



LGC NCOE Field Notice 01-2015, CH-1
16711/16-001
05 Jan 2016

MEMORANDUM

From: J. E. SMITH, CDR

To: Distribution

Subj: CH-1 TO LNG BUNKERING RECOMMENDATIONS

Ref: (a) LNG Bunkering Recommendations, LGC NCOE Field Notice 01-2015

(b) CG-OES Policy Letter 01-15 – Guidance for Liquefied Natural Gas Fuel Transfer Operations and Training of Personnel on Vessels using Natural Gas as Fuel

(c) CG-OES Policy Letter 02-15: Guidance Related to Vessels and Waterfront Facilities Conducting Liquefied Natural Gas (LNG) Marine Fuel Transfer (Bunkering) Operations.

1. This notice publishes change one to Reference (a) to differentiate LNG bunkering recommendations specific for U.S. flagged vessels from recommendations for all vessels (U.S. and non-U.S. flagged vessels). Key changes are noted with underlined text.
2. The LGC NCOE has witnessed several LNG bunkering operations over the last few months and seen common errors/failures, some that have resulted in the release of LNG and/or near misses, but also others that have gone very well. It is critically important for all parties involved to fully understand the risks that are presented when transferring LNG. While LNG can be handled safely, its cryogenic, asphyxiant, and flammability hazards must be recognized and mitigated in order to avoid serious personnel injury, vessel damage, and/or other harmful effects. This LGC NCOE Field Notice augments References (b) and (c) and shares the following recommendations based off best practices and lessons learned observed during recent LNG bunkering operations in order to prevent future incidents:
 - a. All vessels engaged in LNG bunkering operations should have procedures for inerting, purging, cool down, loading, and testing of Emergency Shutdown Devices (ESDs) similar to what is seen in a Safety Management System (SMS) prior to conducting LNG bunkering. For U.S. vessels, these procedures should be reviewed by the Coast Guard prior to any LNG bunkering operation and if the vessel's initial Inspection for Certification is not complete, interim procedures should be developed prior to the vessels first bunkering operation (e.g., preceding sea trials). If the vessel does not fall under a SMS, some alternate procedures should be developed prior to the vessel's first bunkering operation.
 - b. U.S. vessels engaged in LNG bunkering operations should have LNG piping drawings/plans which have been approved by the Marine Safety Center; and the local OCMI should verify that the as built arrangements meet these approved plans prior to any LNG bunkering operations.

- c. All vessels engaged in LNG bunkering operations should ensure their crews have specific familiarity with the vessel's LNG fueling system in addition to the training requirements noted in the policy letters listed in References (b) and (c).
 - d. If LNG bunkering preparations and operations last longer than 8 hours, a duty rotation should be developed to ensure personnel involved received appropriate rest.
 - e. All vessels engaged in LNG bunkering operations should have the ability to produce a historical record of all fueling alarms and valve closure times. These records should be available for inspection.
 - f. A thermal oxidizer, marine flare, or any other equipment that produces an open flame should be placed outside the safety zone if used during LNG bunkering operations.
 - g. Until the Coast Guard provides workforce development for LNG as fuel and LNG bunkering operations to include PQS, TTP and training to properly prepare field inspectors, local marine inspectors should attend LNG as a marine fuel and LNG bunkering PIC courses.
 - h. The LGC NCOE should be involved in initial pre-bunkering and bunkering processes to provide LNG expertise for the planning, setup, and the actual operation.
3. In the event of an LNG bunkering equipment (i.e. gas detector, relief valve, loading valve, and pump) failure, the local Coast Guard office should do an investigation to determine the cause and identify measures to prevent future failures.
4. The information in this field notice is being provided as recommendations for field units to use in evaluating the safety of LNG bunkering operations, and is not intended to be policy guidance; however field units are encouraged to share these recommendations with their industry counterparts. Specific policy guidance on LNG transfer operations is found in References (b) and (c).
5. Additionally, the newly established LNG Fuel Workforce Development Committee (LNGFWDC) is in the process of creating LNG Bunkering Job Aids. These job aids will be first released as a LGC NCOE Field Notice and forwarded to respective program offices for potential Coast Guard-wide implementation. Once available as a field notice, these tools should be used in preparation of and during LNG bunkering operations.
6. The LNG bunkering subject matter expert at the LGC NCOE is LCDR Dallas Smith. He can be reached by email at dallas.d.smith@uscg.mil or by phone at 409-723-6559.

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