility of the terminal operator. The terminal Emergency Manual in accordance with 33 CFR Part 127, shall establish response procedures and coordination with emergency responders. The terminal operator shall ensure the Emergency Manual is maintained up to date and distributed to the appropriate emergency responders, and the procedures tested on a frequent basis.

b. Responsibilities.

- (1) Fire Chief. Upon arriving at the scene, the cognizant fire chief will assume control of all aspects of fire fighting operations. This action does not relieve the Master of command over the vessel, nor does it relieve the COTP of the responsibility to assure the overall safety of the port. All fire fighting activities shall be coordinated amongst the various responding entities. The actions of the fire chief in charge at an incident should include the following:

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- (a) Establish a plan of action for extinguishing the fire and protecting personnel and property.
 - (b) Procure needed fire fighting equipment, material, and manpower.
 - (c) Direct the activities of all personnel and equipment engaged in fire fighting.
 - (d) Ensure that a workable communications system is in place to address all aspects of the operation including direct fire control and other support efforts.
 - (e) Locate damage control plans and damage stability information for the vessel.
 - (f) Consider the adverse effects of fire fighting water on vessel stability.
 - (g) Control vehicle access, onlookers, and both shore and water traffic.
 - (h) Contact the local EMS to treat injured as needed.
- (2) Federal On Scene Coordinator. The Federal On Scene Coordinator shall:
- (a) Monitor overall operation and act as liaison for procurement and deployment of Coast Guard resources.
 - (b) Provide advice on technical matters such as vessel construction, systems, and stability.
 - (c) Establish a safety zone in the vicinity of the vessel or facility, or close the waterway to all vessel traffic when appropriate.
 - (d) Publish an Urgent Marine Information Broadcast to notify the marine community of the incident and the safety zone when appropriate.
 - (e) Coordinate with the FAA to establish restricted air space over the site of the incident when appropriate.
- (3) Vessel Master. The vessel master shall provide the fire chief with vessel stability information, damage stability data, fire control plans, and any other vessel specific information as requested and direct the vessel's officers and crew to guide and assist firefighters on board the vessel.
- (4) Vessel Owner/Operator/Agent/Port Captain. The owner/operator/agent or port captain, as appropriate, shall arrange for pilots and tugs as directed,

assume financial responsibility, and arrange for necessary environmental protection measures.

Annex E Point of Contact / Telephone Numbers

1. General. The following numbers and point of contacts may be used for

a. Vessels

Marine Supervision: Capt Bill Donaldson
410-286-5106 (Office)
443-480-1075 (cell)

Rice Unruh, Reynolds
400 East Pratt Street, 8th Floor
Baltimore, MD 21202
Agent: Scott M. Young
410-576-8902
410-365-9788 (cell)

GAC-RUR Shipping (USA) Inc.
400 East Pratt Street.
8th Floor
Baltimore, MD 21202
Agent: Scott Miller
410-576-8902 (24 hrs)
410-510-1267 (fax)
406356183 (TELEX)
Email: BALTIMORE@GACWORLD.COM
Web: <http://www.GACWorld.com>

b. Facility

Cove Point LNG Terminal
Manger LNG operations: 410-286-5101
Port Captain: 410-286-5106
Main Control Room: 410-286-5120/5121/5122
410-286-5111 Emergency
Offshore Control Room: 410-286-5150-5151-5152
Security Plaza: 410-286-5134
Radio: VHF-FM channel 13 & 16

2. Federal

a. CAPTAIN OF THE PORT HAMPTON ROADS – SECTOR HAMPTON ROADS

Port State Control Desk: (757) 668-5520 (office hours only)
Fax: (757) 668-5532

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Command Duty Officer (24 hours): (757) 668-5555
Radio (via Coast Guard Sector Hampton Roads): VHF-FM channel 16
Joint Harbor Operations Center: (757) 668-5555; VHF-FM channels 12, 13, 14

b. CAPTAIN OF THE PORT BALTIMORE – SECTOR BALTIMORE

Vessel Arrivals Desk: (410) 576-2517 (office hours only)
Vessel Arrivals Desk Fax: (410) 576-2655
Command Duty Officer (24 hours): (410) 576-2693
Sector Command Center (24 hours) Fax: (410) 576-2524
Radio: VHF-FM channel 16

c. NATIONAL VESSEL MOVEMENT CENTER (NVMC)

Telephone: (800) 708-9823 or (304) 264-2502
Fax Number: (800) 547-8724 or (304) 264-2684
E-mail address: sans@nvmc.uscg.gov
Internet: www.nvmc.uscg.gov

d. NATIONAL RESPONSE CENTER (NRC)

Telephone: (800) 424-8802. Those without 800 service, (202) 267-2675.
Fax: (202) 267-2165.
Mailing address: National Response Center
C/o U.S. Coast Guard (G-OPF)
Rm 2611
2100 2nd Street, Southwest
Washington, DC 20593-0001
Email 1st-nrcinfo@comdt.uscg.mil.
Internet: www.nrc.uscg.mil

3. Other.

a. ASSOCIATION OF MARYLAND PILOTS

3720 Dillon Street
Baltimore, MD 21224
410-276-1337
24-hour Dispatch: 410-342-6013
410-276-4197 Fax

b. VIRGINIA PILOTS ASSOCIATION

3329 Shore Drive
Virginia Beach, VA 23451
757-496-0995

c. PORT OF BALTIMORE

Baltimore Marine Exchange: Voice - (410) 342-6610

Recording - (410)-327-5986

Internet www.balmx.org

Annex F Plan Review

1. General. As new regulations are developed and promulgated, changes in operational conditions vary, and as industrial technology and control systems progress, Sector Baltimore and Sector Hampton Roads will commission updates to this Plan to conform to new operational conditions. Recommendations for improvements or updates are solicited from all interested parties and should be addressed to either:

Commander
USCG Sector Baltimore
2401 Hawkins Point Road
Baltimore, Maryland 21226

Commander
USCG Sector Hampton Roads
200 Granby St., Suite 700
Norfolk, Virginia 23510

2. Revisions.
 - a. Each party using this Plan shall review it annually for continuity purposes and general administrative correctness. The Coast Guard shall coordinate a biennial review of the Plan involving all parties and concerned stakeholders. If needed, the Plan shall be reprinted after this biennial review.
 - b. Minor revisions to this Plan such as phone numbers and personnel changes may be submitted to either Coast Guard COTP for distribution to the involved parties. Revisions that change the concept of operations or coordination between stakeholders shall be reviewed and agreed upon by the Coast Guard before implementation.
3. Stakeholder Meeting. A stakeholder meeting should be held at least biennially to review this plan and address any stakeholder concerns. Meetings may be held more frequently should the need arise or can be coordinated with major drills of this plan. A list of stakeholders to this plan should be developed prior to the review of this plan and the biennial meeting.

Annex G References

1. General. The following documents are used in part or as reference in this plan:
 - a. Title 33 CFR Parts 6, 104, 105, 125, 127, 160, 164, and 165.
 - b. Title 46 CFR Parts 38, 153, 154, and 156.
 - c. Title 49 CFR Part 193
 - d. "A Condensed Guide to Chemical Hazards (CHRIS)": COMDTINST M16465.11.
 - e. "Chemical Data Guide for Bulk Shipment by Water": COMDTINST M16616.6.
 - f. National Fire Protection Association (NFPA): Standard 59A, "Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG)".
 - g. U. S. Coast Guard Marine Safety Manual, Volumes II, VI, VII and IX.
 - h. Liquefied Natural Gas and Liquefied Petroleum Gas - Views and Practices, Policy and Safety, Commandant Instruction (COMDTINST) M16616.4.
 - i. Liquefied Gas Handling Practices On Ships And In Terminals, (SIGTTO) 2000. ISBN 1 85609 164 3
 - j. Mid-Atlantic Coastal Area Contingency Plan, December 1996, Sector Hampton Roads
 - k. Hampton Roads Maritime Firefighting Contingency Plan, March 2002, Maritime Incident Response Team
 - l. COTP Baltimore Marine Firefighting Contingency Plans, March 1998
 - m. Upper Chesapeake Estuary Area Contingency Plan, March 2002
 - n. Title 40 CFR Part 300
 - o. Regional Contingency Plan, RRT III
 - p. Virginia Area Maritime Security Plan
 - q. Baltimore Area Maritime Security Plan
2. Source of Documents. Some of the above (e.g. CFR's and CHRIS manual) are available on the internet. Copies of documents may be obtained from the following:

For federal documents, write to:
Superintendent of Documents
U. S. Government Printing Office
Washington, DC 20402-9328

For NFPA documents, write to:
National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269-9101

Annex H Definitions

1. Definitions Applicable to this Plan. The following definitions are designed to assist the reader by providing a quick reference. Nothing in this section shall supercede published definitions in the U.S. Code of Federal Regulations or other applicable documents.
 - a. Administration: The government of the state whose flag a vessel is entitled to fly.
 - b. Agent: The authorized representative of the vessel's owner in the port.
 - c. Ambient temperature: Temperature of surrounding air, as measured in degrees Fahrenheit.
 - d. Area Contingency Plan (ACP): Local area version of the National Oil and Hazardous Substances Contingency Plan (40 CFR Part 300) which contains local information regarding response to oil spills, chemical spills, and marine fire incidents.
 - e. Bunkering: Taking on liquids for the operation of a vessel.
 - f. Captain of the Port (COTP): Captains of the Port and their representatives enforce within their respective areas port safety and security and marine environmental protection regulations, including, without limitation, regulations for the protection and security of vessels, harbors, and waterfront facilities; anchorages; security zones; safety zones; regulated navigation areas; deepwater ports; water pollution; and ports and waterways safety.
 - g. Captain of the Port Order: Order given by the COTP to a specific vessel or facility under specified authority to address compliance with U.S. laws and regulations.
 - h. Certificate of Compliance (COC): A certificate issued by the Coast Guard to non-U.S. flag vessels carrying certain bulk dangerous cargoes. The COC is used to verify that non-U.S. flag vessels meet specified design and compliance requirements.
 - i. Code of Federal Regulations (CFR): The set of regulations which codify U.S. Codes and U.S. laws.
 - j. Cool down inspection: Inspection of vessel/facility during hookup operations and cool down of piping prior to full flow cargo transfer operations.
 - k. Cryogenic: The production and effects of extremely low temperatures.
 - l. Empty: This term means a vessel in heel. This does not mean a vessel that is gas free.
 - m. Federal On-Scene Coordinator (FOSC): Under the National Oil and Hazardous Substances Contingency Plan (40 CFR Part 300), the person pre-designated to coordinate and administer federal response resources to an oil or chemical spill.

- n. Fire warp: Tow lines rigged at the forward and after ends of a vessel to allow rapid makeup and towing in an emergency. The lines must be at the waterline to allow quick retrieval by tugs.
- o. Fully loaded: Any LNG vessel that is loaded with cargo to the volume or weight limits specified by their Administration.
- p. Gas detection system: Permanently installed equipment on LNG vessels designed to sample for flammable vapors in designated spaces and activate visual and audible alarms.
- q. Gas free: A vessel in this condition has completely removed all liquid cargo from tanks and piping, warmed up the cargo system to ambient temperature and ventilated those spaces to a point below the lower flammability limit of the cargo.
- r. Heel: The condition of an LNG vessel when a residual amount of cargo is kept on board to keep tanks cold.
- s. Incident Command System (ICS): The preferred standardized management structure used by the Coast Guard and other response and public safety agencies to manage an incident response.
- t. International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk (COF): A certificate issued by the Administration of a country confirming that the structure, equipment, fittings, arrangements and materials used in construction of a gas carrier are in compliance with the relevant IMO Gas Codes. Such certification may be issued on behalf of the Administration by an approved classification society.
- u. International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW): Standards published in the SOLAS Conventions which deal with human factors issues including the training, qualifications, competency, certification, and fitness of mariners.
- v. International Maritime Organization: A United Nations organization created to provide cooperation in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade; to encourage and facilitate the general adoption of the highest practicable standards in matters concerning maritime safety, efficiency of navigation, and prevention and control of marine pollution from ships.
- w. Joint Harbor Operation Center (SCC/JHOC): A joint Coast Guard and Navy operations center, located in Norfolk, Virginia, that monitors the movement of all vessels over 300 gross tons entering or moving within the Hampton Roads Regulated Navigation Area (RNA). All vessels over 300 gross tons must check-in with the SCC/JHOC no less than 30 minutes prior to entering the RNA.

- x. Liquefied Natural Gas (LNG): A flammable gas, which is primarily composed of methane that has been liquefied by decreasing the temperature to approximately -260°F (-165°C).
- y. Lower Chesapeake Bay: For purposes of this Plan, the Lower Chesapeake Bay is defined to be the area between the northern boundary of the Hampton Roads RNA and the Maryland state line (COTP Hampton Roads Zone).
- z. Lower Flammable Limit (LFL): The lowest concentration of gas or vapor in which burning will take place.
- aa. Marine Information Broadcast: Radio broadcast made by U.S. Coast Guard units to notify the maritime community that unusual conditions exist in the port.
- bb. National Vessel Movement Center (NVMC): A Coast Guard office that centrally tracks notice of arrival information from ships entering U.S. ports.
- cc. Officer in Charge, Marine Inspection (OCMI): Officers in Charge, Marine Inspection have final authority for the performance, within their area of jurisdiction, of the following functions: Inspection of vessels in order to determine that they comply with the applicable laws, rules, and regulations relating to the safe construction, equipment, manning, and operation and that they are in a seaworthy condition for the services in which they are operated; shipyard and factory inspections; the investigation of marine casualties and accidents; the licensing, certificating, shipment, and discharge of seamen; the investigating and initiating of action in cases of misconduct, negligence, or incompetence or merchant marine officers or seamen; and the enforcement of vessel inspection, navigation, and seamen's laws in general.
- dd. Partially loaded: A vessel that is less than fully loaded but carries more cargo than when in heel.
- ee. Person In Charge (PIC): Designated facility or vessel representative responsible for the transfer of cargo. Also defined in the appropriate subparts in 33 CFR.
- ff. Port State Control (PSC) Exam: An exam conducted by Coast Guard personnel for the purpose of determining a vessel's compliance with the Coast Guard's PSC Program.
- gg. Port State Control (PSC) Program: A standardized program of the Coast Guard that reviews the safety history and current compliance of foreign flagged vessels regarding international and U.S. safety requirements. Vessels are graded and given a "priority" ranking to determine port state actions upon the vessel's arrival in U.S. waters.
- hh. Radio guard: Constant monitoring of a particular radio frequency.

- ii. Regulated Navigation Area (RNA): A water area within a defined boundary for which regulations for vessels navigating within the area have been established. For the Port of Hampton Roads, see 33 CFR 165.501.
- jj. Safety/Security zone: Area of water and/or land to which access is limited by the COTP. A safety/security zone may be stationary and described by fixed limits or it may designated as “moving” and be described as a zone around a vessel in motion (33 CFR Part 165).
- kk. Security boarding: A boarding conducted by Coast Guard personnel for the express purposes of verifying vessel and crew compliance with U.S. laws, and to identify and mitigate any security threats to the United States.
- ll. SIRE: The Ship Inspection Report Program is a database of the inspections performed and sanctioned by the Oil Companies International Marine Forum (OCIMF).
- mm. Span gas: Gas certified to contain a known concentration of LNG vapor that is used to test the vessel’s gas detection system.
- nn. Upper Chesapeake Bay: For purposes of this Plan, the Upper Chesapeake Bay is defined to be the area between the Maryland state line and LNG facility at Cove Point, Maryland (COTP Baltimore Zone).
- oo. Vessel Operations: Operations, which include but not limited to vessel transit, cargo transfer, provisioning, bunkering, and ship repairs.