

- (2) The Coast Guard as it assesses LNG marine operations under its regulations, noted in reference (a), and fulfills its commitment to FERC as outlined in reference (b).
- b. This NVIC replaces NVIC 05-08 (series) and reflects updated information and experience gained since NVIC 05-08 Change 1 was released on March 18, 2009. In particular, the Coast Guard has revised the format of the Letter of Recommendation (LOR) to conform to its intended effect of being a recommendation to FERC as to the suitability of the waterway. The Coast Guard has added guidance on release of the LOR and message management, and we have provided an updated template for the LOR Analysis. This NVIC may be updated further as more information comes to light regarding risks and risk management measures for the marine transportation of LNG.
- c. This NVIC clarifies the timing and scope of the process, pursuant to FERC regulations (reference (c)), that is necessary to ensure that full consideration is given to safety and security of the port, the facility, and the vessels transporting the LNG. It provides various guides and letter templates that can be used by Coast Guard and industry personnel as appropriate.
- d. This NVIC does not address LNG Deepwater Port (DWP) facilities licensed under the DWP Act of 1974 (33 U.S.C. § 1501, *et seq.*), as amended, nor does it apply to facilities that handle liquefied hazardous gases other than LNG.

2. ACTION.

- a. An owner or operator intending to build a new facility handling LNG, or an owner or operator planning new construction to expand or modify marine terminal operations in an existing facility handling LNG where the expansion or modification results in an increase in the size and/or frequency of LNG marine traffic on the waterway associated with a proposed facility or modification to an existing facility, or prospective applicants requesting authorization from FERC to site, construct, and operate an LNG terminal and required to comply with 18 CFR 157.21(a), (Hereinafter “Applicant”) should refer to this NVIC for process information and guidance (enclosures (1) and (2)) on how to complete a Waterway Suitability Assessment (WSA). To allow for timely review, owners and operators should submit a Letter of Intent (LOI) to the Coast Guard as early in the process as possible. FERC regulations at 18 CFR 157.21 and USCG regulations at 33 CFR 127.007 require the prospective applicant to submit the LOI and WSA to the Coast Guard no later than the prospective applicant’s pre-filing submission to FERC.
- b. The Coast Guard Captain of the Port (COTP) should refer to enclosures (3) and (4) for guidance on reviewing and validating WSAs and enclosures (5) and (6) for guidance on writing a LOR and a LOR Analysis.
- c. The COTP should notify Commandant (CG-522) and Commandant (CG-741), through his or her chain of command, as soon as a LOI is received. Additionally, due to the multifaceted considerations regarding a proposed LNG facility, COTPs should ensure Commandant (CG-522) and Commandant (CG-741), as well as the respective Area and District commands, are provided with pre-release copies of official correspondence related to proposed LNG facilities in their area of responsibility.

- d. Enclosure (7) to this NVIC contains Sensitive Security Information (SSI); therefore, it is not subject to public disclosure. If disclosed, the SSI could be used to subvert or exploit the security programs of vessels, facilities, or ports. SSI material requires appropriate handling in accordance with 49 CFR Part 1520 and reference (d). **Members of the maritime industry, members of federal, state, or local government agencies, and other parties who can demonstrate a need to know should contact the cognizant COTP or Commandant (CG-522) for information on how to submit a request for enclosure (7).**

This NVIC will be distributed, **without enclosure (7)**, by electronic means only. It is available on the World Wide Web at www.uscg.mil/hq/g-m/nvic/index00.htm.

3. DIRECTIVES AFFECTED. Navigation and Vessel Inspection Circular (NVIC) 05-08, GUIDANCE RELATED TO WATERFRONT LIQUEFIED NATURAL GAS (LNG) FACILITIES and NVIC 05-08 Change 1, are superseded by NVIC 01-2011.
4. BACKGROUND.
 - a. LNG History. In the late 1800s it was discovered that natural gas could be converted to a liquid by cooling it to about -260°F . By the 1950's there was enough commercial demand for natural gas in the U. S. for the country to seek supply sources from overseas. Since LNG takes up 600 times less space than in its gaseous form, the most economical way to import natural gas from overseas is to liquefy it and transport it via LNG tankers. The first LNG tanker went into operation in 1959. Since that time, all LNG tankers have been built to rigorous international standards and have had an excellent safety record in 50 years of service.
 - b. LNG Safety. A number of studies and reports have been published about the safety of LNG tankers, with varying conclusions about the likelihood and consequences of a large LNG marine spill. In order to provide the federal government and general public with a clearer picture of the risks associated with LNG tankers, the Department of Energy (DOE) tasked Sandia National Laboratories to perform an independent review of these studies and reports and then develop their own conclusions about the risks associated with LNG tankers. They were also tasked with developing guidance on a risk-based approach to assess and quantify potential threats to an LNG ship, to review the potential hazards and consequences of a large spill from an LNG ship, and review risk management strategies that could be implemented to reduce both the potential for, and the risks of, an LNG spill over water. The Sandia Labs Reports, references (e) and (f), provide the foundation for the Coast Guard's current position on LNG safety and provide a basis for evaluating the risks associated with LNG marine traffic.
 - c. FERC and Coast Guard Interagency Agreement. In February 2004, the Coast Guard, FERC, and the U.S. Department of Transportation (DOT) entered into an Interagency Agreement (reference (b)). Under this agreement, the agencies agreed to work together to ensure that both land and marine safety and security issues are addressed in a coordinated and comprehensive manner. In particular, the Coast Guard is identified as a cooperating agency to FERC for the Environmental Impact Statement (EIS) process, serving as a subject matter expert on maritime safety and security issues. The agencies also agreed that maritime safety and security-related information would be addressed by FERC in its EIS process required under the National Environmental Policy Act (NEPA), and disclosed to the public to the extent permitted by law.

5. DISCUSSION.

a. Roles and Responsibilities of Involved Parties.

- (1) Role of FERC. FERC has the exclusive authority to approve or deny an application for the siting, construction, expansion, or operation of an LNG terminal located onshore or in state waters. This includes LNG facilities that are built beyond the shoreline but are located within state waters and, therefore, do not fall under the jurisdiction of the Deepwater Port Act, as amended (33 U.S.C. § 1501, *et seq.*). FERC is the lead federal agency responsible for ensuring proposed LNG projects comply with the requirements of NEPA, and for preparing the required environmental documents.
- (2) Role of Coast Guard. The Coast Guard exercises regulatory authority over waterfront LNG facilities and the associated LNG vessel traffic, which affect the safety and security of port areas and navigable waterways, under Executive Order 10173; the Magnuson Act (50 U.S.C. § 191); the Ports and Waterways Safety Act of 1972, as amended (33 U.S.C. § 1221, *et seq.*); the Maritime Transportation Security Act of 2002 (46 U.S.C. § 701), and the Safety and Accountability For Every Port Act (46 U.S.C. § 70101). The Coast Guard is also responsible for matters related to navigational safety, vessel engineering and construction safety standards, and matters pertaining to the safety of facilities or equipment located in or adjacent to navigable waters. As a cooperating agency in FERC's NEPA analysis, and in accordance with references (a) and (h), the Coast Guard provides FERC with a recommendation on the suitability of the waterway to support marine traffic associated with the proposed facility. The Coast Guard also regulates the safety and security of LNG facilities in accordance with 33 CFR parts 101, 105, and 127. Under the auspices of the Port State Control Program and international conventions, the Coast Guard assesses the safety and security of LNG carrier operations while at berth and during transit to and from the LNG facility while in U.S. territorial waters.

In addition to acting as a cooperating agency to FERC, the Coast Guard reviews the owner or operator's LOI and WSA, assesses the suitability of the waterway covered under the LOI and WSA, and issues an LOR under its regulations. The LOR with LOR Analysis attached, enclosures 5 and 6, is provided to FERC (as the siting authority) and to the state and local authorities having jurisdiction, to help assist with their decisions concerning the approval of the LNG facility. These documents are also provided to the facility owner and/or operator.

Nothing in this NVIC prohibits the COTP from using his or her authority under the Magnuson Act, as codified in 50 U.S.C. § 191 and implemented in 33 CFR Part 6, the Ports and Waterways Safety Act, as codified at 33 U.S.C. § 1221, *et seq.*, and implemented in 33 CFR Parts 127 and 160, the Safety and Accountability For Every Port Act (46 U.S.C. § 70101 *et seq.*, *as amended*), and the Maritime Transportation Security Act, as codified at 46 U.S.C. § 70101, *et seq.*, and implemented in 33 CFR Parts 101 to 106, to prohibit LNG transfer operations or LNG vessel movements within his or her area of responsibility if he or she determines that such action is necessary to protect the waterway, port, or marine environment.

- (3) Role of Waterfront LNG Facility Applicant. The owner who intends to build a new LNG facility, or owner or operator who plans new construction at an existing LNG facility, is responsible for researching, analyzing, and preparing various reports, forms, and applications either as called out by federal regulations or as requested by the regulating agencies during the course of their review of the applicants' proposed project applications. This may include, but is not limited to: submitting a LOI; completing supplemental modeling studies if deemed necessary; conducting the WSA; and developing plans such as the Emergency Response Plan and Cost Sharing Plan, and the optional Transit Management Plan.
 - (4) Role of Local Committees. Area Maritime Security Committees (AMSCs), Harbor Safety Committees (HSCs), and other relevant committees, subcommittees, or workgroups can help provide local knowledge and experience about the local port community. Their assistance in helping the applicant develop the WSA, and helping the COTP with review and validation of the WSA, is highly encouraged.
 - (5) Role of other Port Stakeholders. Keeping in mind due regard for the protection of SSI and/or commercial proprietary information, COTPs are encouraged to include other port stakeholders in the WSA process who may not be represented by the AMSC, HSC or other established committees. This may include members of the general public, as appropriate.
 - (6) Role of State and Local Governments. State and local governments have an interest in the activities occurring in the port areas and waterways under their jurisdiction. They also have an important public safety role and are essential in helping plan and prepare for emergencies. Representatives of each should be invited and encouraged to participate in the review and validation of the WSA as port stakeholders. Enclosure (12) is a sample letter which should be used to inform, identify and invite state representatives to participate in the WSA process. A similar letter, addressed to the head of the local government (*e.g.* county, borough, municipality, city or town), may be used to inform and identify local government representatives in a similar manner. Reference (h) requires the Coast Guard to consider recommendations from the state prior to providing FERC a recommendation on the suitability of the waterway for handling LNG marine traffic.
6. IMPLEMENTATION. The guidance provided in this NVIC applies to all LNG facilities, as defined by 33 CFR Part 127, for which FERC has not completed its final environmental analysis as of the date of this NVIC.
 7. DISCLAIMER. Each COTP has discretionary authority on how best to address specific safety and security concerns within his/her area of responsibility. Nothing in this NVIC is meant to override or subvert the discretion of the COTP when addressing the unique safety and security concerns for an LNG operation.

This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is not intended to nor does it impose legally-binding requirements on any party. It represents the Coast Guard's current policy on this topic and may assist industry, mariners, the general public, and the Coast Guard, as well as other federal and state regulators, in applying statutory and regulatory

requirements. You may use an alternative approach for complying with these requirements if the approach satisfies the requirements of the applicable statutes and regulations. If you want to discuss an alternative approach, you may contact the Office of Operating and Environmental Standards, Commandant (CG-522) which is responsible for promulgating this guidance.

8. PAPERWORK REDUCTION ACT. This NVIC describes a collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, an information collection that does not display a currently valid Office of Management and Budget (OMB) control number. Submission of a LOI and WSA is required by Coast Guard regulations at 33 CFR 127.007, for which the relevant OMB control number is 1625-0049. Submission of a WSA is also required by FERC regulations at 18 CFR 157.21, for which the relevant OMB control numbers are 1902-0060, 1902-0062 and 1902-0128.
9. CHANGES. This NVIC will be posted on the web at: www.uscg.mil/hq/g-m/nvic/index00.htm. Changes to this NVIC will be issued as necessary. Questions or suggestions for improvements of this NVIC should be submitted in writing to:

COMMANDANT (CG-5222)
ATTN: VESSEL & FACILITY OPERATING STANDARDS DIVISION
US COAST GUARD
2100 2ND ST SW STOP 7126
WASHINGTON DC 20593-7126

10. FORMS REPORTS. None.



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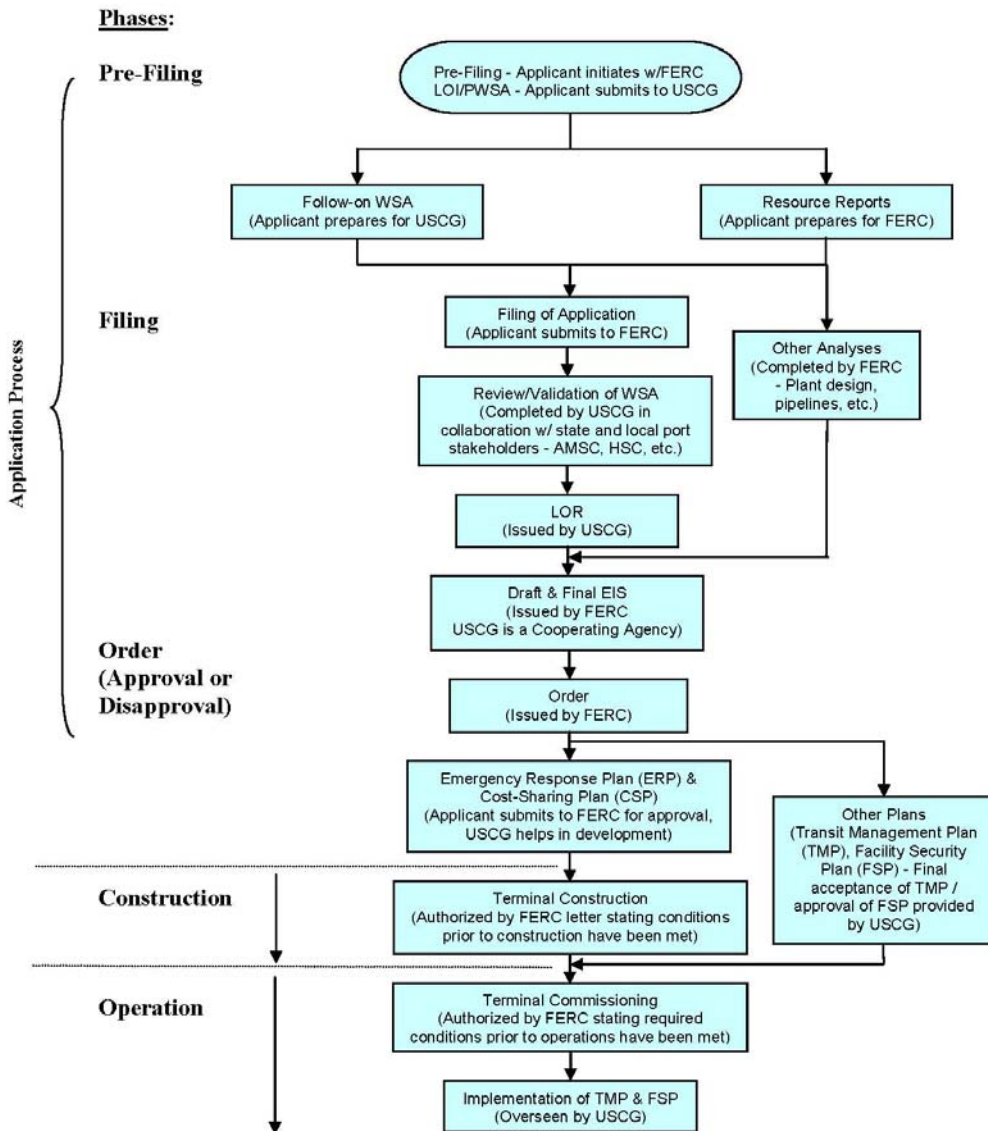
- Encl:
- (1) Overview - Process and Procedures Associated with Waterfront LNG Facilities
 - (2) Guidance on Conducting a WSA for LNG Marine Traffic
 - (3) Guidance on Reviewing a WSA and Issuing a LOR and a LOR Analysis
 - (4) Checklist for Reviewing a WSA for LNG Marine Traffic
 - (5) Sample LOR
 - (6) Sample Analysis Supporting the Letter of Recommendation
 - (7) Risk Management Quick-Reference Tool (**Sensitive Security Information, see paragraph 2.d for guidance on how this enclosure will be distributed**)
 - (8) Sample Table of Contents for the Optional Transit Management Plan
 - (9) "Zones of Concern" for Intentional LNG Spills from Vessels up to 265,000 m³ Cargo Capacity
 - (10) LNG Tanker Nationality Letter to FERC
 - (11) Sample Press Release
 - (12) Sample Letter to Governor
 - (13) Memo Template for Documenting Anticipated CG Resource Needs
 - (14) List of Acronyms

Overview - Process and Procedures Associated with Waterfront LNG Facilities

A. Introduction. The Federal Energy Regulatory Commission’s (FERC) process for siting, approving, and operating a waterfront LNG facility can be broken down into three major phases: Application, Construction, and Operation. A description of each phase along with a breakdown of events normally associated with each phase is discussed on the following pages. Figure 1 graphically depicts the overall process.

FIGURE 1

Process for Approval, Construction & Operation of a Shore-side LNG Terminal



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B. Discussion.

1. Pre-Filing. The Pre-Filing period is a period established by FERC in which LNG facility applicants for a FERC Order approving construction and operation of the LNG terminal begin gathering information and drafting Resource Reports, per 18 CFR 380.12, which FERC uses to prepare required National Environmental Policy Act (NEPA) documents such as an Environmental Impact Statement (EIS) or an Environmental Assessment (EA). Additionally, during the Pre-Filing period, applicants develop a Waterway Suitability Assessment (WSA) which will be used by the Coast Guard Captain of the Port (COTP) to assist in making a determination on the suitability of the waterway for LNG marine traffic. At or before the start of the Pre-Filing period, FERC and USCG regulations require applicants to submit a Letter of Intent (LOI) and a Preliminary WSA to the local COTP in accordance with 18 CFR 157.21 and 33 CFR 127.007 respectively. The Pre-Filing period usually lasts a minimum of 6 months. The following activities normally occur during the Pre-Filing period:

a. Submittal of Letter of Intent (LOI) and Waterway Suitability Assessment (WSA). An owner or operator intending to build a new facility handling LNG, or an owner or operator planning new construction to expand or modify marine terminal operations in an existing facility handling LNG where the construction, expansion or modification would result in an increase in the size and/or frequency of LNG marine traffic on the waterway associated with a proposed facility or modification to an existing facility must submit an LOI and a WSA to the COTP of the zone in which the facility is or will be located. Submission of the LOI and WSA marks the official starting point of the Coast Guard's involvement as a cooperating agency in the FERC approval process. The COTP should notify the servicing District legal office and Commandant (CG-522) once a LOI and WSA have been received. The requirements for the LOI and WSA are contained in 33 CFR 127.007.

b. Submittal of Preliminary WSA. A prospective applicant seeking to site, construct, and operate an LNG facility is required by USCG and FERC regulations (33 CFR 127.007 and 18 CFR 157.21) to submit a Preliminary WSA, along with the LOI, to the COTP at or before the time when the applicant begins the Pre-Filing period with FERC. The Preliminary WSA is typically a short document, often less than 10 pages long, and must provide a brief discussion on the following topics that will need to be addressed and analyzed in the fully developed Follow-on WSA:

- (1) Port Characterization
- (2) Characterization of LNG Facility and LNG Tanker Route
- (3) Risk Assessments for Maritime Safety and Security
- (4) Risk Management Strategies
- (5) Resource Needs for Maritime Safety, Security and Response

In addition to the above, the WSA should have a section listing recommended risk mitigation measures and conclusions. The main purpose of the Preliminary WSA is for

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applicants to provide an outline to the COTP of the various risk factors they plan to analyze and the risk analysis methodology they plan to use in the Follow-on WSA. It gives the COTP the opportunity to point out any issues or factors the applicant may have overlooked when considering the various potential safety and security impacts the LNG marine traffic may have on the port and associated waterway(s). It also provides an opportunity for the applicant and the COTP to identify the stakeholders at the port with whom the applicant should consult in developing the Follow-on WSA.

Section 304 of the Coast Guard Authorization Act of 2006 (Pub. L. 109-241), states that when the Coast Guard is operating as a contributing agency in FERC's waterfront licensing process, the Coast Guard must provide the Commission information described in section 5(c)(2)(K) of the Deepwater Port Act of 1974 (33 U.S.C. § 1504(c)(2)(K)) with respect to vessels reasonably anticipated to be servicing that port. The following information should be provided: 1) the nation of registry of vessels; 2) the nationality or citizenship of the officers serving on board the vessels; and 3) the nationality or citizenship of crew serving on board the vessels. This information may be collected and provided to FERC during development of the WSA or may be collected and provided to FERC at a later date when the information is known. Enclosure (10) of this NVIC is a sample letter which may be used to provide the aforementioned information to FERC.

- c. Submittal of Follow-on WSA. The applicant will prepare and submit a Follow-on WSA to the COTP. The Follow-on WSA provides a complete analysis of the topics outlined in the Preliminary WSA. It should identify credible security threats and navigational safety hazards for the LNG marine traffic, along with appropriate risk management strategies and the resources needed to carry them out. Prospective applicants of LNG facilities are required by USCG and FERC regulations (33 CFR 127.007 and 18 CFR 157.21) to have submitted a Follow-on WSA to the local COTP no later than the time they formally file their application with FERC, which normally occurs once they have completed the Pre-Filing process.

Guidance for completing a WSA is provided in enclosure (2) to this NVIC

- d. Review and validation of a WSA. The COTP will review and validate the applicant's WSA in cooperation with key stakeholders at the port such as the Harbor Safety Committee, Area Maritime Security Committee, and other stakeholders identified by the COTP (*e.g.* state and local governments, appropriate members of the public, etc.).

Section 813 of the Coast Guard Authorization Act of 2010, (Pub. L. 111-281), confirmed the Coast Guard's role in providing a recommendation to FERC regarding the suitability of the waterway for marine traffic associated with the proposed facility. It also reemphasized that the recommendation should be made after considering recommendations of the states obtained during the COTP's review and validation

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process of the applicant's WSA. Enclosure (12) of this NVIC is a sample letter which should be used to seek state input during the WSA process.

Guidance for reviewing and validating a WSA is provided in enclosures (3) and (4).

- e. Additional Activities during Pre-Filing. Additional activities which may be conducted by the Coast Guard as part of its role in assessing the suitability of the waterway for LNG marine traffic, and in working with FERC as a cooperating agency, include: preparing press releases, identifying port and waterway stakeholders, advising applicants on the process for completing WSAs, reviewing independent modeling studies (if conducted to provide site specific analysis for the hazard zones), and assembling and convening working groups. Coast Guard units needing assistance with preparation of press releases or Federal Register notices, and applicants wishing to conduct an independent modeling study, should contact the Vessel and Facility Operating Standards Division, Commandant (CG-5222).
2. Filing and Review of Applications. Once FERC is satisfied that the draft Resource Reports have sufficient information and details for developing an EIS (or EA, if appropriate), FERC informs the prospective applicant that it may officially file its application. For an EIS, FERC's self-imposed timeline calls for the EIS (first a Draft EIS (DEIS), then a Final EIS (FEIS)) to be completed and the Commission Order to be issued, either approving or disapproving the project, typically occurring over a period of at least 10 months from when the applicant files its formal application. The following activities normally occur during this period:
 - a. Issuance of a Letter of Recommendation (LOR). The LOR process (which includes the completion of the LOR Analysis) should be completed prior to the issuance of FERC's draft NEPA document. COTPs should work with their servicing District to develop the LOR and LOR Analysis documents. Issuance of the LOR and associated LOR Analysis does not constitute a permitting action. The LOR and LOR Analysis must not impose requirements or mandate conditions. The LOR must conform to the requirements of 33 CFR 127.009 and should assess the current condition of the waterway. The LOR serves as the Coast Guard's official maritime safety and security input to the agencies having jurisdiction on the facility site selection. The LOR (with LOR Analysis attached) should be provided to FERC and/or any state and local government agencies having jurisdiction for their consideration as part of their permitting process. A copy of these documents should also be provided to the owner or operator of the facility.

Draft and final copies of the LOR should be routed through appropriate District and Area staffs for approval if requested by the COTP's chain of command, with pre-release informational copies provided to Commandant (CG-522), Commandant (CG-532), Commandant (CG-544), and Commandant (CG-741)) at least 10 working days prior to actual delivery of the LOR. Enclosure (5) of this NVIC contains a sample

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LOR. See paragraph 6.b of this enclosure for additional information if multiple COTPs are involved.

- b. Issuance of LOR Analysis. As part of the LOR process, the COTP should prepare a record of review of the LOR, hereafter referred to as the LOR Analysis, which contains detailed information along with the decision-making rationale that was used in assessing the suitability of the waterway for LNG marine traffic. It should document any assumptions made by the COTP during the analysis of the applicant's WSA. It should also discuss details of potential vulnerabilities and operational safety and security measures that were analyzed during the review and identify those sections of the document which are considered Sensitive Security Information (SSI). If the LOR Analysis contains SSI, it cannot be included in a public document such as the EIS unless the SSI information has been redacted (See Reference (d) to this NVIC for additional details on handling and redaction of SSI information). All questions regarding SSI should be referred to the COTP's servicing District legal office. A sample LOR Analysis is provided as enclosure (6).
 - c. Compliance with NEPA. For waterfront LNG facilities located onshore or near shore in state waters, FERC is the lead federal agency responsible for ensuring compliance with NEPA and preparing and issuing NEPA documents, such as EISs or EAs. The Coast Guard is a cooperating agency, serving as a subject matter expert to FERC on matters relating to maritime safety and security. Under the terms identified in the Interagency Agreement among the Federal Energy Regulatory Commission, U.S. Coast Guard, and Research & Special Programs Administration for the Safety and Security Review of Waterfront Import/Export Liquefied Natural Gas Facilities, signed Feb 2004 (Interagency Agreement) (reference (b) to this NVIC), the agencies work together to ensure that both land and maritime safety and security issues are addressed in a coordinated and comprehensive manner. The Office of Operating and Environmental Standards (Commandant (CG-522)), will coordinate directly with FERC to review and resolve issues related to FERC's NEPA document(s). Commandant (CG-522) may seek the assistance of the COTP in reviewing portions of FERC's NEPA documents which pertain to information related to maritime safety and security and specific details relating to their local port environment.
3. Commission Order. After the FEIS has been issued, FERC's Commissioners will meet to consider granting authority to the LNG applicants to construct and operate the waterfront LNG facility. Information in the LOR and LOR Analysis issued by the COTP is only a small part of the information considered by the Commissioners in their decision making process. Commission Orders normally contain a series of conditions that LNG applicants should satisfy before the facility will be authorized to begin construction and operation. Although there is no required regulatory timeframe, the Commission Order is normally expected approximately 2 months after the FEIS has been published. The following activities normally take place between the time the Commission Order is issued and construction begins:

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- a. Emergency Response Plan (ERP) and Cost Sharing Plan (CSP). In accordance with the Energy Policy Act of 2005, section 311(d) and the Natural Gas Act, 15 U.S.C. § 717b, LNG facility operators are required to develop an ERP, which includes a CSP, and these should be approved by FERC prior to any site construction. The applicant should consult with the Coast Guard, along with other state and local agencies, during their preparation of the ERP and CSP. Because the ERP should be developed and approved prior to construction, and the construction phase can take 3 years or more, the Coast Guard recommends that the content of the ERP be reviewed annually during the construction phase of the project. This review should be conducted in conjunction with the annual WSA review, discussed in section 4.e of this enclosure, to determine if both the WSA and the ERP are still accurate and sufficient. Items that may be included in a typical ERP and CSP are listed below.
 - (1) ERP. The ERP may address, but is not limited to, the following items:
 - (a) Waterfront Fire-Fighting
 - (b) In-Transit Fire-Fighting
 - (c) Public Notification Systems
 - (2) CSP. The CSP may address, but is not limited to, the cost of personnel and equipment associated with such things as:
 - (a) Video Surveillance
 - (b) Bridge Security
 - (c) Pier Security Sweeps
 - (d) Familiarization Training for Pilots or Tug Operators
 - (e) Communications Plans and Interoperability
 - (f) Law Enforcement (LE) Vessel Escorts
 - (g) Shoreline Surveillance and Monitoring
4. Construction. Construction of the LNG facility could take a number of years, typically 3 or more years for a new facility. Throughout construction, members of FERC and the Pipeline & Hazardous Materials Safety Administration (PHMSA) will periodically perform site visits to inspect ongoing work. Additionally, as required by FERC, the applicant will submit monthly reports to FERC which describe the status of work accomplished over a given period. Copies of the status reports are normally posted and available for public viewing on the FERC docket. The following activities normally occur during construction:
 - a. Submission of Facility Security Plan (FSP). In accordance with 33 CFR 105.410, the owner or operator of an LNG facility shall submit a FSP for review and approval to the cognizant COTP 60 days prior to beginning operations. If approved, the FSP is valid for 5 years. Details related to development of a FSP are outlined in 33 CFR Part 105, Subpart D. Facility owners and/or operators needing to create a FSP can obtain information concerning FSP development and submittal from the Coast Guard Maritime Security Helpdesk at 1-877-687-2243 or by visiting the following website:

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<http://www.uscg.mil/hq/g-m/mp/mtsa.shtml>

- b. Submission of Operations Manual. Owners and/or operators are required to submit an operations manual to the COTP in accordance with 33 CFR 127.019. Details about what the operations manual should contain are outlined in 33 CFR 127.305.
- c. Submission of Emergency Manual. Owners and/or operators are required to submit an emergency manual to the COTP in accordance with 33 CFR 127.019. Details about what the emergency manual should contain are outlined in 33 CFR 127.307. The Emergency Response Plan discussed in section 3.a of this enclosure may serve as the Emergency Manual provided all of the requirements of 33 CFR 127.307 are met to the satisfaction of the cognizant COTP.
- d. Development of Transit Management Plan (TMP). While not required by regulation, a TMP is a valuable tool in identifying operational safety and security measures relating to the transit of LNG vessels. TMPs describe the interagency coordination procedures and operational framework that may be put in place prior to a LNG vessel transit. Effective contingency planning will help to clarify roles and responsibilities of each agency in the event of a marine casualty or maritime transportation security incident. If developed, the TMP should be similar to a “memorandum of understanding” type document, which articulates the role of each agency, and industry, and explains how they will interact. If the applicant develops a TMP, the Coast Guard encourages the applicant to consult with the COTP and other port stakeholders. This consultation will help ensure all participating agencies agree on what their role will be and on the final content of the TMP. The TMP may address, but is not limited to, various safety and security measures such as:
 - (1) A Vessel Control Center
 - (2) Daylight-Only Transits
 - (3) Tug Escorts
 - (4) Security Code Words
 - (5) Anchorage Management
 - (6) Measures for Handling Non-Empty Outbound Transits
 - (7) Communications procedures
 - (8) Additional Measures While Other Vessels are in Port

Nothing in the TMP should constitute a new requirement. Rather, the TMP is meant to consolidate in an easy-to-read format, any and all existing requirements and/or agreements of all entities involved. It is recommended that the TMP be written in a chronological countdown order, describing each agency's role along the transit timeline. Some ports have had success in writing the TMP in a step-by-step, how-to format, written with the Master of the vessel and other operationally involved readers in mind. Enclosure (8) of this NVIC provides a sample outline for the contents of a TMP.

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- e. Annual Review of WSA. Because WSAs are typically submitted years before the facility goes into operation, the port's overall security picture may change significantly in that time. New port activities may commence, additional infrastructure may be added, or population densities may change. Also, plans for the facility itself may change, such as the redesign of piers or facility infrastructure, changes in the frequency or size of LNG carriers anticipated to call at the facility, etc. Until a facility begins operation, owners or operators must annually review their WSAs and submit a report to the COTP in accordance with 33 CFR 127.007. Additional information concerning the annual review is provided in enclosures (2) and (3).
5. Operation. Once the applicant has satisfied all the conditions in the Commission Order required to be met prior to operation, FERC may issue a letter to the applicant authorizing operation of the facility. The first delivery of LNG is usually used for initial cool down of the LNG plant and piping systems and testing of associated equipment. The following activities can be expected to occur once the facility begins operation.
 - a. Notice of Arrival. In accordance with 33 CFR 160.206(d), the owner, agent, master, operator, or person in charge of a vessel arriving from a foreign port is responsible for submitting a Notice of Arrival (NOA) to the COTP 96 hours in advance of its arrival.
 - b. LNG Vessel Boardings, Inspections, and Examinations. The COTP should ensure all vessels entering U.S. waters are safe and seaworthy and do not pose a threat to the safety and security of the port, the environment, the crew, or other vessels. Periodic boardings, inspections, or examinations will be performed on U.S. and foreign flagged vessels. For information related to vessel inspections refer to the Marine Safety Manual Volume II, Section D; and Section F, Chapter 4.
 - c. Establishment of Safety and/or Security Zones. The Coast Guard may, when safety, security or other national interests dictate, establish certain Limited Access Areas (LAAs) to control access to, and movement within, areas under its jurisdiction. For information on safety and security zones refer to the Marine Safety Manual Volume VI, Chapter 1; 33 CFR 165.20; and 33 CFR 6.04-6.
 - d. LNG Facility Inspections. In accordance with 33 CFR Part 127 and 33 CFR Part 105, LNG facility operators should ensure that the COTP or his/her representative is allowed to make reasonable examinations to determine whether the facility meets the applicable requirements of the regulations. The Coast Guard will normally conduct annual facility inspections of all LNG facilities. In addition to the annual inspection, the Coast Guard may conduct spot-checks of the facility if deemed necessary.
 - e. LNG Transfer Monitors. In accordance with 33 CFR 127.011, LNG cargo transfer operations may be monitored in part or in their entirety by the Coast Guard at the direction of the COTP. Coast Guard personnel monitoring cargo transfer operations should be familiar with the facility and the vessel involved in the cargo transfer. Prior to or during the transfer of cargo or vapor, Coast Guard personnel may conduct an

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inspection of the marine transfer area of the facility and/or a spot check of the facility security. The scope and detail of this inspection will be thorough enough to satisfy the COTP that the vessel and facility are in compliance with all applicable regulations and that they are safe and secure for the intended operations.

6. Additional Information.

- a. Operational Guidance. Nothing in this NVIC is intended to relieve the COTP of his/her responsibility to follow the Coast Guard's most current operational guidance, including the guidance for High Interest Vessels (HIVs) and Certain Dangerous Cargoes (CDCs), in determining the appropriate Coast Guard role in safe-guarding LNG marine traffic and LNG offload operations. COTPs having questions concerning current operational guidance should contact the Maritime Security (Antiterrorism) Division at Coast Guard Headquarters, Commandant (CG-5322).
- b. Multiple COTP Zones. In certain situations, operations associated with a LNG facility may involve multiple COTP zones. In such situations it is important for the involved COTPs to work together. WSAs which cover more than one COTP zone should be reviewed and validated by each COTP, with input from the appropriate stakeholder committees, to the extent the project applies to their respective zone. A joint LOR, signed by the involved COTPs should be issued to comply with 33 CFR 127.009.
- c. International Borders. Coast Guard units considering proposals for LNG facilities in an area near an international border and which may be served by LNG tankers transiting the waters of a foreign nation should contact their servicing District Legal office. It is encouraged that in these situations, notification of the proposed facility be provided to the Office of Operating and Environmental Standards (Commandant (CG-522)) and the Office of Maritime and International Law (Commandant (CG-0941)) via the COTP's chain of command.
- d. Novel Designs and Concepts. Engineering and technology associated with the LNG industry can advance very rapidly. As a result, some designs and concepts proposed by industry may not be addressed by specific regulations or policies. When novel designs and concepts fall under areas regulated by the Coast Guard, the COTP should contact Vessel and Facility Operating Standards Division (Commandant (CG-5222)) for assistance.
- e. Public Affairs. It is important to provide the media and the general public with accurate and objective information about LNG safety. The Sandia Labs Reports, references (e) and (f) of this NVIC, provides such information and should be referred to for questions about LNG safety. Early proactive public engagement is important, and the COTP will be the primary representative of the Coast Guard in the local community. Because he or she will be the focus of public interest in the Coast Guard's role in the application process, it is recommended that the COTP attend risk communications training. The COTP is also encouraged to contact the appropriate District Public Affairs office for

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public affairs guidance documents developed to assist Coast Guard personnel in responding to media queries and in coordinating Government and Public Affairs activities associated with preparation and release of the LOR. Questions beyond the scope of the Coast Guard's responsibilities should be referred to FERC's Office of External Affairs (202-502-6088 or 866-208-3372).

- f. Risk Management Strategies. As with carriage of other regulated cargoes, risks can be mitigated using effective measures to reduce both the vulnerability to and the consequences of a release of LNG from a vessel. Vessel, facility, and waterway safety and security assessments and associated safety and security plans are key components of the LNG risk management process. Since the risk factors for LNG marine traffic vary from port to port, it is not possible to mandate specific strategies or to create a "one-size-fits-all" policy. Rather, a risk-based approach, which incorporates the knowledge and skills of experienced port stakeholders, should be used when evaluating the suitability of a waterway for LNG marine traffic. This risk analysis should, at a minimum, examine the following major areas of concern: public health and safety; the safety and security of the vessel; protection of critical infrastructure and key assets; and consequence management. Enclosure (9) of this NVIC summarizes the three concentric "Zones of Concern" identified in the Sandia Labs Report for an intentional breach and release of LNG. The information in this report is particularly useful when conducting a risk assessment of a waterway with regard to LNG vessels up to 265,000 m³ cargo carrying capacity. Where analysis reveals that potential impacts on public safety and property could be high and where thermal or vapor cloud interactions with terrain or structures can occur, then modern, validated computational fluid dynamics (CFD) models can be used to improve analysis of the site-specific hazards, consequences, and risks. Applicants needing to conduct refined modeling analysis should contact the Coast Guard's Vessel and Facility Operating Standards Division (Commandant (CG-5222)) for assistance. The Risk Management Quick-Reference Tool, provided as enclosure (7) of this NVIC, may be useful in determining which risk management strategies to consider. Further guidance on performing risk assessments can be obtained from Coast Guard's Risk-Based Decision-Making Guidelines, reference (g) in this NVIC, and from Coast Guard Headquarters' Human Element & Ship Design Division, Commandant (CG-5211).
- g. Resources. The Coast Guard views the provision of safety and security in the maritime realm as a cooperative effort requiring federal, state, local (public) and private sector resources. The mix of resources will be dependent on a variety of factors, such as legal authorities, areas of expertise, availability, operational constraints, etc. However, the availability of Coast Guard resources is subject to the COTP's daily mission prioritization and resource allocation that is based on many variables outside the applicant's control. To limit disruptions in facility operations and vessel transits, applicants should engage the appropriate state and local agencies in the development of the Cost Sharing Plan as required by the Energy Policy Act of 2005 (Pub. Law 109-058) as early as possible. Some of the resources/capabilities required from these agencies

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may take time to procure, develop or mature in order to achieve a satisfactory capability to support the facility's operations.

- h. Sensitive Security Information. Throughout the development of the LOR, the COTP may find that including Sensitive Security Information (SSI) in the LOR Analysis or other document is necessary. In the event SSI materials are included, the COTP should consult reference (d) and Department of Homeland Security Management Directive 11056.1, Sensitive Security Information, for guidance. If the LOR Analysis does contain SSI materials, two copies of the LOR Analysis should be forwarded to FERC: the original with SSI material and one copy with all SSI material redacted and marked as a "redacted" version of the original. This will provide FERC with the information it requires to develop its National Environmental Protection Act documents while also allowing FERC to have a copy that is releasable to the public (the redacted version).

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Guidance on Conducting a Waterway Suitability Assessment (WSA) for LNG Marine Traffic

- A. Introduction. The guidance in this document is provided to assist an applicant for a Federal Energy Regulatory Commission (FERC) Order approving construction and operation of an LNG terminal (hereinafter “Applicant”) in conducting a Waterway Suitability Assessment (WSA) for LNG marine traffic. In-house personnel or third-party contractors may be used to conduct the WSA provided they are properly qualified. The skill sets and subject matter expertise described in 33 CFR 103.410, related to qualifications required for carrying out an Area Maritime Security (AMS) assessment are considered appropriate. Additionally, person(s) performing the WSA should have comparable navigational safety expertise.

Applicants are encouraged to contact the cognizant Coast Guard Captain of the Port (COTP) at the beginning of the process to obtain information from the Area Contingency Plan (ACP), the Area Maritime Security Plan (AMSP), including Maritime Security Risk Analysis Model (MSRAM) data, and maritime critical infrastructure and key assets list. This information will be useful in completing the WSA and may be made available by the COTP in accordance with the appropriate guidelines. Throughout development of the WSA, the applicant is encouraged to periodically meet with the Coast Guard and other port stakeholders to ensure the thoroughness of the assessment. If requested by the applicant, the COTP should assist by convening “*ad-hoc*” working groups of any existing committees (e.g., Harbor Safety Committee, Area Maritime Security Committee, etc.) that the COTP/Federal Maritime Security Coordinator (FMSC) deems necessary to assist with the assessment and encourage state participation in those working groups, if applicable. In cases where LNG vessels will transit through multiple COTP zones en route to a facility, applicants are encouraged to work with each COTP in developing a WSA that addresses each zone. The cognizant District should be notified when projects involve LNG vessel transits through multiple COTP zones.

FERC and the USCG require applicants to submit a Preliminary WSA and a Follow-on WSA to the COTP as outlined in 33 CFR 127.007 and 18 CFR 157.21. The Preliminary WSA must be submitted no later than the start of the FERC Pre-Filing period. The Preliminary WSA must include information described in 33 CFR 127.007 and should identify and outline the subject matter suggested in this guidance. It does not need to contain detailed studies or conclusions, but should explain the project and discuss the obvious impacts to the port and waterway from the territorial sea to the LNG facility. It should discuss risk assessments, risk management strategies and resources in broad terms.

The Follow-on WSA must be submitted no later than the time an application is filed with FERC. The Follow-on WSA must be a more detailed version of the Preliminary WSA and should identify credible security threats and safety hazards to LNG marine traffic in the port and along the LNG vessel transit route. Additionally, it should identify appropriate risk management strategies, mitigation measures and resources needed to carry out those measures.

If the Preliminary WSA or Follow-on WSA contains information that is considered SSI, appropriate pages should be marked and handled in accordance with 49 CFR Part 1520 and reference (d) of this NVIC. To promote consistency in the development of the WSA, applicants are encouraged to use the U.S. Coast Guard’s Risk-Based Decision-Making Guidelines, (reference (g) of this NVIC), the local Area Maritime Security Plan (AMSP), and

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the Sandia National Laboratories Reports (SAND2004-6258 and SAND2008-3153, references (e) and (f) of this NVIC).

B. Scope. The WSA should provide a risk-based assessment of the proposed LNG vessel operations within the port. This approach considers risk as the combination of the probability of an undesired event occurring and the consequences if the event does occur. Fundamentally, this means asking: “What can go wrong?”; “What is the likelihood that this will occur?”; and “How severe can the consequences be?” By answering these three questions, the applicant, in cooperation with local stakeholders, can effectively characterize and quantify the risk and if merited, recommend strategies to reduce the identified risk.

1. The items listed in 33 CFR 127.007(f)(2) and 127.009(d) and (e) define the scope of the WSA. Accordingly, the WSA must provide an explanation of the following:

- a. Port Characterization;
- b. Characterization of the LNG facility and LNG tanker route ;
- c. Risk assessment for maritime safety and security;
- d. Risk management strategies;
- e. Resource needs for maritime safety, security, and response.
- f. Factors adjacent to the facility such as:
 - (1) Depths of the water;
 - (2) Tidal range;
 - (3) Protection from high seas;
 - (4) Natural hazards, including reefs, rocks, and sandbars;
 - (5) Underwater pipelines and cables;
 - (6) Distances of berthed vessels from the channel; and
- g. Other safety and security issues identified.

2. The items listed in 33 CFR 127.009(b) and (c) should also be addressed in the WSA. These items include:

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- a. Density and character of marine traffic in the waterway; and
 - b. Locks, bridges, or other man-made obstructions in the waterway.
- C. **Outline.** The following suggested outline is not meant to be prescriptive; however, it is recommended that applicants address, at a minimum, all of the topics listed below in a logical and discernable manner.
- 1. **Port Characterization.** (The AMSP may be used to provide the baseline information for this section.) The port characterization should be a synthesis and summary of information about the port environment, as a whole, that addresses the needs and interests of decision makers and of interested and affected parties. This section is important because the WSA should evaluate the impact of LNG operations on the entire port community, primarily to assess the resource requirements needed to provide a safe and secure environment for the proposed operations. It is recommended that this section include graphics that show the "footprint" of the LNG operation in the port and that careful attention is paid to the identification of populated areas and critical infrastructure and key resources.
 - 2. **Characterization of the LNG Facility, LNG Vessel Routes, and LNG Vessels.** This section must focus on the LNG facility and the LNG vessel's route. It should also address the LNG vessels reasonably expected to service the facility, as this information is required to be collected by the Coast Guard and communicated to FERC to meet the requirements of section 304(c)(2) of Public Law 109-241. To facilitate detailed study, it is suggested that the route be sub-divided into segments based on a logical methodology. The Area Maritime Security Committee may have already defined and characterized the various segments of the waterway in the AMSP, and it is highly recommended that the WSA follow the AMSP wherever possible. Consultation with local harbor pilots is also recommended.

At a minimum, the characterization should include the following:

- a. The information listed in 33 CFR 127.007 and 127.009.
- b. Details of the proposed LNG facility waterfront configuration and physical construction.
- c. Information on LNG vessels reasonably anticipated to service the facility, including:
 - (1) Design characteristics,
 - (2) Frequency of deliveries,
 - (3) Nation of registry (if known), and

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- (4) Nationality or citizenship of officers and crew (if known).
 - d. A description of the maneuvers required to berth the vessel and the potential impacts to other traffic in the waterway.
 - e. The density and character of marine traffic along each segment of the waterway as outlined in 33 CFR 127.007. This should be as detailed as possible and identify commercial, military, and recreational vessel use. It should also include marine events and seasonal use information.
 - f. The "Zones of Concern" listed in enclosure (9) of this NVIC, or other zone sizes acceptable to the Vessel and Facility Operating Standards Division (Commandant (CG-5222)) through independent modeling studies, should be applied to the length of the transit to determine the main areas of concern along the waterway. The WSA should include graphics that depict the outer perimeter of the zones along the entire LNG vessel transit route, in order to assess what port and community features fall within them.
 - g. Critical infrastructure and key assets – this information should be listed in the AMSP and the WSA should identify all critical infrastructure and key resources along the entire LNG vessel transit route.
 - h. Waterfront community demographics and important structures (other than those listed in the AMSP), including industrial, commercial, residential districts; city centers; military installations; schools; hospitals; cultural centers; etc, should be identified along the entire LNG vessel transit route. Sensitive environmental areas (which can be found in the ACP) should also be identified.
 - i. Population density – for the purpose of this assessment, population density may be broken into two categories. “High density populations” should be designated for areas with 9,000 persons per square mile or greater. “Medium density populations” should be designated for areas with 1,000 to 9,000 persons per square mile.
- D. Risk Assessments (Maritime Safety and Security). After the port environment and transit route have been characterized, the WSA must analyze the risks that arise from the introduction of LNG operations into the port. The goal of this section of the WSA is to discern and understand the individual risks, in terms of threats, vulnerabilities, and consequences, so that appropriate risk management strategies can be developed. The WSA should go into as much detail as possible. Key assumptions should be identified and a sensitivity analysis performed to determine how much the outcome of the risk assessment is impacted by a slight change in any of the key assumptions.

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The applicant may use any assessment methodology deemed appropriate. However, it is recommended that the applicant use a methodology that meets generally accepted risk-based decision-making industry standards and that the assessment is as objective and transparent as possible. The Risk Assessment portion of the WSA looks at the conditions that could result in a release of LNG. The events that could trigger a release may be accidental (e.g., collisions, groundings, equipment failure, etc.) or intentional (e.g., terrorist act, sabotage, etc).

The Coast Guard has developed a Risk Management Quick-Reference Tool, (enclosure (7) of this NVIC), which is an SSI document that will be distributed as discussed in paragraph 2.d of this NVIC. It includes measures to be considered for addressing “conventional” waterways management and navigational safety issues such as groundings, allisions and collisions, as well as measures to be considered for deterring terrorist attacks. The intent of this quick-reference tool is to ensure the accidental and intentional release scenarios identified in references (e) and (f) of this NVIC are considered when preparing and reviewing a WSA. **However, this quick-reference tool is not intended to force the use of risk management strategies that may not be effective for a given port or size of vessel, or prevent the use of other risk management strategies that may be more effective.** It is important to note that some of these risk management strategies are aimed at reducing the vulnerability of LNG vessels to damage, while others are aimed at reducing the consequences if incident does occur.

1. Safety Risk Assessment. The safety assessment evaluates the risks of accidental releases of LNG. The set of incidents that may lead to an accidental release should be identified and the likelihood and consequences of those events should be evaluated. “What-if...?” and Change Analysis tools may be useful in this evaluation. The consequence evaluation should be based on the accidental release scenarios described in the Sandia National Lab’s reports, SAND2004-6258 and SAND2008-3153. These reports will aid in identifying those areas where an unconstrained release of LNG poses significant potential consequences.
2. Security Risk Assessment. The security assessment evaluates the risks of intentional releases of LNG. It should be viewed as three separate assessments: threat, vulnerability, and consequence. For security related events, the probability is evaluated in terms of threat and vulnerability, where threat is the likelihood of an attack and vulnerability is the likelihood that an attack will succeed. The security risk assessment’s consequences should be based on the scenarios described in the Sandia Lab’s report.
 - a. Threat Assessment. A threat assessment is an evaluation of ways in which particular people and property may be attacked, the seriousness of such threats, and the potential means by which they may be carried out. At a minimum, the assessment should thoroughly address those specific attack scenarios identified in the Sandia Report, which include sabotage, projectiles, aerial, surface and underwater threats. It should also include a full consideration of potential attack methods throughout the waterway. The assessment should also identify areas in the port such as manmade structures,

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tributaries and land masses along the transit waterway from which an attack could be launched.

- b. Vulnerability Assessment. A vulnerability analysis is the portion of the WSA that attempts to identify the exposures that might be exploited to ensure the success of an attempted terrorist attack. These may be considered as two types of vulnerabilities, asset and system. The asset vulnerabilities consider the physical properties of the target that may influence the likelihood of success of a terrorist attack. The system vulnerabilities consider the ability of the terrorist to successfully launch an attack.

 - c. Consequence Analysis. Using the zones of concern described in Enclosure (9) of this NVIC, or other accepted zone sizes, the WSA should graphically depict where the three zones of concern intersect with population areas, critical infrastructure and key assets, critical waterways, and commercial, industrial, or environmentally sensitive areas in and adjacent to the transit route. This will identify those areas where an intentional release of LNG would have the most significant consequences. Where the analysis reveals that potential impacts on public safety and property could be high, validated computational fluid dynamics (CFD) models can be used to improve analysis and refine the hazard zone sizes based on site-specific data. Applicants desiring to conduct a site-specific modeling analysis should contact Coast Guard Headquarters, Vessel and Facility Operating Standards Division, COMDT (CG-5222), for assistance.
- E. Risk Management Strategies. Risk management is a process in which the applicant identifies ways to prevent an identified attack or accident from occurring and develops measures to mitigate the consequences should a breach of the LNG vessel occur. Using the information in enclosure (7) of this NVIC, which is available from the COTP, the applicant must identify possible risk management strategies for areas of risk identified by the safety and security risk assessments discussed above, and determine which risk management strategies are appropriate. The matrix is not exhaustive; the applicant may consider any and all possible risk management strategies that are available or could be made available in the port.
- F. Resource Needs for Safety, Security and Response. Based on all of the proposed risk management strategies, the WSA must identify the resources needed to implement them, be they state, local, private and/or federal. Consideration should be given to the length of the LNG vessel transit and the fact that some resources needed in different places along the route may have to originate from a variety of sources or physical locations. Other resources may be single-sourced. Specific resources should be tied to specific risk management strategies. There may be several options or strategies for how all the risk management strategies can be implemented, and the applicant is encouraged to discuss the different options or strategies. Some risk management strategies may call for interagency cooperation or procedural changes, but not necessarily more resources. All of these issues should be discussed in the WSA.

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Additionally, the WSA should provide a gap analysis to identify what existing resources are present in the port, what additional resources are needed, and how these additional resources might be obtained. For all risk management strategies described in the WSA, the applicant should identify a source agency (e.g., state, or local agency, or private entity) that has the capability, jurisdiction, and or ability to implement these measures. Furthermore, it must be noted that the availability of Coast Guard resources is subject to the COTP's daily mission prioritization and resource allocation that is based on many variables outside the applicant's control. During LNG operations, if the resources necessary to implement the risk management strategies are not available and the COTP has identified a specific safety or security threat to the port, the public, the vessel and/or the environment, the cognizant COTP can use his/her authority under the Magnuson Act, as codified in 50 U.S.C. § 191, and implemented in 33 CFR Part 6, and the Ports and Waterways Safety Act, as codified at 33 U.S.C. § 1221, *et seq.*, and implemented in 33 CFR Parts 127 and 160, to prohibit or control LNG vessel and/or facility operations. Therefore, to limit disruptions in LNG facility operations and LNG vessel transits, the Coast Guard recommends and FERC requires, that all applicants develop comprehensive cost-sharing plans with State and local agencies, as required under the Energy Policy Act of 2005 (Pub. Law 109-058), to ensure that cooperating agencies are readily available, have the jurisdiction to and are capable of implementing the required risk management strategies. This recommendation particularly applies to any measure involving critical resources, such as waterborne, aerial, and waterfront assets used for safety/security zone enforcement and/or shoreline surveillance and monitoring.

Finally, scalable risk management strategies similar to those used for vessel and facility security plans should be considered to address LNG operations at elevated Maritime Security (MARSEC) levels. The specifics of the threat or causal event leading to an elevated MARSEC level may dictate exactly how the LNG safety and security should be enhanced; however, the WSA may make recommendations about how to enhance safety and security for a non-specific threat. For instance, what individual risk management strategies should be increased in strength or resource number (e.g., adding more escort vessels to a routine escort). Or, for specific areas of concern along the transit, what new risk management strategies should be applied (e.g., creating roving shoreside patrols), or what combination of enhanced strategies and new strategies would provide the best improvement in overall safety and security.

- G. Conclusions. A section should be included in the WSA which addresses the suggested risk management strategies, resources and overall conclusions of the WSA. This section of the WSA is an opportunity to summarize, in general, the port safety and security implications of introducing or expanding LNG operations in the port. The most obvious or pressing resource issues should be identified here, along with a summary of the gap analysis which identifies what additional resources are needed and how these resources might be obtained. Finally, any other important issues that arose during the research for the WSA should be discussed here as well.
- H. Annual Review of the WSA. Recognizing that a substantial period of time may elapse between the date the WSA is submitted and the date the LNG facility begins operation, it is

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important for the WSA to be reviewed annually. Until the facility begins operation, owners or operators must review their WSAs annually and submit a report to the COTP as to whether changes to the WSA are required. The deadline for the annual report should coincide with the date of the COTP's LOR, which indicates review and examination of the Follow-on WSA have been completed. The owner or operator should update the WSA if there are any changes in conditions upon which the COTP may have based his/her recommendation on the suitability of the waterway for LNG marine traffic. Such changes include, but are not limited to, changes to the port environment, the LNG facility, and/or the LNG tanker route. In the event that revisions to the WSA are needed, details of the necessary revisions along with a timeline for completion are required in the report to the COTP. Additionally, a final report must be submitted to the COTP at least 30 days, but not more than 60 days, prior to the start of operations. The above requirements are outlined in 33 CFR 127.007(h)(1) through (4). Additional information concerning the annual review is provided in enclosure (3), paragraph G.

Guidance on Reviewing a WSA and Issuing a LOR and a LOR Analysis

- A. Introduction. The following guidance is provided to assist the Captain of the Port (COTP) in reviewing and validating a Waterway Suitability Assessment (WSA) submitted by an applicant in association with the applicant's request to the Federal Energy Regulatory Commission (FERC) for authorization to site, construct, and operate an LNG terminal. Additionally, guidance is provided to assist the COTP in issuing a Letter of Recommendation (LOR) and LOR Analysis.

Current USCG and FERC regulations require applicants to submit a Preliminary WSA and a Follow-on WSA to the COTP within the timeframes specified in 33 CFR 127.007 and 18 CFR 157.21. The Preliminary WSA must be submitted before the start of the FERC Pre-Filing period and the Follow-on WSA must be submitted no later than the time the applicant files a formal application with FERC. LNG applicants are encouraged to meet with the COTP early in the process of developing their WSA to ensure the WSA meets the expectations of the COTP and addresses the items listed in enclosure (2) of this NVIC. Follow-up meetings and discussions should take place periodically throughout development of the WSA.

The COTP may assist the applicant in the WSA process by convening “*ad-hoc*” working groups of existing committees (*e.g.*, Harbor Safety Committee (HSC), Area Maritime Security Committee (AMSC), etc.) and other stakeholders (*e.g.*, state and local governments, appropriate members of the public, etc.) to help the applicant in developing the WSA. Additionally, these committees or working groups may be used by the COTP to help review and validate the WSA. The COTP should be alert to potential conflicts of interest among committee members and other stakeholders who may participate in the WSA development, or in review and validation of the WSA. Potential conflicts of interest may be avoided by having those members who have participated in one aspect of the process dismiss themselves from participating in another. Questions regarding potential conflicts of interests should be discussed with the COTP's servicing legal office.

In accordance with the guidelines for handling Sensitive Security Information (SSI), reference (d) of this NVIC, information from the Area Maritime Security Plan, including Maritime Security Risk Analysis Module (MSRAM) data and maritime critical infrastructure and key asset lists, may be provided to the applicant to assist them in developing the WSA.

AMSCs are exempt from the provisions of the Federal Advisory Committee Act (FACA), pursuant to the Maritime Transportation Security Act (MTSA) of 2002 (46 U.S.C. § 70112). As such, the COTP may consult with the AMSC at any point without violating the provisions of FACA. HSCs are also exempt from FACA because they have been created as operational committees. HSCs should operate in accordance with Coast Guard policy, Guidance for Coast Guard Coordination of Marine Transportation System (MTS) Improvement Efforts at the Regional and Local Level, COMDTINST 16010.9. When coordinating, supporting, or participating in the activities of HSCs and/or other local MTS committees, COTPs should be aware of the provisions of the Federal Advisory Committee Act (FACA) as discussed in Coast Guard policy, Committee Management Policy and Procedures, COMDTINST 5420.37 (Series). HSCs and other local MTS committees will not be advisory committees under

Guidance on Reviewing a WSA and Issuing a LOR and a LOR Analysis

FACA if they are organized and run in accordance with the guidance contained in NVIC 01-00, "Guidance for the Establishment and Development of Harbor Safety Committees under the Marine Transportation System Initiative." Departure from that guidance, however, through Coast Guard control of a committee's governance or agenda, could convert an HSC or other local MTS committee into an advisory committee that is required to comply with the provisions of FACA. Any questions on this matter should be referred to the COTP's servicing District legal office.

Once the WSA is validated, the AMSCs should be encouraged to use the WSA to update their AMS Plan and address LNG operations in the port. Future exercises by the AMSC should take into consideration the changes in the port activity introduced by the LNG operations.

Keeping in mind the requirement to protect SSI and/or commercially proprietary information, the COTP is encouraged to include other port stakeholders who may not be represented by the AMSC, HSC, or other established committees in the waterway suitability assessment process. This may include members of the general public, as appropriate.

B. Process Initiation.

Upon receipt of an LOI and Preliminary WSA from the applicant, the COTP should notify their appropriate District staff that they have received an LOI. The COTP should review these documents to ensure they are complete. If the application is not complete, the COTP should immediately notify FERC and the applicant.

The COTP should establish a project record and maintain copies of all official correspondence sent and received on the project. Additionally, a running logbook should be established which records correspondence, meetings, briefings, and other similar project related events.

The COTP should establish a dialog with FERC and identify the Project Manager FERC assigned to handle the project. The COTP or his/her representatives should consider attending scoping meetings and other public forums initiated by FERC. Such attendance by the COTP or his/her representative should be only as an observer and not as a participant. The typical role of FERC at its public meetings is to describe the LNG project, explain the agency's role and process, and receive public comment (although not necessarily to engage in any sort of public debate on the merits of the project).

The COTP should establish dialog with the Vessel and Facility Operating Standards Division (Commandant (CG-5222)) so that Headquarters can begin working with FERC to fulfill the USCG's role as a cooperating agency under the National Environmental Policy Act (NEPA). Commandant (CG-5222) may seek and coordinate participation and input of the COTP in development of comments to FERC's Environmental Impact Statement (EIS).

Guidance on Reviewing a WSA and Issuing a LOR and a LOR Analysis

C. Preliminary WSA.

The Preliminary WSA is an initial document which should provide an outline of the major impacts anticipated by the LNG operations on the port and LNG vessel transit route. The preliminary document need not contain detailed studies or conclusions, but it should explain the project and discuss the obvious impacts to the port and waterway from the territorial sea to the LNG facility. Risk assessments, risk management strategies, and required resources should be discussed in broad terms. The Preliminary WSA should address each of the major topics that will be analyzed in the Follow-on WSA, as discussed in enclosure (2) of this NVIC.

D. Follow-on WSA.

The Follow-on WSA is a more detailed version of the Preliminary WSA and should identify credible security threats and safety hazards to LNG marine traffic in the port and along the LNG vessel transit route. Additionally, it should identify appropriate risk management strategies, mitigation measures and resources needed to carry out those measures.

The COTP should convene “ad-hoc” working groups of existing committees (e.g., Harbor Safety Committee (HSC), Area Maritime Security Committee (AMSC), etc.) and other stakeholders (e.g., state and local governments, appropriate members of the public, etc.) to assist in review and validation of the Follow-on WSA. Enclosure (12) is a sample letter which should be used to seek input from the state government during the WSA process. A similar letter may be used to seek input from the local government. After the working groups have completed their work, the COTP should allow 30 to 60 days for members of the working groups, including state and local governments, appropriate members of the public, etc., to submit any additional input, comments, or recommendations they wish the COTP to consider before finalizing and sending the LOR to FERC. The deadline for these submissions from the working groups should be made clearly and in writing. Additional guidance on reviewing a risk assessment may be found in Volume 1, Chapter 5 of the Coast Guard’s online Risk-Based Decision-Making Guidelines, reference (g) of this NVIC.

In accordance with the Coast Guard Authorization Act of 2006, (Pub. L. 109-241), section 304(c)(2), the Coast Guard is required to provide information to FERC concerning the nation of registry for, and the nationality or citizenship of officers and crew serving on board, vessels transporting natural gas that are reasonably anticipated to be servicing the LNG facility. Applicants should include this information in their WSA, but the Coast Guard recognizes the information may not be available in the early stages of the application process. COTPs should be mindful of this requirement and convey to the applicant the necessity of providing this information to FERC whenever it becomes available. Enclosure (10) of this NVIC contains a sample letter, which may be used to help fulfill this requirement.

E. Review & Validation of the Follow-on WSA.

Review means to examine the WSA to determine if it includes all information necessary to assess the suitability of the waterway for LNG marine traffic.

Guidance on Reviewing a WSA and Issuing a LOR and a LOR Analysis

Validation means to conduct a “reality check” of the Follow-on WSA to determine if it presents a realistic and credible analysis of the public safety and security implications of introducing LNG marine traffic into the port and waterway, and the measures intended to responsibly manage the risks. Suggested areas to consider in the validation of the Follow-on WSA could include verifying that:

1. That all factors in 33 CFR 127.007(f)(2) and 127.009(d) and (e) have been addressed;
2. The appropriate port stakeholders, including states with relevant jurisdiction, have been consulted during the assessment development process;
3. The appropriate critical infrastructure and key assets along the proposed LNG marine traffic route have been accurately identified;
4. Population density figures are current and accurate;
5. Credible scenarios have been considered and risk management strategies appropriate for those scenarios that have been identified;
6. The impact of those risk management strategies on other port users and stakeholders has been addressed; and
7. The resources necessary to implement those measures are available and actually capable of performing the expected activities (*e.g.*, sufficient personnel are available, adequately trained, equipped and funded; equipment to perform tasks exists, is serviceable and appropriate for the intended task; agencies have appropriate jurisdiction to perform desired function, etc.). If the resources are not available, the applicant should identify through a cost share plan or other funding instrument, reasonable and timely ways to obtain the resources.

The WSA checklist, provided as enclosure (4), should be used to help determine if the WSA contains sufficient details.

F. Analysis Supporting LOR (SSI document).

The LOR Analysis is an enclosure to the COTP’s LOR that outlines the information and decision-making rationale used by the COTP in assessing the suitability of the waterway from the territorial sea to the LNG facility.

An example of a LOR Analysis is provided as enclosure (6) to this NVIC. Information contained in the LOR Analysis may be considered SSI and should be handled in accordance with appropriate regulations and Coast Guard guidelines for handling such information. (See reference (d) for additional details).

Guidance on Reviewing a WSA and Issuing a LOR and a LOR Analysis

G. Letter of Recommendation (LOR).

After input during the WSA process has been considered by the COTP, the WSA has been reviewed, and the LOR Analysis has been completed and prior to the release of the draft EIS from FERC, the COTP should deliver the LOR as required by 33 CFR 127.009. Draft and final copies of the LOR should be routed through appropriate District and Area staffs for approval if requested by the COTP's chain of command, with pre-release informational copies provided to Commandant (CG-522), Commandant (CG-532), Commandant (CG-544), and Commandant (CG-741)) at least 10 working days prior to actual delivery of the LOR. A sample LOR is provided as enclosure (5) to this NVIC. Additionally, internal to the Coast Guard, the COTP should identify and document the anticipated Coast Guard resource needs for the project and submit the information to Commandant (CG-7) routed through the respective District and Area staffs with copies provided to Commandant (CG-751), Commandant (CG-741), Commandant (CG-544), Commandant (CG-532), and Commandant (CG-522). A sample letter for this purpose is provided as enclosure (13).

H. Annual Review of WSA.

As discussed in enclosure (2), owners or operators must annually review their WSAs and submit a report to the COTP in accordance with 33 CFR 127.007. In the event that revisions to the WSA are needed, details of the necessary revisions along with a timeline for completion must be provided to the COTP.

For guidance on revising an LOR based on the annual review of the WSA, the COTP should contact Commandant (CG-5222).

Annual reviews of the WSA are not considered necessary after start up because the Operations Manual, Emergency Manual, Facility Security Plan and the Transit Management Plan (if developed), become the focal points for addressing operational safety and security measures.

At any time considered necessary, the COTP may exercise authority over waterfront LNG facilities and associated LNG vessel traffic under Executive Order 10173; the Magnuson Act (50 U.S.C. § 191); the Ports and Waterways Safety Act of 1972, as amended (33 U.S.C. § 1221, *et seq.*); and the Maritime Transportation Security Act of 2002, as amended by the Security and Accountability for Every Port Act of 2006, (46 U.S.C. Chapter 701.

Enclosure (3) to NVIC 01-2011

Guidance on Reviewing a WSA and Issuing a LOR and a LOR Analysis

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Checklist for Reviewing a Waterway Suitability Assessment (WSA) for LNG Marine Traffic

This checklist can be used by the Captain of the Port (COTP)/Federal Maritime Security Coordinator (FMSC) or members of a standing committee or work group to review a Waterway Suitability Assessment (WSA). The reviewer should fill in the appropriate box(es) for each section under review. For any entries deemed not applicable, check "N/A." Provide a brief explanation for "No" and "N/A" responses..

SCOPE OF ASSESSMENT AND GENERAL CONTENT REVIEW				
1.	Yes	No	N/A	Does the WSA identify the professional competencies of those selected to conduct an assessment?
2.	Yes	No	N/A	Does the WSA cover the liquefied natural gas (LNG) tanker's transit for the distance outlined in 33 CFR 127.007?
3.	Yes	No	N/A	Does the WSA address the physical vessel-facility interface and cargo operations?
4.	Yes	No	N/A	Does the WSA address broad port level concerns?
5.	Yes	No	N/A	Does the WSA focus on the transit waterway and facility site in adequate detail?
6.	Yes	No	N/A	Does the WSA address both safety and security issues?
7.	Yes	No	N/A	Is the WSA written for an audience comprised of various port stakeholders?
Comments:				

**Checklist for Reviewing a Waterway Suitability Assessment (WSA)
for LNG Marine Traffic**

A. PORT CHARACTERIZATION:				
1.	Yes	No	N/A	Does the WSA adequately summarize the port environment?
2.	Yes	No	N/A	Does the WSA describe the general issues and port level impacts of introducing LNG operations into the port?
3.	Yes	No	N/A	Does the WSA graphically show where the LNG operations are proposed (<i>i.e.</i> , a "footprint") so that the relative physical impact to the port may be gauged?
4.	Yes	No	N/A	Is the port characterization in general alignment with the Area Maritime Security Plan (AMSP) and any other important local references?
Comments:				

Checklist for Reviewing a Waterway Suitability Assessment (WSA) for LNG Marine Traffic

B. CHARACTERIZATION OF THE LNG FACILITY AND LNG TANKER ROUTE:				
1.	Yes	No	N/A	Does the WSA sub-divide the transit route into logical segments for detailed review?
2.	Yes	No	N/A	Does the WSA describe the transit route in adequate detail to identify important navigation safety issues?
3.	Yes	No	N/A	Does the WSA describe all locks, bridges, or other man-made obstructions in the waterway?
4.	Yes	No	N/A	Does the WSA describe the natural features and hazards of the waterway?
5.	Yes	No	N/A	Does the WSA describe the transit route in adequate detail to discern points or areas that pose security concerns or problems?
6.	Yes	No	N/A	Does the WSA adequately describe the density, character, and type of marine traffic in the waterway?
7.	Yes	No	N/A	Does the WSA include information on regular and non-routine marine events and seasonal considerations that affect the waterway?
8.	Yes	No	N/A	Does the WSA describe the physical location of the facility, with a description of the proposed facility?
9.	Yes	No	N/A	Does the WSA describe the proposed LNG tankers' characteristics and the frequency of LNG shipments to or from the facility?
10.	Yes	No	N/A	Does the WSA include information on the flag state and the nationality of officers and crew members of LNG tankers that are regularly expected to call on the facility?
11.	Yes	No	N/A	Does the WSA describe the following factors adjacent to or near the facility? <ul style="list-style-type: none"> • Depths of the water. • Tidal range. • Protection from high seas. • Natural hazards, including reefs, rocks, and sandbars. • Underwater pipelines and cables. • Distance of berthed vessel from channel and width of channel.
12.	Yes	No	N/A	Does the WSA graphically depict the "zones of concern" overlaid on the transit route?
13.	Yes	No	N/A	Does the WSA identify critical infrastructure (CI) and key assets along transit route? (See the AMSP for a listing of the CI along the transit route).
14.	Yes	No	N/A	Does the WSA identify populated areas, shoreside use and important community structures along the transit route?
15.	Yes	No	N/A	Does the WSA show high density population areas (>9,000 persons per square mile) and medium density population areas (1,000 to 9,000 persons per square mile)?

**Checklist for Reviewing a Waterway Suitability Assessment (WSA)
for LNG Marine Traffic**

Comments:

C. RISK ASSESSMENTS (SAFETY AND SECURITY):				
1.	Yes	No	N/A	Does the WSA use a specific industry or government accepted risk assessment methodology? If not, is the methodology used adequate?
2.	Yes	No	N/A	Does the WSA address both safety and security issues and correctly identify the differences and similarities between them?
3.	Yes	No	N/A	Does the WSA clearly identify the key assumptions that were made in performing the analysis?
4.	Yes	No	N/A	Does the WSA include a sensitivity analysis of the key assumptions and characterize their effect on risk?
5.	Yes	No	N/A	Does the WSA identify all of the potential scenarios for accidental release of LNG?
6.	Yes	No	N/A	Does the WSA adequately address the consequences of an accidental release of LNG?
7.	Yes	No	N/A	Does the WSA address all the specific attack scenarios identified in the Sandia report (reference (e)), which include sabotage, projectile threats, aerial, surface, and underwater threats?
8.	Yes	No	N/A	Does the WSA consider attack scenarios or accident types that are in addition to those listed in the Sandia report and the Risk Management Quick-Reference Tool (enclosure (7))?
9.	Yes	No	N/A	Does the WSA adequately identify areas in the port from which an attack could be launched?
10.	Yes	No	N/A	Does the WSA adequately address vulnerabilities, both in terms of the physical target and likelihood of a successful attack?
11.	Yes	No	N/A	Does the vulnerability assessment consider the vessel, the facility and the port community?
12.	Yes	No	N/A	Does the WSA identify the points or areas along the transit route

**Checklist for Reviewing a Waterway Suitability Assessment (WSA)
for LNG Marine Traffic**

				where attacks would have the most significant consequences?
13.	Yes	No	N/A	Does the WSA use the "zones of concern" (Encl.9)?
14.	Yes	No	N/A	Does WSA lead to a distinct set of issues which can be addressed with risk management strategies?
Comments:				

D. RISK MANAGEMENT STRATEGIES:				
1.	Yes	No	N/A	Does the WSA adequately use the Risk Management Quick-Reference Tool (enclosure (7)) and/or other sources to identify possible risk management strategies to consider for identified areas of risk and determine which risk management strategies are appropriate for each?
2.	Yes	No	N/A	Does the WSA identify or propose additional risk management strategies that are locally available or that might be made available?
3.	Yes	No	N/A	Does the WSA identify and apply risk management strategies that are appropriate for the given issues?
Comments:				

**Checklist for Reviewing a Waterway Suitability Assessment (WSA)
for LNG Marine Traffic**

D. RESOURCE NEEDS:				
1.	Yes	No	N/A	Does the WSA adequately address the resources needed to carry out the risk management strategies?
2.	Yes	No	N/A	Does the WSA adequately identify and incorporate the use of resources from multiple sources (e.g. federal, state, local, private)?
3.	Yes	No	N/A	Does the WSA adequately identify and incorporate the use of resources available at all locations along the transit route and at the facility?
4.	Yes	No	N/A	Does the WSA adequately specify and provide details of the types of resources needed?
5.	Yes	No	N/A	Does the WSA provide maps which adequately identify the locations of available resources?
6.	Yes	No	N/A	Does the WSA adequately describe resources that are currently available and those that need to be acquired?
7.	Yes	No	N/A	If resources need to be acquired, does the WSA adequately indicate the manner by which the resources will be obtained, when, and by whom?
Comments:				



Commander
U. S. Coast Guard
Unit Name

Unit
Address
Staff Symbol: XXX
Phone: (XXX) XXX-XXXX
Fax: (XXX) XXX-XXXX

16611

DIRECTOR OF GAS ENVIRONMENT AND ENGINEERING, PJ 11
FEDERAL ENERGY REGULATORY COMMISSION
888 1ST ST NE
WASHINGTON, DC 20426-0002

Dear Mr./Ms.

This Letter of Recommendation (LOR) is issued pursuant to 33 CFR 127.009 in response to the Letter of Intent submitted by *[name of applicant]* on *[date]* proposing to transport Liquefied Natural Gas (LNG) by ship to the *[name of LNG facility]* proposed for operation in *[city, state]*. It conveys the Coast Guard's recommendation on the suitability of the *[name of waterway]* for LNG marine traffic as it relates to safety and security. In addition to meeting the requirements of 33 CFR 127.009, this letter also fulfills the Coast Guard's commitment for providing information to your agency under the Interagency Agreement signed in February 2004.

After reviewing the information in the applicant's Letter of Intent (LOI) and Waterway Suitability Assessment (WSA) and completing an evaluation of the waterway in consultation with a variety of state and local port stakeholders, I recommend that the *[name of waterway]..... be considered (suitable / not suitable) for LNG marine traffic]*. My recommendation is based on review of the factors listed in 33 CFR 127.007 and 33 CFR 127.009. The reasons supporting to my recommendation are outlined below.

On *[date]*, I completed a review of the WSA for the *[project name]*, submitted by *[name of applicant or entity that prepared the WSA]* on *[date]*. This review was conducted following the guidance provided in U.S. Coast Guard Navigation and Vessel Inspection Circular (NVIC) 01-2011, of *[date of NVIC]*. The review focused on the navigation safety and maritime security aspects of LNG vessel transits along the affected waterway. My analysis included an assessment of the risks posed by these transits and possible risk management measures that could be imposed by FERC's Commission Order if one is issued. During the review, I consulted a variety of stakeholders including *[Specify here, could include Area Maritime Security Committees, Harbor Safety Committees, State government representatives, and/or individual emergency responders, etc]*.

(Waterway is Suitable answer)

Based upon a comprehensive review of the applicant's WSA and after consultation with state and local port stakeholders, I recommend that the *[waterway name]* be considered suitable for accommodating the type and frequency of LNG marine traffic associated with this project.

The attached LOR Analysis contains a detailed summary of the WSA review process that has guided this recommendation. In the absence of full implementation of the strategies and risk management measures identified in the applicant's WSA, the *[waterway name]* would be considered unsuitable for the LNG marine traffic.

(Waterway Unsuitable Answer)

Based upon a comprehensive review of the applicant's WSA and in consultation with state and local port stakeholders, I am recommending that the *[Waterway Name]* be considered not suitable for accommodating the type and frequency of LNG marine traffic associated with this project. The specific reasons which lead to my recommendation are provided below. *[Specify all reasons why the waterway is unsuitable below]*

- 1.
- 2.

Should there be significant changes to the items described above, characteristics of the waterway or to the risk management measures proposed by the applicant which would cause my recommendation to change, I may reconsider my recommendation provided that supporting documentation regarding the changed circumstances is submitted for my review.

(Closing in Both Cases)

This recommendation is provided to assist you in your determination of whether the proposed facility should be commissioned. The risk management measures identified in the applicant's WSA and the information in the attached analysis may be used by you if you deem conditions are warranted in your Commission Order. As with all issues related to waterway safety and security, I will assess each transit on a case by case basis to identify what, if any, safety and security measures are necessary to safeguard the public health and welfare, critical marine infrastructure and key resources, the port, the marine environment, and the vessel.

If you have questions, my point of contact is *[name]*. He/She may be reached at the address, phone number and e-mail address listed above.

Sincerely,

[Name]
Captain, U.S. Coast Guard
Captain of the Port
[Applicable Port Name]

Enclosure: LOR Analysis

Copy: Commander Coast Guard District *[#]* (p)
Commander *[Atlantic or Pacific]* Area (p)
Commandant (CG-5), (CG-522), (CG-532), (CG-544), (CG-741)
Owner/Operator
State and Local Agencies Having Jurisdiction

SENSITIVE SECURITY INFORMATION

ANALYSIS SUPPORTING THE LETTER OF RECOMMENDATION
ISSUED BY COTP (*name of sector or unit*) ON (*date*)

(Note: The intent of this document is to formally document the COTP's processes and reasoning in reaching his or her recommendation on the suitability or non-suitability of the waterway. The COTP should detail any assumptions, the processes followed, stakeholders consulted and the reasoning, as much as practicable, in support of his or her recommendation.)

1. This is to supplement my Letter of Recommendation (LOR) dated (*date*) which conveys my recommendation on the suitability of the (*name of waterway*) for liquefied natural gas (LNG) marine traffic associated with the (*name of proposed project*). It documents the processes followed in analyzing (*name of applicant*)'s Waterway Suitability Assessment (WSA) and the suitability of the waterway.
2. For the purposes of this analysis, the following assumptions were made:
 - a. The applicant is fully capable of, and would fully implement, any and all risk management measures they identified in their WSA.
 - b. The conditions of the port identified in the WSA fully and accurately describe the actual conditions of the port at the time of the WSA submission.
 - c. The conditions of the port have not changed substantially during the analysis process.
 - d. The applicant will fully meet all regulatory requirements including the development and submission of a Facility Security Plan, Emergency Manual and Operations Manual.
3. (*Summarize description of the port.*)
4. (*Summarize methods used to review the applicant's WSA and identify the stakeholders that participated.*)
5. Based on my review of the WSA completed on (*date*) and input from state and local port stakeholders, I am recommending to the Federal Energy Regulatory Commission that the waterway in its current state be considered (*suitable/not suitable*) for LNG marine traffic associated with the proposed project. (*If the waterway is found not suitable, include the following:*) Following is a detailed description of all of the specific reasons the waterway may be unsuitable:

(Suggested here are merely possible examples of reasons for unsuitability and the recommended approach to documenting them)...

WARNING: This record contains Sensitive Security Information that is controlled under 49 CFR parts 15 and 1520. No part of this record may be disclosed to persons without a "need to know", as defined in 49 CFR parts 15 and 1520, except with the written permission of the Administrator of the Transportation Security Administration or the Secretary of Transportation. Unauthorized release may result in civil penalty or other action. For U.S. government agencies, public disclosure is governed by 5 U.S.C. 552 and 49 CFR parts 15 and 1520.

SENSITIVE SECURITY INFORMATION

- a. *LNG vessels navigating between (e.g., geographic landmarks, mile markers, etc.) must pass underneath the XXX Bridge, which is one of the principal interstate rail and vehicular arteries in the area, as determined by data presented by the XXX Railroad Company and the State of XXX Department of Transportation. The risk management measure identified in the applicant's WSA to be used during this leg of the voyage is to deploy police at the entrance ramps of the bridge to be able to immediately stop vehicular traffic in the event of an incident involving the LNG vessel. Based upon (number of LNG transits under bridges per week/month) the (e.g., Chief of Police, Director of Transit Operations, etc.) says it would require the deployment of (number of police) to have the necessary presence at the ramps, and that these resources are (e.g., not available; would require increase in annual budget of \$\$\$ to support, etc.). To date, the applicant has not provided evidence (e.g., entered into a cost-share plan or procured by the local authorities) of these resources being available nor proof of their future availability.*

- b. *There are already (number) major oil refineries and petrochemical complexes between (e.g., geographic landmarks, mile markers, etc.) that are serviced by an average of (number) large crude oil carriers and chemical parcel tankers (per week/month, etc.). Introduction of (number) LNG carriers (per week/month, etc.) would require the implementation of a new traffic management scheme that would require (e.g., the restriction of all deep draft traffic while the LNG vessel was transiting that area; daylight transit only, etc.). Implementation of such a traffic management scheme, with the existing port infrastructure and resources is not currently feasible. As such, the new vessel activity associated with this project would severely disrupt the existing facilities' delivery schedules and unreasonably disrupt existing port activities.*

- c. *As identified in the applicant's WSA, LNG vessels navigating between (e.g., geographic landmarks, mile markers, etc.) pass in the vicinity of (number) recreational boat marinas that could be used as staging areas to mask a small vessel attack. The risk management strategy specified in the applicant's WSA during this leg of the voyage would be to monitor the activity at the marinas and restrict access in or out for 20 minutes before and after the LNG carrier passes by. Consultation with the (e.g., Marine Police, State Dept of Boating Safety officials, other state or municipal entities) indicates that it would take (number of personnel) to monitor this given an expected (number of LNG transits per week/month). They do not have the (e.g., personnel available, necessary funding, etc.) to perform this activity and to date, the applicant has not provided evidence (e.g. entered into a cost-share plan or procured by the local authorities) of their future availability.*

SENSITIVE SECURITY INFORMATION

- d. The proposed site of the facility would require the LNG vessels to navigate in too close a proximity to a designated anchorage area that typically has (number of) deep draft vessels there on a daily basis. There is no suitable alternative anchorage area nearby and no acceptable management measures have been identified by the applicant in their WSA.*
6. **(For use if the waterway is found not suitable.)** In the absence of these measures, and/or the resources necessary to implement them, to address the above concerns, I recommend that this waterway be considered unsuitable for the LNG marine traffic associated with the **(name of proposed project)**. If at some future date these issues are resolved, the applicant may request reconsideration in accordance with 33 CFR 127.015 and must provide an updated WSA, supporting documentation and any additional evidence they wish me to consider.

SENSITIVE SECURITY INFORMATION

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Enclosure (7) to this Circular contains Sensitive Security Information (SSI); therefore, it is not subject to public disclosure. If disclosed, the SSI material could be used to subvert or exploit the security programs of vessels, facilities, and or ports. SSI material requires appropriate handling in accordance with 49 CFR 1520 and reference (d). Members of the maritime industry, members of Federal, state, or local governments, and other parties that can demonstrate a need to know may submit a request for enclosure (7) to the cognizant COTP/FMSC or Commandant (CG-5222)

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SAMPLE TABLE OF CONTENTS FOR THE OPTIONAL TRANSIT MANAGEMENT PLAN

Transit Management Plans (TMPs) are not required by Coast Guard regulation or policy. They are voluntary but may be helpful in situations where operational safety and security measures require cooperation and communication between multiple agencies and industry, and the procedures and interactions need to be carefully planned out and documented. A TMP is essentially a “memorandum of understanding” between an applicant, the various federal, state and local agencies, and other port stakeholders involved in implementing appropriate safety and security measures for the liquefied natural gas (LNG) marine traffic. The TMP clarifies roles and responsibilities and provides details on how agencies, industry, and the Coast Guard will interact. Nothing in the TMP should be a new requirement. Rather, the TMP is a collection, in an easy-to-read format, of any and all existing requirements of all agencies involved. The TMP is usually written in a chronological countdown order describing each agency's role along the transit timeline.

TMPs can assist with operational planning and execution. Among other things, they may convey details concerning vessel navigation and operations, LNG facility requirements, cargo transfer operations, interagency communication and coordination, and Coast Guard inspection and monitoring activities. TMPs should be focused on preventative measures which are necessary for the safe and secure conduct of LNG operations within a specific port. A sample Table of Contents, showing an outline of topics contained in a typical plan, is provided on the following pages. *(Note: It is beyond the scope of this document to provide complete operational details.)*

Captains of the Port (COTP)s are encouraged to assist applicants and the local port stakeholders in developing TMPs for LNG marine traffic and LNG vessel and facility operations for their port areas. Area Committees, Harbor Safety Committees and Area Maritime Security Committees are additional resources which may be consulted to help develop a TMP. Other details such as the timeline for submission of the plan and periodic review of the plan after it is completed should be considered and addressed by the cognizant COTP.

Coast Guard units desiring additional information should contact the Office of Operating and Environmental Standards, Commandant (CG-522).

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- .3 Responsibilities
- .4 Monitoring Procedures

**"Zones of Concern" for Intentional LNG Spills from Vessels
Up to 265,000 m³ Cargo Capacity**

- A. Introduction. The 2004 Sandia Labs Report (SAND2004-6258) identified three concentric, circular "Zones of Concern" for intentional spills from liquefied natural gas (LNG) tankers. That report, coupled with a Sandia study conducted in 2007 for larger volume LNG tankers (SAND2008-3153), indicated the hazard zone sizes described below can be used for LNG vessels with a cargo carrying capacity of up to 265,000 m³. Captains of the Port may find the hazard zone size information and data particularly useful when reviewing an applicant's Waterway Suitability Assessment (WSA) and in making a recommendation to the Federal Energy Regulatory Commission on the suitability of a waterway to support LNG marine traffic associated with a proposed project. Where the applicant's WSA reveals that potential impacts on public safety and property could be high and where interactions with shore terrain or structures could occur, modern, validated computational fluid dynamics (CFD) models may be used to improve analysis of the site-specific hazards, consequences and risks. Applicants desiring to conduct refined modeling analysis should contact the Coast Guard's Office of Operating and Environmental Standards, Commandant (CG-522), for assistance.
- B. Description of Hazard Zones.
- a. Zone 1. This is the area with the most severe consequences around the LNG tanker, where an LNG spill could pose a severe public safety and property hazard and could damage or significantly disrupt critical infrastructure and key assets located within this area. Zone 1 is considered to extend about 500 m (0.3 miles) for an intentional breach of an LNG tanker. Risk mitigation strategies should address vapor cloud dispersion and fire hazards. The most rigorous protective and preventive deterrent measures should be considered when major critical infrastructure elements, such as population or commercial centers, lie within Zone 1. These measures should include such things as vessel security zones, waterway traffic management, and establishment of positive control over vessels. Coordination among all port security stakeholders is essential. Incident management and emergency response measures should be carefully evaluated to ensure adequate resources (i.e., firefighting, salvage) are available for consequence and risk mitigation.
 - b. Zone 2. This is an area with less severe consequences than Zone 1 and is considered to extend from 500 m (0.3 miles) to 1,600 m (1 mile) for an intentional breach of an LNG tanker. Risk mitigation strategies should address vapor cloud dispersion and fire hazards. When major critical infrastructure elements occur within Zone 2, risk management strategies that should be considered include incident management and emergency response measures that ensure areas of refuge (enclosed areas, buildings) are available, the development of community warning procedures, and education programs to ensure that communities are aware of precautionary measures.
 - c. Zone 3. This is an area with the least likelihood of severe consequences and is considered to extend from 1,600 m (1 mile) to a conservative maximum of 3,500 m (2.2 miles) from the LNG tanker (in the unlikely event that 3 cargo tanks were breached and a vapor cloud disperses without an initial ignition). Risk mitigation strategies should address the vapor cloud dispersion hazard. When major critical infrastructure elements occur within Zone 3,

**"Zones of Concern" for Intentional LNG Spills from Vessels
Up to 265,000 m³ Cargo Capacity**

risk management strategies that should be considered include incident management and emergency response measures that ensure areas of refuge are available and community education programs should be considered to ensure that people know what to do in the unlikely event of the release of a vapor cloud without initial ignition.

SAMPLE LNG TANKER NATIONALITY LETTER

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
U. S. Coast Guard
Unit Name

Unit
Address
Staff Symbol: XXX
Phone: (XXX) XXX-XXXX
Fax: (XXX) XXX-XXXX

16611

DIRECTOR OF GAS-ENVIRONMENT AND ENGINEERING, PJ 11
FEDERAL ENERGY REGULATORY COMMISSION
888 1ST NE
WASHINGTON, DC 20426-0002

Dear Mr./Ms.

In accordance with the Coast Guard Authorization Act of 2006 (Pub. L. 109-241), section 304(c)(2) and section 5(c)(2)(K) of the Deepwater Port Act of 1974 (33 U.S.C. §1504(c)(2)(K)) the following information is provided with respect to the vessels that are reasonably anticipated to be servicing **[Facility Name]**:

1. The nation of registry of vessels will be: **[Nation(s)]**
2. The nationality or citizenship of the officers serving on board will be: **[Nation(s)]**
3. The nationality or citizenship of crew serving on board will be: **[Nation(s)]**

If you have any questions concerning this matter, please contact **[Unit POC]** at **[Phone #]**.

Sincerely,

[Name]
Captain, U.S. Coast Guard
Captain of the Port
[Applicable Sector or Unit Name]

Copy: Commandant (CG-522), (CG-532), (CG-544)
Commander Coast Guard District **[#]** (p)
Commander **[Atlantic or Pacific]** Area (p)

Enclosure (10) to NVIC 01-2011

SAMPLE LNG TANKER NATIONALITY LETTER

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U.S. Department of
Homeland Security

United States
Coast Guard



Press Release (Sample)

[Insert Date]

Contact: *[Insert POC and Phone Number]*

COAST GUARD PROVIDES RECOMMENDATION TO THE FEDERAL ENERGY REGULATORY COMMISSION FOR THE *[Insert Name of Facility]*

[Insert City, State of Sector] – The Coast Guard has provided its recommendation on the suitability of the *[Insert name of waterway]* to support Liquefied Natural Gas (LNG) marine traffic associated with the proposed *[Insert name of facility]* to the Federal Energy Regulatory Committee (FERC). FERC is the lead agency responsible for authorizing the siting, construction, and operation of LNG facilities located onshore or near shore in state waters.

The Coast Guard received official notification from *[Insert name of applicant]* of their proposal to build an LNG terminal in *[Insert description of geographic location]*, in *[Insert Month Year]*.

Since the applicant's filing, Coast Guard COTP *[Insert name of Sector or Unit]* has worked with the applicant, state and local port stakeholders and state and local emergency response providers to assess the safety and security issues associated with LNG tankers traveling on the *[Insert name and/or description of waterway]*. Based upon the review and validation of information provided in the applicant's Waterway Suitability Assessment (WSA), by the Captain of the Port, and in full consultation with state and local port stakeholders and state and local emergency response providers, the Captain of the Port *[Insert name of Sector or Unit]* is recommending to FERC, that in its current state, that the applicable portions of the waterway are *[or are not]* suitable, for the type and frequency of LNG marine traffic associated with this project.

If licensed by FERC, the Applicant will be required to submit an Emergency Response Plan which would identify the resources necessary to fill any gaps identified in the WSA and the Captain of the Port's analysis. "We will continue to work with our port community stakeholders and emergency responders to ensure the necessary measures are taken to maintain the safety and security of LNG vessels and the waterways," said *[Insert name]*, Captain of the Port *[Insert name of Sector or Unit]*.

The Letter of Recommendation and related documentation have been submitted to FERC's official docket for this project and will be available through FERC's E-Library at <http://www.ferc.gov/docs-filing/elibrary.asp> for public review and comment.

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Commander
U. S. Coast Guard
Unit Name

Unit
Address
Staff Symbol: XXX
Phone: (XXX) XXX-XXXX
Fax: (XXX) XXX-XXXX

16611

The Honorable (Full Name)
Governor of (State)
Address
Address

Dear Governor (Last Name)

This letter is sent to inform you that I have received a Letter of Intent (LOI) and a preliminary Waterway Suitability Assessment (WSA) from *[name of applicant]* proposing to transport Liquefied Natural Gas (LNG) by ship to the *[name of LNG facility]* proposed for operation in *[city, state]*. The LOI and WSA are required to be submitted to the Coast Guard in accordance with 33 CFR 127.007. In accordance with 33 CFR 127.009, I will be assessing the suitability of the waterway for handling LNG marine traffic and issue a Letter of Recommendation (LOR) to the Federal Energy Regulatory Commission (FERC) who will review the information in my LOR as part of their process in deciding whether to approve or deny the proposed project.

As part of my effort in assessing the suitability of the waterway, I will be forming a work group and holding a series of workshops aimed at gathering information to help me assess the suitability of the associated waterway for LNG marine traffic as it relates to navigation safety and security. Ideal participants in the workshop will be local Port Safety and Security Forum members and other port stakeholders who have local knowledge and experience in the local port communities where the project is proposed and where the LNG vessels would transit if FERC grants approval.

I would like to invite appropriate state representatives to participate in the WSA process so that I may consider their input and recommendations prior to issuing my LOR to FERC. Your assistance in identifying the appropriate state representatives is requested. My point of contact is *[name]*. He/She may be reached at the address, phone number and e-mail address listed above.

Sincerely,

[Name]
Captain, U.S. Coast Guard
Captain of the Port
[Applicable Port Name]

Copy: Commander Coast Guard District *[#]* (p)
Commander *[Atlantic or Pacific]* Area (*[A or P]*)p
Commandant (CG-5222) / (CG-741)
Federal Energy Regulatory Commission

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SENSITIVE SECURITY INFORMATION

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
U.S. Coast Guard
Unit Name

Unit Address.
Unit Address
Phone:
Fax:
Email:

16611
[Date]

MEMORANDUM

From: [COTP]
[Unit]

Reply to [Unit POC]
Attn of:

To: COMDT (CG-7)
Thru: 1. CGD[#](p)
2. [LANT or PAC] Area ([A or P]p)

Subj: ANTICIPATED CG RESOURCE SHORTFALLS ASSOCIATED WITH (NAME OF PROJECT)

(Note: The intent of this document is to formally document the COTP's resource shortfalls identified during the review of the proposed (name of the project). The COTP should detail any assumptions, the processes followed, and their reasoning, as much as practical, in support of his or her conclusion.)

1. This memo serves to document the anticipated CG resource shortfalls that would be incurred as a result of the (name of facility) LNG project coming on line and to start the resource acquisition process.
2. For the purposes of this memo, the following assumptions were made:
 - a. That the current levels of CG forces assigned to (list all appropriate units) are adequate for meeting all current mandatory mission priorities.
 - b. That the CG forces and Full Time Equivalents (FTE) identified in this memo are the minimum level of resources needed to meet 100% of the Federal mission requirements associated with this project as identified in current CG policy (e.g., Operation Neptune Shield) and in the COTP's LOR Analysis.
 - c. That current CG mission requirements associated with the marine transport of LNG will not increase.
3. Summarize CG mission requirements associated with the LNG project.
4. Summarize current resource availability, identified shortfalls and methods used to determine these shortfalls.

WARNING: This record contains Sensitive Security Information that is controlled under 49 CFR parts 15 and 1520. No part of this record may be disclosed to persons without a "need to know", as defined in 49 CFR parts 15 and 1520, except with the written permission of the Administrator of the Transportation Security Administration or the Secretary of Transportation. Unauthorized release may result in civil penalty or other action. For U.S. government agencies, public disclosure is governed by 5 U.S.C. 552 and 49 CFR parts 15 and 1520.

SENSITIVE SECURITY INFORMATION

5. Identify mission impacts if resources are not acquired.

#

Copy: COMDT (CG-751)
COMDT (CG-741)
COMDT (CG-544)
COMDT (CG-532)
COMDT (CG-522)

List of Acronyms

This is a listing of acronyms used throughout this NVIC

AMS	Area Maritime Security
AMSC	Area Maritime Security Committee
AMSP	Area Maritime Security Plan
AOR	Area of Responsibility
CATS	Community Assistance & Technical Services
CEII	Critical Energy Infrastructure Information
CFD	Computational Fluid Dynamics
CFR	Code of Federal Regulations
CI	Critical Infrastructure
COTP	Captain of the Port
CSP	Costs Sharing Plan
DOE	Department of Energy
DOT	Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA 2005	Energy Policy Act of 2005
EPS	Environmental Protection Specialists
ERP	Emergency Response Plan
ESD	Emergency Shutdown Systems
FACA	Federal Advisory Committee Act
FERC	Federal Energy Regulatory Commission
FMSC	Federal Maritime Security Coordinator
FSP	Facility Security Plan
HIVs	High Interest Vessels
HSC	Harbor Safety Committee
LAA	Limited Access Areas
LE	Law Enforcement
LNG	Liquefied Natural Gas
LOI	Letter of Intent
LOR	Letter of Recommendation
MCI	Maritime Critical Infrastructure
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSRAM	Maritime Security Risk Analysis Model
MTS	Marine Transportation System
MTSA	Maritime Transportation Security Act
NEPA	National Environmental Policy Act
NOA	Notice of Arrival
NVIC	Navigation and Vessel Inspection Circular
OMB	Office of Management and Budget
PHSMA	Pipeline and Hazardous Materials Safety Administration
PWSA	Ports and Waterways Safety Act of 1972
RBDM	Risk Based Decision Making

List of Acronyms

RMM	Risk Management Measures
SSI	Sensitive Security Information
TMP	Transit Management Plan
WSA	Waterway Suitability Assessment