9110-04-P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

[Docket No. USCG-2014-0935]

Letter of Recommendation for Washington State Ferries Liquefied Natural Gas Conversion; Seattle, WA

AGENCY: Coast Guard, DHS.

ACTION: Notice and Response to Comments

SUMMARY: On June 27, 2014, Coast Guard Sector Puget Sound received a Letter of Intent (LOI) and Waterway Suitability Assessment (WSA) from Washington State Ferries (WSF) for a proposal to modify existing Washington State Ferry marine terminal operations to include the handling of Liquefied Natural Gas (LNG). The LNG would be transferred to and used as a marine fuel by six Issaquah Class Ferries converted to use LNG propulsion systems. In accordance with regulation and policy guidance, the Captain of the Port (COTP), Coast Guard Sector Puget Sound, in cooperation with key port stakeholders, will review and validate the

information in the WSA. The COTP will then issue a Letter of Recommendation (LOR) to the State of Washington Department of Transportation that conveys the Coast Guard's recommendation on the suitability of the following waterways for LNG marine traffic as it relates to safety and security: Guemes Channel, Rosario Strait, Thatcher Pass, Harney Channel, Upright Channel, Wasp Channel, San Juan Channel, Spieden Channel, Haro Strait, Sidney Channel, Possession Sound, Admiralty Inlet, Puget Sound, Sinclair Inlet, Rich Passage, Elliot Bay, Admiralty Passage, North East Passage, and Colvos Passage.

As part of this validation process, the Coast Guard, on November 12, 2014, published a "Notice and Request for Comments" in the Federal Register which solicited public comments to inform the COTP's recommendation. A number of comments were received, including two outside the comment period. This document summarizes those comments, explains whether or not they are appropriate for consideration under regulation, and provides additional information to help inform the public about the various issues raised in them.

FOR FURTHER INFORMATION CONTACT: For further information about this document call or email LT Sarah Rodiño, Coast Guard Sector Puget Sound; telephone 206-217-6623, e-mail sarah.e.rodino@uscg.mil.

BACKGROUND:

In accordance with 33 CFR 127.007, the COTP, Coast Guard Sector Puget Sound, received an LOI and WSA from WSF on June 27, 2014 regarding WSF's proposal to modify existing Washington State Ferry marine terminal operations and add the handling of LNG. The LNG would be transferred to and used as a marine fuel by six Issaquah Class Ferries converted

to use LNG propulsion systems. The LOI notes that if the conversion is completed, each vessel would require fueling by truck once every 7 to 10 days.

Pursuant to 33 CFR 127.009, and using the guidance set forth in reference to the Coast Guard's Navigation and Vessel Inspection Circular (NVIC) 01-2011, "Guidance Related to Waterfront Liquefied Natural Gas (LNG) Facilities," the COTP is reviewing and validating WSF's WSA in cooperation with key port stakeholders. To assist the COTP, the Coast Guard on November 12, 2014 published a "Notice and Request for Comments" in the Federal Register (79 FR 67179) seeking public comments on WSF's proposal. Once the COTP finishes the review and validation of WSF's WSA, he will develop the LOR with accompanying analysis and provide it to the State of Washington Department of Transportation as the agency with jurisdiction over WSF's proposed activity.

Thirteen comments were received, including two outside the comment period. This document summarizes those comments, explains whether or not they are appropriate for consideration under 33 CFR 127.009, and provides additional information to help inform the public about the various issues raised in them. Comments that fell outside the scope of the WSA but are relevant to the vessel design modifications will be forwarded on to the Coast Guard Marine Safety Center (MSC) to be considered during the design review and approval process in accordance with 46 CFR 71.65-10.

WSF's LOI, WSA, and other supporting documentation can be viewed at: http://www.wsdot.wa.gov/Ferries/Environment/LNG.htm. The public comments received by the Coast Guard can be viewed at: http://www.regulations.gov/#!docketBrowser;rpp=100;so=DESC;sb=docId;po=0;dct=PS;D=US

CG-2014-0935. A copy of NVIC 01-2011 is available for viewing on the Coast Guard's web site at http://www.uscg.mil/hq/cg5/nvic/2010s.asp.

The Coast Guard sincerely appreciates the comments received.

SUMMARY AND DISCUSSION OF COMMENTS RECEIVED:

Cost and Funding of Conversion

Multiple comments expressed concern that the proposed conversion is too expensive and that the funding that would pay for the conversion should be spent in a different manner. The COTP's role with regard to WSF's proposal is limited to issuing an LOR to the Washington State Department of Transportation regarding the suitability of the waterway for LNG marine traffic based on the criteria listed in 33 CFR 127.009. Cost of vessel conversion issues fall outside the scope of the LOR. As such, these comments will not be considered by the COTP in issuing the LOR.

Pollution

Two comments expressed concern that LNG poses a pollution threat to the environment. As an issue relevant under 33 CFR 127.009, the COTP will consider those comments in issuing the LOR. For the public's awareness, the Coast Guard will examine WSF's Emergency and Operations Manuals as required by 33 CFR 127.019 covering the transfer system and transfer procedures. These manuals include but are not limited to LNG release response procedures, local response organizations contact procedures, and emergency shutdown procedures.

Security

Several comments expressed concern that exposed LNG tanks on the proposed converted ferries pose a security risk. As an issue relevant under 33 CFR 127.009, the COTP will consider those comments in issuing the LOR. For the public's awareness on this topic, the Coast Guard oversees a multilayered security framework under 33 CFR parts 101-105 to enhance maritime security throughout the Puget Sound region. If the WSF proposal is approved by the Washington State Department of Transportation, the marine terminal would be required to submit a facility security plan in accordance with 33 CFR part 105. Washington State Ferries is currently required to comply with 33 CFR part 104 which requires in-depth security assessments and Coast Guard-approved vessel security plans. WSF currently has Coast Guard-approved vessel security plans covering each of its vessels. These security plans would be reviewed and amended as necessary to reflect the conversion to LNG fuel.

Design of Converted Ferries

Multiple comments expressed concern about the design of the proposed converted ferries and that the use of LNG poses an unnecessary risk to passengers. The COTP's role with regards to the subject proposal is limited to issuing an LOR to the Washington State Department of Transportation regarding the suitability of the waterway for LNG marine traffic based on the items listed in 33 CFR 127.009. This comment fell outside the scope of the Waterways Suitability Assessment but is relevant to the vessel design modification and will be forwarded on to the Coast Guard MSC to be considered during the design approval process in accordance with 46 CFR 71.65-10. At this time, final plans have not been submitted by WSF to MSC.

One comment stated that WSF should be required to update its Emergency Manual and include it as part of the docket. This comment fell outside the scope of the WSA but for the

public's awareness, Operations and Emergency Manuals are required under 33 CFR 127.019. As such, the Coast Guard will examine Emergency and Operation Manuals for compliance with 33 CFR 127.305 and 33 CFR 127.307. WSF will be required to submit copies of these manuals to the COTP 30 days prior to transferring LNG. The COTP may also require WSF to update other required safety plans as necessary.

Two comments expressed concern that a seaplane or other aircraft could collide with an LNG tank onboard a converted ferry. As an issue relevant under 33 CFR 127.009, the COTP will consider those comments in issuing the LOR. For the public's awareness on this topic, historical data shows that instances of unintentional aircraft collisions with ferries are extremely low. Malicious or intentional collisions will be considered in the security threat mitigation strategies explained previously.

Two comments expressed concern that a large commercial vessel could collide with a converted ferry carrying LNG causing a tank rupture and explosion. As an issue relevant under 33 CFR 127.009, the COTP will consider those comments in issuing the LOR. For the public's awareness on this topic, the risk of collision between large commercial vessels is mitigated significantly through a number of systems, processes, and requirements already in place today including the Coast Guard's Vessel Traffic Service (VTS), Automated Identification System (AIS), and Automatic Radar Plotting Aids (ARPA) as well as established traffic separation schemes and the International Regulations for Preventing Collisions at Sea (COLREGS) Navigation Rules governing vessel navigation. In addition, Federal and state laws require large vessels transiting within Puget Sound, including WSF ferries, to be under the direction and control of a federally licensed pilot. A federally licensed pilot is an experienced navigator with expertise specific to Puget Sound who provides significant risk mitigation in regards to

collisions. Of note, VTS Puget Sound closely monitors and, as necessary, directs all large commercial vessel traffic throughout the Puget Sound including the routes transited by the Issaquah class ferries. The Issaquah class ferry routes have remained unchanged for at least 55 years and there are no proposed changes to the routes.

One comment expressed the opinion that the Coast Guard should define strict criteria for conducting risk analysis and research. The Coast Guard in our role as stewards of safety and security in the maritime arena regularly integrate risk management into every aspect of our maritime governance and operations. 33 CFR part 127 and NVIC 01-2011 contain tailored requirements and guidance based on risk. In addition, the Coast Guard has commissioned studies from Sandia National Laboratories to examine the risks associated with potential LNG spills. These reports are titled "Guidance on Risk Analysis and Safety Implication of a Large Liquefied Natural Gas (LNG) Over Water" (2004) and "Breach and Safety Analysis of Spills over Water from Large Liquefied Natural Gas Carriers" (2008). These studies are available online at: http://www.energy.ca.gov/lng/documents/2004-12_SANDIA-DOE_RISK_ANALYSIS.PDF and http://www.lngfacts.org/resources/SANDIA_2008_Report_-_Large_LNG_Vessel_Sa.pdf.

Further, NVIC 01-11 was written based on Risk Based Decision Making, COMDTINST M16010.3, which can be found at: http://www.uscg.mil/hq/cg5/cg5211/risk.asp.

One comment expressed concern about WSF's plan to fuel the converted ferries by parking a tank truck on the terminal transfer span, placing the vehicle on an inclined plane. As an issue relevant under 33 CFR 127.009, the COTP will consider this comment in issuing the

LOR. For the public's awareness, the Coast Guard will examine WSF's Operations Manual as required by 33 CFR 127.019 covering the transfer system and transfer procedures.

Regulatory Guidance

One comment expressed concern that currently there are no Federal regulations regarding LNG fueled passenger vessels. The commenter is correct that there are currently no Federal regulations in place that specifically govern the installation and use of LNG as a marine fuel. This concept is new in the United States, although it is more commonly used internationally. The Coast Guard has issued vessel design and LNG bunkering policy documents that provide guidelines for facility and vessel owner operators to use in consideration of facility operations and vessel design. Those documents can be found at: http://www.uscg.mil/hq/cg5/lgcncoe/docs/Bunking%20Policy%20LTR.pdf and http://www.uscg.mil/hq/cg5/lgcncoe/docs/LNGF%20Policy%20LTR.pdf

One comment expressed concern that there is not explicit guidance regarding the criteria for developing or evaluating a WSA. The requirements and guidance are located in 33 CFR 127.007 and NVIC 01-11.

Problems with the WSA

One comment expressed concern that the WSA referenced unverified probability calculations for tank collisions from SOLAS Chapter II-1. As an issue relevant under 33 CFR 127.009, the COTP will consider those comments in issuing the LOR. For the public's awareness on this topic, there is a lack of historical information regarding tank collision

probabilities, due to a lack of previous occurrences. However, it should be noted that the current resources available for mitigating vessel collisions (previously described above) considerably reduce the probability of vessel collisions.

One comment stated that the SOLAS model used for collision damage in the WSA is meant to be used on vessels designed for an ocean route and the WSF ferries were constructed for lakes, bays and sounds route. As an issue relevant under 33 CFR 127.009, the COTP will consider those comments in issuing the LOR. For the public's awareness on this topic, DNV-GL determined that the use of this model was the best approach available because a probability model does not exist for a vessel of similar structure as the WSF ferries.

One commenter stated that DNV did not utilize the correct tank volume of fuel in the risk assessment models. The correct tank volume was incorporated in Revision 03 of the WSA.

One comment stated that DNV-GL used inappropriate ignition probability models when utilizing the International Association of Oil and Gas Producers (OGP) Scenario 24 Floating Production, Storage, and Offloading (FPSO) Vessels Gas model. As an issue relevant under 33 CFR 127.009, the COTP will consider those comments in issuing the LOR. For the public's awareness on this topic, no statistically significant data exists for ignition probability models for LNG as fuel onboard passenger ferries. The model used by DNV-GL is meant to model ignition probability onboard larger scale offshore vessels and was chosen because it represents a more conservative and representative model for application to the WSF vessel design.

One comment expressed concern that the societal risks identified in the WSA required that risks falling in the range between "broadly acceptable" and "maximum tolerable" be mitigated so that they are As Low As Reasonably Possible (ALARP) and that the WSA did not

address mitigating factors to reach the ALARP mitigation. As an issue relevant under 33 CFR 127.009, the COTP will consider those comments in issuing the LOR. During the validation process, the COTP will determine if appropriate risk management strategies have been identified.

One comment expressed concern that the WSA was not completed objectively and appears to be incomplete. As an issue relevant under 33 CFR 127.009, the COTP will consider those comments in issuing the LOR. As part of the LOR process and in accordance with NVIC 01-2011, the COTP has been and will continue to review and validate the WSA in cooperation with key port stakeholders. This validation will determine if the WSA presents a realistic and credible analysis of the public safety and security implications of introducing LNG marine traffic into the port and waterway.

This response to comments is issued under authority of 33 CFR 127.009.

Dated: August 20, 2015

M. W. Raymond
Captain, U.S. Coast Guard
Captain of the Port, Sector Puget Sound

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