Impact of Fall River, MA Liquefied Natural Gas Facility on Recreational and Commercial Waterways Users

Fiscal Year 2010 Report to Congress

June 25, 2010

Homeland Security

United States Coast Guard

Message from the Commandant

JUN 25 2010

I am pleased to present the following report, "Impact of Fall River, MA Liquefied Natural Gas Facility on Recreational and Commercial Waterways Users," which was prepared by the United States Coast Guard. This report responds to language set forth in the Joint Explanatory Statement accompanying the Fiscal Year 2010 Department of Homeland Security Appropriations Act (P.L. 111-83).

The report describes how the Coast Guard evaluated the potential navigational safety and security impacts to vessel traffic for both recreational and commercial waterways users at the proposed Weaver's Cove Energy Limited Liability Company liquefied natural gas facility in Fall River, MA.

Pursuant to congressional requirements, this report is being provided to the following Members of Congress:

The Honorable David E. Price
Chairman, House Appropriations Subcommittee on Homeland Security

The Honorable Harold D. Rogers
Ranking Member, House Appropriations Subcommittee on Homeland Security

The Honorable Robert C. Byrd
Chairman, Senate Appropriations Subcommittee on Homeland Security

The Honorable George V. Voinovich
Ranking Member, Senate Appropriations Subcommittee on Homeland Security

Inquiries relating to this report may be directed to me at (202) 447-3400 or to the Department's Deputy Chief Financial Officer, Peggy Sherry, at (202) 447-5751.

Sincerely,

R. J. Papp, Jr.
Admiral, U.S. Coast Guard
Commandant

Executive Summary

The Joint Explanatory Statement accompanying the Fiscal Year 2010 Department of Homeland Security Appropriations Act (P.L. 111-83) states that the Coast Guard is to evaluate and report the navigation safety and security impact on recreational and commercial vessel traffic at a proposed liquefied natural gas (LNG) facility in Fall River, MA.

With respect to the proposed LNG facility in Fall River, MA (for example, Weaver's Cove Energy Limited Liability Company (LLC) proposal), the Coast Guard serves as a "cooperating agency" under the National Environmental Policy Act, advising the lead federal agency, the Federal Energy Regulatory Commission (FERC), in its preparation of an Environmental Impact Statement. The Coast Guard also provides subject matter expertise to FERC for issues related to navigation safety and maritime security.

The Coast Guard has a long and successful history of managing competing user demands on the Nation's waterways, ensuring sufficient balance to maximize safe and secure waterways while minimizing adverse impacts to all users.

Weaver's Cove Energy LLC proposes to site, construct and operate a waterfront LNG import facility in Fall River, MA. Under the proposal, LNG tankers will deliver cargo to an offshore berth in Mount Hope Bay, MA, approximately 70 times per year (140 transits).

Several studies or reports were commissioned by various entities, both governmental and non-governmental, to assess the anticipated impacts to recreational and commercial vessel traffic posed by potential LNG tanker transits in Narragansett Bay and Mount Hope Bay. Generally, all the studies and reports found that vessel traffic (especially commercial vessel traffic) in the two bays are relatively light, with a brief period of increased recreational boating traffic concentrated in lower Narragansett Bay in the summer months.

The Coast Guard's longstanding vessel traffic management practices help ensure access to waterways by competing users, with minimal delays to commerce or recreational vessel activity. The current practices, combined with new recommendations included in the Coast Guard's Letter of Recommendation to FERC regarding the Weaver's Cove Energy LLC proposal, ensure that the waterway remains safe for users should the proposed waterfront facility and offshore berth be fully approved and constructed.

Impact of the Fall River, MA Liquefied Natural Gas Facility on Recreational and Commercial Waterways Users

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I. Legislative Language

The Joint Explanatory Statement accompanying the Fiscal Year 2010 Department of Homeland Security Appropriations Act (P.L. 111-83) states:

> The Committee expects the Coast Guard to fully evaluate the impact of recreational and commercial vessel traffic in relation to navigational safety and security of a proposed LNG facility in Fall River, Massachusetts. The proposed project and associated vessel traffic may significantly limit access for recreational and commercial users on Mount Hope Bay and Narragansett Bay. The Committee directs the Coast Guard to report to the Committee within 6 months after the date of enactment of this act on its evaluation and recommendations to address the impacts on affected waterways users.
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> Furthermore, the conferees direct the Coast Guard to report to the Committees on the impact of a proposed LNG facility in Fall River, Massachusetts on boat traffic as outlined in the Senate report, no later than six months after the date of enactment of this Act.

II. Background

A. Role of the Federal Government in Relation to the Proposed Waterfront Liquefied Natural Gas (LNG) Facilities

The Federal Energy Regulatory Commission (FERC) is the lead federal agency for approving the siting, design and operation of waterfront facilities handling LNG. FERC is also the federal agency responsible for conducting the required assessment of the environmental impacts of such siting, design and operation, and for preparing the associated environmental documents, as mandated by the National Environmental Policy Act (NEPA).[1]

The Coast Guard serves as a "cooperating agency" under NEPA as a subject matter expert for issues related to navigation safety and maritime security, by advising FERC in its preparation of an Environmental Impact Statement (EIS). The Coast Guard is responsible for assessing the suitability of the waterway for LNG marine traffic associated with the proposed project and, via the Coast Guard's Letter of Recommendation (LOR), makes a recommendation to FERC on the suitability of the waterway. An analysis is attached to the LOR and is provided to FERC (as the approving authority), the applicant (project proponent) and the state and local authorities having jurisdiction to assist those authorities with their decision concerning approval of an LNG facility.

Navigation and Vessel Inspection Circulars (NVICs) provide detailed guidance about the enforcement of or compliance with certain federal marine safety regulations and/or Coast Guard marine safety programs and policies. The Coast Guard created NVIC 05-08 (change1), "Guidance Related to Waterfront Liquefied Natural Gas (LNG) Facilities" to assist Coast Guard personnel and the marine industry with understanding the Coast Guard's role in reviewing new and/or expanding LNG waterfront facilities and the processes and procedures the Coast Guard will follow when conducting these reviews. In addition, NVIC 05-08 (change 1) provides guidance on conducting, verifying and validating the LNG facility owner/operator's Waterway Suitability Assessments (WSAs) and on providing Coast Guard recommendations on the suitability of the waterway for LNG marine traffic to the jurisdictional agencies.

B. Coast Guard's Maritime Responsibilities

Two of the Coast Guard's 11 statutory missions that promote the sustainment of a safe and secure marine transportation system are (1) Maritime Safety and (2) Ports, Waterways and Coastal Security. The facilitation of maritime commerce; elimination of interruptions and impediments to the efficient interstate and international movement of goods and people; and promotion of maritime recreation are balanced with considerations and activities aimed at protecting the Nation's ports and waterways from terrorist attacks. Tools used to accomplish these missions include assessment of risks to maritime critical infrastructure and key resources that help to inform the Coast Guard on the best strategies for attaining vital maritime security

[1] Section 102 of NEPA requires federal agencies to incorporate environmental considerations in their planning and decision-making through a systematic interdisciplinary approach. Specifically, all federal agencies are to prepare detailed statements assessing the environmental impact of and alternatives to major federal actions significantly affecting the environment. These statements are commonly referred to as environmental impact statements.

goals. By properly understanding the risks inherent in the transportation of LNG, or other "Certain Dangerous Cargoes,"[2] the Coast Guard may more appropriately deploy its resources to prevent U.S. ports from becoming a vector for illegal activity while maximizing recreational and other uses of the Nation's waterways. It is within the context of these missions and in the execution of other statutory mandates that the Coast Guard reviews proposals for waterfront LNG facilities.

The Coast Guard employs a combination of statutory and regulatory tools—including Captain of the Port (COTP) Orders, Administrative Orders, Marine Event Permits, safety zones and security zones—to promote navigation safety and maritime security. In addition, the Coast Guard hosts Port Safety and Security Forums and Area Maritime Security Committee meetings where maritime stakeholders exchange information and review project proposals that might affect the marine transportation system or port security. The net effect of this use of statutory and regulatory measures and stakeholder input is a robust system through which the Coast Guard exercises its role as the lead federal agency to ensure the Nation's waterways are used safely, securely and efficiently.

C. Current Proposal Description

Weaver's Cove Energy Limited Liability Company (LLC) proposes to site, construct and operate an offshore berth in Mount Hope Bay, MA, to receive approximately 70 deliveries of LNG annually via ship. The LNG would then be transported via subsea pipeline from the offshore berth approximately 4.2 miles up the Taunton River to the Weaver's Cove Energy LLC waterfront LNG storage and re-gasification facility in Fall River, MA.

The proposed offshore terminal would be located in Mount Hope Bay, MA, northeast of the Massachusetts/Rhode Island border and approximately 1,500 yards northeast of Spar Island, RI. Weaver's Cove Energy LLC proposes to dredge an 1,800-foot diameter turning basin and private channel leading from the federal channel in Mount Hope Bay approximately 1,000 yards northeast to the offshore berth.

[2] As defined in 33 *Code of Federal Regulations* 160.204.

III. Discussion

A. Studies or Reports on Anticipated Impacts to Recreational and Commercial Vessel Traffic

Since the Weaver's Cove Energy LLC initial 2003 proposal to construct a waterfront LNG facility in Fall River, MA, several studies or reports have been commissioned by various entities, both governmental and non-governmental, to address the anticipated impacts to recreational and commercial vessel traffic posed by potential LNG tanker transits in Narragansett Bay and Mount Hope Bay. No conclusive answer on the impact can be drawn because none of the reports compared identical data. However, each of the following studies provides an estimate of the range of likely impact:

1. Narragansett Bay/Mount Hope Bay Ports and Waterways Safety Assessment (PAWSA) of September 2004[3]

In September 2004, the Coast Guard sponsored a PAWSA to examine navigation safety issues in both Narragansett Bay and Mount Hope Bay.

Although not designed specifically or solely to address potential LNG vessel transits, at the time of the PAWSA, there were proposals before the Coast Guard for two LNG facilities—one in Fall River (proposed by Weaver's Cove Energy LLC) and one in Providence, RI (proposed by KeySpan LNG Limited Partnership, which was subsequently withdrawn). Representatives from both Weaver's Cove Energy and KeySpan attended the PAWSA.

The PAWSA included more than two dozen participants and observers representing a comprehensive cross-section of the maritime community, including representatives of the recreational boating and commercial vessel communities. The group examined 24 separate risk factors affecting navigation safety, including:

- Volume of commercial traffic
- Volume of small craft traffic
- Traffic mix
- Congestion

The PAWSA found existing navigation safety measures and mitigations were generally well balanced with risks, except in the category of "Volume of Small Craft Traffic," which identified risk to be high during summer months (5.8 on a scale of 9). Discussion by participants regarding this risk category indicated that risk levels would continue to increase because of growing volume, despite existing navigation safety measures and mitigations. The group concluded that the most effective navigation safety measure that could be employed to mitigate risk posed by

[3] See Appendix A for a Web-site link to this document.

the volume of small craft traffic would be "improved coordination and planning" among the various waterways users.[4]

2. "LNG Transit Through East Passage: Potential Impact on Aquidneck Island Development," June 2006[5]

The Rhode Island Turnpike and Bridge Authority, jointly with the Newport County, RI Chamber of Commerce, commissioned a study to examine the potential economic and recreational impacts of LNG transits. The report, titled "LNG Transit through East Passage: Potential Impact on Aquidneck Island Development," was issued in June 2006 and found:

a. It takes roughly 10 days of commercial vessel activity in Narragansett Bay to equal a single day of commercial vessel activity in some of the more active ports where LNG transits occur.

b. Over the course of an approximately 120-day boating season, Rhode Island boaters spend between 30 to 40 of the available days on the water (with each day "on the water" being between 3.8 and 7.7 actual hours underway, depending on type of boat).[6]

c. In terms of potential LNG impact to recreational boating activity, the report described the economic risk as moderate. For example, on a five-level scale between "No risk" and "Total (economic) loss expected," the middle category of "Monitor risk" was assigned to recreational boating activity.

d. For Rhode Island boaters and transient boaters in Rhode Island State waters, the anticipated delays or lack of access to parts of Narragansett Bay equate to somewhere between 1/2 to 2/3 of the boating day (based on a "boating day" of between 3.8 and 7.7 hours underway, depending on type of boat).

e. Approximately 22 percent of cruise ship arrivals to Newport will likely occur at LNG morning arrival times.

3. "LNG Tanker Impacts to Marine Navigation," August 2005[7]

In 2005, the Aquidneck Island Rhode Island Planning Commission commissioned a study to assess the impact of proposed LNG tanker traffic on recreational and commercial vessel activity in Narragansett Bay and Mount Hope Bay. The report "LNG Tanker Impacts to Marine Navigation" was published in August 2005 and found:

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[4] Since the PAWSA of 2004, the Coast Guard has expanded use of the Incident Action Plan collaborative planning process for major marine events and transits of vessels carrying hazardous cargo. As discussed in the June 30, 2009 LOR, should FERC approve the proposal, additional collaborative planning measures will be implemented for LNG transits, such as a Transit Management Plan and a Cost Sharing Plan.

[5] See Appendix A for a Web-site link to this document. (Note: This study is included as part of the available body of information pertaining to impacts of LNG transits; however, the findings have not been independently validated.)

[6] See the 2002 National Recreational Boating Survey State Data Report (latest available data) <http://www.uscgboating.org/assets/1/Publications/USCG_NRBS%202002-StateReport.pdf>

[7] See Appendix A for a Web-site link to this document. (Note: This study is included as part of the available body of information pertaining to impacts of LNG transits; however, the findings have not been independently validated.)

a. There were 30,000 registered boats in Rhode Island; 2,500 boats moored or at slips in the East Passage; and more than 1,400 slips permitted but not yet constructed.[8]

b. Imposed LNG tanker safety and security zones will dominate much of the East Passage, temporarily blocking recreational and commercial marine traffic from the East Passage.[9]

c. Newport Harbor, with more than 900 boats moored or at slips, could be blocked for at least 20 minutes.

d. With LNG tanker traffic and the limits it imposes, Newport may undergo a subtle shift in image from a sailing capital to a city on a busy commercial waterway.

e. The Northeast Marine Pilots (who guide ships in the confined waters of Narragansett Bay and Mount Hope Bay) are not aware of negative impacts to recreational and commercial vessel traffic due to liquefied petroleum gas tanker traffic. The pilots report there is far more tug and barge traffic (not necessarily controlled by licensed pilots nor requiring a security zone) that adversely affects sail racing/training and recreational boating than large tanker traffic.

f. Boat counts of recreational boating traffic in Narragansett Bay on a typical June day found 129 boats on the water during a weekday and 565 boats on a weekend day.

g. Weekday night events (during the summer season) may have as few as 30 boats or as many as 120.

h. Several ferries provide seasonal service to Newport, and one ferry provides year-round service to Prudence Island.

4. Rhode Island Coastal Resources Management Council Draft Ocean Special Area Management Plan (SAMP), December 2009[10]

The Rhode Island Coastal Resources Management Council is currently conducting a comprehensive ocean zoning planning process; the results of which will be contained within the Rhode Island Ocean SAMP. The draft SAMP examines numerous factors that affect the coastal zone, including vessel traffic. Although still in a draft stage at this time, the SAMP chapters that address recreational and commercial vessel traffic are essentially complete.

According to the SAMP, as of September 2009, nearly 42,000 recreational boats[11] registered in the State of Rhode Island and an estimated 10,000 boats registered in other states use Rhode

[8] As of December 31, 2009, there were 42,627 registered boats in Rhode Island and 9,638 boat slips permitted by the Rhode Island Coastal Resources Management Council (CRMC). There is also a 1,500-slip proposal that was approved by Rhode Island CRMC in the mid-1990s but has yet to be developed.

[9] According to the Weaver's Cove EIS, "For an LNG vessel in transit at 10 knots, recreational craft attempting to travel in the opposite direction at a narrow location may need to wait up to 18 minutes for the LNG ship to pass before proceeding on its way. For an LNG vessel in transit at 5 knots, recreational vessels may be delayed for up to 36 minutes."

[10] See Appendix A for a Web-site link to this document.

[11] This represents a 12,000-vessel increase in registered recreational vessels from 2005 data.

Island waters. Recreational boating activity varies seasonally, with the peak times occurring from approximately May through October. Eleven different cruise ship companies were scheduled to make 58 port calls to Newport, RI, in 2009, up from 35 port calls in 2008. Peak season for cruise ship visits is August through October.

In 2007, there were approximately 2,412 transits of all types of commercial vessels, including ships, tankers, tugs and barges in Narragansett Bay, with 650 of those transits occurring within Mount Hope Bay.

5. Weaver's Cove Energy WSA, January 2009[12]

A prospective applicant seeking to site, construct and operate a shore-side LNG facility is required by FERC regulations (18 *Code of Federal Regulations* 157.21) to submit a Preliminary WSA 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 fewer than 10 pages, and provides a brief discussion on the following topics:

- Port Characterization
- LNG Facility Characterization and LNG Tanker Route
- Risk Assessments (Safety and Security)
- Risk Management Strategies
- Resource Needs for Safety, Security and Response
- Conclusions and Recommendations

Upon completion of the FERC pre-filing process, the applicant submits a Follow-on WSA to the COTP. The Follow-on WSA provides a complete analysis of the topics outlined in the Preliminary WSA. It identifies credible security threats and navigational safety hazards for the LNG marine traffic, along with risk management measures identified by the applicant.

In January 2009, the COTP received a Follow-on WSA for the Weaver's Cove Energy offshore berth proposal. The COTP, in consultation with a variety of local port stakeholders, completed a comprehensive evaluation of the waterway in preparation for making a recommendation to FERC on the suitability of the waterway for LNG marine traffic.[13]

The applicant's Follow-on WSA identified the following listed items and included a "change analysis" to gauge the impact of proposed LNG transits on vessel traffic. The change analysis recognized that LNG transits, as proposed, could cause delays to other recreational and commercial traffic and potentially disrupt recreational boating activities such as regattas conducted in the vicinity of the transit route.

a. On average, there are four to six transits of commercial vessels (both ship and barge) per day in the East Passage of Narragansett Bay.

b. From 2003 to 2006, the average number of ship and barge transits in Mount Hope Bay was approximately three per week.

[12] See Appendix A for a Web-site link to this document.
[13] See Appendix A for a Web-site link to this document.

c. Recreational boating and fishing activities are concentrated in Narragansett Bay and Mount Hope Bay between late June and late September of each year, primarily between mid-morning and dusk, with less traffic on weekdays than on weekends and holidays.

d. Lower Narragansett Bay, mainly the waters south of the Newport/Pell Bridge, is a particularly busy recreational sailing area throughout the summer months.

The Follow-on WSA recommended the following mitigations to minimize the impact of LNG transits on recreational and commercial vessels operating in Narragansett Bay and Mount Hope Bay:

a. The Coast Guard should develop a formal process to ensure that inbound loaded LNG tankers transiting Narragansett Bay do not conflict with scheduled major national- and international-level sailing events that typically receive permits from the Coast Guard.

b. The Coast Guard should actively manage vessel traffic jointly with the Northeast Marine Pilots to minimize delays and avoid meeting situations with LNG tankers and other large commercial vessels along the transit route.

c. Coordination between the Coast Guard, Northeast Marine Pilots and sailing organizations should increase to mitigate the impact of additional ship arrivals on organized recreational boating events.

d. The Coast Guard should tailor the safety and security zones to minimize the potential disruption on recreational boating activities.

e. The Coast Guard should approve a system to provide commercial shippers, recreational boaters and boating event coordinators with advance notice of an arriving LNG tanker.

On July 30, 2009, the COTP issued the recommendation (in the form of an LOR) to FERC on the suitability of the waterway for LNG marine traffic. In the LOR, the COTP recommended to FERC that, in addition to the applicant implementing all the mitigation measures outlined in their Follow-on WSA, LNG tankers should meet the following traffic management measures:

a. A Transit Management Plan should be developed in coordination with pilots, tug operators, security assets, first responders and the Coast Guard before the first LNG tanker transit to ensure all stakeholders are aware of the planned transit and associated responsibilities for each involved entity.

b. Before each LNG vessel's arrival, the Coast Guard, applicable security agencies, pilots, tug operators, Weaver's Cove Energy LLC and other entities that have a role in the transit should meet to review the Transit Management Plan and coordinate inbound and outbound transit details.

c. Vessel transits should be coordinated to minimize conflicts with other waterways users, such as commercial vessels, recreational boaters and fishing vessels, and with other marine activities.

d. Because of the impact of the safety and security measures employed during LNG vessel port calls, there should be a program for educating all waterways users on the nature of these measures and the need for cooperation with public safety and security officials. At a minimum, the program should be a joint effort by the Coast Guard, Weaver's Cove Energy LLC and appropriate local and state agencies. The program also should address safety and security zones and emergency procedures and notifications in the event of an incident involving an LNG vessel.

6. Results from the Sector Southeastern New England Workshops to Review Navigation Safety and Maritime Security Issues Related to the Weaver's Cove Energy Proposal, April 2009

Additionally, the COTP conducted two workshops to review and validate the navigation safety findings of the WSA prepared for the Coast Guard by Weaver's Cove Energy LLC. These workshops evaluated the potential adverse impacts to recreational and commercial vessels that may be caused by LNG tanker transits. Two additional workshops focused on maritime security issues. Participants of the workshops were offered the opportunity to provide input to the COTP between the dates of the workshops and the signing of the LOR on July 30, 2009.

The participants in these workshops included law enforcement, first responders and regulatory officials from federal, state and local governments and private enterprise.

Federal:

- Customs and Border Protection
- Federal Bureau of Investigation
- FERC
- National Oceanographic and Atmospheric Administration
- Transportation Security Administration
- U.S. Coast Guard
- U.S. Navy (Naval Station Newport, RI)

State:

Massachusetts:

- Massachusetts Attorney General
- Massachusetts Emergency Management Agency
- Massachusetts Executive Office of Public Safety and Security
- Massachusetts State Police

Rhode Island:

- Rhode Island Attorney General
- Rhode Island Department of Environmental Management
- Rhode Island Emergency Management Agency
- Rhode Island Governor's Office
- Rhode Island State Police
- Rhode Island Yachting Commission
- Save The Bay, Providence, RI

Local municipalities:

- Fall River, MA
- Somerset, MA
- Swansea, MA
- Bristol, RI
- Middletown, RI
- Newport, RI
- Portsmouth, RI
- Tiverton, RI

Private Enterprise:

- McAllister Towing, Providence, RI
- Northeast Marine Pilots, Newport, RI
- Sail Newport Inc., Newport, RI
- Seaboats, Inc., Fall River, MA
- Weaver's Cove Energy LLC, Fall River, MA

The transit route was segmented into 14 separate legs, and more than two dozen risk factors were evaluated for each individual leg. Factors included potential impacts to ferries, commercial vessels, recreational vessels and fishing vessels (see Appendix B). Although the propensity for particular types of vessel traffic to frequent certain legs of the transit route was noted, no significant concern regarding potential delays to commercial or recreational vessels was voiced at the workshops.

Participants at the workshops made several recommendations to improve management of competing demands on the waterway and/or reduce the volume of vessel traffic in the primary waterway used by deep-draft commercial vessels, such as LNG tankers. These recommendations included:

a. The Coast Guard should consider establishing "black out" periods when marine events within Narragansett Bay or Mount Hope Bay would preclude LNG transits (or transits of other large commercial vessels). Such events might include the Quonset Air Show, the Newport Jazz Festival, and so on.

b. The Coast Guard should consider establishing a secondary or auxiliary channel adjacent to Goat Island (in Rhode Island) to aid in traffic management of shallow-draft vessels.

c. The Coast Guard should encourage recreational and shallow-draft vessels to transit in the existing auxiliary channel in lower Mount Hope Bay, vice using the main navigation channel.

B. Mission of the Sector Commander, Coast Guard Sector Southeastern New England

The Sector Commander, Coast Guard Sector Southeastern New England, under whose purview the Weaver's Cove Energy proposal falls, routinely manages competing uses of the waterway by

exercising his or her authority as COTP or Federal Maritime Security Coordinator. This mission involves daily interaction with a variety of interested stakeholders, all of whose interests are considered. The Sector Commander:

- Routinely interacts with pilot organizations to gauge commercial vessel demand for waterway use and manages competing demands for recreational and other uses.

- Reviews applications for Marine Event Permits.[14] This includes a review of all other marine events that may require use of the same waterway and a review of any anticipated commercial vessel travel. Potential conflicts are identified, and affected parties are engaged to manage competing demands.

- Prepares a detailed inter-agency Incident Action Plan for major marine events, such as the annual Save-The-Bay Swim or the Quonset Air Show, to address safety and security issues and to manage competing uses of the affected waterway.

[14] The Marine Event Permit review process is documented in Chapter 11 of Sector Southeastern New England Instruction 5401.1, Standard Operating Procedures. See Appendix A for a Web-site link to this document.

IV. Recommendations

If FERC approves Weaver's Cove Energy LLC proposal to site, construct and operate an offshore berth to receive approximately 70 LNG port-calls/cargo transfer operations (140 transits) per year, the Coast Guard is well aware of the potential waterway conflicts that may ensue. To mitigate potential adverse impacts to recreational and commercial waterways users, the COTP, in the July 30, 2009 LOR, included a number of recommendations to FERC:

- The development of a Transit Management Plan, which clarifies the roles and responsibilities of all involved stakeholders, specifies details of safety and security measures to be employed and provides details on how the agencies, industry and the Coast Guard will interact during the vessel's transit.[15]

- The coordination of vessel transits to minimize competing demands between waterways users such as commercial vessels, recreational boaters, fishing vessels and other marine activities.

- The implementation of a program for educating all waterways users on the nature of the safety and security measures being employed and the need for cooperation with public safety and security officials. At a minimum, the program should be a joint effort by the Coast Guard, Weaver's Cove Energy LLC and appropriate local and state agencies. The program also should address safety and security zones and emergency procedures and notifications in the event of an incident involving an LNG vessel.

As part of the LOR, COTP recommended to FERC full implementation of the mitigations contained in the applicant's Follow-on WSA, including the following mitigations pertaining to vessel traffic management:

- A formal process should be developed to ensure that inbound loaded LNG tankers transiting Narragansett Bay do not conflict with scheduled major national- and international-level sailing events that typically receive permits from the Coast Guard.

- To minimize delays and avoid meeting situations with LNG tankers and other large commercial vessels along the transit route, the Coast Guard should consult with the Northeast Marine Pilots regarding vessel traffic issues.

- Coordination between the Coast Guard, Northeast Marine Pilots and sailing organizations should be increased to mitigate the impact of additional ship arrivals on organized recreational boating events.

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[15] Security zones would generally be established and enforced only on in-bound transits when an LNG tanker is loaded with cargo. On outbound transits, when there is only a small amount (5 percent or less of total cargo capacity, known as "in heel") of LNG sufficient to maintain a cold temperatures in the cargo tanks, security zones would be established case by case, depending on a number of factors (such as threats, other vessel traffic or marine events in the bays). It is anticipated that outbound transits of LNG tankers "in heel" would seldom have a security zone established and, hence, would be less disruptive to other waterways users.

- Safety and security zones should be tailored to minimize the potential disruption on recreational boating activities.

- The Coast Guard should approve a system to provide commercial shippers, recreational boaters and boating event coordinators with advance notice of an arriving LNG tanker.

The following suggestions by participants at Coast Guard-sponsored workshops to review and validate the Follow-on WSA will be considered:

- The Coast Guard should establish "black out" periods when marine events within Narragansett Bay or Mount Hope Bay would preclude LNG transits (or transits of other large commercial vessels). Such events might include the Quonset Air Show, the Newport Jazz Festival, and so on.

- The Coast Guard should establish a secondary or auxiliary channel adjacent to Goat Island (in Rhode Island) to aid in traffic management of shallow-draft vessels.

- The Coast Guard should encourage recreational and shallow-draft vessels to transit in the existing auxiliary channel in lower Mount Hope Bay, vice using the main navigation channel.

V. Conclusions

Generally, all the studies and reports found that vessel traffic (especially commercial vessel traffic) in Narragansett Bay and Mount Hope Bay is relatively light, with a brief period in the summer months of increased recreational boating traffic concentrated in lower Narragansett Bay.

Longstanding vessel traffic management practices by the Coast Guard help ensure access to waterways by competing users, with the goal of achieving maximum efficiency of commercial and recreational vessel activity. The Coast Guard's current vessel traffic management practices, combined with recommendations included in the Coast Guard's LOR to FERC regarding the Weaver's Cove Energy LLC proposal, will help to allow both bays to remain safe for users while minimizing adverse impacts to other vessel traffic should the proposed waterfront facility and offshore berth be fully approved and constructed.

VI. Appendices

Appendix A. Web site Links

Document	Website
Letter of Recommendation dated July 30, 2009 *(This document is located on the official FERC docket (#CP04-36) on the FERC LNG docket website. The document may be accessed by using the hyperlink to the right and clicking on the docket number for Weaver's Cove. Then using the search feature, search for documents containing the words "Weaver's Cove" submitted between July 29, 2009 and August 2, 2009.)*	http://www.ferc.gov/industries/lng/indus-act/terminals/exist-prop-lng.asp
LNG Tanker Impacts to Marine Navigation (August 2005)	http://www.aquidneckplanning.org/images/Lngmarinenav.pdf
LNG Transit Through East Passage: Potential Impact on Aquidneck Island Development (June 2006)	http://www.newportchamber.com/pdfs/LNGTransit.pdf
Narragansett Bay Ports and Waterways Safety Assessment (PAWSA) (September 2004)	http://www.navcen.uscg.gov/mwv/projects/pawsa/PAWSA_FinalReports.htm
Navigation and Vessel Inspection Circular 05-08, "Guidance on Assessing the Suitability of a Waterway for Liquefied Natural Gas (LNG) Marine Traffic" dated December 22, 2008	http://www.navcen.uscg.gov/mwv/projects/pawsa/WorkshopReports/NarragansettBay.pdf
Rhode Island Coastal Resources Management Council Draft Ocean Special Area Management Plan (SAMP) (December 2009)	http://seagrant.gso.uri.edu/oceansamp/samp.html
Sector Southeastern New England Waterways Management Information	http://homeport.uscg.mil/sene
Weaver's Cove Energy LLC Waterways Suitability Assessment (January 2009) *(This document is located on the Homeport. The document may be accessed by using the hyperlink to the right and scrolling down the web site to "Waterways Management" on left side of the page, then click on "more" below "Waterways Management." On the new page, scroll to the bottom of the page to find the Suitability Assessment.)*	http://homeport.uscg.mil/sene
Weaver's Cove Energy, LLC Final Environmental Impact Statement (May 20, 2005) *(This document is located on the official FERC docket (#CP04-36) on the FERC LNG docket website. The document may be accessed by using the hyperlink to the right and clicking on the docket number for Weaver's Cove. Then using the search feature, search for documents containing the words "Weaver's Cove" submitted between May 19, 2005 and May 21, 2005.)*	http://www.ferc.gov/industries/lng/indus-act/terminals/exist-prop-lng.asp

Appendix B. Navigation Safety Matrix

SOUTHEASTERN MASSACHUSETTS AND RHODE ISLAND
NAVIGATION SAFETY WORKING GROUP
REVIEW OF WEAVER'S COVE ENERGY PROPOSAL AND WATERWAYS SUITABILITY ANALYSIS
APRIL 2009

In lines 3 through 24, N = Nothing significant to report; Numbers = footnotes.

	TRACK LEG: / CRITERIA	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	Length (nautical miles)	22.5	3.8	1.0	1.8	1.5	1.6	5.2	0.7	1.0	0.6	0.3	1.3	2.5	0.5
2.	Speed of vessel (knots)	~10	~10	~10	~10	7-10	7-10	7-10	7-10	7-10	7-10	7-10	~5	<5	1
3.	Bridges?	N	N	N	N	1	1	N	N	N	N	2	2	N	N
4.	Anchorages?	N	N	N	N	3	3	4	4	N	N	N	N	N	N
5.	Restricted Area(s)?	5	5	N	N	N	6	6	N	N	N	N	N	N	N
6.	Cable Area(s)?	N	N	N	7	7	7	7	N	7	7	N	N	N	N
7.	Regulated Navigation Area(s)?	N	N	8	8	8	8	8	8	8	8	8	8	8	8

[1] The Newport/Pell Bridge intersects the end of track leg 5 and the beginning of track leg 6. The bridge is well marked with navigation lights and sound signals. The channel width at the bridge is 1,500 feet, and the bridge air draft (height above mean high water) is 194 feet, sufficiently large to permit passage of an LNG-size tanker.

[2] The Mount Hope Bridge intersects the end of track leg 11 and the beginning of track leg 12. The bridge is well marked with navigation lights, sound signals and an electronic beacon marking the center of the bridge. The channel width at the bridge is 400 feet and the air draft is 135 feet, which is approximately 5 feet higher than the height of the proposed LNG tanker at mean high water.

[3] Anchorage D to the east of track legs 5 and 6 is frequented by cruise ships, especially in September/October. Anchorage A to the west of track legs 5 and 6 (frequently referred to as the "Jamestown" anchorage, or the "Potter Cove" anchorage) extends both north and south of the Newport/Pell Bridge, but only the north section is normally used by commercial traffic. Vessels carrying coal and oil frequently anchor here and lighter to smaller vessels. Freight carriers and yacht carriers anchor here as well. Ships carrying chemicals or other hazardous cargoes do not normally anchor here and never lighter in these anchorages.

[4] Tug/barge traffic awaiting clearance to make way to berths in Providence or Fall River frequently anchor in Anchorage B to the east of this track leg.

[5] To the west of the intersection of track legs 1 and 2 is designated "Restricted Area" for torpedo testing that may occur only during daylight and only in "optimum weather conditions."

[6] To the east of the intersection of track legs 6 and 7 is designated "Restricted Area" around the Navy piers in Coddington Cove. The Navy no longer routinely uses these piers, although several Coast Guard cutters are homeported there.

[7] Sub-sea/sub-surface cables cross these track legs and are charted, and the charted cable area is accompanied by a note advising mariners to use extreme caution when anchoring, dragging or trawling in these areas.

SOUTHEASTERN MASSACHUSETTS AND RHODE ISLAND
NAVIGATION SAFETY WORKING GROUP
REVIEW OF WEAVER'S COVE ENERGY PROPOSAL AND WATERWAYS SUITABILITY ANALYSIS
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	TRACK LEG: / CRITERIA	1	2	3	4	5	6	7	8	9	10	11	12	13	14
8.	Safety/Security Zone?	N	N	9	9	9	9	9	9	9	9	9	9	9	9
9.	Aids to Navigation?	N	N	N	N	N	N	10	11	11	11	11	11	N	N
10.	Fish Trap Area?	N	N	N	12	12	N	12	N	N	N	N	N	N	N
11.	Pilot Onboard	N	13	13	13	13	13	13	13	13	13	13	13	13	13
12.	Docking Maneuvers?	N	N	N	N	N	N	N	N	N	N	N	N	N	14
13.	Tides & Currents?	15	15	15	16	15	15	15	15	15	15	16	15	15	15
14.	Weather?	17	17	17	17	17	17	17	17	17	17	17	17	17	17
15.	Navigation Simulation?	18	17	17	17	17	17	17	17	17	17	17	17	17	17

[8] All of Narragansett Bay is currently subject to the Regulated Navigation Area (RNA) defined at 33 *Code of Federal Regulations* 165.100, which applies primarily to commercial vessels calling at Providence, RI. This RNA is being revised via a federal rulemaking initiative to include all of Narragansett Bay and Mount Hope Bay.

[9] A Coast Guard-defined security zone, jointly enforced by federal, state and local law enforcement resources, would be in effect from the time any loaded LNG vessel is at the entrance to Narragansett Bay (for example, adjacent the "NB" buoy) until its arrival at the berth in Mount Hope Bay.

[10] The aid-to-navigation at Halfway Rock Light (to the west of track leg 7) is difficult to see and needs to be improved to make it more prominent and noticeable to mariners.

[11] A range light may be required along theses track legs (one range serving track leg 8 through 12) to ensure proper alignment of an LNG tanker when transiting beneath the Mount Hope Bridge.

[12] Fish traps may be placed along these track legs but should not be in the marked channel.

[13] All LNG tankers transiting in Narragansett Bay and Mount Hope Bay will be required to carry a properly licensed marine pilot for the entire voyage—from the Pilot Boarding Area adjacent to Narragansett Bay entrance buoy "NB" to the berth in Mount Hope Bay and vice versa.

[14] Docking maneuvers are only required on this leg of the transit. In Massachusetts, marine pilots may also serve as docking pilots, and it is anticipated that a single pilot will guide the LNG tanker through the entire transit directly to its berth in Mount Hope Bay.

[15] Tides and currents for all track legs are discussed in the Waterways Suitability Assessment and are generally considered to be routine in nature and not a significant challenge to commercial traffic.

[16] Higher waves are sometimes noticeable at track legs 4 and 11 during flood tides because of the narrowing of the waterway at these two locations. The higher waves do not cause a problem for commercial traffic but can restrict the ability of smaller vessels to navigate freely in these areas.

[17] Narragansett Bay and Mount Hope Bay experience weather typical in a maritime environment, including periods of heavy fog.

[18] The entire transit route and berthing evolution has been modeled in a navigation simulator.

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	TRACK LEG: / CRITERIA	1	2	3	4	5	6	7	8	9	10	11	12	13	14
16.	Ferry/Ferries?	N	N	N	19	19	19	N	20	20	20	N	N	N	N
17.	Commercial Vessel Traffic?	N	N	N	21	21	22	22	22	22	22	22	22	22	22
18.	Commercial Fishing Traffic?	N	N	N	23	23	23	23	23	23	23	23	23	23	23
19.	Recreational Fishing Traffic?	N	N	N	N	N	N	N	N	24	24	N	N	N	N
20.	Recreational Boating Traffic	N	N	N	N	25	25	25	N	25	25	25	N	N	N
21.	Population Center?	N	N	N	N	N	N	N	N	N	N	26	26	N	N
22.	Zones of Concern?	N	N	N	N	N	N	N	N	N	N	27	28	N	N
23.	Environmentally Sensitive Area?	28	28	28	28	28	28	28	28	28	28	28	28	28	28
24.	Other considerations?	N	N	N	N	N	N	N	N	N	N	N	N	N	N

[19] The Quonset to Martha's Vineyard Ferry normally transits the West Passage of Narragansett Bay but sometimes transits the East Passage as well, where it may meet an LNG tanker transiting these track legs.
[20] The Bristol to Prudence Island Ferry operates to the west of these track legs.
[21] Commercial traffic from Providence, Davisville or Fall River, plus cruise ships calling at Newport, can be expected in these track legs.
[22] Commercial traffic from Providence, Davisville or Fall River can be expected in these track legs.
[23] Commercial fishing (primarily for lobsters) can be expected along these track legs.
[24] Recreational fishers frequent the area of these track legs at certain times of the year.
[25] Recreational boaters frequent the area of these track legs, primarily from May to September.
[26] Roger Williams University is located along the west shoreline of these track legs.
[27] Roger Williams University is located along the west shoreline of these track legs, although the University does not fall within the 750-yard outer "zone of concern" for accidental discharges of LNG.
[28] All of Narragansett Bay and Mount Hope Bay is considered "environmentally sensitive" by the State of Rhode Island's designated "baykeeper," Save The Bay (a non-profit environmental organization).

Appendix C. Acronyms and Select Definitions

COTP	Captain of the Port
EIS	Environmental Impact Statement
FERC	Federal Energy Regulatory Commission
LLC	Limited Liability Company
LNG	Liquefied Natural Gas
LOR	Letter of Recommendation. Via this document, the Coast Guard COTP provides a recommendation to FERC regarding the suitability of a given waterway to accommodate LNG vessel traffic.
NEPA	National Environmental Policy Act. Federal law that directs federal agencies to consider and disclose the environmental consequences of permitting actions.
NVIC	Navigation and Vessel Inspection Circular. Provides detailed guidance about the enforcement or compliance with certain federal marine safety regulations and/or Coast Guard marine safety programs and policies.
PAWSA	Ports and Waterways Safety Assessment. A structured approach to identify and mitigate risks to navigation safety in a given waterway.
RNA	Regulated Navigation Area. A waterways area where Coast Guard regulations define special navigation rules or procedures pertaining specifically to that area.
SAMP	Special Area Management Plan. Contains the results of Rhode Island's comprehensive ocean-zoning planning process.
WSA	Waterway Suitability Assessment. A methodical review of navigation safety and maritime security factors associated with LNG tanker traffic in a given waterway. The recommended content and conduct of a WSA is contained in Coast Guard NVIC 05-08.

Appendix D. Map of Fall River Area