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BEFORE COOS COUNTY PLANNING DEPARTMENT
HEARINGS OFFICER

In the Matter of the on remand from the Land Use Board of Appeals in *Oregon Shores Conservation Coalition v. Coos County*, 76 OR LUBA 346 (2017	REM-19-001 Safety/Security Zone Re-open Record Comments

On behalf of Rogue Climate and Jody McCaffree (opponents), I submit the following additional argument and exhibits regarding Jordan Cove's (JC) failure to meet its burden of proof regarding its argument that the project will not substantially interfere with navigation, fishing, recreation and other public trust beneficial uses of the estuary.

As the Hearing Officer (HO) points out, JC has failed to meet its burden of proof on this crucial issue. Despite the HO's willingness to interject speculation into the county's findings in order to find that the security zone does not create substantial impacts, LUBA rightly enforced the appropriate legal standard. And, contrary to the HO's allegations, LUBA was not "unwilling" to draw reasonable inferences; LUBA found that speculation (what-could-it-mean) was not the substantial evidence needed to determine the impacts of the security zone. This is the crux of the project and the HO's plea to JC to correct this continuing error demonstrates that the HO is not an impartial, unbiased decision maker. Opponents object to the HO's order providing JC another opportunity. Nevertheless, even with this new opportunity, JC will fail to meet its burden of proof and, that is likely why it has not submitted sufficient additional information in response to LUBA's rejection of its prior showing.

In the first place, the record fails to demonstrate what has changed to caused the Coast Guard to abandon its prior position that Coos Bay is not currently suitable for the type and frequency (of the first iteration of the project) of the LNG maritime traffic associated with the project. See LUBA record 6460. The evidence necessary to make the finding on this criteria will require a complete analysis of the impacts of any transit management plan which, as understood, has not been provided.

Exhibit: 64
Date: 9/9/19

Nonetheless, the unequivocal evidence already in the record is that even if the Coast Guard's new position that Coos Bay has apparently been made suitable, is credible and is based upon facts relevant to the project currently being proposed with its increase in trips and increase in production, the impacts to the public trust uses of the Bay will be substantial and significant.[1] In a nutshell, to attempt to appropriately protect the community, the entire Bay will be shut off from all other uses during the time it will take JC to transport its product.

The record evidence demonstrates that the "safety zone" will extend 500 yards all around the vehicle and that it is an "exclusion zone." The attached exhibits also show that there should be no question that this is an exclusion zone and it should be to properly protect the safety and security of the community. They include a notice of the imposition of such a zone related to the Cove Point Terminal in Maryland and Findings regarding the impacts of the security zone related to the Distrigas facility in Everett Massachusetts. The Cove Point notice states: "Commercial vessel operators have been using the area on a regular basis for commercial fishing, passenger tours, and fishing parties. Enforcement of the proposed zone or the current zone will prohibit these commercial vessel operators from using this area." The zone related to the Everett operation was described as follows:

> Another security "bubble" or perimeter is established at the 1000-yard mark, from the transport tanker. This 1000-yard bubble is comprised of, four Mass. State Police boats (two forward and two aft), one Boston PD boat to the port side, and one Environmental Police boat on the starboard side. These vessels will approach a suspect vessel and attempt to "chase" it from the area. These vessels operate under existing rules of engagement with respect to the use of deadly force previously established by their respective agencies.
>
> In addition to water assets, the Massachusetts State Police has the responsibility to shut down traffic on the Tobin Bridge while the tanker is in close proximity to it. A State Police Helicopter hovers and provides observation from the time the tanker is met outside the Harbor until it is docked. Boston Police Department has the responsibility of closing all adjacent roads and wharfs that lead to the Harbor. There are police units stationed at each of these access points from the time the tanker enters the Harbor to the time it docks, approximately two hours. Boston Police Department estimates that it ties up 20 - 30 members per trip.

Both demonstrate that the safety/security risks are so substantial that to meet the challenge, other uses must stop during the tanker transits. See also LUBA record pages 6448-6450 and 9209 - 9250 which further describes relevant safety risks.

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[1] Included in the exhibits attached hereto is Mrs. McCaffree's correspondence questioning the credibility of the more recent LOR.

In response to the HO's specific request for information relative to the threat assessment, the record already discusses such, including stating the following:

> One recent study of tankers serving the Everett LNG terminal assessed the impact of 1) a hand-held missile attack on the external hull, and 2) a bomb attack from a small boat next to the hull (similar to the Limberg attack). The study found that "loss of containment may occur through shock mechanisms caused by small amounts of explosive."59 The study concluded that "a deliberate attack on an LNG carrier can result in a ... threat to both the ship, its crew and members of the public.

LUBA Record at 6447.

The evidence already in the record submitted by Mr. Erickson demonstrates that the zone will consume the entire estuary. The attached graphic developed by Jan Hodder demonstrates this as well. Contrary to the HO's speculation, to ensure the safety and security of the community, other users may not simply be ordered to "hug the bank."

Neither will conditioning the transit to the nighttime solve the problems associated with JC choosing the wrong Bay for its terminal. While opponents are unable to obtain evidence demonstrating that others use the Bay at night, the security and safety issues, again, present a competing interest. As the record demonstrates the safety issues associated with the transit will require the ready to evacuate at least a mile in each direction of a pool fire. See the declarations from the Fire Chief and Police Chief of Falls River related to the proposed and ultimately denied Weaver's Cove project at LUBA record 6672-6710. The mile evacuation zone encompasses multitudes of people and nighttime evacuation efforts will not be successful. These communities demand that the county thoroughly evaluate the worst case scenario and the criteria calls for it to do so.

Finally, the most important analysis concerns the tidal and bar transit issues and Jan Hodder's analysis should make it abundantly clear that Coos Bay is not the place for an LNG terminal and vessel transit. Opponents submit additional information related to the difficulties and risks of such transit for other current users of the Bay which will only be significantly and substantially exacerbated when competing with the LNG vessels.

/s/ Tonia Moro
Tonia Moro
Attorney for Opponents

68 FR 59538-01, 2003 WL 22348695(F.R.)
RULES and REGULATIONS
DEPARTMENT OF HOMELAND SECURITY
Coast Guard
33 CFR Part 165
[CGD05-03-153]
RIN 1625-AA00

Safety/Security Zone; Cove Point Liquefied Natural Gas Terminal, Chesapeake Bay, MD

Thursday, October 16, 2003

***59538** AGENCY: Coast Guard, DHS.

ACTION: Temporary final rule.

SUMMARY: The Coast Guard is establishing a safety/security zone at the Cove Point Liquefied Natural Gas (LNG) Terminal under 33 CFR 165.502. This is in response to the re-opening of the terminal by Dominion Power in July 2003. This safety and security zone is necessary to help ensure public safety and security. The zone will prohibit vessels and persons from entering a well-defined area of 500 yards in all directions around the Cove Point LNG Terminal.
DATES: This rule is effective from September 26, 2003, through January 5, 2004.

ADDRESSES: Comments and material received from the public, as well as documents indicated in this preamble as being available in the docket, are part of docket [CG05-03-153] and are available for inspection or copying at Commander, U.S. Coast Guard Activities, 2401 Hawkins Point Road, Building 70, Port Safety, Security and Waterways Management Branch, Baltimore, Maryland, 21226-1791 between 9 a.m. and 3 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Lieutenant Dulani Woods, at Coast Guard Activities Baltimore, Port Safety, Security and Waterways Management Branch, at telephone number (410) 576-2513.

SUPPLEMENTARY INFORMATION:

Regulatory Information

On March 20, 2003, we published a notice of proposed rulemaking (NPRM) in the Federal Register entitled "Safety and Security Zone; Cove Point Liquefied Natural Gas Terminal, Chesapeake Bay, Maryland" (68 FR 13647). In it we proposed a permanent safety and security zone. We received six letters commenting on the proposed rule. And in response to a request for a public meeting, we announced a June 5, 2003 public meeting and reopened the comment period to June 12, 2003. (68 FR 26247, May 15, 2003).

On August 1, 2003, we published a temporary final rule (TFR) entitled "Safety and Security Zone; Cove Point Natural Gas Terminal, Chesapeake Bay, Maryland, to provide temporary protection while the rulemaking for the permanent rule was underway (68 FR 45165). That TFR expired September 26, 2003.

Under 5 U.S.C. 553(d)(3), the Coast Guard finds that good cause exists for making this rule effective less than 30 days after publication in the Federal Register. The Coast Guard is currently reviewing the additional comments received during the re-opened comment period and public meeting and requires more time to develop the final rule based on these additional comments. The Coast Guard believes it is in the best interest of public safety to establish this temporary safety and security zone while it continues to consider comments that may affect the final rule.

Background and Purpose

In preparation for the re-opening of the LNG terminal at Cove Point, MD, the Coast Guard is evaluating the current safety zone established in 33 CFR 165.502. This safety zone was established during the initial operation of the terminal in 1979 and includes both the terminal and associated vessels. To better manage the safety and security of the LNG terminal, this rule incorporates necessary security provisions and changes the size of the zone. This rule establishes a 500 yard combined safety zone and security zone in all directions around the LNG terminal at Cove Point.

Based on the September 11, 2001 terrorist attacks on the World Trade Center buildings in New York, NY and the Pentagon building in Arlington, VA, there is an increased risk that subversive activity could be launched by vessels or persons in close proximity to the Cove Point LNG Terminal. As part of the Diplomatic Security and Antiterrorism Act of 1986 (Pub. L. 99-399), Congress amended section 7 of the Ports and Waterways Safety Act (PWSA), 33 U.S.C. 1226, to allow the Coast Guard to take actions, including the establishment of security and safety zones, to prevent or respond to acts of terrorism against individuals, vessels, or public or commercial structures. The Coast Guard also has authority to establish security zones pursuant to the Espionage Act of June 15, 1917, as amended by the Magnuson Act of August 9, 1950 (50 U.S.C. 191 et seq.) ("Magnuson Act"), section 104 of the Maritime Transportation Security Act of November 25, 2002, and by implementing regulations promulgated by the President in subparts 6.01 and 6.04 of part 6 of title 33 of the Code of Federal Regulations.

Discussion of This Rule

This temporary final rule is identical to the previous TFR published in the Federal Register (68 FR 45165) on August 1, 2003. The Coast Guard was unable to publish an extension to that rule, but the practical effect of this new TFR is the same—to continue to provide a temporary safety and security zone in this area.

The Coast Guard is establishing a temporary safety and security zone on specified waters of the Chesapeake Bay near the Cove Point Liquefied Natural Gas Terminal to reduce the potential threat that may be posed by vessels or persons that approach the terminal. The zone will extend 500 yards in all directions from the terminal. The effect will be to prohibit vessels or persons entry into the safety and security zone, unless specifically authorized by the Captain of the Port, Baltimore, Maryland. Federal, state and local agencies may assist the Coast Guard in the enforcement of this rule.

Regulatory Evaluation

This rule is not a "significant regulatory action" under section 3(f) of ***59539** Executive Order 12866, Regulatory Planning and Review, and does not require an assessment of potential costs and benefits under section 6(a)(3) of that Order. The Office of Management and Budget has not reviewed it under that Order. It is not "significant" under the regulatory policies and procedures of the Department of Homeland Security (DHS). This regulation is of limited size, and vessels may transit around the zone.

There may be some adverse effects on the local maritime community that has been using the area as a fishing ground. Since the terminal has not been in operation, the Coast Guard has not enforced the current zone under 33 CFR 165.502. Commercial vessel operators have been using the area on a regular basis for commercial fishing, passenger tours, and fishing parties. Enforcement of the proposed zone or the current zone will prohibit these commercial vessel operators from using this area.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601-612), we have considered whether this rule would have a significant economic impact on a substantial number of small entities. The term "small entities" comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000.

The Coast Guard certifies under 5 U.S.C. 605(b) that this rule will not have a significant economic impact on a substantial number of small entities. This rule will affect the following entities, some of which might be small entities: the owners or operators of vessels intending to transit or anchor in a portion of the Chesapeake Bay near the Cove Point LNG Terminal.

Assistance for Small Entities

Under section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996 (Public Law 104-121), we offered to assist small entities in understanding the rule so that they could better evaluate its effects on them and participate in the rulemaking process.

Small businesses may send comments on the actions of Federal employees who enforce, or otherwise determine compliance with, Federal regulations to the Small Business and Agriculture Regulatory Enforcement Ombudsman and the Regional Small Business Regulatory Fairness Boards. The Ombudsman evaluates these actions annually and rates each agency's responsiveness to small business. If you wish to comment on actions by employees of the Coast Guard, call 1-888-REG-FAIR (1-888-734-3247).

Collection of Information

This rule calls for no new collection of information under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501-3520).

Federalism

A rule has implications for federalism under Executive Order 13132, Federalism, if it has a substantial direct effect on State or local governments and would either preempt State law or impose a substantial direct cost of compliance on them. We have analyzed this rule under that Order and have determined that it does not have implications for federalism.

Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531-1538) requires Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State, local, or tribal government, in the aggregate, or by the private sector of $100,000,000 or more in any one year. Though this rule will not result in such an expenditure, we do discuss the effects of this rule elsewhere in this preamble.

Taking of Private Property

This rule will not effect a taking of private property or otherwise have taking implications under Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights.

Civil Justice Reform

This rule meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

Protection of Children

We have analyzed this rule under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. This rule is not an economically significant rule and does not create an environmental risk to health or risk to safety that may disproportionately affect children.

Indian Tribal Governments

This rule does not have tribal implications under Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, because it does not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

Energy Effects

We have analyzed this rule under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. We have determined that it is not a "significant energy action" under that order because it is not a "significant regulatory action" under Executive Order 12866 and is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The Administrator of the Office of Information and Regulatory Affairs has not designated it as a significant energy action. Therefore, it does not require a Statement of Energy Effects under Executive Order 13211.

Environment

We have analyzed this rule under Commandant Instruction M16475.ID, which guides the Coast Guard in complying with the National Environmental Policy Act of 1969 (NEPA)(42 U.S.C. 4321-4370f), and have concluded that there are no factors in this case that will limit the use of a categorical exclusion under section 2.B.2 of the Instruction. Therefore, this rule is categorically excluded, under figure 2-1, paragraph (34)(g), of the Instruction, from further environmental documentation because this rule establishes a security zone. A final "Categorical Exclusion Determination" will be available in the docket where indicated under ADDRESSES.

List of Subjects in 33 CFR Part 165

Harbors, Marine safety, Navigation (water), Reporting and recordkeeping requirements, Security measures, Waterways.

For the reasons discussed in the preamble, the Coast Guard amends 33 CFR part 165 as follows:

PART 165—REGULATED NAVIGATION AREAS AND LIMITED ACCESS AREAS

1. The authority citation for part 165 continues to read as follows:

Authority: 33 U.S.C. 1226,1231; 46 U.S.C. Chapter 701; 50 U.S.C. 191,195; 33 CFR 1.05-1(g), 6.04-1, 6.04-6, and 160.5; Pub. L. 107-295, 116 Stat. 2064, Department of Homeland Security Delegation No. 0170.1.

33 CFR § 165.T05-153

2. From September 26, 2003, through January 5, 2004, add § 165.T05-153 to read as follows: ***59540**

33 CFR § 165.T05-153

§ 165.T05-153 Safety and Security Zone; Cove Point Liquefied Natural Gas Terminal, Chesapeake Bay, Maryland.

(a) Location. The following area is a safety and security zone: All waters of the Chesapeake Bay, from surface to bottom, encompassed by lines connecting the following points, beginning at 38[deg]24'27" N, 076[deg]23'42" W, thence to 38 [deg]24'44" N, 076[deg]23'11" W, thence to 38[deg]22'55" N, 076[deg]22'27" W, thence to 38[deg]23'37" N, 076[deg]22'58" W, thence to beginning at 38 [deg]24'27" N, 076[deg]23'42" W. These coordinates are based upon North American Datum (NAD) 1983. This area is 500 yards in all directions from the Cove Point LNG terminal structure.

(b) Regulations. (1) In accordance with the general regulations in §§ 165.23 and 165.33 of this part, entry into or movement within this zone is prohibited unless authorized by the Coast Guard Captain of the Port, Baltimore, Maryland or his designated representative. Designated representatives include any Coast Guard commissioned, warrant, or petty officer.

(2) Persons desiring to transit the area of the zone may contact the Captain of the Port at telephone number (410) 576-2693 or via VHF Marine Band Radio channel 16 (156.8 MHz) to seek permission to transit the area. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his designated representative.

(c) Enforcement. The U.S. Coast Guard may be assisted in the patrol and enforcement of the zone by Federal, State, local, and private agencies.

Dated: September 26, 2003.

Curtis A. Springer,

Captain, U.S. Coast Guard, Captain of the Port, Baltimore, Maryland.

[FR Doc. 03-26128 Filed 10-15-03; 8:45 am]

BILLING CODE 4910-15-P

End of Document

Exhibit S-27
http://www.thememoryhole.org/energy/lng_security_distrigas.htm

Pulled Document:

LNG Security at Distrigas Facility

>>> The document below was unearthed through a state freedom of information request in Maine. The requesters asked the Governor's office for all documents pertaining to liquefied natural gas facilities. They received 29 documents [here]. Among them was this security review of the Distrigas Facility in Everett, Massachusetts. It used to be posted here, but that page now contains the following message:

> Not available. Removed per request of Department of Homeland Security 9/15/04

Thanks to reader CM, we were able to recover it from Google's cache. (*Note*: Although the document, as transcribed, refers to "Distigas," the actual name of the corporation is "Distrigas.")

REPORT OF FINDINGS
LNG SECURITY PROCEDURES
DISTIGAS NATURAL GAS STORAGE FACILITY
MYSTIC RIVER, EVERETT, MASSACHUSETTS

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REPORT OF FINDINGS
LNG SECURITY PROCEDURES
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CONFIDENTIAL Draft

BACKGROUND

Liquefied Natural Gas, (LNG) is a product that is typically created by using a three-step manufacturing process. First, subterranean gaseous-form natural gas is cooled into a liquid state through a complex cryogenic process. The liquid gas is then taken to a facility at temperatures that are as low as 260 degrees Fahrenheit and at atmospheric pressure, where a process known as re-gasification is completed. The gaseous product is then transported via pipeline and sold to the market. The volatility of natural gas in the cooled liquid form is much lower than in its gaseous state and it requires 1/600 the storage space. Tankers transporting LNG maintain the freezing temperature of the product through insulation, not refrigeration. The tankers are double hulled and are specially designed with redundant monitoring systems. LNG has been transported across the oceans for over 40 years with over 40,000 safe voyages covering 60 million miles with no reported significant accidents or safety problems in port or at sea. All of the tankers that deliver LNG to the Distigas Facility in Everett, Massachusetts originate in Trinidad.

After September 11, 2001 and the terrorist attacks in New York City, Washington D.C. and Pennsylvania, the risks involved with the transportation of Liquefied Natural Gas (LNG) caused the United States Coast Guard to modify its transportation plan of LNG to the Distigas Facility. The Captain of the Port of Boston, who is responsible for the safe maritime transportation of the product within his jurisdiction, mandated the modifications.

DISTIGAS TRANSPORTATION STRATEGY

INBOUND: The Distigas Facility in Everett, Massachusetts is located a short distance up the Mystic River from Boston Harbor, just under the Tobin Bridge. The proximity to a major metropolitan area as well as a major highway has influenced the strategy used by the agencies involved in the transportation

security.

The United States Coast Guard (USCG) is the lead agency and controls the transport of a vessel in Boston Harbor. Upon notification of a delivery, the USCG notifies all the other agencies via an operational order, which delineates the time of delivery and also sequence of security activities. Each agency then notifies and deploys appropriate assets. The Massachusetts State Police Criminal Investigative Division deploys two undercover officers well in advance of the tanker's arrival to observe the docking site. These officers stay in position for 24 - 26 hours. In addition, eleven members of the Massachusetts State Police Dive Team inspect the wharf as well as a large section of the bottom of the river each time the tanker is to dock. The underwater inspection is done after the above - mentioned surveillance is set up. A Unified Command Post is set up at the USCG Station, Boston Group, several hours before the arrival of the tanker. The Command Post is made up of high-ranking members of the

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following agencies, USCG, Mass. SP, Boston PD, Environmental Police, and Boston Fire Department.

When the tanker reaches waters approximately two miles from the Harbor, five USCG vessels meet it and establish a 500-yard perimeter or "bubble" around it. The two forward vessels are equipped to ram an offending vessel if needed but are charged with herding suspect vessels away from the hull of the tanker. The two aft USCG vessels are equipped with heavy weaponry and are charged with dismantling a suspect vessel if the forward USCG vessels fail to stop the advance. The fifth USCG vessel is the command vessel (OTC) from where all decisions regarding the security of the transport are made. This vessel is free to move wherever it needs to but generally stays aft of the transport tanker.

Another security "bubble" or perimeter is established at the 1000-yard mark, from the transport tanker. This 1000-yard bubble is comprised of, four Mass. State Police boats (two forward and two aft), one Boston PD boat to the port side, and one Environmental Police boat on the starboard side. These vessels will approach a suspect vessel and attempt to "chase" it from the area. These vessels operate under existing rules of engagement with respect to the use of deadly force previously established by their respective agencies.

In addition to water assets, the Massachusetts State Police has the responsibility to shut down traffic on the Tobin Bridge while the tanker is in close proximity to it. A State Police Helicopter hovers and provides observation from the time the tanker is met outside the Harbor until it is docked. Boston Police Department has the responsibility of closing all adjacent roads and wharfs that lead to the Harbor. There are police units stationed at each of these access points from the time the tanker enters the Harbor to the time it docks, approximately two hours. Boston Police Department estimates that it ties up 20 - 30 members per trip

(Inbound/Outbound).

Boston Fire Department devotes one person to the Unified Command Post but stays at normal operating levels. If there is an incident, Boston Fire has a mutual aid pact with the adjacent towns. The fire departments involved would call for every available asset and would use water and foam to put out the fire.

WHILE DOCKED Security measures fall to the Distigas Facility private security firm the Everett Fire Department as well as the Everett Police Department. Five members of the Everett Police Department maintain a visible presence while the tanker is in port and unloading. The typical offload takes 24 hours or so.

OUTBOUND On the outbound trip, the USCG OTC boat (aft) and one State Police boat (foreword) maintain the 1000-yard perimeter while three USCG boats maintain the 500- yard reaction zone. Additionally, traffic on the Tobin Bridge is reduced to center lanes

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only, but not stopped. Access points are controlled by Boston Police Department, similar to the inbound passage.

DISTIGAS FACILITY

According to Mark Swordinski, the Manager of the Distigas Facility, the tanker is most vulnerable during the transit through Boston Harbor. The potential for harm is the greatest at that stage due to the fact that a tanker holds 33 million gallons of product, is nearly 1000 feet long and is traveling in a channel that is approximately 1200 feet from shore to shore. Once the product is on the grounds of the facility, it is stored in two vertical towers with a total storage capacity of 42 million gallons. The facility has a maximum production capacity of 1 billion cubic feet of gas per day. The site sits on 35 acres and is surrounded by other industrial facilities, with no security buffer between.

The Distigas Facility pays $3.0 million dollars a year in taxes to the Town of Everett, in addition to the expenses mentioned below.

PHYSICAL SECURITY: The Distigas Facility has perimeter security fencing that surrounds the entire facility and is monitored by video cameras. The facility is going to implement a closed circuit TV system in the next few months to enhance the remote surveillance of the fence line. Entry and exit into the faclity is limited to fixed positions and each access point is protected with crash rated vehicle barriers as well as jersey barriers. The facility is also installing scanning technology at each point of entry that will be mounted in the ground that will be integrated with the gate. The scanner is so sophisticated that it has the ability to detect changes in a vehicle's appearance over time and will prevent access if certain parameters are met. The two storage tanks are situated in a secure location

on top of a berm and are monitored by video cameras. According to Mr. Swordinski, the most important system for an LNG facility is an intrusion detection system that will sound an alarm in the event that there is a fence line breach. The Distigas Facility is currently looking to install one of these systems. The facility uses the Federal Code of Regulations as a guide for physical security needs but added that they go way above what is required by either the CFR or the USCG M.T. S.A. regulations. Since September 11, the Distigas Facility has spent $1.5 million in physical security upgrades.

SECURITY PERSONNEL: The Distigas Facility contracts for security services from GUARDSMARK, a private firm. The base line compliment is 9 full time guards and one full time supervisor. Neither the supervisor, nor the guard force is armed at any time. The security force mans the entry points and completes regular security checks pursuant to CFR regulations. When a tanker is docked, the security element increases to 12 full time guards and one supervisor as well as five armed Everett Police Officers. These personnel remain on site until the tanker leaves. In addition, The Facility has direct radio communications with the Police Department. The Distigas contract with GUARDSMARK is $1.2 million a year. The Distigas Facility has paid the Everett Police Department $1.0 million since Sept. 11, 2001 for the five officers detailed per tanker.

FIRE SUPPRESSION: The Distigas Facility has a dual loop fire control system installed at the dock, which has a 6000-pound dry chemical storage capability as well as 3000 gallon a minute salt water pumping capacity. The Facility also has fire suppression equipment in close proximity to the storage towers. In addition, while a ship is at the dock unloading, a fire truck and crew of four is detailed from the Everett Fire Department until the tanker leaves. The Distigas Facility has paid $750,000 since Sept. 11 for the services of the Everett Fire Department.

SUMMARY OF DISTIGAS SECURITY EXPENSES

Physical Security Upgrades Post 9/11 $1.5 Million
Private Security - Guardsmark $1.0 Million / r
Everett Police Department Post 9/11 $1.0 Million
Everett Fire Department Post 9/11 $750,000

TRANSPORT SECURITY COSTS / SUSPICIOUS ACTIVITY

The Distigas Facility has received 102 inbound deliveries since 10/29/O1, making the total trips 204. The Facility expects to increase the trips to 68 inbound per calendar year, 1 trip every six days, starting very soon due to an increased demand for the product.

To date, the Massachusetts State Police Criminal Division has logged 40 - 50 reports of suspicious persons and/or incidents. These situations include foreign

nationals taking pictures of the tanker, security detail and the Tobin Bridge. Foreign nationals have also been seen taking pictures of the container yard, which is at the mouth of Boston Harbor. The State Police only handles complaints that it receives directly and they have no information of additional complaints reported to USCG, the FBI or Boston Police Department.

Although it fluctuates, the financial impact on the Massachusetts State Police has been astronomical. The overtime costs associated with the trips since October 2001 is 1.2 million dollars. This figure does not include operational costs associated with the State Police assets involved. Specifically, the average number of overtime hours per LNG delivery = 231.14 hours at an average cost of $11,960.55 per trip (these figures are for the Massachusetts State Police only // average OT rate for FY 03 04 is $52.50 per hour). Boston Police Department uses existing personnel for their part to defray some of the costs, however specific figures are unavailable at this time.

Distigas is currently negotiating with the State of Massachusetts regarding compensation for State Police assets used for security. Distigas has agreed in principle to compensate the State for a percentage of these services.

PUBLIC SAFETY THREAT DISTIGAS FACILITY

After September 11, Lloyds of London, Shipping Division, inspected the tankers used to transport LNG to the Distigas Facility at the request of the Federal Government in the interest of assessing the realistic threat of a hull breach. Distigas has been told, as a result of this inspection, that to cause the hull a catastrophic failure, the equivalent force caused from an anti-ship missile would be required. An RPG or shoulder fired rocket may be successful in breaching the exterior hull, but it would not be successful in igniting any product. An anti-ship missile is so large that it would have to be moved on a trailer. In the event of a hull breach, the product will burn at an incredibly high temperature.

Representatives from the Boston Fire Department, Massachusetts State Police as well as the United States Coast Guard were asked their impressions with respect to the realistic threat to public safety. All three of the agencies had an understanding that the likelihood of a hull breach was unlikely, however; they did report that the threat from fire is their primary concern. They advised that LNG burns at an extremely high temperature and if left unchecked will cause the hull of the tanker or the structure of Tobin Bridge, to melt. If an impact large enough to puncture the hull were possible, the impression is that the product would pour out in liquid form, most likely freezing everything around it. If a secondary ignition source was present , however, the LNG could ignite and would burn.

They advised further that if the product were in its gaseous form and/or a large amount of fumes were present with an ignition source an explosion could result. A

member of the State Police Dive Team told me that they have been advised by Federal Explosive Ordinates Officials that the amount of explosive necessary to rupture the hull of the ship from an underwater detonation would be approximately the size of a small passenger car.

A fire of the size that is possible from the 33 million gallons of product on board a tanker would be a significant risk to the metropolitan area around the Harbor. Of greater concern, according to the representatives that we spoke to, is the possibility that the hull could be ruptured and then the tanker would sink to the seafloor. The commercial flow of traffic through the Harbor would be obstructed which would have a devastating financial impact. In addition, the environmental impact from such a sinking as well as the logistical challenge of removing the hull would be immense. Boston Fire Department reported that they are trying to upgrade their fire boat to increase their pumping capacity. The Department feels that their current capacity is not adequate.

SECURITY EFFECTIVENESS

Several members of the Massachusetts State Police were asked about their comfort level with the current security protocols in regard to the effectiveness of threat mitigation. The opinion voiced was that it is impossible to know specifically what deterrent effect the protocols have had. However, what can be said conclusively is that there have been no incidents of terrorism or other mishaps since the protocols were put in place. When asked about the effectiveness of the two undercover officers who provide

surveillance of the wharf, a representative stated that no one dared to pull the officers off the detail.

When asked about emergency evacuation procedures and plans, the collective understanding was that emergency evacuation of the greater metropolitan area would be conducted pursuant to existing plans. The lead agency would be M.E.M.A. and each agency has an established role in the overall plan developed by M.E.M.A.

From the perspective of the Distigas Facility, according to Mark Swordinski, the current transportation security protocol is prudent and effective with the exception of the shutdown of access points to Boston Harbor by Boston Police Department and the shutdown of the Tobin Bridge. Mr. Swordinski feels that these measures are an unnecessary inconvenience to the public. With respect to the access points, Mr. Swordinski feels that the relative size of required explosive is so large that normal law enforcement operations would probably notice it and, therefore, the shut down of the Harbor access points is unnecessary. Additionally, Mr. Swordinski does not see the utility of shutting down the Tobin Bridge.

Mr. Swordinski reported that since September 11, 2001, there have been NO suspicious incidents or persons located at their facility. Mr Swordinski feels that the facility is secure.

FAIRWINDS PROJECT DESCRIPTION HARPSWELL

The "Fairwinds" proposal calls for a re-gasification facility with an initial terminal design capable of processing 500 million cubic feet of gas per day. The facility would sit on approximately 70 acres of land and LNG tankers would arrive every four to nine days. LNG would be stored in two towers, each tower would be 120 feet tall and 240 feet in diameter. The facility would be one of five re-gasification facilities in the United States, the closest being in Everett, Massachusetts. The terminal will be designed to receive tankers that can carry up to 200,000 cubic meters of product. The Fairwinds Project would be a direct competitor to Distigas, as they would be supplying the same market.

The economic impact projected for the immediate area as a result of the $350 million dollar Fairwinds project is as follows:

CONSTRUCTION PHASE

900 construction jobs during the three years of construction
$500,000 / yr into a community investment fund
$6 million dollars / yr lease and property tax payments

OPERATION PHASE

50 high skilled jobs to support operation

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50 acres of shore land donated to the Town of Harpswell for recreational use, $3.0 million allocated for this purpose.
$12 - 13 million / yr in corporate, personal income and sales tax
$3 5 million / yr direct and indirect spending
490 indirect jobs

PROJECT TIMELINE:

Sept. 18 -Dec. 16: Information dissemination and public meetings
Mid-December: Town Vote on project approval
2004-2005: Federal and State permitting process
2006-2009: Project construction
2009: Project startup

FACILITY COMPARISON

Acreage
Distigas 35
Fairwinds 70*
Storage capacity
Distigas 42 million gallons
Fairwinds
Storage tanks
Distigas 2
Fairwinds 2*
Daily production capacity
Distigas 1 billion cubic feet
Fairwinds 500 million cubic feet*
Full time employees needed for operation
Distigas 49
Fairwinds 50*
On site security - non-delivery
Distigas 10 (1 supervisor)
Fairwinds n/a
On site security - delivery
Distigas 12 (1 supervisor) plus 5 armed Everett Police
Fairwinds
Delivery Schedule
Distigas 1/seven days
Fairwinds 1 / four to nine days
Municipal Expenses
Distigas $3.0 million taxes/yr
Fairwinds $8.0 million lease fee / yr
* Indicates current projection from Fairwinds Publication*

PUBLIC SAFETY AGENCY IMPACT - FAIRWINDS

UNITED STATES COAST GUARD: The specific transportation security plan needed for the proposed site in Harpswell, and the subsequent state and local public safety agency involvement, will depend on the United States Coast Guard's recommendations. Lt. Ron Pigeon of the United States Coast Guard Marine Security Office, Portland, Maine said that specific decisions have not been made yet with respect to the operational plan. Lt. Pigeon did say that the 500 yard and 1000 yard perimeters are being heavily considered, as are other devices like protective booms at the facility. Lt. Pigeon said that it is impossible to assess the potential financial impact to state agencies

at this point due to the fact that the composition of the perimeters has not been - established. Due to the locality and route of travel, it is possible that many fewer boats will be needed to maintain the perimeters than is seen in the Massachusetts

model. In addition, the need for air assets may be reduced due to the locality involved in the projected site and the need for divers to check the site is still being considered.

Lt. Pigeon said that specific plans would not be developed until the site location is definite, schedule in place and travel routes established. Lt. Pigeon stated that according to what he has heard, the delivery schedule being proposed is nearly constant with a delivery coming every four days. Lt. Pigeon is not aware of what fire suppression infra structure exists in the Harpswell area but added that Federal Law would require the Facility to maintain this capability at an adequate level regardless of the Town.

When asked what state resources would be used to assist the USCG in the establishment of the safety perimeters during a transport, Lt. Pigeon stated that no decisions have been made, but added that the USCG is in the process of coming to an agreement with the Maine State Marine Patrol to provide law enforcement services in maritime security zones. Lt. Pigeon added that the proposed delivery schedule would require a long-term commitment on any agency with a part in the plan. Lt. Pigeon can he reached at the M. S-0. office in Portland at 780-3092.

MAINE MARINE PATROL: Major John Fetterman, of the Maine State Marine Patrol, is familiar with the Fairwinds proposal and has tried to assess the potential impact on the Marine Patrol. The impact is hard at this stage to assess with any degree of accuracy due to the fact that the USCG has not made any firm decisions regarding several issues. However, the Marine Patrol currently provides law enforcement services in security zones in an informal agreement with the USCG. It is from a review of these current operations that a preliminary assessment is possible.

According to Major Fetterman a formal memorandum of understanding between the two agencies has been proposed and is in the final stages of being adopted. The MOU is significant in that it provides a mechanism for the USCG to re-imburse the Maine Marine Patrol for services that it provides at the request of the USCG. In addition, the Marine Patrol would operate under USCG rules of engagement while operating in the security zones, at the request of the USCG. This MOU became possible due to a recent law change at the state level and is the first type agreement in the United States.

If the MOU were approved, it stands to reason that the Maine Marine Patrol will have a substantial role in the security apparatus needed for each tanker transport. In addition, Major Fetterman indicated that the USCG does not have ample resources for this type of operation currently in Maine and has been the norm with past operations, will ask that the Maine Marine Patrol to assist. Major Fetterman indicates that he feels that the rate of deliveries to the Fairwinds Facility would require a full time crew of Marine

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Patrol personnel at the site. Major Fetterman felt that the Marine Patrol would need an increase of 12 men to handle the additional responsibilities. In addition, Major Fetterman indicated that the Marine Patrol would need three additional vessels added to the current fleet. The estimated cost on these three 27 foot Boston Whalers would be $1.0 million dollars. Major Fetterman indicated that his agency has always relied upon the Maine State Police Tactical Team to provide tactical services and he sees a role for the Tactical Team in this operation as well.

Major Fetterman is hopeful that the State of Maine will attempt an agreement with PhillipsConoco regarding re-imbursement for State assets / services.

MAINE STATE POLICE: Lt. Raymond A. Bessette, the Commander of the Maine State Police Dive Team, has indicated that if the Massachusetts model was adopted for the project in Harpswell, relative to dive operations, there would be a need for an increase in team membership. The current team is comprised of 7 State Police members and it costs approximately $5,000 to outfit each member. The number of divers on the team would have to be increased to support the delivery schedule. The size of increase needed will depend on site - specific information, such as current, dock position and size of security sweep area. This type of information will not be available until the site development process is further along.
Other entities of the Maine State Police such as the local Field Troop or the Tactical Team may be impacted but until an operation plan is developed, the extent of the impact is impossible to determine.

In addition, local agencies that provide environmental clean up/ monitoring, police, fire and emergency evacuation services would obviously be impacted as well and would have to assess the potential impact to their respective agencies.

FEDERAL REGULATIONS

Some of the relevant Federal Codes are summarized below:
The Code of Federal Regulations, Title 49, Volume 3, Part 193-Liquefied Natural Gas Facilities: Federal Safety Standards provides mandates with respect to facility construction, operation and safety procedures.

EMERGENCY PROCEDURES

Sec. 193.2509 Emergency Procedures deals with emergency procedures and it does mandate that the Facility:
l.) Respond to controllable emergencies, including notifying personnel and using equipment appropriate for handling the emergency.

Recognize an uncontrollable emergency and take action to minimize harm to the public and personnel, including prompt notification of appropriate local officials of the emergency and the possible need for evacuation of the public in the vicinity of the LNG plant.

Coordinate with appropriate local officials in preparation of an emergency evacuation plan, which sets forth the steps required to protect the public in the event of an emergency, including catastrophic failure of an LNG storage tank.

Cooperate with appropriate local officials in evacuations and emergencies requiring mutual assistance and keeping these officials advised of
i.) The LNG plant fire control equipment, its location, and the quantity of units located throughout the plant.
ii.) Potential hazards at the plant, including fires;
iii.) Communication and emergency control capabilities at the LNG plant

SECURITY PROVISIONS:

Sec. 193.2709 Security
Personnel having security duties must be qualified to perform their assigned duties by successful completion of the training required under Sec. 193.2715.

Sec. 193.2903 Security procedures.
Each operator shall prepare and follow one or more manuals of written procedures to provide security for each LNG plant. The procedures must be available at the plant in accordance with

Sec. 193.2017 and include at least:
(a) A description and schedule of security inspections and patrols performed in accordance with Sec. 193.2913;
(b) A list of security personnel positions or responsibilities utilized at the LNG plant;
(c) A brief description of the duties associated with each security personnel position or responsibility;
(d) Instructions for actions to be taken, including notification of other appropriate plant personnel and law enforcement officials, when

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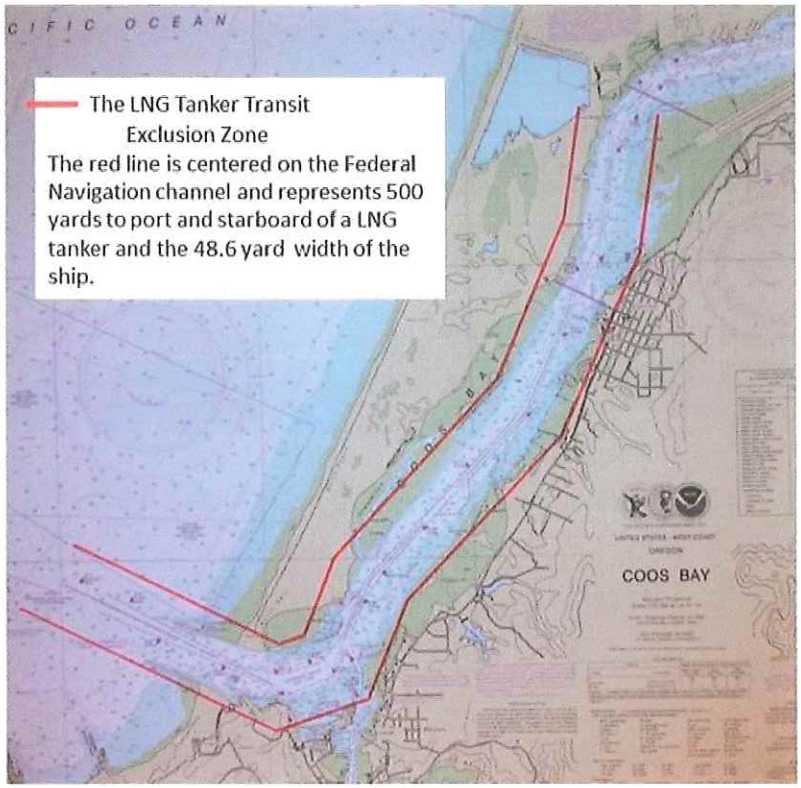
there is any indication of an actual or attempted breach of security;
(e) Methods for determining which persons are allowed access to the LNG plant;
(f) Positive identification of all persons entering the plant and on the plant, including methods at least as effective as picture badges; and
(g) Liaison with local law enforcement officials to keep them informed about current security procedures under this section.

Sec. 193.2909 Security communications.

A means must be provided for:
(a) Prompt communications between personnel having supervisory security duties and law enforcement officials; and
(b) Direct communications between all on-duty personnel having security duties and all control rooms and control stations.

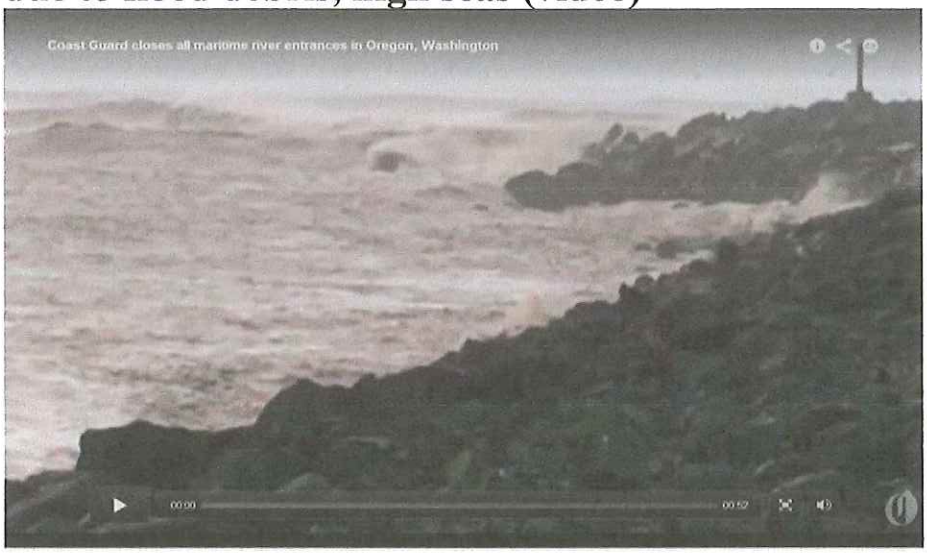
Sec. 193.2913 Security monitoring.
Each protective enclosure and the area around each facility listed in Sec. 193.2905(a) must be monitored for the presence of unauthorized persons. Monitoring must be by visual observation in accordance with the schedule in the security procedures under Sec. 193.2903(a) or by security warning systems that continuously transmit data to an attended location. At an LNG plant with less than 40,000 m3 (250,000 bbl) of storage capacity, only the protective enclosure must be monitored.

Sec. 193.2911 Security lighting.
Where security warning systems are not provided for security monitoring under Sec. 1932913, the area around the facilities listed under Sec. 193.2905(a) and each protective enclosure must be illuminated with a minimum in service lighting intensity of not less than 2.2 lux (0.2 ft) between sunset and sunrise.


C I F I C O C E A N
The LNG Tanker Transit Exclusion Zone
The red line is centered on the Federal Navigation channel and represents 500 yards to port and starboard of a LNG tanker and the 48.6 yard width of the ship.
COOS BAY

http://www.oregonlive.com/pacific-northwest-news/index.ssf/2015/12/coast_guard_closes_all_maritim.html

Coast Guard closes all maritime entrances in Oregon, Washington due to flood debris, high seas (video)



Coast Guard closes all maritime river entrances in Oregon, Washington. Tillamook Bay was choked with storm runoff and debris this week. The color of the surf turned chocolate brown.

By Stuart Tomlinson | The Oregonian/OregonLive
on December 11, 2015

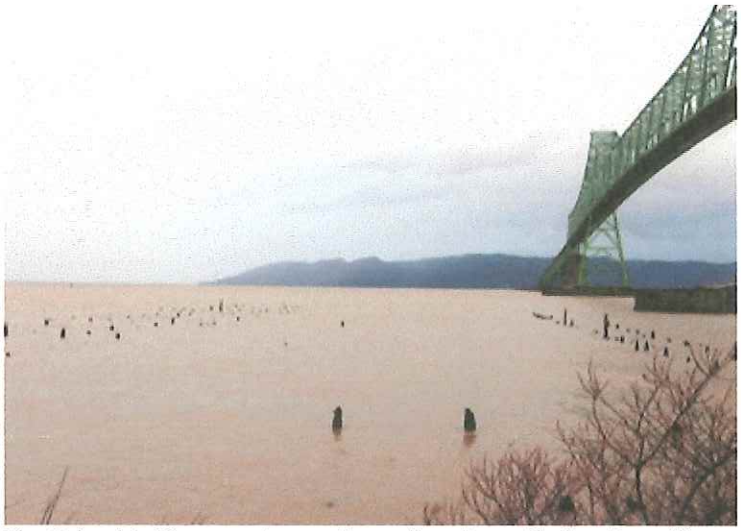
The U.S. Coast Guard has shut down all maritime entrances in the Pacific Northwest due to high seas and the large amount of debris in the water from 5 days of heavy rain.

Officials said the Oregon ports closed to all traffic are the ports of Chetco River in Brookings; Coos Bay; the Umpqua River in Winchester Bay; the Siuslaw River in Florence; Yaquina Bay in Newport; Depoe Bay; Tillamook Bay in Garibaldi; and the Columbia River at Astoria.

The ports of Grays Harbor in Westport and the Quillayute River in LaPush are also closed.

"My job as a Captain of the Port is to ensure safety throughout the maritime infrastructure and part of that is to sometimes close the lanes of traffic that mariners use," said Capt. Dan Travers, commander Sector Columbia River and Captain of the Port for all ports in Oregon and Southwest Washington. "The storms that we all experienced over the last several days have made it dangerous for mariners to transit in and out of our many rivers due to severe sea conditions and debris."

On Wednesday at Tillamook Bay, the surf was chocolate brown and choked with floating debris. By Thursday, more powerful surf had pushed all that frothing debris back into the bay, replaced by high surf and blue water.



The Columbia River runs brown from silt and runoff after days of heavy rainfall in Astoria Friday. Heavy rains and flooding can cause excess debris to be washed into the river creating hazards to navigation for mariners in the area. *Petty Officer 3rd Class Jonathan Klingenberg*

"It's not rare at all to close the ports," said Coast Guard spokesman, Petty Officer 1st Class Levi Read. "The closures usually come with heavy sea conditions and the ships can't get out. The reason for this closure in addition to the heavy seas is because of the amount of the debris."

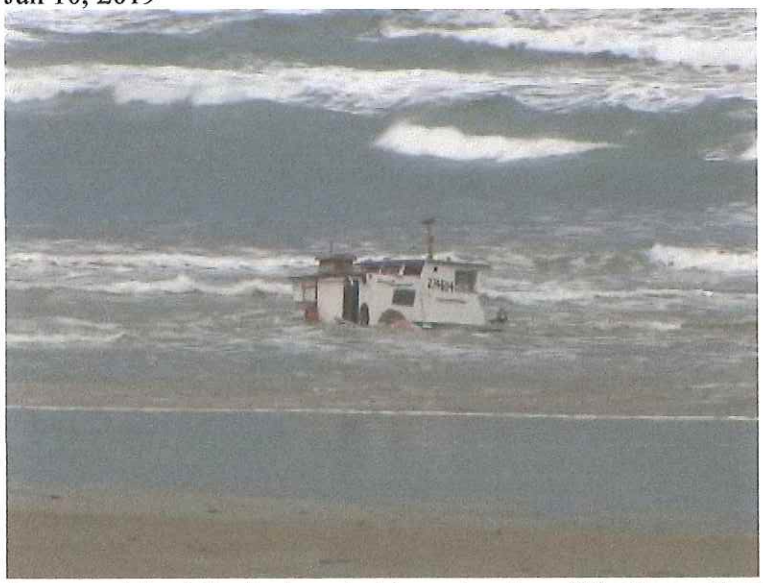
For updated river entrance observations and conditions visit the NOAA Western U.S. Bar Observation site.

https://theworldlink.com/lifestyles/food-and-cooking/dead-after-commercial-crabbing-vessel-capsizes-off-oregon/article_81b0bf8c-1e7c-51cb-a425-b25a96f39f45.html

3 dead after commercial crabbing vessel capsizes off Oregon

By GILLIAN FLACCUS Associated Press

Jan 10, 2019



A commercial crabbing boat capsized in rough waters off the Oregon Coast, killing the three men aboard. The U.S. Coast Guard said the vessel, the Mary B. II, overturned about 10 p.m. Tuesday as it crossed Yaquina Bay bar in Newport, Oregon. (Jan 10)

In this Jan 9, 2019 photo provided by the U.S. Coast Guard, a U.S. Coast Guard boat crew responds to three fishermen in the water after the commercial fishing vessel Mary B II capsized while crossing Yaquina Bay Bar off the coast of Newport, Ore. Authorities say three men were killed when their fishing boat capsized in rough waters off the Oregon coast. (U.S. Coast Guard via AP)

This Jan 9, 2019 photo provided by the Oregon State Police shows authorities in Newport, Ore examine the wreckage of the Mary B. II, a commercial crabbing vessel that capsized while crossing the Yaquina Bay Bar off the coast of Newport, Ore. Three crew members died in the accident. (Oregon State Police via AP)

PORTLAND, Ore. (AP) — A commercial crabbing boat capsized in rough waters off the Oregon coast, killing the three men aboard and sending a shock wave through a seafaring community already struggling from a monthlong delay to the annual crabbing season.

The U.S. Coast Guard said the vessel, the Mary B. II, overturned about 10 p.m. Tuesday as it crossed Yaquina Bay bar in Newport, Oregon. The bar is one of the most notorious off the Oregon coast, and authorities said crews faced 12- to 14-foot (3.6- to 4.2-meter) waves as they tried to rescue the fishermen.

The men had called for an escort across the bar and a responding Coast Guard boat was nearby when the crabbing boat capsized "without warning," the Coast Guard said Wednesday evening in a news release. The Coast Guard is investigating the incident.

James Lacey, 48, of South Toms River, New Jersey, was pulled from the ocean by helicopter and flown to a local hospital, where he was pronounced dead. The body of Joshua Porter, 50, of Toledo, Oregon, washed up on a beach early Wednesday.

The body of the boat's skipper, Stephen Biernacki, 50, of Barnegat Township, New Jersey, was found on the hull of the boat after it, too, washed up on a jetty.

The tragedy was nothing new for Newport, a working fishing port about 130 miles (210 kilometers) southwest of Portland on Oregon's central coast. The small town hosts a granite memorial at Yaquina Bay etched with more than 100 names of local fishermen lost at sea over the past century and shared tragedies are woven into the fabric of the community.

"It happens frequently enough that we actually have funds that help families during this time. We fundraise all year long, and we try to help them as much as we can," said Taunette Dixon, president of the nonprofit Newport Fishermen's Wives, which supports families who have lost a breadwinner to the waves.

But those in the industry said the loss hit particularly hard this year, when crabbers were rushing to sea to try to catch up after the annual Oregon Dungeness crab season was delayed more than a month. The season usually begins Dec. 1, but this year it only began last week because the crabs were too small and didn't have enough meat to harvest.

Then, a series of bad storms in the first week of the season prevented many crabbers from recovering their pots on Jan. 4, the first day they could do so, said Tim Novotny, spokesman for Oregon Dungeness Crab Commission.

"When they did get out, some of them had to stay out a little longer because of the weather. The difficulty is once you're out at sea, they can handle a lot of conditions. But the trouble is trying to get back across those bars," Novotny said.

A bar is an area near the coast where a river — in this case the Yaquina River — meets the sea. The force of the river water colliding with the ocean can create hazardous currents and swells, particularly during a storm. The Yaquina Bay bar is considered one of the more dangerous ones along the Oregon coast. On Wednesday, reports showed waves 16 feet (nearly 5 meters) tall there.

It's so treacherous that the dangers of crossing it with a fully loaded crab boat were the premise of a spin-off of the "The Deadliest Catch," a reality TV show about commercial fishermen that aired on the Discovery channel.

"The fishermen and their families know all too well, unfortunately . that that danger is real. They accept the challenge because they love what they do," Novotny said. "It's part of who they are and what they do."

The appeal also lies in the money that the succulent Dungeness crabs can bring.

Live Oregon Dungeness crabs are currently selling for anywhere between $5.99 a pound and $11.99 a pound, depending on location, and they are a staple of the holidays for many on the West Coast. The crabs are also fished in California and Washington.

Crabbing permits are capped at 424 vessels spread over six major ports running the length of the Oregon coast, from Astoria in the north to Brookings near the California border. Three-quarters of the harvest is brought in in the first eight weeks of the season, which usually runs from December to August.

The 10-year average haul for Dungeness crab in Oregon is 16 million pounds, but last year crabbers brought in 23 million pounds. That haul was worth more than $74 million at the docks and pumped $150 million into the state and local economy, Novotny said.

Follow Gillian Flaccus on Twitter at http://www.twitter.com/gflaccus

https://www.cbsnews.com/news/dungeness-crab-fishing-boat-capsizes-yaquina-bay-3-dead-dungeon-cove-deadliest-catch/

Dungeness crab fishing boat capsizes in Oregon, killing 3

UPDATED ON: JANUARY 9, 2019 / 11:37 AM / CBS/AP

Newport, Ore. -- A commercial fishing boat capsized in rough waters off the Oregon coast, killing three men aboard. The U.S. Coast Guard said the vessel, the Mary B. II, overturned about 10 p.m. Tuesday as it crossed Yaquina Bay Bar in Newport, Oregon.

Authorities say crews faced 12- to 14-foot waves during the initial response as they tried to rescue the fishermen. The USCG Pacific Northwest posted an image of the rescue effort. *View image on Twitter*

The perils of vessels catching crabs in the area are featured on the Discovery TV series "Deadliest Catch: Dungeon Cove." There were initial reports that the ship was featured in the show but a synopsis of episodes doesn't mention the boat.

The Coast Guard pulled one fisherman from the sea Tuesday, and the man later died. Authorities say a second body washed ashore after midnight and the third body was found on the hull of the boat.

Identities have not been released.

"We did everything we could. Unfortunately, it was just a tragic outcome and our hearts and thoughts are with the family and friends of the crew," said Petty Officer Levi Reed with the U.S. Coast Guard, according to CBS affiliate KPIC-TV.

Newport is about 130 miles southwest of Portland.

CBS affiliate KOIN-TV reports the coast will continue to see dangerous and choppy water through Wednesday night as wind gusts remain around 40 miles per hour for majority of the day.

Exhibit 17

http://thefacts.com/story.lasso?ewcd=f482d0ca682cb716

Coast Guard preparing for port shutdowns

By Hunter Sauls
The Facts

Published April 14, 2008

FREEPORT — It was evident as U.S. Coast Guard sailors prepped their 41-foot patrol boat that they've done it many times before.

Cruising out into the heart of Freeport's shipping arteries — the busy intersection of the Intracoastal Waterway and the jetty channel — the sailors are enjoying the calm before the storm. The first liquefied natural gas ship will soon cruise in and change life in the harbor for years to come.

Each time a ship crawls into the harbor, water-borne authorities like the Coast Guard will shut down all boat traffic in a 1,000-meter radius. Petty Officer Second Class Richard Ahlers said it probably will take up to three hours for the boat and its security perimeter to pass through in the first arrivals. As ship captains and Coast Guard sailors become more accustomed to the process, it will be quicker, he said.

"Once they start doing them more, it will take less time," Ahlers said.

Surfside Beach Mayor Jim Bedward said the village boat ramp, once it opens, will be closed as the ships pass. City Hall will get a 92-hour warning of the oncoming ships but will keep knowledge of the high-security vessels' arrival to themselves — for obvious reasons.

When the facility is at capacity, a ship will arrive every three to four days, Freeport LNG terminal manager Steven Arbelovsky said. But that kind of frequency is unlikely in the foreseeable future because LNG ships are going to greener pastures such as Asia, where the price of LNG is double what it is in the United States, Arbelovsky said.

"That's the way it looks right now," Arbelovsky said.

Regardless of the ships' timetables, Coast Guard sailors would appreciate every fisherman and recreational boater taking note of the new security zone around Freeport LNG. An invisible line now extends from a shoreline sign that reads "SECURITY ZONE KEEP OUT" to its counterpart on the other side of the site's channel entrance.

"There's the sign," Ahlers said as he pointed to the shore. Encroaching on the Freeport LNG waters could earn a hapless boater an unpleasant visit by armed sailors.

"This used to be a pretty popular fishing spot," Ahlers said as the patrol boat cruised past the towering blue pipes which will draw precious cargo into the site's tanks. "Not anymore."

Chief Warrant Officer Bee Perry, the commanding officer of the Coast Guard's Freeport Station, recognizes most boaters are just becoming aware of the new landscape on the water. He said his sailors have pulled over boaters on the wrong side of the invisible line and politely warned them of their error,

giving them a map showing the locations of the area's three now-forbidden zones.

Petty Officer Second Class John Willis said he's looking forward to new blood at the Freeport Station, extra hands to carry the patrol load. He said they'll have heavier patrol shifts to watch the channel.

"We've been gearing up for this for some time," Willis said.

Hunter Sauls covers Freeport for The Facts. Contact him at (979) 237-0153.

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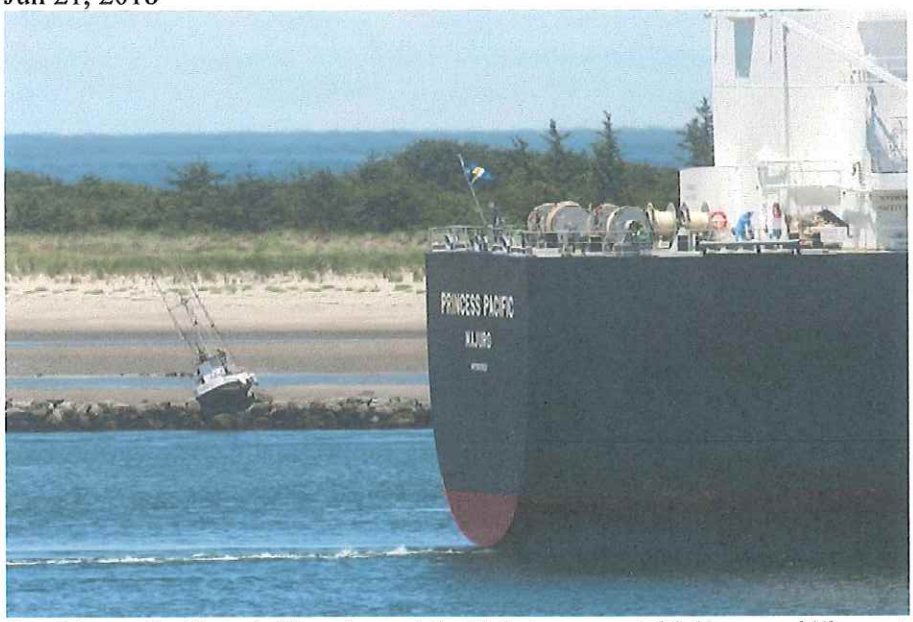
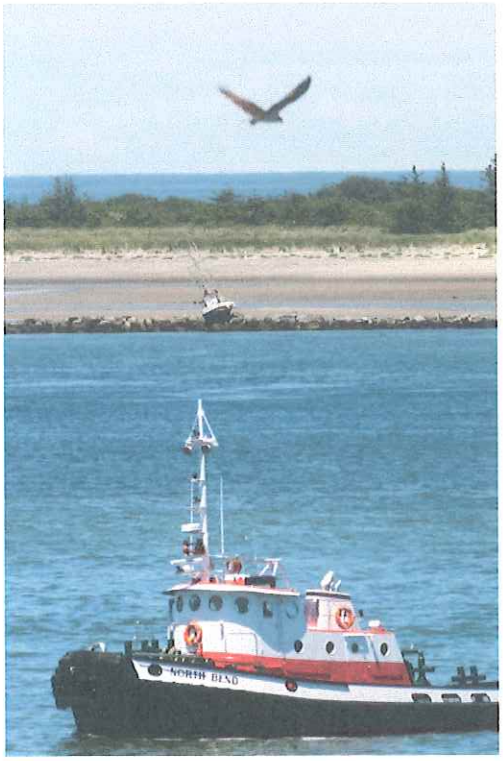
https://theworldlink.com/news/local/fishing-vessel-runs-aground-on-the-north-spit-after-losing/article_e90717d9-613b-5201-9823-bcec642599fa.html

Fishing Vessel runs aground on the North Spit after losing power

NICHOLAS A. JOHNSON - The World
Jun 21, 2018



The Princess Pacific tacks Thursday past the 28-foot commercial fishing vessel Kluane stranded on the North Spit since early Tuesday morning , The vessel lost power and drifted aground onto Cribs Jetty.
Photo by Ed Glazar – The World



COOS BAY — Around 5 a.m. Tuesday morning, a 28-foot commercial fishing vessel known as the Kluane lost power on its way out to sea and ran aground at low tide on the North Spit.

After the vessel lost power it drifted into a rocky area of the North Spit known as the Cribs Jetty. The tide going out caused the vessel to sustain significant hull damage and become stuck.

"The vessel apparently lost power and drifted up onto the rocks where it became lodged on the Cribs Jetty. The tide went out and it wasn't able to get off of the rocks," commanding

officer at Coast Guard Station Coos Bay Kary Moss said.

A Coast Guard team from Astoria has already come down to clean up environmental concerns associated with the wreck.

"Sector Columbia River opened up a federal fund and contracted to have all of the diesel fuel, oils, and pollutants removed from the vessel so that there is no environmental hazard," Moss said.

Shortly after the vessel became stuck the owner decided to wait until the next high tide to try and maneuver the boat free. However, the Coast Guard deemed that to be an unsafe operation.

"We asked him to get off the boat because we felt like it was an unsafe situation… He had a friend of his come and pick him up off the boat. We had a couple of our assets standing by in case we were needed," Moss said.

The Coast Guard does not remove vessels in these situations. It is up to the owner to have it removed.

"It's up to the owner to submit an approved salvage plan to the captain of the port up in Columbia River, but I don't know if that's going to happen," Moss said.

Exhibit C

From: Springer, Laura M LCDR/U.S. Coast Guard
Sent: Tuesday, May 15, 2018 12:39 PM
To: Jody McCaffree
Cc: Crowell, Ben W LCDR/U.S. Coast Guard; Griffitts, Thomas CAPT/U.S. Coast Guard; Dunn, Brian/U.S. Coast Guard
Subject: RE: [Non-DoD Source] FW: Connecting re Jordan Cove LNG Export Project

Good Day,
Thank you for your concern, the Letter of Recommendation is the USCG's input into this process and FERC is the final permitting authority. The draft Environmental Impact Statement will be put out for comment and FERC welcomes these comments (www.FERC.gov & docket #CP17-495-000).

I have made record of your comments. Please remember to include them and any additional comments when FERC issues their draft EIS. Also, please note that a limited access area (safety zone) has not yet been determined for this project and if drafted will be put out for public comment.

Respectfully,
LCDR L.M. Springer

From: Dunn, Brian/U.S. Coast Guard
Sent: Tuesday, May 15, 2018 12:16 PM
To: Jody McCaffree
Cc: Springer, Laura M LCDR/U.S. Coast Guard; Crowell, Ben W LCDR/U.S. Coast Guard
Subject: FW: [Non-DoD Source] FW: Connecting re Jordan Cove LNG Export Project

Ms. McCaffree,

The Coast Guard point of contact is LCDR Laura Springer at Marine Safety Unit Portland. I have copied her, so she will have the information you have provided. She can be reached by e-mail at [redacted] or by phone at [redacted].

Brian L. Dunn
US Coast Guard Bridge Program (CG-BRG)
[redacted]

From: Jody McCaffree
Sent: Monday, May 14, 2018 12:11 PM
To: Springer, Laura M LCDR/U.S. Coast Guard
Subject: FW: Connecting re Jordan Cove LNG Export Project
Attachments:
LNG Hazard Zones of Concern FEIS 4.7-3 Revised -3 (4).pdf (224KB);
029FERC_Exb32_Explosive-LNG-issues-grab-PHMSA-attent.pdf (621KB)

FYI…

From: Jody McCaffree
Sent: Monday, May 14, 2018 12:06 PM
To: Springer, Laura M LCDR/U.S. Coast Guard
Cc: Dunn, Brian/U.S. Coast Guard; Crowell, Ben W LCDR/U.S. Coast Guard; Jody McCaffree
Subject: FW: Connecting re Jordan Cove LNG Export Project
Attachments:
LNG Hazard Zones of Concern FEIS 4.7-3 Revised -3 (4).pdf (224KB);
029FERC_Exb32_Explosive-LNG-issues-grab-PHMSA-attent.pdf (621KB)

Please advise as to who is currently handling LNG hazards and the safety and security of the Jordan Cove LNG for the Coast Guard because I get tired of constantly sending this information over and over again only to be ignored.

Sincerely,

Jody McCaffree
PO Box 1113
North Bend, OR 97459
[redacted]

From: Jody McCaffree
Sent: Monday, May 14, 2018 11:10 AM
To: 'Laura.M.Springer@uscg.mil'
Subject: Complaint - Request for LNG Hazard contact person

Dear Lt. Cmdr. Laura Springer:

I just read your announcement regarding the Coos Bay being suitable for the Jordan Cove LNG project. This should be shocking news to the general public. We would like to know what you did with the July 1, 2008 Coast Guard assessment and how without any real changes to the Coos Bay channel you now are ignoring your prior recommendations for safety and security? Why is the Coast Guard ignoring the gas industries SIGTTO recommendations for the safe siting of LNG facilities? Why are you ignoring the FAA's May 7, 2018 thirteen (13) determinations of *Presumed Airport Hazards* with respect to the Jordan Cove Project? The FAA determined Jordan Cove's ships are a hazard but the Coast Guard has not? Amazing! Why would you place so many school children in harm's way in the Coos Bay area? Why would you put our airport at such risk?

Your recent announcement states that the Coast Guard received official notification January 9, 2017. That is not exactly true and the Coast Guard should offer a retraction. This project has been in the works since 2004. Jordan Cove submitted a Letter of Intent, pursuant to 33 C.F.R. § 127.007, and a Waterway Suitability Assessment ("WSA") for its original LNG import project in April 2006. The U.S. Coast Guard ("USCG") issued a Water Suitability Report on July 1, 2008, and provided a Letter of Recommendation on April 24, 2009. On December 28, 2012, JCEP submitted an amended and updated Letter of Intent to the USCG for the prior export project proposal under Docket No. CP13-483. On August 5, 2016, the USCG accepted the annual 2015

review of the WSA update as an LNG export project. Jordan Cove submitted the 2016 annual update of the WSA to the USCG on November 23, 2016.

I did my best to try to talk with Coast Guard personnel at Jordan Cove's latest round of Open Houses held on Tuesday, March 21, 2017 at the Mill Casino in North Bend. It was obvious from those conversations that the current Coast Guard personnel were not interested in what I had to say and for the most part were pretty much clueless about LNG hazards.

I suggest you include the general public and non-biased LNG hazard experts in with your consultations before you decide whether something is safe or not. We do not need another New Carissa fiasco like the Coast Guard created in 1999. Only this time it would be far, far worse.

I would like to know who is in charge of LNG hazards for the Coast Guard and where I might be able to file an official complaint. As a cooperating agency with the FERC you should really be paying attention to what has been filed under the current FERC dockets for Jordan Cove (CP17-495-000; CP17-494-000; and PF17-4-000)

I have asked to be notified concerning these matters in the past but to date I have yet to receive any notifications from the Coast Guard.

Sincerely,

Jody McCaffree
PO Box 1113
North Bend, OR 97459
[redacted]

From: Jody McCaffree
Sent: Monday, November 20, 2017 11:46 AM
To: Brian Dunn/U.S. Coast Guard
Cc: Crowell, Ben W LCDR/U.S. Coast Guard
Subject: Connecting re Jordan Cove LNG Export Project

To: Brian Dunn United States Coast Guard [redacted]

Dear Mr. Dunn:

I came across your contact information in a letter that the Federal Energy Regulatory Commission (FERC) sent out on October 12, 2017 under Accession No. 20171012-3062. I do not know if you are the Coast Guard personnel responsible for overseeing the safety and security of the Jordan Cove LNG export project or not but I am passing along the following information sent on the 18th to Lieutenant Commander Crowell. These issues along with others are critical and must be thoroughly addressed with respect to the proposed Jordan Cove LNG export project before that project is allowed to proceed.

I look forward to discussing these and other important matters with you.

Sincerely.

Jody McCaffree
PO Box 1113
North Bend, OR 97459
[redacted]

From: Jody McCaffree
Sent: Saturday, November 18, 2017 11:23 AM
To: Crowell, Ben W LCDR/U.S. Coast Guard
Subject: Connecting re Jordan Cove Charleston Fire Station Meeting

Dear Lieutenant Commander Crowell:

I connected with you yesterday at the Jordan Cove Charleston Fire Station meeting and presentation.

At yesterday's presentation, Peter Schaedel, Jordan Cove's marine director from their Houston Office, stated that the Coast Guard would be handling all the safety and security for LNG transits in and out of the Coos Bay, including safety along the shoreline. Several things that Mr. Schaedel stated were not true and I would like to be in communication with the current contact in the Coast Guard who is handling all the safety and security for the proposed Jordan Cove LNG vessel transits. There are safety concerns that need to be addressed before Jordan Cove is given the green light in any way.

According to a September 9, 2003 CRS Report for Congress titled, "*Liquefied Natural Gas (LNG) Infrastructure Security: Background and Issues for Congress*,"[1] by Paul W. Parfomak, Specialist in Science and Technology Resources, Science, and Industry Division:

Page CRS-17:

> *...The Coast Guard Program Office estimates that it currently costs the Coast Guard approximately $40,000 to $50,000 to "shepherd" an LNG tanker through a delivery to the Everett terminal, depending on the duration of the delivery, the nature of the security escort, and other factors.*[2] ***State and local authorities also incur costs for overtime police, fire and security personnel overseeing LNG tanker deliveries. The state of Massachusetts and the cities of Boston and Chelsea estimated they spent a combined $37,500 to safeguard the first LNG shipment to Everett after September 11, 2001.***[3] ***Based on these figures, the public cost of security for an LNG tanker shipment to Everett is on the order of $80,000, excluding costs incurred by the terminal owner...***

On July 1, 2008, the Coast Guard completed a review of the Waterway Suitability Assessment (WSA) for the Jordan Cove Energy Project and **determined that the Coos Bay was not**

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[1] http://www.au.af.mil/au/awc/awcgate/crs/rl32073.pdf
[2] U.S. Coast Guard, Program Office. Personal communication. August 12, 2003. This estimate is based on boat, staff and administrative costs for an assumed 20-hour mission
[3] McElhenny, John. "State Says LNG Tanker Security Cost $20,500." Associated Press. November 2, 2001. p1.

currently suitable, but could be made suitable for the type and frequency of LNG marine traffic associated with the LNG project. Coast Guard mitigation measures included **limiting the LNG carrier to the physical dimensions of a 148,000 m3 class vessel**. The ship dimension used in the study reflected an overall length of 950 feet and a beam of 150 feet with a loaded draft of 40 feet. (***See WSA Report***)

The Coast guard determined that the channel must demonstrate sufficient adequacy to receive LNG carriers for any single dimension listed. The Coos Bay is only dredged to 37 feet currently. LNG ships would transit the bay during high slack tides, the same tides used by the fishing fleet.

The Coast Guard established a Safety/Security Zone for LNG vessels both while the vessel is moored and even when the vessel is not moored. When the LNG vessel is at the docking facility there would be a 150 yard security zone around the vessel to include the entire terminal slip and when there is no LNG vessel moored, the security zone would cover the entire terminal slip and extend 25-yards in the waterway. (CG-WSA page 2) In addition, the Coast Guard has also set a moving safety/security zone for the LNG tanker ship that extends 500-yards around the vessel but ends at the shoreline. **No vessel may enter the safety / security zone without first obtaining permission from the Coast Guard Captain of the Port.** [4] This safety and security zone would encompass the entire bay in some areas.

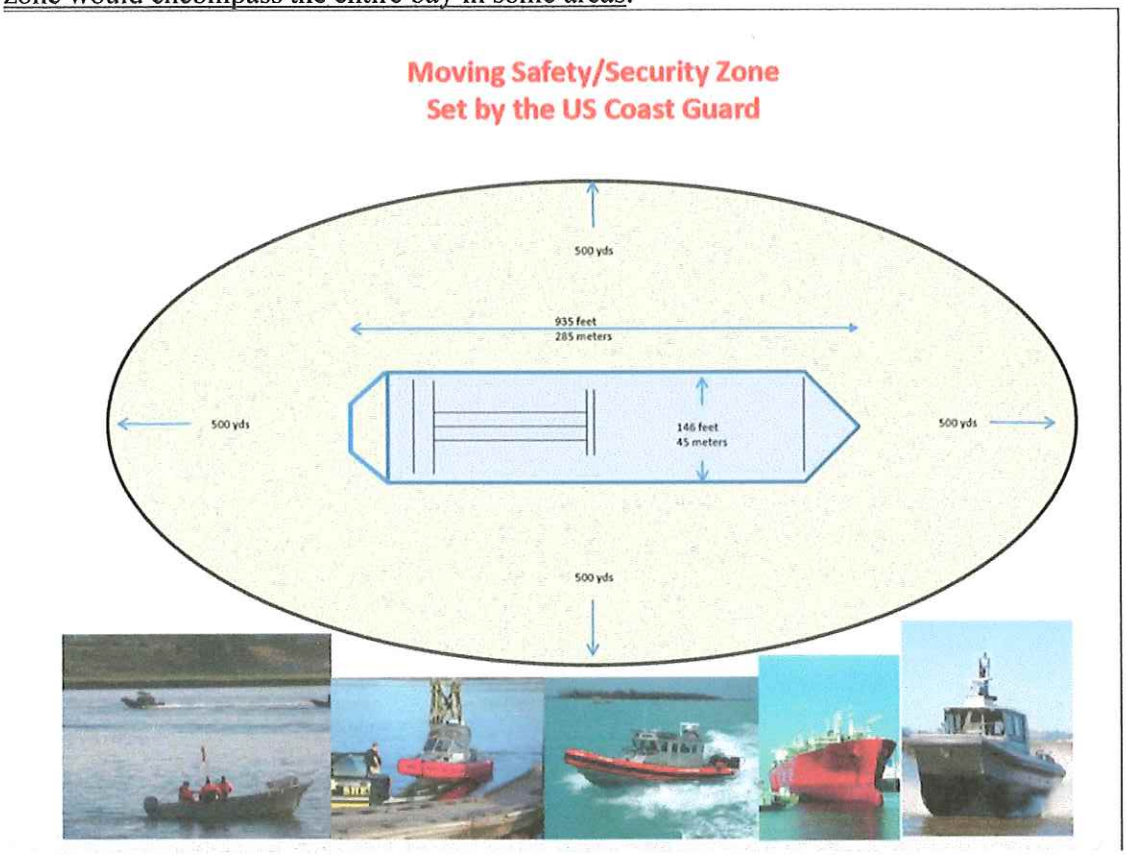

Diagram above from Jordan Cove March 2012 Open House

[4] Coast Guard - LOR / WSR / WSA for Port of Coos Bay / Jordan Cove Energy Project: https://homeport.uscg.mil/mycg/portal/ep/contentView.do?contentTypeId=2&contentId=63626&programId=12590&%20pageTypeId=16440&BV

JORDAN COVE LNG EXPORT VOLUMES

The proposed Jordan Cove Energy Project applied (Sept 21, 2017) to the Federal Energy Regulatory Commission (FERC) to export 7.8 million metric tons of LNG. This amounts to around 1 Bcf/d of exported natural gas.

However, Jordan Cove has publicly stated that they plan on increasing that volume to 9 million metric tons of LNG. This amounts to around 1.2 Bcf/d of exported natural gas.

Jordan Cove has approvals from the Canadian National Energy Board (NEB) to "export" 1.55 Bcf/d of natural gas and from the U.S. Dept of Energy (DOE) to "import" this volume from Canada.

Even though the U.S DOE has approved Jordan Cove importing 1.55 Bcf/d of gas from Canada (11.6 million metric tons LNG per year), the U.S. DOE has **only given Jordan Cove permission to export 1.2 Bcf/d of gas to Free Trade Agreement Nations (9 million metric tons LNG per year)** and .8 Bcf/d of that 1.2 Bcf/d has been approved to go to Non-Free Trade agreement nations IF JORDAN COVE IS ABLE TO COMPLY WITH ALL THE CONDITIONAL REQUIREMENTS FOUND IN DOE ORDER 3413. So far that has not happened, so they don't have approval yet to export to Non-Free Trade Agreement Nations.

Below is how this volume of LNG being exported from Coos Bay calculates out with respect to potential harbor shipping disruptions.

Jordan Cove states in their Resource Report #1 Page 13:

> *The number of ship calls at the LNG vessel berth* ***has increased to 110 to 120. This number was previously 90 to 100.***

Once again, Jordan Cove has deliberately underestimated their LNG shipping impacts. See calculations below:

Calculating 148,000 cubic meter LNG ship at –
600 to 1 conversion from Natural Gas and determining how many shipments that would mean is below:

148,000 cubic meters LNG ship = 5,226,570.675 cubic feet of LNG

5,226,570.675 X **600** = 3,135,942,405 cubic feet of natural gas per shipment

7.8 million metric tons of LNG yearly = 379.86 billion cubic feet of NG (7.8 X 48.7)
(1 million metric tons LNG = 48.7 billion cubic feet NG
(https://www.extension.iastate.edu/agdm/wholefarm/html/c6-89.html)

379,860,000,000 cubic feet of gas yearly shipped by JCEP :/: 3,135,942,405 cubic feet of gas per shipload = **121 shipments needed per year which = 242 harbor disruptions at high slack tide**

due to shipping impacts involving the LNG vessel both coming in and going out of the harbor.

---

9 million metric tons of LNG yearly = 438.3 billion cubic feet of NG (9 X 48.7)
(1 million metric tons LNG = 48.7 billion cubic feet NG
(https://www.extension.iastate.edu/agdm/wholefarm/html/c6-89.html)

438,300,000,000 cubic feet of gas yearly shipped by JCEP :/: 3,135,942,405 cubic feet of gas per shipload = **139.76 shipments needed per year which = 279.52 harbor disruptions at high slack tide due to shipping impacts involving the LNG vessel both coming in and going out of the harbor.**

This is considerably higher than Jordan Cove's 110 to 120 shipments that are stated in their recent Resource Report #1 (page 13) that has been filed with the FERC.

If Jordan Cove was to export the entire 1.55 Bcf/d of LNG from Canada it would amount to the following harbor disruptions.

1.55 Bcf/d X 365 days in a year = 565.75 Bcf/year of exported gas

565,750,000,000 cubic feet of gas yearly shipped by JCEP :/: 3,135,942,405 cubic feet of gas per shipload = **180 shipments needed per year which = 360 harbor disruptions at high slack tide due to shipping impacts involving the LNG vessel both coming in and going out of the harbor.**

SAFETY GUIDELINES

One of the reasons there is such as good safety record involving LNG Carriers worldwide is due to the fact that the current Ports in operation have developed their docking facilities for these LNG terminals strictly following the guidelines laid out by the *Society of International Gas Tanker & Terminal Operators* (SIGTTO)[5].

Examples of SIGTTO guidelines not addressed adequately include:

1) **Approach Channels. Harbor channels should be of uniform cross-sectional depth and have a minimum width, <u>equal to five time the beam of the largest ship</u>**
2) **Turning Circles. <u>Turning circles should have a minimum diameter of twice the overall length of the largest ship</u>, where current effect is minimal. Where turning circles are located in areas of current, diameters should be increased by the anticipated drift.**
3) **Tug Power. Available tug power, expressed in terms of effective bollard pull, should be sufficient to overcome the maximum wind force generated on the largest ship using the terminal, under the maximum wind speed**

[5] **Site Selection & Design for LNG Ports & Jetties – Information Paper No. 14** - Published by *Society of International Gas Tanker $ Terminal Operators Ltd* / 1997

permitted for harbor maneuvers and with the LNG carrier's engines out of action.

4) **Site selection process should remove as many risks as possible by placing LNG terminals in sheltered locations remote from other port users. Suggest port designers construct jetties handling hazardous cargoes in remote areas where ships do not pose a (collision) risk and where any gas escaped cannot affect local populations. Site selection should limit the risk of ship strikings, limiting interactive effects from passing ships and reducing the risk of dynamic wave forces within mooring lines.**
5) **Building the LNG terminal on the outside of a river bend is considered unsuitable due to fact that a passing ship may strike the berthed carrier if the maneuver is not properly executed.**
6) **SIGTTO Examples given for reducing risk factors beyond normal operations of ship/shore interface include LNG terminal patrols of the perimeter of the offshore safety zones with guard boats and to declare the air-space over an LNG terminal as being a restricted zone where no aircraft is allowed to fly without written permission.**
7) **Restriction of the speed of large ships passing close to berthed LNG carriers.**

Also some of the safety guideline preventative measures found in the Sandi National Laboratories Report – "*Guidance on Risk Analysis and Safety Implications of Large Liquefied Natural Gas (LNG) Spill Over Water*" – Dec 04:

Guidelines (Pg 64) include: [6]

1) Appropriate off-shore LNG ship interdiction and inspections for explosives, hazardous materials, and proper operation of safety systems;
2) Appropriate monitoring and control of LNG ships when entering U.S. waters and **protection of harbor pilots and crews;**
3) **Enhanced safety zones around LNG vessels (safety halo) that can be enforced;**
4) **Appropriate control of airspace over LNG ships**; and
5) **Appropriate inspection and protection of terminal areas, tug operations prior to delivery and unloading operations.**

On January 14, 2015, and February 6, 2015, Jerry Havens, Distinguished Professor of Chemical Engineering at University of Arkansas, and James Venart, Professor Emeritus of Mechanical Engineering at University of New Brunswick, published two papers regarding the Jordan Cove LNG Export Terminal Draft Environmental Impact Statement under FERC Docket No. CP13-483. **Professor Havens and Professor Venart found significant discrepancies and problems with Jordan Cove's hazard analysis for their LNG Export facility and determined the hazards had been significantly underestimated.** Safety measures incorporated into the proposed Jordan Cove former LNG Export terminal actually increased the chance of a catastrophic failure and presented a far more serious public safety hazard than regulators had

[6] Without an emergency response plan to review it is hard to know if some of these recommendations have been met. At the FERC hearing held in Coos Bay on December 8, 2014, U.S. Coast Guard Captain of the Port stated that the Coast Guard has "***no intention to close the waterway during LNG shipments.***"

analyzed and deemed acceptable. Adding liquefaction equipment to proposed LNG Import terminals increases the hazard risks of these facilities as these documents explain.

Copies of 1-14-2015 and 2-6-2015 filings submitted to FERC by Professor Havens and Professor Venart can be linked to here:

- 1-14-2015 - Jerry Havens Ph.D and James Venart Ph.D under CP13-483 http://elibraryFERC.gov/idmws/file_list.asp?accession_num=20150114-5038
- 2-6-2015 - Supplementary Comment with Questions by Jerry Havens Ph.D and James Venart Ph.D under CP13-483. http://elibraryFERC.gov/idmws/file_list.asp?accession_num=20150206-5040

I have provided links below to some of the publications that these two professors have published. These are high level professionals in the area of Chemical Engineering and Chemical Hazards, just in case you may not be familiar with their work.

Published Research work of Jerry Havens University of Arkansas - Department of Engineering
http://www.researchgate.net/profile/Jerry_Havens

Published Research work of James E.S. Venart - University of New Brunswick - Department of Mechanical Engineering
http://www.researchgate.net/profile/James_Venart

In their Feb 6, 2015, filing to the FERC, Professor Havens and Professor Venart asked specific questions of the FERC. **THOSE QUESTIONS HAVE YET TO BE ANSWERED.** The FERC, the U.S. Department of Transportation and the Coast Guard need to make sure those questions are answered adequately and scientifically. Thousands of people living in the Coos Bay area depend on it.

LNG VESSEL HAZARDS

It is all spelled out in the scientific literature that if a LNG tanker ship was to be breached and only 1/2 of one of the (4 to 5) LNG tanks (or 3 to 4 million gallons of LNG) was to leak out into the water and a pool fire was to develop, people up to a mile away would be at risk of receiving 2nd degree burns in 30 seconds. **This is because heat flux levels of 5kW/m2 would go out as far as a mile away from the fire.** If the Jordan Cove LNG Export Project was to actually make it through permitting and be built, 16,922 people would live in the Jordan Cove LNG hazard zones of concern according to the Jordan Cove former Import FERC EIS (Page 4.7-3) and also the former Export Draft EIS (Page 4-980). The former Jordan Cove LNG Export Draft EIS page 4-7 states:

> *The waterway for LNG vessel marine traffic would traverse 7.5 miles of the existing navigation channel within Coos Bay. The navigation channel is zoned "Deep-Draft Navigation Channel." in the CBEMP. The navigation channel, which is generally 300-feet-wide and 37-feet-deep, is maintained by the COE on behalf of the Port.*

LNG tankers with up to a 40 foot draft would exit our narrow Bay carrying around 39 million gallons of LNG but there is little concern given for our safety by local officials. Both the cities of North Bend and Coos Bay have signed agreements indemnifying Jordan Cove should there be an LNG accident. The City of North Bend has also passed a Resolution and written letters of support for the Project prior to the completion of the NEPA process and also prior to Final Decisions being made on Jordan Cove's Land Use Permits. Coos County Commissioner John Sweet has also done the same.

Jordan Cove's FERC former Draft Export EIS Page 2-76 states:

> *LNG to be exported from the Jordan Cove terminal to overseas markets would be transported in vessels specially designed and built for that task. Jordan Cove expects that its terminal would be visited by about 90 LNG vessels per year. These vessels would be loaded with LNG at the terminal and deliver the cargo to customers, most likely around the Pacific Rim.* ***LNG vessels would be under the ownership and control of third-parties, not Jordan Cove****, and* ***would not be regulated by the FERC.*** (Emphasis added)

This is not acceptable as it places our entire area at an extreme hazard risk and liability.

Structures close to an LNG pool fire, should one develop, could actually self-ignite from the high heat flux levels. This is not my words but comes directly from the December 2004 Sandia Report, ***"Guidance on Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill Over Water."*** [7] The large hazardous burn zones associated with these LNG faculties are also confirmed by other Government and independent studies as well. [8] In 2005 the Port of Long Beach and the California Public Utilities Commission had an analysis done entitled, "*An Assessment of the Potential Hazards to the Public Associated with Siting an LNG Import Terminal in the Port of Long Beach.*" [9] The analysis resulted in the Port of Long Beach no longer approving the proposed LNG facility.

LNG tankers would transit only 6/10ths of a mile from children attending Sunset and Madison schools. The tankers and cargo ships would transit within 1,350 feet of the shoreline areas of the community of Empire, 2,150 feet of the shoreline areas of the community of Barview, 1,900 to 2,300 feet of the Charleston breakwater, and 2,100 to 3,100 feet of the North Bend Airport. This is well within the LNG hazard zone distances that have been established by the many government and scientific reports.

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[7] "*Guidance on Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill Over Water.*"

[8] United States Government Accountability Office, Report to Congressional Requesters, Maritime Security; "*Public Safety Consequences of a Terrorist Attack on a Tanker Carrying Liquefied Natural Gas Need Clarification*", February 2007; GAO-07-316: http://www.gao.gov/new.items/d07316.pdf
U.S. Department of Energy report to Congress, "*Liquefied Natural Gas Safety Research*" ; May 2012 : http://energy.gov/sites/prod/files/2013/03/f0/DOE_LNG_Safety_Research_Report_To_Congre.pdf [NOTE: Based on the data collected from the large-scale LNG pool fire tests conducted, thermal (fire) hazard distances to the public from a large LNG pool fire will decrease by at least 2 to 7 percent compared to results obtained from previous studies. In spite of this slight decrease, people up to a mile away are still at risk of receiving 2nd degree burns in 30 seconds should a LNG pool fire develop due to a medium to large scale LNG breach event.

[9] "*An Assessment of the Potential Hazards to the Public Associated with Siting an LNG Import Terminal in the Port of Long Beach*" By Dr. Jerry Havens, September 14, 2005 - http://www.ecosakh.ru/data/im_docs_62_ocenka_ugroz_v_svyazi_s_razmescheniem_SPG%28angl.yaz.%29.pdf

I am sure the Coast Guard is well aware of these hazard issues, but as resident who would be living in one of these proposed LNG hazard zones, I wanted to confirm this and encourage the Coast Guard to take ALL the measures that are absolutely necessary to ensure our safety. Our tax dollars should not have to pay for these proposed safety measures either. This should be Jordan Cove's responsibility.

Sincerely,

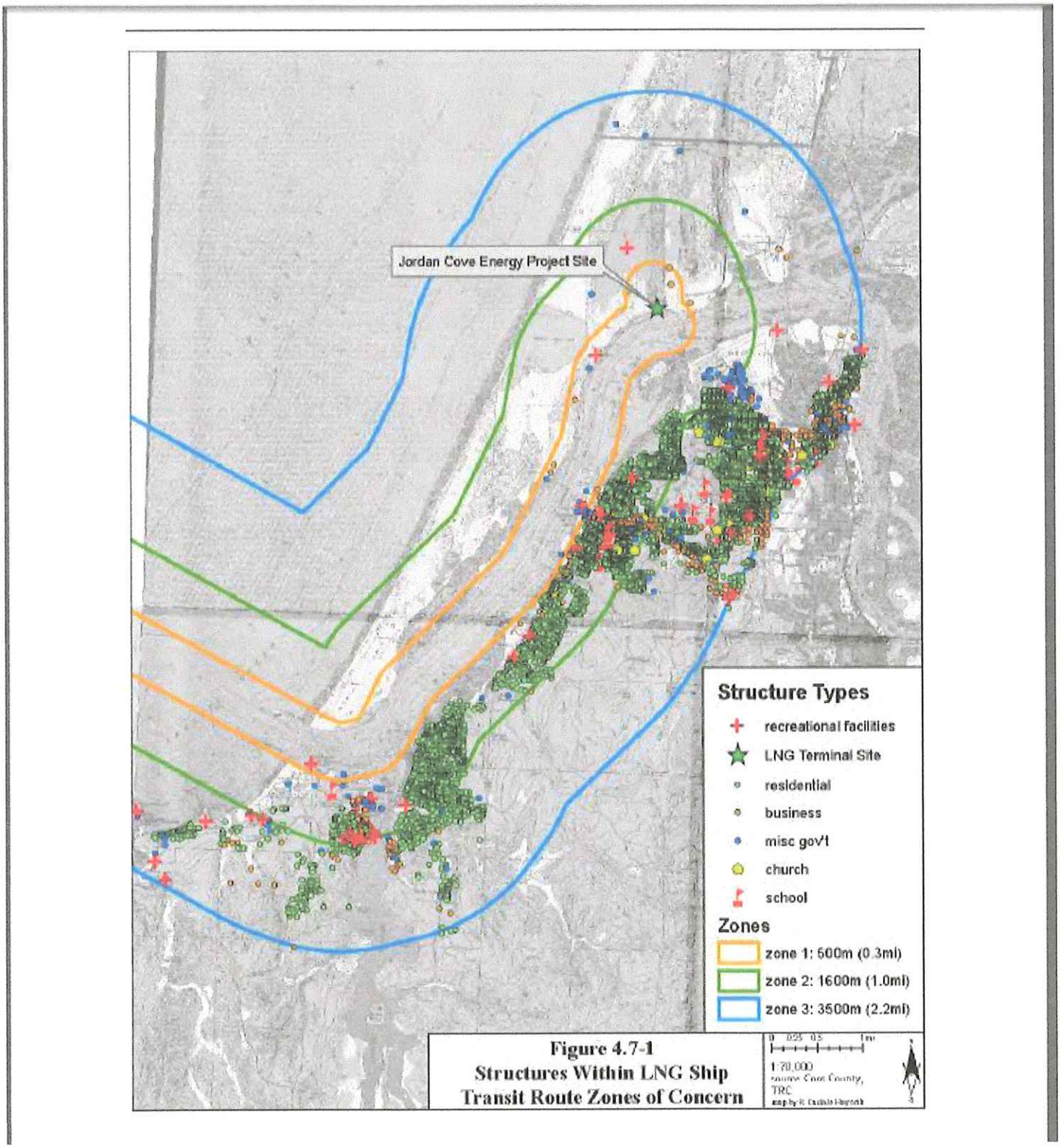
Jody McCaffree
Po Box 1113
North Bend, OR 97459
[redacted]

REFERENCES

[1] http://www.au.af.mil/au/awc/awcgate/crs/rl32073.pdf
[2] U.S. Coast Guard, Program Office. Personal communication. August 12, 2003. This estimate is based on boat, staff and administrative costs for an assumed 20-hour mission
[3] McElhenny, John. "State Says LNG Tanker Security Cost $20,500." Associated Press. November 2, 2001. p1.
[4] Coast Guard - LOR / WSR / WSA for Port of Coos Bay / Jordan Cove Energy Project: https://homeport.uscg.mil/mycg/portal/ep/contentView.do?contentTypeId=2&contentId=63626&programId=12590&%20pageTypeId=16440&BV
[5] **Site Selection & Design for LNG Ports & Jetties – Information Paper No. 14** - Published by *Society of International Gas Tanker $ Terminal Operators Ltd* / 1997
[6] Without an emergency response plan to review it is hard to know if some of these recommendations have been met. At the FERC hearing held in Coos Bay on December 8, 2014, U.S. Coast Guard Captain of the Port stated that the Coast Guard has ***"no intention to close the waterway during LNG shipments."***
[7] *"Guidance on Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill Over Water."*
[8] United States Government Accountability Office, Report to Congressional Requesters, Maritime Security; *"Public Safety Consequences of a Terrorist Attack on a Tanker Carrying Liquefied Natural Gas Need Clarification"*, February 2007; GAO-07-316: http://www.gao.gov/new.items/d07316.pdf
U.S. Department of Energy report to Congress, "*Liquefied Natural Gas Safety Research*" ; May 2012 : http://energy.gov/sites/prod/files/2013/03/f0/DOE_LNG_Safety_Research_Report_To_Congre.pdf [NOTE: Based on the data collected from the large-scale LNG pool fire tests conducted, thermal (fire) hazard distances to the public from a large LNG pool fire will decrease by at least 2 to 7 percent compared to results obtained from previous studies. In spite of this slight decrease, people up to a mile away are still at risk of receiving 2nd degree burns in 30 seconds should a LNG pool fire develop due to a medium to large scale LNG breach event.
[9] *"An Assessment of the Potential Hazards to the Public Associated with Siting an LNG Import Terminal in the Port of Long Beach"* By Dr. Jerry Havens, September 14, 2005 - http://www.ecosakh.ru/data/im_docs_62_ocenka_ugroz_v_svyazi_s_razmescheniem_SPG%28angl.yaz.%29.pdf

Jordan Cove LNG Tanker Hazard Zones (FEIS Page 4.7-3)

Zone 1 (yellow) - No one is expected to survive in this zone. Structures will self ignite just from the heat.
Zone 2 (green) - People will be at risk of receiving 2nd degree burns in 30 seconds on exposed skin in this zone.
Zone 3 (blue) - People are still at risk of burns if they don't seek shelter but exposure time is longer than in Zone 2.
Map does not include the hazard zones for the South Dunes Power Plant and the Pacific Connector Gas Pipeline.



NATURAL GAS:

Explosive LNG issues grab PHMSA's attention

Jenny Mandel, E&E reporter

EnergyWire: Tuesday, June 7, 2016

Smoke pours from petroleum storage tanks following a 2009 explosion at the Caribbean Petroleum Corp. refinery in San Juan, Puerto Rico. The blast and fire damaged 17 of the 48 tanks at the site, and flames burned for nearly 60 hours. Photo courtesy of the U.S. Chemical Safety and Hazard Investigation Board.

The Department of Transportation's May 19 workshop on liquefied natural gas (LNG) safety started with a bang.

At DOT's headquarters in Washington, D.C., the agency's Pipeline and Hazardous Materials Safety Administration (PHMSA) hosted an in-depth discussion of what went wrong during a March 2014 explosion at an LNG facility in Plymouth, Wash., that led to five injuries and $72 million in property damage (*EnergyWire*, May 6).

The decision by PHMSA to conduct a broad review of its LNG safety rules -- and kick it off with an unusually open discussion of a fiery accident -- suggests the agency has taken to heart the saltiest criticisms tossed from Capitol Hill. "PHMSA is not only a toothless tiger, but one that has overdosed on Quaaludes and is passed out on the job," Rep. Jackie Speier, a Democrat from San Francisco, said during a congressional hearing in April 2015.

She pointed to the lethal and destructive natural gas pipeline accident in San Bruno, Calif., in 2010. In its aftermath, PHMSA came under fire for being slow to update its safety regulations. Late last year, a leaking Aliso Canyon underground gas storage facility outside Los Angeles, operated by Southern California Gas Co., prompted hand-wringing that regulators were underprepared.

If gas pipelines and storage fields come with risk, researchers are increasingly concerned that the expanding footprint of big LNG export terminals and other facilities along the U.S. coast are also potentially deadly.

LNG is jam-packed with energy. Natural gas is turned into a liquid by supercooling it to minus 260 degrees Fahrenheit, which shrinks its volume 600-fold and makes it easier to transport across the ocean.

Natural gas and its liquid form are flammable and explosive in confined spaces, but researchers say it's not prone to exploding when released in large, open areas. That's not the case for other heavy hydrocarbons such as propane and ethane, which can be stored at large LNG export facilities.

The concern among researchers and regulators grappling with how to regulate LNG safety is the potentially deadly mix of liquid fuels at an LNG site.

Things that go boom

At the DOT workshop last month, a presentation by Graham Atkinson, a principal scientist in the Major Hazards Unit of the Health and Safety Lab in Buxton, England, focused on what happens when heavy hydrocarbons explode

explode.

The audience listened, riveted, as Atkinson showed photos -- some not previously seen by the public -- from industrial accidents linked to liquefied petroleum gas (LPG), LNG, gasoline and other petrochemicals.

Four of the incidents took place within the last decade and were explosions of so-called unconfined vapor clouds that led to a series of cascading events that ultimately destroyed the facilities.

Researchers looked at 24 vapor cloud explosions but focused their attention on four major industrial accidents -- at gasoline storage sites in Buncefield, England, in 2005; Jaipur, India, in 2009; San Juan, Puerto Rico, in 2009; and at an LPG storage site at Venezuela's Amuay refinery in 2012.

In work funded by PHMSA through a contract with the Energy Department's Oak Ridge National Laboratory, Atkinson's team reviewed photos and videos from the accidents and conducted tests with gasoline in a range of spill conditions. The team focused on how vapor clouds form in low wind conditions and when barriers keep gases from fully dispersing.

Atkinson said an accident can happen under two conditions. One is a small leak that, after as little as 15 minutes with no wind, can cause a massive explosion that resembles a bomb blast with no epicenter. Devastation is spread evenly across the range of the vapor cloud.

An unconfined vapor cloud explosion at a gasoline storage site in Buncefield, England, in 2005 left bomblike devastation across a wide area. Photo courtesy of the U.K. Health and Safety Laboratory.

The other accident scenario is a large leak on a windy day, when cloud dispersion from the wind cannot keep up with the volume of gas released. That, too, creates a cloud-sized explosion zone. The shape of the plume can be mapped from the destruction.

Pictures from San Juan, Buncefield, Amuay and Jaipur show cars twisted and burned, bombed-out buildings, and flaming storage tanks.

"Fuel tanks are efficiently set on fire in the area covered by the vapor cloud," Atkinson noted, estimating that 95 percent of tanks exposed to the vapor clouds were set on fire. "It means it's a real tough job for all the emergency services. They're dealing with [potentially] 20 tanks set on fire. It's an almost unmanageable situation."

The researchers also looked at cases in which flash fires turned into explosions, finding that in some cases a confined space or a congested intersection of piping turned a fire into a blast.

"In all but one of the incidents reviewed, when a very large cloud was formed, there was a severe explosion," Atkinson said.

In low wind conditions, vapor clouds that accumulated from small, sustained leaks caused blast damage and fatalities 765 yards -- nearly half a mile -- or more from the source.

And if a large cloud of gasoline or LPG accumulates, a "severe explosion" is likely, Atkinson said.

'20 minutes'

After Atkinson spoke, a leader in the LNG industry quickly tried to wrestle control of the discussion, emphasizing that LNG doesn't carry the same risks as the non-methane fuels he had focused on.

Cheniere Energy Inc. is developing the Sabine Pass LNG export terminal in Cameron Parish, La. The terminal already has one processing train up and running to liquefy LNG, and construction plans include four more; the plant is the first modern LNG export facility in the United States (*EnergyWire*, May 3).

Pat Outtrim, vice president of government affairs for Cheniere, questioned Atkinson on his presentation in a rapid-fire series of yes-or-no questions.

Atkinson agreed with Outtrim that the heavy hydrocarbons tested have different properties from methane, and that the alert and emergency shutdown equipment at the facilities studied were absent, nonfunctioning or not able to alert the right people quickly.

But he disagreed with the notion that his results aren't applicable to LNG facilities.

Ethane blends, propane, isobutane and ethylene, as well as hundreds of metric tons of condensates like pentanes and hexanes, might be present at an LNG export site. The explosion research "shows just how important the detection and response protocols are," Atkinson told Outtrim. Vapor cloud explosions like those demonstrated "can't happen at an LNG facility if you detect [a leak] early and shut it down right away," he said.

The takeaway for the LNG industry should include consideration of automatic equipment shut-offs, Atkinson told *EnergyWire.*

"Twenty minutes can be enough to cause a problem," he said. If equipment shut-offs are manual, the staff needs to be well-trained. If sensors indicate a leak, "the response can't be, 'Oh, I need to go tighten it up.'"

"Problems tend to come from people. There are just so many cases where [warning lights] start flashing and people just go to pieces," he said.

One more challenge? Explosion events often occur at night, when wind speeds slow as the air cools. So plant personnel can go from keeping watch over a sleepy facility in the small, dark hours to a rapidly evolving emergency.

"When they decide what's sensible to automate, they ought to think about these factors and take it into account," Atkinson said.

The new LNG era

Still, automated controls are probably not the big worry that set PHMSA down the path of researching old accidents -- especially since many of a plant's most important controls have physical fail-safe mechanisms in case the electronics fail.

So why did PHMSA dedicate so much time to discussion of the hazards tied to gasoline, LPG and other hydrocarbons that are afterthoughts at most LNG installations?

A critique by two longtime LNG researchers offers some insight.

Jerry Havens and James Venart submitted public comments to the Federal Energy Regulatory Commission in January 2015 on a proposal to build the Jordan Cove LNG terminal in Coos Bay, Ore.

Havens has worked on LNG safety issues throughout his 40-year career and authored two of the computer models whose use was long required by federal regulators to assess the hazards of proposed LNG facilities. Venart was the longtime director of the Fire Science Centre at the University of New Brunswick in Canada, and studied industrial heat exchange and catastrophic explosions.

A 2009 vapor cloud explosion and ensuing fire at an Indian Oil Corp. facility in Jaipur, India, destroyed the plant and damaged homes more than a mile away, according to an investigation report. Photo courtesy of the U.K. Health and Safety Laboratory.

The Jordan Cove project proposed a liquefaction plant capable of processing up to 6.8 million metric tons per year of natural gas.

Havens and Venart said they were concerned that regulations governing LNG import terminals had been guided by the premise that LNG, as methane, poses less danger than other gas liquids and petroleum fuels. But with LNG export terminals designed and constructed under regulations used for simpler LNG import facilities, Havens and Venart warned that regulators were overlooking dangers.

"We believe the [Jordan Cove draft environmental impact statement] fails to provide for protection of the public from credible fire and explosion hazards," the researchers said.

The mix of refrigerants used to chill the gas and the heavy hydrocarbon impurities in pipeline gas that are stripped out and stored on-site pose a threat, they said.

"We believe these additional hazards have been discounted without sufficient scientific justification in spite of multiple international reports during the last decade of catastrophic accidents involving unconfined hydrocarbon

vapor cloud explosions," Havens and Venart said.

The researchers also raised concerns that Jordan Cove and other proposed facilities would use concrete "vapor walls" to trap a gas cloud on the property and keep the fire hazards from breaching the property lines. But such walls would cause methane and other gases to build up into concentrated vapor clouds several meters deep, increasing the explosion risk.

With densely packed processing equipment on the site and a vapor fence trapping hydrocarbons, "one could hardly design the releases to better maximize the potential for catastrophic explosion hazard," Havens and Venart added.

FERC finalized Jordan Cove's EIS in September. It made no mention of Havens and Venart's comments.

Michael Hinrichs, a spokesman for the Jordan Cove project, noted in an email that "dispersion modeling, safety and security were all thoroughly analyzed and accepted by the FERC, [the Department of Transportation] and PHMSA to be within compliance." The three agencies, he said, "have all upheld the current modeling as meeting the safety criteria for the industry."

The Jordan Cove project's fate has since been thrown up in the air by an unexpected FERC decision to reject the project despite the favorable review by agency staff, pointing to a lack of firm contracts for LNG off-take (*EnergyWire*, April 19).

But Havens continues to be concerned. In a paper at the Health and Safety Laboratory -- where researcher Atkinson works -- in April, he argued that regulators are "doing it wrong" when it comes to gauging the explosion hazards of large hydrocarbon clouds.

Havens said PHMSA may be relying on the wrong computer models to assess explosion risks. Most of its results are classified for security reasons.

Divided responsibilities

At the workshop in May, Kenneth Lee, who directs PHMSA's engineering and research division within the Office of Pipeline Safety, declined to say what specific regulatory changes are on the table for an upcoming overhaul of the LNG rulebook, or even what the key questions are, deferring to public input from the meeting to shape the process (*EnergyWire*, May 20).

But the workshop itself, in providing a platform to discuss heavy hydrocarbon risks, points to the potential for new requirements for LNG export facilities. How those requirements might be designed remains to be seen.

Industry has welcomed small tweaks to PHMSA's rules that would bring them up to date, more easily encompass new technologies and be more in line with standards used by regulators in other jurisdictions. But any changes that added new hurdles to the process of siting LNG facilities -- which primarily falls under FERC jurisdiction -- could face opposition from developers. They could raise difficult questions about Sabine Pass LNG and the four other LNG export terminals under construction.

For its part, PHMSA pledges that the coming rulemaking process will be transparent. "We take comments that you submit very seriously," said Julie Halliday, a member of the agency's engineering and research division who coordinated much of the meeting, in a discussion of the next steps. "We will address those points that you submit."

Still, she noted that PHMSA's authority over LNG facility siting is limited. "We don't actually have authority for siting within our regulations," she said, describing the agency's role in that process as working out the public safety "exclusion zones" that extend around the core of the facility.

"It's about a setback. It's not telling you whether you can site a facility at a certain location," she added, noting that other agencies control that question. "If FERC doesn't have jurisdiction to site a facility, it's the local jurisdiction."

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Exhibit 51

Direct Testimony of Fall River Fire Chief David L. Thiboutot

Q. Please state your name, current position and business address.

A. David L. Thiboutot, Fire Chief, Fall River, Massachusetts. My business address is 140 Commerce Drive, Fall River, MA

Q. For how long have you been involved with fire fighting and/or emergency response activities?

A. For thirty-one (31) years.

Q. What is your educational background and, in particular, have you taken any course work that is relevant to your current responsibilities in the area of fire and emergency response?

A. I received an Associate of Fire Science Degree from Bristol Community College in 1982 and a Bachelor of Fire Science Degree from Providence College in 1990.

Q. What is the purpose of your testimony in this proceeding?

A. It very much parallels that of Chief Souza of the Police Department. I too was asked by Mayor Lambert to advise him about the implications of the Weaver's Cove proposal for our community and for its residents.

Q. What did you know about the Weaver's Cove proposal at that time?

A. Very little, certainly far less than I now appreciate. I knew that the intent was to locate a large LNG facility on our waterfront and to supply it from tankers that would travel through the in-land waters of Rhode Island and Massachusetts and that obviously made me sensitive to the reality that we would be confronted with a new, major chemical plant. Any time that occurs, it is a warning flag to fire fighters because of the potential for fires that is unavoidable at such facilities. I knew enough, therefore, to recognize that we were being threatened with a new danger but I certainly did not then appreciate the extent of that danger. I have a far greater appreciation of that today.

Q. How did you gain that appreciation?

A. Like Chief Souza I sought the advice of experts and through those consultations and through my review of information that I received I began to gain an awareness of the fire potential that would be associated with a release of LNG from a containment facility. I began to appreciate that a release from containment could occur not only at the on-shore facility that would sit in our waterfront, but from one or more of the containment vessels on the tankers that would be traveling close to our shorelines. I developed an understanding of the potential ramifications of "pool" fires and the implications of vapor dispersion clouds, and of the very intense thermal attributes of LNG-induced fires. Finally, I became aware of the need that would exist to evacuate wide areas, of the potential for second-degree burns and worse in exceedingly short time intervals, and of the

complications of sympathy fires, or secondary fires that could be started by exposure of flammable materials to the thermal levels that can be anticipated.

Q. Based upon the advice that you received, what did you assume about the nature of the conflagration that might confront you and about the areas that would be in jeopardy and might require evacuation?

A. I recognized that in the case of a spill of LNG a "pool" fire could occur at the point of the spill and the surrounding area. This could either be contiguous to the terminal, to a berthed tanker, or anywhere along the tanker route. I was advised that because of the thermal characteristics of a "pool" fire persons within a one-mile radius would be at jeopardy. Of course, structures within that radius would be potential sources of additional ignition further compounding the task of fire control and evacuation. I recognized that in the case of a vapor cloud conflagration could occur at any point along that cloud where a flammable mixture comes into contact with a source of ignition and that the resulting fire could conceivably spread back to the original source of the leak. Once the vapor cloud ignited, we would be confronted with the same difficulties associated with a "pool" fire although the area of potential danger could be even more diffused.

Q. In the event of a "pool" fire, is it likely that you will be able to extinguish it or is it likely that you will have to allow it to run its course?

A. The latter. The heat intensity would preclude effective extinguishment. Fire fighters, even with protective clothing, would be unable to get close enough to allow their efforts at extinguishment to be effective.

Q. Chief Thiboutot, would the need to evacuate an area affect your ability to fight and contain either a "pool" or vapor-dispersion related fire?

A. Absolutely, Chief Souza already has described the constricted traffic patterns that would hinder rapid evacuation. Fire fighters, and emergency medical personnel would at precisely the same time be required to utilize those same roadways, but going in the opposite direction. I do not see how both efforts can simultaneously be pursued successfully. Traffic accidents are a near certainty, further delaying both evacuation and containment of any conflagration. The resulting chaos is certain to frustrate both efforts and magnify the tragedy.

It is also important to recognize that with a fire as intense as that associated with the ignition of LNG, the potential for it to ignite secondary fires across a far broader area than the site of the initial spill, or of the initial ignition of a vapor cloud fire, is substantial. My Department could find it necessary to wage a battle against multiple fires simultaneously. Our resources could easily be overwhelmed.

Q. Accepting that you might be called upon to deal with several fires simultaneously, surely it is common for fire resources from neighboring Towns to pitch in when there is such an emergency, is that not correct?

A. It is absolutely correct and I have no doubt that they would want to be of assistance. I doubt, however, that it would be possible to obtain much outside help.

Q. Why do you despair of the availability of help from outside of Fall River?

A. Consider the situation that would exist on the ground at the time. People will not just be fleeing the zone of maximum danger, it is natural to expect, indeed it is to be hoped, that people will flee the City from well outside the immediate area of conflagration, particularly so if it is believed, as everyone is sure to at the outset, that the event was the result of a terrorist attack. With the wholesale evacuation that I would anticipate, it is unrealistic to assume that fire and rescue equipment from outside communities would be able to arrive in time to be of much help.

Q. With respect to the fire fighters that are able to get to the area of conflagration, would it be necessary for them to wear any special protective equipment and how might that affect their ability to fight the fires?

A. At a minimum, normal structural firefighting personal protective clothing would be required. This basic equipment which would include boots, bunker pants, bunker coat, helmet, hood, gloves, and self-contained breathing apparatus (SCBA) weigh about 60 pounds. This type of equipment is standard and is available on all Fall River apparatus. In the event that fire forces were required to make an advance on flammable liquid / flammable gas type situations, proximity protective clothing would be required under NFPA Standard 1971. At this time

the City of Fall River does not own this type of equipment and it is only available through the district hazmat team, which typically takes up to an hour to respond into our city. All this equipment even if it were available does limit fire fighter movement and would expose firefighters to excessively higher temperatures. The other major limiting factor would be the amount of compressed air (SCBA) available on fire apparatus. Typically outdoor type fire fighting does not require the use of SCBA but high temperature flammable gas fires would require this use at all times. The normal supply of air per unit is less than one hour per man per truck. These circumstances would severely limit this department and any outside mutual aid, from making an aggressive attack on the fire.

Q. Chief Thiboutot, are you familiar with the medical emergency response personnel available in case of a major fire?

A. I am.

Q. Please describe the resources that are available to the City.

A. Currently the Fall River Fire Department has four Advanced Life Support ambulances, which are staffed 24/7. Although there is mutual aid available from surrounding towns, response would no doubt be hindered because of traffic problems and the possibility that both bridges could be restricted or closed in this disaster scenario.

Q. Assuming that every member of the rescue contingent, and all of their equipment including ambulances, were already available at the site of an LNG conflagration

at the precise moment of ignition, would they be able to cope successfully with the aftermath?

A. Of course, you are asking that I address a most unrealistic hypothetical. Nonetheless, the answer is no. At most our available rescue personnel could administer aid to a group of eight but any number beyond that would sacrifice the care to all. Keep in mind that the rescue personnel would be required to work in an exceedingly hostile, dangerous environment. In a normal conflagration situation the injured can be removed to a nearby area of safety and administered to there. In the case of an LNG conflagration, there are no nearby areas of safety. As a consequence, emergency personnel would themselves have to be burdened with the need to wear protective gear making their activities that much more difficult. Our ability to move people would also be limited by the fact that those people would themselves require full protective equipment.

I must also address the unrealistic assumption included in your question. I recognize that it was included to make the point that even assuming an ideal set of circumstances the consequences to human health and suffering could be cataclysmic. What the Commission must understand is that, precisely because of the mass exodus that would be occurring across a broad geographic area, it would be highly unrealistic to assume that even most of the available emergency medical resources would be able to get to the scene of the conflagrations in sufficient time to do much immediate good.

Q. Finally, Chief Thiboutot, are you familiar with the emergency room, emergency treatment and burn treatment resources that are available in the City of Fall River and the reasonable surrounding area?

A. I am.

Q. Would you please describe for us the extent of those resources and their ability to handle the medical emergencies that might be associated with the release and subsequent conflagration of LNG?

A. The two hospitals in the city have a relatively small bed capacity, St. Anne's has 160 beds and Charlton Memorial has 364 beds. These beds are typically full year round. Neither hospital is a level One Trauma Center nor do they have burn units. Each hospital does have the capability of treating approximately 50 burn patients with their burn cots. In an event of any consequence these resources would be quickly overwhelmed.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Weaver's Cove Energy, L.L.C. and	Docket Nos. CP04-36-000, CP04-41-000,
Mill River Pipeline, L.L. C.	CP04-42-000, and CP04-43-000

DECLARATION OF WITNESS

I, David L. Thiboutot, declare under penalty of perjury that the statements contained in the Prepared Direct Testimony of David L. Thiboutot on behalf of the City of Fall River and the Attorney General of the Commonwealth of Massachusetts in this proceeding are true and correct to the best of my knowledge, information, and belief.

Executed on this 7th day of June, 2005.

David L. Thiboutot

Direct Testimony of Fall River Police Chief John M. Souza

Q. Please state your name, current position and business address.

A. John M. Souza, Chief of Police of the Fall River Police Department, 685 Pleasant Street, Fall River, Massachusetts.

Q. For how long have you been involved in the area of law enforcement?

A. I have been in law enforcement for twenty-five (25) years.

Q. Do your responsibilities include directing the evacuation of areas during times of emergence?

A. Part of my responsibilities would indeed include directing the evacuation of areas during times of emergence.

Q. What is your educational background?

A. I have a B.S. in Criminal Justice from Bryant University in Smithfield RI (1979) and a Juris Doctor from the New England School of Law in Boston, MA (1995).

Q. What is the purpose of your testimony in this proceeding?

A. When Mayor Lambert became aware of the proposal of the Hess Oil Company to locate a major LNG terminal at the Weaver's Cove site within the City of Fall River, he asked that I familiarize myself with a number of concerns that he had. He was concerned first about the need that would exist to protect the terminal

facility and LNG tanker traffic in Mount Hope Bay and the Taunton River against the possibility of intentional attack. It should come as no surprise that the Mayor and those of us who share his responsibility for the protection of the safety of our City and of its residents have found it necessary to increase our vigilance since the events of 9/11. The Mayor wanted assurances that we would be able to protect the facility and the ships from a terrorist attack. Second, the Mayor asked me to consider whether we would have the ability to evacuate the local population that could be placed in danger in the event that there was a successful terrorist attack, or in the event that there simply was an accidental spill from either the facility or from a tanker.

Q. Chief Souza, before you tell us the conclusions that you have reached and wish to share with the Commission, please indicate whether you consider yourself an expert on how leaks might occur at an LNG terminal or tanker, on the fires that could result, or on the vapor cloud that could be released?

A. I would not consider myself an expert but I can tell you that over the course of the past year I have become quite knowledgeable about each of those subjects both from my reading and from consulting with those who are expert and who have had to live with the possibility of LNG releases and fires on a daily basis. As a consequence I now consider myself to be knowledgeable about each of those subjects. But for purposes of discharging the assignments that were given to me

by Mayor Lambert, I relied upon the advice that I received from the experts, principally from Dr. Havens and Dr. West.

Q. Would it be fair to say that Dr. Havens and Dr. West identified the problems that could occur, their geographic reach and their intensity, and that you then focused on the issues associated with protecting the facility and tankers from intentional attack and emergency response requirements following either an attack or an accident?

A. That is correct.

Q. Tell us then what it is that you assumed, based on the advice that you had received from Dr. Havens and Dr. West.

A. I assumed the possibility of a release of LNG in both liquid and vapor form from either an intentional or an accidental breach of a portion of an LNG tanker or from such a breach at the onshore terminal. I further assumed that a tanker breach could occur accidentally as a result of a navigational error, for example, a collision at one of the two bridges that the tankers would have to pass under while in Massachusetts's waters, or possibly as a result of a collision with another vessel, which could, I should add, be an intentional act, as the USS Cole incident makes clear. Also, that either a tanker or the terminal could be attacked by a land or water based terrorist, perhaps armed with a rocket propelled grenade or RPG. I also assumed certain consequences following such an accident or intentional attack. For example, I was advised by Dr. Havens and by Dr. West that a spill of

LNG could result in a "pool fire" of sufficient thermal intensity that persons within a mile of the fire could, within as little as thirty seconds, suffer second degree burns over any unprotected parts of their bodies. In addition, I was told that the heat intensity of the "pool fire" would be sufficient to ignite secondary fires that in turn would spread the area of conflagration. I was advised that, just to afford the population minimal protection from "pool fires" it would be necessary to evacuate an area extending one-mile in each direction from the edge of the fire. Obviously, to the extent that secondary fires resulted, the area of required evacuation could be even more extensive, depending on the nature and extent of any secondary fires.

Q. What were you told about the issue of vapor dispersion and what were you asked to assume?

A. Dr. Havens explained to us that following the release of LNG it must be anticipated that a vapor cloud would form and spread to an extent and in the direction dictated by the atmospheric conditions that are then prevailing. He told us that the vapor cloud would continue to present a threat to public safety as long as the cloud contained a methane concentration of between 5% and 15%. The danger is that a vapor cloud containing that concentration of methane will ignite if it comes into contact with a source of ignition. The danger would exist along a downwind path from the site of the release until the methane concentration within the cloud was reduced below that 5% level. I was told by Dr. Havens that a

recent government laboratory report indicates that a flammable vapor cloud could extend 2 miles downwind of a spill but that he thought that was a conservative estimate and that from a public safety standpoint I would be better advised to assume that the area of evacuation would extend for as much as 3 miles. For purpose of my evaluation I assumed that a 2 mile evacuation zone would be essential but that a 3 mile zone would be preferable.

Q. Chief Souza, please summarize the conclusions that you have reached based upon your evaluation?

A. As one of the officials of Fall River with principal responsibility for safeguarding the health and well being of our population, and for the protection of infrastructures that are so critical to the safety of that population, I am loathe to believe that any threat would be beyond our ability to cope. Since the consequences of an accidental or intentional spill have been made clear to me I have struggled to get comfortable with our ability to prevent intentional attacks and to deal with the aftermath of a spill. Regrettably, I have been forced to reach the conclusion that we lack the ability to eliminate a significant possibility of intentional breach and we cannot assure safe evacuation in the event of a breach. I see no way of protecting as many as 10,000 or more members of our local population from the life-threatening burns that Drs. Havens and West indicate could be associated with an LNG fire.

Q. Please explain first your conclusion that it would not be possible to eliminate or even to reduce to an acceptable level the risk of a breach of LNG tanker or terminal containment from intentional attack.

A. I will, but first I must take issue with the notion that any level of residual risk would be acceptable. Where the consequences of a successful attack are so dire, where the resulting devastation and human toll would be so high, I cannot accept the notion that even a small risk is tolerable, certainly not unless it were demonstrated that there were absolutely no safer ways in which to meet a public need. Frankly, that was my greatest source of frustration in working with the team that was supposed to develop security plans. The representatives from Weaver's Cove and, sadly, even federal officials, were willing to assume that it is satisfactory simply to minimize the risk, even if substantial vulnerability with the potential for the most dire consequences to public safety and to human health remain. I could not endorse that acceptance. But to answer your question directly, I frankly cannot get comfortable with the notion that the risk of intentional attack could ever be reduced to the point where the likelihood of occurrence could be considered to be minimal. In saying this I can anticipate that others would consider it unlikely that Fall River, Massachusetts would be high on the list of any terrorist. I would like to think that to be true today. But I challenge any one to dispute that with the location of the Weaver's Cove terminal, and with the tanker transport up and down Mount Hope Bay and the Taunton River, that would continue to be the case. I would venture to guess that, with the possible

exception of the Everett terminal, there is no existing LNG terminal operating anywhere in the United States where the population around the facility is as dense as it would be in Fall River. And I am confident that there is no tanker route that passes through waterways that are as congested, and where the tankers come in as close proximity to population centers, as would be the case with the Weaver's Cove proposal. So while Fall River may not be a priority target for terrorists today, it would be irresponsible to assume that the target of opportunity presented by the Weaver's Cove proposal would go unnoticed. I note that Richard Clarke shares this view.

Q. If we accept your conclusion that there would be a heightened risk of terrorist attack both at the terminal site and along the tanker route, and that the possibility of such an attack can never be eliminated, what would be required to reduce the probability of a successful attack as much as is possible?

A. It would require the constant deployment of far more resources than we can hope to muster. I have to give you some background. The City of Fall River, under the leadership of Mayor Lambert, is struggling to emerge out of a prolonged period of economic despair. I will leave to others the articulation of our recovery plan and how it would be impacted if the Weaver's Cove proposal were allowed to go forward. The point that I want to make is that our population already is shouldering as much of a financial burden as is tolerable. The resources available to my Department, and to the Fire Department as well, already are struggling to

meet daily responsibilities without any cushion to spare. Yet the presence of the Weaver's Cove terminal in our midst would dwarf any need that now confronts us.

Q. What do you mean by suggesting that the presence of Weaver's Cove would present an incomparable challenge?

A. Along the proposed transit route of a vessel into the Weaver's Cove site there are numerous choke points formed by narrow waterways and straits, including bridges. In addition, there are several marinas, a state pier, and the shoreline is densely populated with homes, condos, businesses, an oil storage facility and a future middle school. There are many areas along the shoreline that are accessible to the general public, which would pose a great threat to the safe transit of a vessel up the Taunton River. The transit of LNG up the Taunton River has the potential, if attacked, to result in catastrophic loss of life and/or catastrophic economic loss to the City of Fall River and the surrounding region.

With this in mind, it is my opinion that in order to provide adequate security for the safe transit of LNG along the proposed route, a complete evacuation of the 500-yard zone along the path of the LNG tanker route would have to be conducted for both the inbound and outbound operations. As I understand it, a RPG is accurate within a distance of roughly 500 yards, and in my judgment a total evacuation of the area from which a RPG can be accurately fired is necessary in order to minimize prevention of an attack.

Q. You believe that the only way to minimize the possibility of a terrorist attack on an LNG carrier close to heavily populated areas within Fall River is to evacuate all areas of the City that fall within 500 yards of the route of the LNG carriers to the Weaver's Cove terminal?

A. Yes.

Q. In your judgment, would it be feasible to evacuate such areas each time an LNG carrier comes or goes?

A. No. There is no question in my mind that such an evacuation would not be feasible. Because of the extensive areas within Fall River that fall within such a 500 yard zone, evacuation of the homes, businesses, health facilities, and schools, would not be possible.

Q. Do you have any estimate of the number of homes and other buildings that would be included within such a zone?

A. Including the buildings that would be within a radius of 1000 yards from an LNG carrier moored at the terminal, the Fall River side of the zone that I believe would need to be evacuated in order to provide adequate security contains approximately 675 homes and apartments, 77 businesses (including a kidney treatment center), and a proposed middle school planned for 800 students. In addition, this zone includes several of the major roads serving Fall River, including Route 79, Brightman Street (including the Brightman Street Bridge), and North Main Street.

Q. Why are you including the area within a radius of 1000 yards around an LNG carrier moored at the terminal?

A. I am including that area for several reasons. First, I believe including that area is in fact required by regulations issued by the Coast Guard, 33 CFR § 165.121. That regulation, promulgated in 2002, designates as both safety and security zones the area (including land) within a 1000 yard radius of any "high interest vessel" moored at a waterfront facility in Providence Captain of the Port zone, and Fall River is within that zone. Moreover, the regulation goes on to define a "high interest vessel" to include ships carrying LNG. Section 165.23 provides that "no person may remain in a safety zone or allow any vehicle ... or object to remain in a safety zone unless authorized by" the Captain of the Port; and § 165.33 includes a similar requirement with respect to security zones. While these prohibitions may be waived by the Captain of the Port or other designated Coast Guard officials, the idea of a blanket waiver to anyone and everyone would totally defeat the purpose of the regulation. And that purpose is to ensure security, and to ensure safety.

Second, I believe that to truly ensure security, 500 yards is simply not enough of a buffer. Indeed, since RPGs are generally accurate within 500 yards, that distance provides no buffer at all. Unless we could station a policeman every 5 or 10 yards around the 500-yard radius, we would need a substantially bigger evacuation zone to ensure that no one intent on doing grievous injury to the people of Fall River,

and to the United States, was able to get close enough to the LNG carrier or terminal.

Q. You concede, though, that even an evacuation of the area within 500 yards of the LNG carrier route is not feasible.

A. Yes, that is correct. Such an evacuation, on a regular and routine basis, is not possible.

Q. What are the implications of the infeasibility of such an evacuation?

A. I believe that the implications are clear – that the Commission should recognize that it is impossible to provide adequate security for the Weaver's Cove terminal, given the location of that proposed terminal, and given the narrow passages that the LNG carriers supplying that terminal would have to traverse.

Q. You appear to assume that protection of the tankers from terrorist attack would require on-shore surveillance. Isn't this inconsistent with the premise that was adopted by the security planning group?

A. It is. At the planning sessions that I attended the operating premise was that surveillance of the shoreline could be accomplished by positioning security personnel on ships that would escort the tankers. As I expressed during those sessions, it is not possible to prevent shore-based attacks through on-water surveillance activities even if it were assumed that upon spotting suspicious activity shore-based security units would be notified. First, assuming that threats

could be spotted from the water, which I, based on my detailed familiarity with the area, would consider to be highly unlikely due to the topography and level of development in certain areas, the probability of having sufficient time to notify and reposition land-based forces in time to thwart an attack is close to zero. More importantly, it is highly improbable that water-based surveillance would succeed in locating land-based threats. Throughout the length of the more than five-mile tanker route in Massachusetts there are too many available man-made and natural buffer zones that would readily accommodate a terrorist intent on alluding surveillance. The problem is magnified along the Rhode Island portion of the route. At most, on-water surveillance may help to identify the area from which an *attack already has been launched, not to prevent it.*

Q. What areas of the shoreline would you consider to have the potential as serving as the site from which an attack could be launched?

A. Considering the range of the weapons likely to be available even to the most untutored terrorist, it would certainly be necessary to include as "high risk" any area that would allow a terrorist to be positioned within 500 yards of the tanker route. In the security planning sessions we referred to these as "pinch points." I have reviewed what that implies for the Massachusetts portion of the route and I can tell you that it covers a good portion of the contiguous shoreline. The on-shore demographics along the proposed transit route of a vessel into the Weaver's Cove site contain a number of characteristics of "pinch" or "choke" points. The

Taunton River is a narrow waterway with several bridges, several marinas, and a state pier. The shoreline is densely populated with homes, condominium units, businesses, an oil storage facility, and it is soon to be the site for a planned middle school. Accessibility of the public to areas reasonably contiguous to the shoreline exists throughout much of the tanker route. Based on my analysis I was forced to the conclusion that it would be untenable to secure an area that substantial. Again, in Rhode Island, a far larger area would be within the "high risk" definition.

Q. What course of action would you feel necessary in those areas?

A. At the risk of appearing flippant, which I certainly do not intend, the only way of even hoping to reduce the risk to the minimum level possible, while still not eliminating it, is to evacuate the entire "high risk" area contiguous to a moving or berthed tanker.

Q. Surely you recognize that would not be possible.

A. I do. Remember, that would include the area around the terminal whenever and for however long a tanker is berthed. But the fact that it cannot be done does not mean that it shouldn't be done if the risk of attack is to be minimized. Consider the requirements imposed by the Coast Guard post-9/11 for the purpose of minimizing attacks on LNG tankers. That requirement dictates a minimum of a 1000 yard exclusion zone around LNG tanker traffic *in these very waters*. 33 CFR 165.121. While the local commander is authorized to issue ad hoc waivers if

warranted by the circumstances, the regulation sets out the general rule that was thought necessary. Moreover, the waiver possibility is to permit the passage of vessels that confidently can be assumed not to present a terrorist threat. The existence of the minimum 1000 foot exclusion requirement only serves to underscore the necessity for a similar requirement on land without the possibility of waivers except perhaps for limited land areas that are well fortified and inaccessible to the general public, and such areas do not exist along our shoreline. First, if water-based attacks are to be discouraged, it must be assumed that terrorists would favor land-based opportunities. Second, water-based attacks, by their very nature, are more complicated, as the assessment of Richard Clarke makes clear. Land-based attacks need not be as rushed and the vagaries of changing water conditions is eliminated as a complication. The fact that comparable land-based security precautions would not be possible only serves to underscore the irrationality of the location proposed for the Weaver's Cove project.

Q. *Now please describe the difficulties that you would confront in the event of a spill, whether as the result of an accident or as the result of an intentional act.*

A. Let me start by first addressing the complexities of evacuation in the event of a "pool fire" and begin with the terminal location. To assist the Commission's understanding of those complexities it is important that I first describe for you both the population that would be within the area of heightened concern, and the

difficulties associated with the available evacuation routes. Approximately 9,000 residents live within a mile of the proposed terminal location with the closest residence only 1200 feet away. I have attached to this testimony as Exhibit A, a map of the terminal and the surrounding area. A new middle school with approximately 800 students is planned for the area. There is a Kidney Center within the area, a large number of business establishments, and a high rise apartment complex containing 82 units occupied by elderly and disabled residents. Moreover, as should be clear from the attachment, the area that houses a majority of the population that would be most affected has extremely limited "escape" routes available to it and what is most critical is that for a large segment of that population in order to gain access to an exit route it first would be necessary to head *into the area of paramount danger*. Many of the side streets are dead ends, requiring egress to be in the direction of the likely area of conflagration. To imagine that persons living in those areas and seeking to expedite their evacuation would then have available to them adequate protective gear, or if they did have such gear that they would locate it and put it on in less than 30 seconds, is foolhardy. Imagine the sheer terror that would then confront a mother as she struggled to round up her children, and cloak them with protective gear, *all in 30 seconds*. How would the elderly or the infirm cope? Even if it were assumed that it would be possible to supply every local resident with protective gear, are they to carry it with them as they carry on their daily lives within the zone of maximum danger? And what is to become of the transients?

Are they to be issued protective gear as they enter the zone? The very idea that the permanent and the transient population can be given any modicum of assurance that they will be safe, *when life-threatening danger is but 30 seconds away,* is ludicrous.

Now consider the difficulties that would be confronted along the approximately 5 mile tanker transit zone that lies within Massachusetts. The one-mile minimal evacuation zone, with the associated 30-minute limitation, would extend along that entire route. As a result, thousands of additional people would now find themselves to be residents of the zone of heightened danger with countless thousands of transitions in attendance at any point in time. Even if it were assumed that we could provide protective equipment for the permanent residents around the terminal, are we to do that for the population along the route? And must everyone traveling that route, whether a resident or not, always have at their fingertips protective gear? Even assuming that we could conduct regular evacuation drills for residents contiguous to the terminal, are we to do that for everyone who may at some point find him or herself traversing the shoreline? How do we do that? How do we even get there in time to facilitate the evacuation that must be completed within 30 seconds?

Finally, there is the added complications that would be associated with the secondary fires that could be ignited as the LNG fire comes into contact with other flammable sources.

I did not mean to pose what simply would be assumed to be a series of rhetorical questions. They are the questions that have caused the Mayor, my associates and me to bear countless sleepless hours since we became aware of the Weaver's Cove proposal and since we began to appreciate the threat that it presents to our citizenry.

Q. Chief Souza, thus far you have addressed your concerns associated with "pool fires". Do you have concerns about the potential for the release of vapor clouds following a breach of containment?

A. I most certainly do. Everything that I already have said about "pool fires" can apply as well in the case of a release that results in the dispersion of a vapor cloud. The ultimate danger is that the cloud will ignite. The problem is that we do not know where ignition might take place. It can occur anywhere along the downwind path of the cloud up until the point where the methane concentration is dissipated below the level that would support ignition. Remember that there is agreement that the extent of that danger zone, according to government experts, is at least 2 miles and according to Dr. Havens may well be as much as 3 miles from the point of the initial spill.

Q. What are the implications, from a public safety standpoint, of the possibility of a vapor cloud extending for 2 or even 3 miles?

A. If you could tell me the size of the initial release, the direction and the intensity of wind flows at the time of that release, and where the cloud might first come into

contact with a source of ignition then, but only then, could I even begin to anticipate the population that could be adversely affected and the difficulties that would be associated with safe evacuation. But of course neither you nor anyone else can provide me with that critical information, either for a spill at the site of the terminal or for one along the tanker route. The most severely affected population might, if we are exceedingly fortunate, be limited to hundreds, but it just as easily could reach tens of thousands. How do you plan for evacuation when the location of the occurrence is subject to such uncertainty? How do you marshal and get adequate evacuation people at the required location when that location cannot be identified in advance and when the escape window shuts in 30 seconds? It simply cannot be done, even if we had available to us endless financial resources, and that is one thing that Fall River surely lacks.

Q. Chief Souza, you made reference to the need for protective gear as a defense against second degree burns. Can you describe what type of gear would be required, at a minimum?

A. I would defer to the expertise of the professionals in the fire service to recommend what protective gear would be necessary by first responders to assure that they are protected and thus able to facilitate the safe evacuation of others.

Q. Chief Souza, do you have any concluding thoughts that you would like to share with the Commission?

A. I do. Those of us who have public safety as our daily responsibility do not often have the opportunity to take preventative action that in and of itself would eliminate a substantial threat to that safety. The Commission is being presented that opportunity. In a sense, I envy the opportunity that rests with the Commission. It alone has the power to take effective action. I pray that it avails itself of that opportunity. If it fails to, and if it instead permits the Weaver's Cove proposal to go forward, I can tell you, with one hundred percent confidence, that it will not be possible to protect a vast segment of the Fall River area, and a vast population in Rhode Island as well, from the horrors of an attack or from the consequences either of an attack or of an accident. Thousands upon thousands of lives will daily be in peril. I and my fellow officers will do our best to provide protection, but if you approve this project you would be disregarding my best professional judgment as a public safety officer, and you would be setting the stage for a catastrophic loss to the people of Fall River, and indeed to every American. The lives of my neighbors will have been changed irreparably.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Weaver's Cove Energy, L.L.C. and	)	Docket Nos. CP04-36-000, CP04-41-000,
	)	
Mill River Pipeline, L.L.C.	)	CP04-42-000, and CP04-43-000
	)	

DECLARATION OF WITNESS

I, John M. Souza declare under penalty of perjury that the statements contained in the Prepared Direct Testimony of John M. Souza on behalf of the City of Fall River and the Attorney General of the Commonwealth of Massachusetts in this proceeding are true and correct to the best of my knowledge, information, and belief.

Executed on this 7th day of June, 2005.

John M. Souza
Chief of Police
City of Fall River, Massachusetts

Exhibit ____

Exhibit ___

Direct Testimony of Fire Chief, Stephen J. Rivard, Town of Somerset

Q. Please state your name, position and business address.

A. Stephen J. Rivard, Fire Chief, 475 County Street, Somerset, Massachusetts 02726

Q. For how long have you served in your present position?

A. I have been Fire Chief in the Town of Somerset for the past seventeen (17) years.

Q. Please summarize your educational background and work experience.

A. I hold an A.S. degree in Fire Science Technology from Bristol Community College and a B.S. in Fire Safety from Providence College.

I have a total of thirty (30) years experience in the Fire Service. Prior to becoming Fire Chief, I served several years as a shift commander and also as the department's training officer.

Currently, and for the past six years, I have served as the Director of the Fire Science Technology program at Bristol Community College in Fall River, Massachusetts. Prior to that I served as a fire science instructor at the College.

At various times I have also served as an instructor at the Massachusetts Fire Academy and at Vermont Yankee Nuclear Power Plant.

Q. Please indicate whether you have attended seminars, workshops or training sessions on subjects relating to emergency response and evacuation procedures.

A. Not only have I attended numerous seminars on emergency response and evacuation procedures, but I have had the opportunity to teach them.

Q. What is the purpose of your testimony in this proceeding?

A. I was asked by officials in Somerset to analyze the proposed location of an onshore LNG facility at the Weaver's Cove site in Fall River and to advise whether that location raised any issues that might affect the health and well-being of people residing in, working in, or visiting Somerset.

Q. Did you reach any conclusions from your analysis that you wish to share with the Commission?

A. I did. My analysis disclosed the fact that in the event of a breach of containment occurring at the onshore terminal or at a tanker while it is in the vicinity of the terminal, a significant segment of the population then within the limits of Somerset would be in the zone of danger, to the point of being vulnerable to life-threatening second degree burns. That, of course is significant enough. But I also found that the population of Somerset would be at risk each and every time that a tanker is traversing the Taunton River, either on its way to or from the Weaver's Cove site, whether or not there is an incident at the site or at a tanker. A study undertaken by the Southeastern Regional Planning and Economic Development District ("SRPEDD") reaches the conclusion that as the result of the closing of the Braga Bridge, the time that it would take to transport a person from within Somerset to the nearest hospitals, both of which are located within Fall River, could be extended from 5 or 10 minutes to, in the words of the Report, "30 minutes or more." Report at 18. It is important to recognize that the 30 minute

estimate assumes the continued availability of the Brightman Street bridge as an alternative route between Somerset and Fall River. That is probably an erroneous assumption. Security and safety considerations could require the simultaneous closure of both bridges. If there were an inability to cross the bridges that would provide access to the Fall River area, it would be necessary to transport injured or ailing individuals far greater distances to hospitals in the Providence area.

Q. Why are you assuming that normal tanker passages associated with the Weaver's Cove proposal would require the closing of the Braga Bridge?

A. It is the practice in the Boston area to close the Tobin Bridge whenever tankers are heading toward the Distrigas facility. Whether that is done because of security or safety concerns, I fail to see how the situation can be any different when it comes to tanker traffic associated with the proposed Weaver's Cove facility. Surely, the citizens of the Fall River-Somerset areas are deserving of no less protection.

Q. Why do you say that simultaneous closure of Brightman Street and Braga might be required?

A. If safety concerns suggest the advisability of closing either of those bridges, the nature of those concerns would dictate simultaneous closure because of the proximity of the bridges.

Q. On what do you base that judgment?

A. I base it on the advice that I have received from the experts retained by Fall River to advise it on safety issues, namely Drs. Havens and West.

Q. What advice in particular are you referring to?

A. I have been told that there is now a consensus among the experts that because of concerns over the potential for "pool" fires, and because of the near *instantaneous* onset of life threatening consequences should a fire occur, safety can be assured only by the establishment of an exclusion zone of no less than one mile and more probably a zone that would be as much as two miles from the likely point of conflagration, which would be either the terminal or a tanker. The Brightman Street and Braga bridges are within a mile and a quarter of each other.

Q. Might the simultaneous closure of both bridges be required for security concerns?

A. Yes. The risk assessment analysis that was completed by Richard Clarke makes clear that it is insufficient, from a security standpoint, to close a bridge only for the duration of the passage of the tanker through the bridge. Because of the range of the available artillery that is capable of breaching tanker containment, the duration of the closure must be long enough to permit the tanker to get out of harms way, at least in terms of an attack launched from the bridge. According to the artillery assessment in the Clarke Report, vulnerability remains even after a tanker has passed beyond a bridge. That leads me to the necessary conclusion that the Brightman Street and Braga bridges are not sufficiently far apart to

adequately protect against the possibility of attack without insistence on simultaneous closure.

Q. Even if it is the case that either or both the Braga and Brightman Street Bridges would be closed to traffic as a precautionary matter when LNG tanker traffic is in the immediate vicinity, surely that need not close those bridges to emergency response vehicles. Do you agree, and would that require you to amend your stated concern?

A. I do agree but that would not change my answer to any appreciable extent. It is inevitable that closure of a bridge causes the accumulation of traffic on either end of the bridge making access even by emergency vehicles difficult, if not impossible. It certainly would occasion delay. Delay in the provision of emergency services is life-threatening.

Q. What might the consequence be if response times and transport times to emergency care centers are extended?

A. Lives would be at peril. In a chronic emergency situation even seconds often count. The SRPEDD Report so states. Unfortunately, I know it only too well from my own experience. If the Commission entertains any lingering doubts about the criticality of seconds when it comes to the preservation of life surely those doubts are laid to rest by the testimony that it has been provided from Dr. Bruce Auerbach, the Chief of Emergency Services at Sturdy Memorial Hospital.

Q. Are you saying that the mere presence of the Weaver's Cove facility and the associated tanker traffic would pose a significant threat to the citizens of Somerset?

A. That is absolutely what I am saying.

Q. What might the consequences be to those citizens in the event of a breach of containment of either the Weaver's Cove terminal or of a tanker and a resulting pool fire or the dispersion of a vapor cloud?

A. The adverse consequences would be well beyond anything in our experience and well beyond our capability to manage. The potential for the loss of thousands of lives could not be ruled out, with thousands more exposed to life-altering injuries.

Q. On what do you base that dire conclusion?

A. On the fact that tens of thousands people can be expected to be within the one-mile zone of imminent danger. As I understand the advice that is being offered to the Commission by both Dr. Havens and Dr. West, the zone of imminent danger may well extend for more than one mile placing even more of the population of Somerset in immediate peril in the event of a pool fire or of the dispersion of a vapor cloud. Also, in the event of an incident resulting in a release of LNG, it must be assumed that the hospital facilities normally utilized by the citizens of Somerset, St. Anne's and the Charlton Memorial hospitals in Fall River, would be unavailable even if the bridges were to remain open as it would make no sense to head toward the area of danger. Moreover, the traffic and general chaos that

would engulf the entire area would all but preclude access to those hospitals which, in any event, would lack the capacity to accommodate treatment of the citizens of Somerset added to the burden already imposed by the more local population. The citizens of Somerset would have to look to the far more distant facilities that are located in the Providence area and, as the testimony of Dr. Auerbach makes abundantly clear, those facilities could not meet the need.

Q. Does this conclude your testimony?

A. Yes.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Weaver's Cove Energy, L.L.C. and Mill River Pipeline, L.L. C.	Docket Nos. CP04-36-000, CP04-41-000, CP04-42-000, and CP04-43-000

DECLARATION OF WITNESS

I, Stephen J. Rivard declare under penalty of perjury that the statements contained in the Prepared Direct Testimony of Stephen J. Rivard on behalf of the City of Fall River and the Attorney General of the Commonwealth of Massachusetts in this proceeding are true and correct to the best of my knowledge, information, and belief.

Executed on this 7th day of June, 2005.

Stephen J. Rivard
Fire Chief
Town of Somerset, Massachusetts