

LNG Regulatory Oversight References and Guidelines						Applicability		
Publication	Title	Year	(Code, Standard, Guideline, Rule, Policy Letter)	Specific to Marine (Y/N)	Origin	Onshore	Bunkering	Onboard
USCG	33 CFR 105 – Maritime Security: Facilities	2018	Code	Y	USA	X	X	X
IMO	The Seafarers' Training, Certification and Watchkeeping Code of the IMO (STCW Code)	1978	Code	Y	Global	X	X	X
NFPA 52	Vehicular Natural Gas Fuel Systems Code	2019	Code	Y	USA	X	X	X
IMO	International Convention for the Prevention of Pollution from Ships Annex	2005	Convention	Y	Global	X	X	X
OSHA	29 CFR 1910.119 Process Safety Management of Highly Hazardous Chemicals	2018	Guideline	N	USA	X	X	X
SIGTTO	LNG Operations in Port Areas	2003	Guideline	Y	Global	X	X	X
SIGTTO	The Selection and Testing of Valves for LNG Applications	2005	Guideline	Y	Global	X	X	X
CCNR	Rhine Vessel Inspection Regulations	1995	Regulation	Y	Global	X	X	X
CEN	EN 12838 – Installations and equipment for liquefied natural gas – Suitability testing of LNG sampling systems	2000	Standard	N	Europe	X	X	X
ISO	ISO 16903:2015 Petroleum and natural gas industries – Characteristics of LNG, influencing the design, and material selection	2015	Standard	N	Global	X	X	X
ISO	ISO 31010 – Risk management – Risk assessment techniques	2019	Standard	N	Global	X	X	X
ISO	ISO 8216-1: 2017 – Petroleum products – Fuels (class F) classification – Part 1: Categories of marine fuels	2017	Standard	Y	Global	X	X	X
ISO	ISO 8217: 2017 – Petroleum products – Fuels (class F) – Specifications of marine fuels	2017	Standard	Y	Global	X	X	X
ISO	ISO 8943 – Refrigerated light hydrocarbon fluids – Sampling of liquefied natural gas – Continuous and intermittent methods	2007	Standard	N	Global	X	X	X

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Publication	Title	Year	(Code, Standard, Guideline, Rule, Policy Letter)	Specific to Marine (Y/N)	Origin	Onshore	Bunkering	Onboard
NFPA 30A	Code For Motor Fuel Dispensing Facilities and Repair Garages	2018	Code	Y	USA	X	X	
CSA Z246.2	Emergency preparedness and response for petroleum and natural gas industry systems	2018	Code	N	Canada	X	X	
CSA Z276	Liquefied natural gas (LNG) – Production, storage, and handling	2018	Code	N	Canada	X	X	
CSA/ANSI LNG 4.1	LNG Vehicle Dispensing Systems	2018	Code	N	Canada	X	X	
CSA B108	Natural gas refueling stations installation code	2018	Code	N	Canada	X	X	
CSA Z246.1	Security management for petroleum and natural gas industry systems	2017	Code	N	Canada	X	X	
EMSA	Guidance on LNG Bunkering to Port Authorities / Administration	2018	Guideline	Y	Europe	X	X	
SIGTTO & SGMF	Standards and Guidelines for Natural Gas Fuelled Ship Projects	2015	Guideline	Y	Global	X	X	
PIANC	MarCom WG 172: Design of Small to Mid-Scale Marine LNG Terminals Including Bunkering	2016	Report	Y	United Kingdom	X	X	
EMSA	Study on Standards and Rules for Bunkering of Gas-fuelled Ships	2013	Rules	Y	Europe	X	X	
DSEAR	Energy Institute Model Code of Safe Practice Part 15: Area Classification Code for Installations Handling Flammable Fluids	2015	Code	N	United Kingdom	X		X
SIGTTO	ESD Arrangements and Linked Ship/Shore Systems for Liquefied Gas Carriers	2009	Guideline	Y	Global	X		X
USCG	33 SCF 127 – Waterfront Facilities Handling LNG and Liquefied Hazardous Gas	2018	Code	Y	USA	X		
US DOT PHMSA	49 CFR 193 LNG Facilities: Federal Safety Standards	2018	Code	N	USA	X		
CSA C22.2	Canadian Electrical Code	2017	Code	Y	Canada	X		
NFPA 59	Utility LP-Gas Plant Code	2018	Code	N	USA	X		
SIGTTO	Guide to Contingency planning for marine terminals handling liquefied gases in bulk	2001	Guideline	Y	Global	X		
SIGTTO	Site Selection and Design for LNG Ports and Jetties	1997	Information Paper	Y	Global	X		
COTIF	Regulations Concerning the International Carriage of Dangerous Goods by Rail	2019	Regulation	N	Global	X		

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PIANC	MarCom WG 116: Aspects Affecting the Berthing Operations of Tankers to Oil and Gas Terminals	2012	Report	Y	United Kingdom	X		
CEN	EN 13645 – Installations and Equipment for Liquefied Natural Gas – Design of onshore installations with a storage capacity	2002	Standard	Y	Europe	X		
CEN	EN 1473 – Installation and equipment for liquefied natural gas – Design of onshore installations	2007	Standard	N	Global	X		
CEN	EN 1474-1 – Installation and equipment for liquefied natural gas – Design and testing of marine transfer systems Part 1: Design and testing of transfer arms	2008	Standard	Y	Europe	X		
CSA B620	Highway Tanks and TC Portable Tanks for the Transportation of Dangerous Goods	2014	Standard	N	Canada	X		
ISO	ISO 16904:2016 – Design and testing of LNG marine transfer arms for conventional onshore terminals	2016	Standard	Y	Global	X		
CSAB621	Selection and Use of Highway Tanks, TC Portable Tanks, and Other Large Containers for the Transportation of Dangerous Goods, Classes 3, 4, 5, 6.1, 8, and 9	2014	Standard	N	Canada	X		
CSA B622	Selection and Use of Highway Tanks, TC Portable Tanks, and Ton Containers for the Transportation of Dangerous Goods, Class 2	2014	Standard	N	Canada	X		
TC	Policy Letter RDIMS: 11153519 Policy Requirements for Vessels Using Natural Gas as Fuel	2-Nov-17	Policy Letter	Y	Canada		X	X
DNV-GL	Part 6 Chapter 13, Gas Fuelled Ship Installations	2016	Rules	Y	Global		X	X
DNV-GL	Rules for Classification - Ships	Jan-17	Rules	Y	Global		X	X
USCG	33 CFR 154 - Facilities Transferring Oil or Hazardous Material in Bulk	2018	Code	N	USA		X	
ISO	ISO/TS 18683:2015 Guidelines for Systems and Installations for Supply of LNG as Fuel to Ships	2015	Guideline	Y	Global		X	
SGMF	Recommendation of Controlled Zones during LNG Bunkering	2018	Guideline	Y	United Kingdom		X	
SGMF	Simultaneous Operations (SIMOPS) during LNG Bunkering	2018	Guideline	Y	United Kingdom		X	
WPCI	Bunkering Checklist		Other: Webpage	Y	Global		X	
USCG	Policy Letter CG-OES 01-15: Guidelines for Liquefied Natural Gas Transfer Operations and Training of Personnel on Vessels using Natural Gas as Fuel	2015	Policy Letter	Y	USA		X	

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Publication	Title	Year	(Code, Standard, Guideline, Rule, Policy Letter)	Specific to Marine (Y/N)	Origin	Onshore	Bunkering	Onboard
USCG	Policy Letter CG-OES 02-15: Guidance Related to Vessels and Waterfront Facilities Conducting Liquefied Natural Gas (LNG) Marine Fuel Transfer (Bunkering) Operations	2015	Policy Letter	Y	USA		X	
BSI	BS 4089:1999 Specification for Metallic Hose Assemblies for Liquid Petroleum Gases and Liquefied Natural Gases	1999	Specification	N	Global		X	
ASTM	F3312/F3312M-18: Standard Practice for Liquefied Natural Gas (LNG) Bunkering Hose Transfer Assembly	2018	Standard	Y	USA		X	
ISO	ISO 20519:2017	2017	Standard	Y	Global		X	
ISO	ISO 21593:2019 – Ships and marine technology – Technical requirements for dry-disconnect/connect couplings for bunkering liquefied natural gas	2019	Standard	Y	Global		X	
ABS	LNG Bunkering: Technical and Operational Advisory	2017	Code	Y	Global		X	
IMO	International Code of Safety for Ships using Gases or other Low-flashpoint Fuels (IGF Code)	2016	Code	N	Canada			X
CSA LNG 2	Liquefied natural gas vehicle fuel containers	2017	Code	N	Canada			X
CSA LNG 3.1–3.19	Road vehicles – Liquefied natural gas (LNG) fuel system components	2018	Code	N	Canada			X
IMO	International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (Gas Carrier Code) (IGC Code)	2016	Code	Y	Global			X
CSA SPE - 2.1	Best Practices for Defuelling, Decommissioning, and Disposal of Compressed Natural Gas Vehicle Fuel Containers and Liquefied Natural Gas Vehicle Fuel Tanks	2018	Guideline	N	Canada			X
ASTM	F3285-18: Standard Guide for Installation and Application of Type C Portable Tanks for Marine LNG Service	2018	Guideline	Y	USA			X
OCIMF	Mooring Equipment Guidelines	2013	Guideline	Y	Global			X
SIGTTO	Recommendations for Liquefied Gas Carrier Manifolds	2018	Guideline	Y	Global			X
IMO	Maritime Safety Committee.285(86)	2009	Guideline	Y	Global			X
SIGTTO	International Safety Guide for Inland Navigation Tank-barges and Terminals	2010	Guideline	Y	Global			X
SIGTTO	International Safety Guide for Oil Tankers & Terminals	2006	Guideline	Y	Global			X
ISO	ISO TC 67 WG 10 Guidelines – Materials, equipment and offshore structures for petroleum		Guideline	N	Global			X

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Publication	Title	Year	(Code, Standard, Guideline, Rule, Policy Letter)	Specific to Marine (Y/N)	Origin	Onshore	Bunkering	Onboard
USCG	Policy Letter CG-521 01-12 (Change 1): Equivalency Determination – Design Criteria for Natural Gas Systems	2017	Policy Letter	Y	USA			X
Lloyd's Register	Rules and Regulations for the Classification of Ships Using Gases or Other Low-flashpoint Fuels	2018	Rules and Regulations	Y	United Kingdom			X
IEC	IEC 60092-502:1999 – Electrical Installations in Ships: Tankers – Special Features	1999	Standard	Y	Global			X
ISO	ISO 10976 – Refrigerated light hydrocarbon fluids – Measurement of cargoes on board LNG carriers	2015	Standard	Y	Global			X
ISO	ISO 17776 – Petroleum and natural gas industries – Offshore production installations – Major accident hazard management during the design of new installations	2016	Standard	N	Global			X
ISO	ISO 28460 – Petroleum and natural gas industries – Installation and equipment for liquefied natural gas – Ship-to-shore interface and port operations	2010	Standard	Y	Global			X

Source

CSA Standards Research Report: Alternative Fuels and Energy Systems for the Marine Sector, July 2020