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PART V

DEPARTMENT OF TRANSPORTATION

Coast Guard

■

LIQUEFIED NATURAL GAS FACILITIES

Advance Notice of Proposed Rulemaking

[4910-14]

DEPARTMENT OF TRANSPORTATION

Coast Guard

[33 CFR Part 126]

[CGD 78-038]

LIQUEFIED NATURAL GAS FACILITIES

AGENCY: U.S. Coast Guard, DOT.

ACTION: Advance notice of proposed rulemaking.

SUMMARY: The Coast Guard invites public participation at the earliest stages in the development and implementation of regulations to provide standards for safety, security, and environmental protection in the transportation, transfer, handling, and storage of liquefied natural gas. These regulations will become an integral part of the revised and updated general waterfront facilities regulations.

DATES: Comments must be received on or before December 1, 1978.

ADDRESS: Comments should be submitted to Commandant (G-CMC/81), U. S. Coast Guard, Washington, D.C. 20590. Comments will be available for examination at the Marine Safety Council (G-CMC/81), Room 8117, Department of Transportation, NASSIF Building, 400 Seventh Street SW., Washington, D.C. 20590.

FOR FURTHER INFORMATION CONTACT:

Capt. George K. Greiner, Executive Secretary, Marine Safety Council, U.S. Coast Guard, Department of Transportation, NASSIF Building, 400 Seventh Street SW., Washington, D.C. 20590, telephone 202-426-1477.

SUPPLEMENTARY INFORMATION: Interested persons are invited to participate in this proposed rulemaking by submitting written views, data, and arguments. Persons submitting comments should include their names and addresses, identify this notice (CGD 78-038) and the specific sections of the proposal to which their comments apply, and give reasons for their comments. All comments received will be considered before further rulemaking action is taken on this proposal. No public meeting is planned, but one may be held at a time and place to be set in a later notice in the FEDERAL REGISTER if requested in writing by a sufficient number of interested persons raising genuine issues and desiring to comment orally at a public hearing.

DRAFTING INFORMATION

The draft materials contained in this advance notice rely heavily upon recommendations by the Coast Guard's Chemical Transportation Advisory Committee (CTAC) and its Liquefied Gas Facilities Subcommittee. This advance notice has been drafted by the Coast Guard's Waterfront Facilities Task Force, which consists of: Lt. Comdr. Edward H. Bonekemper III, Coordinator; Lt. Comdr. John Busavage; Lt. Comdr. Roger Pike; Lt. Comdr. George Buffleben, Jr.; Lt. Ronald Tanner; Lt. Malcolm Williams; Mr. Stanley Colby, Project Counsel; and Dr. Robert Stearns, and Dr. James Veatch, Project Economists.

DISCUSSION OF THE PROPOSED REGULATIONS

This Advance Notice contains a preliminary draft of proposed regulations which would apply to waterfront liquefied natural gas (LNG) facilities. It must be emphasized that these are preliminary draft regulations designed to stimulate comment and thoughtful suggestions by raising a variety of issues. The Coast Guard is not committed to any particular approach during this conceptual stage. Even where detailed specific proposals (such as lighting standards, hose pressures, etc.) are presented, this is being done solely to generate more extensive and more informed comment concerning them.

BACKGROUND

Existing Coast Guard waterfront facilities regulations in 33 CFR part 126 were issued in the 1950's and 1960's under the authority of the Magnuson Act (50 U.S.C. 191). Although some sections were revised in 1970, many have remained unchanged since the early 1950's. As a result, they do not take into account the extensive development in technology and variety of waterfront marine activities.

Attention has been directed recently to the rapid increase in the number and complexity of petrochemical facilities; and the transportation, storage, and handling of a wide variety of new hazardous chemicals and dangerous cargoes. Liquefied natural gas has been of particular concern. It is the Coast Guard's position that the hazards associated with each hazardous material should be carefully evaluated and consistent regulatory action taken with due consideration of the risks associated with each hazardous material.

Since the 1950's and 1960's significant laws have been enacted which will have a vast effect upon the development of liquefied natural gas regulations. Among these laws are: the Ports and Waterways Safety Act (86 Stat. 424, 33 U.S.C. 1221-7); the Transportation Safety Act (which includes the Hazardous Materials Transportation Act) (88 Stat. 2156, 49 U.S.C. 1801 et seq.); and the Natural Gas Pipeline Safety Act (82 Stat. 720, 49 U.S.C. 1671 et seq.).

The Office of Pipeline Safety Operations (OPSO) of the Materials Transportation Bureau issued an advance notice of proposed rulemaking concerning safety of LNG facilities on April 21, 1977 (42 FR 20766). In order to eliminate the overlapping of, and conflicts between, proposed OPSO regulations and those proposed by the Coast Guard, and to assist the owners and operators of LNG facilites which would be subject to both Coast Guard and OPSO regulations, a Memorandum of Understanding has been negotiated and signed by the two agencies.

This Memorandum of Understanding follows:

MEMORANDUM OF UNDERSTANDING BETWEEN THE U.S. COAST GUARD AND THE MATERIALS TRANSPORTATION BUREAU FOR REGULATION OF WATERFRONT LIQUEFIED NATURAL GAS FACILITIES

I. INTRODUCTION

Within the Department of Transportation (DOT), the U.S. Coast Guard (USCG) and the Materials Transportation Bureau (MTB) exercise separate and overlapping safety regulatory authority affecting the siting, design, construction, maintenance, and operation of waterfront liquefied natural gas (LNG) facilities adjoining the navigable waters of the United States. The USCG derives its authority over such facilities from the Ports and Waterways Safety Act of 1972 (Pub. L. 92-340, 33 U.S.C. 1221-1227) and the Magnuson Act (50 U.S.C. 191). The regulatory authority of the MTB over these same facilities (as well as nonwaterfront LNG facilities) is derived from the Natural Gas Pipeline Safety Act of 1968 (Pub. L. 90-481, 49 U.S.C. 1671 et seq.) and the Hazardous Materials Transportation Act (Pub. L. 93-633, 40 U.S.C. 1801 et seq.).

In recognition of each of the parties respective regulatory responsibilities, the USCG and the MTB agree that a memorandum of understanding is needed to avoid duplication of regulatory efforts regarding waterfront LNG facilities and to maximize the exchange of relevant information.

II. RESPONSIBILITIES OF THE PARTIES

For the foregoing reasons, the USCG and the MTB agree to the following division of regulatory responsibilities with respect to waterfront LNG facilities and cooperation in carrying out those responsibilities:

USCG Responsibilities

The USCG is responsible for establishing regulatory requirements for—

(1) Facility site selection as it relates to management of vessel traffic in and around a facility;

(2) Fire prevention and fire protection equipment, systems, and methods for use at a facility;

(3) Security of a facility; and

(4) All other matters pertaining to the facility between the vessel and the last manifold (or valve) immediately before the receiving tank(s).

MTB Responsibilities

The MTB is responsible for establishing regulatory requirements for—

(1) Facility site selection except as provided by paragraph (1) of the "USCG Responsibilities" set forth in this memorandum; and

(2) All other matters pertaining to the facility beyond (and including) the last manifold (or valve) immediately before the receiving tank(s) except as provided by paragraphs (2) and (3) of the "USCG Responsibilities" set forth in this memorandum.

Joint Responsibilities

(1) The USCG and the MTB will cooperate and assist each other in carrying out their respective waterfront LNG facility regulatory enforcement activities; and

(2) The USCG and the MTB, in an effort to avoid inconsistent regulation of similar safety matters (including as between waterfront and nonwaterfront LNG facilities), will consult with each other before issuing each Advance Notice of Proposed Rulemaking, Notice of Proposed Rulemaking, and final regulation affecting waterfront LNG facilities.

Dated: February 7, 1978.

For the U.S. Coast Guard.

ADM. OWEN W. SILER,
Commandant.

Dated: February 1, 1978.

For the Materials Transportation Bureau.

L. D. SANTMAN,
Acting Director.

Under this MOU, the MTB has responsibility for facility site selection except as it relates to management of vessel traffic in and around a facility. Vessel traffic management entails factors such as navigational safety, marine traffic density, and accessibility of the port of LNG carrying vessels.

Because of this MOU, not all of the proposals in this advance notice would apply throughout all portions of an LNG waterfront facility; thus, the applicability clause in § 126.2002 should be examined carefully.

These Coast Guard proposed LNG facility regulations apply to the loading, unloading, storage and movement of LNG. They call for specified maintenance, repairs, tests, and records. Fire protection requirements, safety equipment, and security requirements are also specified. Facility personnel are required to have training in specific areas depending upon their operational level. The proposals also set forth detailed operational requirements similar to those provided in the Coast Guard's present oil pollution prevention regulations (33 CFR Parts 154-156).

It should be noted that the Ports and Waterways Safety Act provides that State and local governments may prescribe more stringent safety equipment requirements and standards for waterfront facilities than might be prescribed by the Coast Guard.

The Coast Guard has previously published an Advance Notice of Proposed Rulemaking on General Waterfront Facilities requirements (43 FR 15107-15116, Apr. 10, 1978). In addition to compliance with the general requirements, LNG facilities would be required to comply with these proposed regulations, which apply specifically to those facilities which load, unload, store, and handle LNG. At this stage of the rulemaking procedure, no attempt has been made to reconcile the two Advance Notices of Proposed Rulemaking. This Advance Notice is intended to stimulate useful comments and suggestions by raising a variety of issues. It is important that the public realize that this Advance Notice is not determinative of the form of the final rule and that these regulations are only a portion of a very large set of requirements which will eventually regulate all waterfront facilities which are involved in the handling of any hazardous material.

Various sources of information are being explored in order to make these proposed regulations as realistic and responsive as possible. Among these sources are National Transportation Safety Board reports, Captain of the Port reports of unusual occurrences, information and opinions being submitted by Coast Guard District Commanders and Captains of the Port, national consensus standards, (NFPA, ANSI, etc.), and CTAC's Subcommittee of Liquefied Gas Facilities. (Meetings of CTAC and its subcommittees have been and will be announced in advance in the FEDERAL REGISTER.) Further comment is sought from State and local governments, marine and other industry representatives, port and harbor authorities, environmental groups and other interested parties.

The Coast Guard is required to evaluate the economic impact of proposed regulations. To satisfy this obligation and to produce reasonable rules, it is important that economic issues of benefits and costs be addressed for LNG facilities. Primary concern should be given to additional benefits and costs that will be generated by the proposed rules, but attention can be given to the absolute level of benefits and costs. Thus, comments contributing to cost/benefit analysis and suggesting economical, efficient, but effective regulatory approaches will be most helpful. Such information includes number and location of facilities affected, quantities of LNG affected, the scope and degree of safety and environmental hazards, the extent to which the proposed regulations reduce the risks associated with storing and handling LNG, time and costs required for compliance (equipment, personnel training, procedures, etc.), local practices and customs, and effects upon facility productivity, efficiency, and profits. Economists, Dr. Robert N. Stearns and Dr. James F. Veatch, of the Coast Guard's Ports and Waterways Planning Staff can be consulted on what kinds of data and evaluations would be most useful (202-426-2262).

It is the intention of the Coast Guard to avoid overlap with any other Federal regulations and to avoid any conflicts or gaps. Comments are solicited on any existing or potential gaps or overlaps between these proposed Coast Guard regulations and those of any other governmental agency.

Information, comments and opinions concerning environmental and economic impacts, and any other facet of any of the matters mentioned in this advance notice that would be of assistance to the Coast Guard and its Task Force in developing detailed LNG facilities regulations, are solicited from interested parties.

The "Standard for the Protection, Storage, and Handling of Liquefied Natural Gas (LNG)," NFPA 59A-1975 edition, has been incorporated by reference into these regulations. Anyone interested in obtaining a free copy of this standard may do so by writing:

Commandant (G-WLE-1/73), U.S. Coast Guard Headquarters, Washington, D.C. 20590, Attention: Lt. (jg.) Dickman

Part 126 of title 33, Code of Federal Regulations, would be amended by adding requirements for LNG facilities to read as follows:

LNG FACILITY REQUIREMENTS

126.2000-126.2099 APPLICATION AND ENFORCEMENT

Sec.

126.2001 Purpose.
126.2002 Applicability.
126.2003 Definitions.
126.2011 Letter of intent.
126.2012 Use permit.
126.2013 Enforcement.
126.2015 LNG facility inspections.
126.2016 Suspension of transfer operations.
126.2025 Effective dates.
126.2031 Alternatives.
126.2035 Exemptions.
126.2036 Appeals.
126.2050 Reference specifications, standards and codes.

126.2100-126.2199 FACILITY SITING

126.2110 LNG facility siting; LNG vessels.

126.2200-126.2299 DESIGN AND CONSTRUCTION

126.2210 Design and construction.
126.2213 Piping design, installation and material.
126.2214 Piers and wharves.
126.2215 Means of access.
126.2216 Sewers, trenches and drains.
126.2217 Quality assurance.
126.2219 LNG facility layout and systems spacing.
126.2220 Electrical power systems.
126.2221 Lighting systems.
126.2222 Communication systems.

126.2300–126.2399 DETECTION AND SENSOR SYSTEMS

Sec.

126.2400–126.2499 MAINTENANCE AND REPAIR

126.2500–126.2599 FIRE PROTECTION AND SAFETY EQUIPMENT

126.2600–126.2699 SECURITY

126.2700–126.2799 PERSONNEL

126.2800–126.2899 OPERATIONS

126.2900–126.2999 RECORDS

AUTHORITY: 40 Stat. 220 (50 U.S.C. 191); 86 Stat. 427 (33 U.S.C. 1224); 49 CFR 1.46(l) and (n)(4).

§126.2001 Purpose.

This part sets forth requirements for LNG facilities to promote safety and protect the marine environment in port areas where LNG facilities exist. They are basically concerned with fire prevention and protection, facility security, and LNG loading and unloading operations.

§126.2002 Applicability.

This part applies to the design, construction, equipment, maintenance and operation of LNG facilities as follows:

(a) Fire prevention requirements and fire protection equipment, systems and methods requirements, apply throughout the entire LNG facility.

(b) Security requirements apply throughout the entire LNG facility.

(c) All other requirements apply only between the vessel and the last manifold (or valve) immediately before the receiving tank(s).

§ 126.2003 Definitions.

As used in this part:

"Bulk liquids" means all liquids except compressed and liquefied gases that are handled in bulk in trucks, rail cars, storage tanks, or that are transferred to or from vessels transporting such liquids on the navigable waterways of the United States.

"Bunkering" means the loading of a ship's bunker or tank with fuel oil for use in connection with propulsion or auxiliary equipment.

"Captain of the Port (COTP)" means the U.S. Coast Guard officer commanding a Captain of the Port Area or the COTP's designated representative.

"Commandant" means the Commandant of the U.S. Coast Guard or the Commandant's designated representative.

"Control room" means an area within the LNG facility from which facility functions are controlled.

"Design pressure" means the pressure used in the design of equipment, a container, or a vessel for the purpose of determining the physical characteristics of its different parts.

"Dike" means a structure used to establish an impounding area.

"Discharge" includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

"District Commander" means the officer of the Coast Guard designated by the Commandant to command a Coast Guard District or the District Commander's authorized representative.

"Dock area" means the area at which an LNG vessel moors and the loading or discharging operation takes place.

"Existing LNG facility" means any LNG facility in operation, or substantially or wholly constructed on the effective date of these regulations.

"Failsafe" means the design features which provide for the maintenance of safe operating conditions in the event of a malfunction of control devices or an interruption of an energy source.

"Flame endurance rating" means the duration for which an assembly will contain a fire or retain its structural integrity or both when exposed to a standard time-temperature curve as defined in NFPA 251.

"Handled" means that the fluid undergoes a significant change in pressure, temperature, composition, state or other property in equipment provided, other than analysis or testing.

"Hazardous material" means any article, chemical, material, or cargo included in any of the following:

(a) 46 CFR Subchapter D (bulk liquids and gases);

(b) 46 CFR Subchapter O (bulk liquids and gases);

(c) 46 CFR Part 146 (military explosives);

(d) 46 CFR Part 148 (bulk solids);

(e) 49 CFR 172.101 ("packaged" hazardous materials);

(f) 33 CFR 124.14 (cargoes of particular hazard); or

(g) Oil of any kind.

"Impounding space" means a volume of space formed by dikes and floors for holding a spill of LNG.

"Liquefied natural gas (LNG)" means a fluid composed predominantly of methane and which may contain minor quantities of ethane, propane, nitrogen, or other components normally found in natural gas.

"Liquefied petroleum gas (LPG)" means a fluid obtained as a by-product in petroleum refining or natural gasoline manufacture.

"LNG facility" means a waterfront facility at which LNG is loaded, unloaded, handled, stored, or transferred.

"Loading flange" means the main connection or group of connections for transferring cargo between the LNG facility and the vessel.

"Maintenance level" includes all personnel assigned to the LNG facility who perform maintenance.

"Maximum allowable working pressure" means the maximum gauge pressure permissible at the top of equipment, containers, or vessels while operating at design temperature.

"New LNG facility" means any LNG facility which is not an existing LNG facility.

"Oil" means oil of any kind or in any form including but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with waste other than dredged spoil, but does not include liquefied natural gas or liquefied petroleum gas.

"Operator" means the owner or operator, or both, of any LNG facility or the operator's designated representative.

"Operator level" means all personnel assigned to the LNG facility who have

operating control over some function of the facility related to natural gas or LNG.

"Pascal (pa)" means the metric unit of pressure stress. One pascal equals 0.0001451 pounds force per square inch.

"Person in charge" means a facility or vessel employee on site designated as the person in charge of operations.

"Pier" or "wharf" means a structure, usually of greater length than width, of timber, stone, concrete, steel, or other materials, that projects from the shore into the navigable waters so that vessels may be moored alongside for loading and unloading or for storage.

"Pierhead line" means the line established, in navigable waters, by Federal authority, beyond which piers and marine structures of any kind may not extend.

"Process plant" means the systems required to condition, liquefy, of vaporize natural gas.

"PSIG" means pounds per square inch gage. One pound force per square inch (psi) equals 6894 pascals.

"Shore area" means an area of land, including waterfront facilities theron, immediately adjacent to the navigable waters of the U.S. and extending inland to the extent that controls are necessary to prevent damage to, destruction of, or loss of a vessel, bridge, or waterfront facility on or in those waters, or protect those waters from environmental harm resulting from vessel or facility damage, destruction, or loss.

"Substructure" means the portion of a pier or wharf other than the superstructure.

"Superstructure" means the portion of a pier or wharf above the pier or wharf deck.

"Supervisor level" includes all personnel who have the responsibility for the operation of the entire LNG facility and the supervision of its personnel.

"Transfer area" means the portion of an LNG facility containing piping systems where LNG, flammable liquids, or flammable refrigerants are introduced into or removed from the facility, such as truck loading or ship unloading areas or where piping connections are routinely connected or disconnected.

"Vessel' means a vessel constructed or converted to carry LNG in tanks.

"Waterfront facility" means any building, refinery, tank farm, warehouse, dock, pier, wharf, or other structure in, on, or immediately adjacent to the navigable waters of the United States or on a shore area immediately adjacent to those waters. A facility includes Federal, State, municipal, and private facilities.

§ 126.2011 Letter of intent.

(a) The operator of any existing or planned facility to which this part applies shall submit a Letter of Intent to construct or operate a facility to the COTP prior to the start of construction or the start or continuation of operations.

(b) The Letter of Intent required in paragraph (a) of this section may be in any form but must contain—

(1) The name, address, and telephone number of the operator;

(2) When available, the name, address, and telephone number of the facility;

(3) The location of the facility with respect to the associated body of navigable waters; and

(4) Copies of pertinent information developed concerning the site. This information must include the following:

(i) Facility description including preliminary site plans and flow sheets showing planned quantities of flammable materials to be stored and material transfer rates.

(ii) Information showing the frequency and method of planned LNG vessel movements to and from the terminal including the size and speed of the vessels contemplated for the service.

(iii) Maps showing waterway channels and identification of commercial, industrial, and environmentally sensitive facilities as well as residential communities adjacent to the waterway.

(iv) Information on water depths and access from the sea, oceanography (currents, tides, swells, and stratification), protection of site from high seas, meteorological conditions (wind direction and force), existence of traffic barriers (i.e., reefs, rocks, sandbars), existence of pierhead lines, distance of berthed vessel from and width of channel, the existence of marine aids to navigation, description of water bottom characteristics and proximity to existing anchorages. In addition the probabilities of all natural events occurring, such as seismic events, tsunamis, snow, fog, and similar events, must be included.

(c) The operator of any LNG facility for which a Letter of Intent has been submitted, shall immediately advise the COTP in writing of any significant changes to information in the letter and shall cancel, in writing, the letter for any facility at which LNG transfer operations are no longer conducted.

§ 126.2012 Use permit.

(a) A use permit shall be obtained from the COTP by the operator. As a prerequisite for issuance of this use permit the operator of a new LNG facility shall certify that the LNG facility has been designed and constructed in accordance with the requirements contained in this part and 49 CFR Part 193. Noncompliance with the provisions of these parts may result in the revocation of the use permit.

(b) If the requirements of § 126.2025 are met, the COTP issues a use permit to a new or existing LNG facility upon submission of a Letter of Intent by the facility operator.

(c) The use permit terminates 5 years after the date it is issued. An operator may request, in writing, a renewal of the permit.

(d) No person may operate an LNG facility unless a use permit has been issued for that facility by the COTP.

§ 126.2013 Enforcement.

(a) The rules and regulations in this part shall be enforced by the COTP under the supervision and general direction of the District Commander.

§ 126.2015 LNG facility inspections.

(a) The operator shall allow any person designated for such purpose by the COTP to make reasonable examinations and inspections necessary to insure compliance with this part. All required testing of facility equipment must be conducted by the operator in a manner acceptable to the COTP.

(b) The COTP records the date, scope, and results of each LNG facility inspections in the facility's inspection record required by § 126.2904 and lists the deficiencies in the inspection record when the LNG facility is not in compliance with the regulations in this part.

§ 126.2016 Suspension of transfer operations.

(a) The COTP may issue an order to suspend transfer operations to the operator if the COTP finds that there is a condition requiring immediate action.

(b) An order of suspension may be effective immediately.

(c) An order of suspension will include a statement of each specific condition requiring immediate action.

(d) The operator may petition the District Commander in writing, or in any manner when the order is effective immediately, to reconsider the issuance of the order of suspension.

§ 126.2205 Effective dates.

(a) No operator may store, handle, or transfer LNG in a new LNG facility or a new addition or expansion to an existing LNG facility unless that facility meets the requirements of this part.

(b) No operator may store, handle, or transfer LNG at an existing LNG facility unless that facility complies with the requirements of this part in accordance with the following schedule:

(1) Any repair or replacement commenced on such facility after the effective date shall be in accordance with the applicable requirements of §§ 126.2200-126.2299.

(2) After 1 year from the effective date the operator shall comply with the applicable operating and maintenance requirements of §§ 126.2300-126.2999.

§ 126.2031 Alternatives.

(a) The COTP may consider and approve alternative procedures, methods, or equipment standards to be used by an operator in lieu of any requirements in this part if—

(1) The operator submits a written request for the alternative at least 30 days before operations under the alternative are proposed to begin, unless the COTP authorizes a shorter time; and

(2) The alternative provides at least the same degree of safety and environmental protection provided by the regulations in this part.

(b) The COTP approves or disapproves any alternative requested, either in writing or orally, with written confirmation later.

§ 126.2035 Exemption.

(a) The Commandant may grant an exemption or partial exemption from compliance with any requirement in this part if—

(1) The operator submits an application to the Commandant via the COTP at least 30 days before operations under the exemption are proposed to begin, unless the Commandant authorizes a shorter time; and

(2) The Commandant determines from the application that—

(i) Compliance with the requirement is economically or physically impracticable; and

(ii) No alternative preocedures, methods, or equipment standards exist that would provide the same degree of safety and environmental protection provided by the regulations in this part.

(b) In making the determinations in paragraph (a), the Commandant may require—

(1) Any appropriate information, including an environmental and economic assessment of the effects of and reasons for the exemption; and

(2) Procedures, methods, or equipment standards, even though they may provide less than an equivalent degree of safety and environmental protection provided by the regulations in this part.

(c) The Commandant grants or denies an exemption in writing.

§ 126.2036 Appeals.

(a) Any person directly affected by an order or direction issued under this part may request reconsideration by the official who issued the order or direction, and may appeal the order or direction to the COTP and then the District Commander, whose decision will be final.

(b) Requests for reconsideration and appeals may be written or oral, but if oral, must be confirmed by no less than a written outline of the key points made. The Coast Guard official to whom the request or appeal is made will provide a written decision if requested.

(c) While any request or appeal is pending, the order or direction remains in effect.

§ 126.2050 Reference specifications, standards, and codes.

The following specifications, standards and codes, to the extent specified in the text, form a part of this subpart.

(a) Publications issued by the National Fire Protection Association, 470 Atlantic Avenue, Boston, Mass. 02210, as listed in this paragraph.

(1) "Standard for the Selection, Installation, Inspection, Maintenance and Testing of Portable Fire Extinguishing Equipment," NFPA 10—1977 Edition.

(2) "Standard for Foam Extinguishing Systems," NFPA 11—1976 Edition.

(3) "Standard for High Expansion Foam Systems," NFPA 11A—1977 Edition.

(4) "Standard on Synthetic Foam and Combined Agent Systems," NFPA 11B—1974 Edition.

(5) "Standard for the Installation of Sprinkler Systems," NFPA 13-1976 Edition.

(6) "Standard for the Care and Maintenance of Sprinkler Systems," NFPA 13A—1976 Edition.

(7) "Standard for the Installation of Standpipe and Hose Systems." NFPA 14—1976 Edition.

(8) "Standard for Water Spray Fixed Systems for Fire Protection," NFPA 15—1973 Edition.

(9) "Standard for Dry Chemical Extinguishing Systems," NFPA 17—1975 Edition.

(10) "Standard for Automotive Fire Apparatus," NFPA 19—1975 Edition.

(11) "Standard for Outside Protection," NFPA 24—1973 Edition.

(12) "Standard for the Production, Storage and Handling of Liquefied Natural Gas (LNG)," NFPA 59A—1975 Edition.

(13) "National Electrical Code," NFPA 70—1975 Edition.

(14) "Local Protective Signaling Systems," NFPA 72A—1975 Edition.

(15) "Standard for Auxiliary Protective Signaling Systems for Fire Alarm Service," NFPA 72B—1975 Edition.

(16) "Standard for Proprietary Protective Signaling Systems for Watchman, Fire Alarm and Supervisory Service," NFPA 72D—1975 Edition.

(17) "Standard for the Construction and Protection of Piers and Wharves," NFPA 87—1975 Edition.

(18) "Standard Methods of Fire Tests of Building Construction and Materials," NFPA 251, 1972 Edition.

(b) Standard issued by American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018, as listed in this paragraph.

(1) "Petroleum Refinery Piping," ANSI B31.3, 1973 Edition.

§ 126.2110 LNG facility siting; LNG vessels.

The waterway leading to the site must be suitable for the number and size of vessels contemplated as carriers for LNG.

§ 126.2210 Design and construction.

(a) Except as modified in this part, the LNG facility must meet the following design criteria in NFPA 59A.

(1) Chapter 1, except Section 11;

(2) Chapter 3;

(3) Chapter 5;

(4) Chapter 6;

(5) Chapter 7, only section 75 and 76;

(6) Chapter 8, except sections 82, 84 and 861; and

(7) Chapter 9.

(b) Definitions listed in NPFA 59A are incorporated by reference only for the purpose of intepreting NFPA 59A requirements.

§ 126.2213 Piping design, installation and material.

(a) The piping system design must include studies and calculations to assure accommodation of pressure surges, including those caused by valve operation, power failure and emergency shut-down modes, both at the LNG facility and aboard the LNG vessel.

(b) Transfer piping, pumps and compressors must be located so that they are not susceptible to damage by routine vessel movement.

(c) Compression couplings on cryogenic piping systems must be limited to instrumentation use, must not be greater than 19 mm (¾ inch) nominal diameter and must be designed for the service intended.

(d) Discharge from relief valves must be into a lower pressure line of compatible design or via manifold into a closed vent system or be otherwise arranged so that no venting occurs over navigable waters. Emergency measures may be provided for venting over navigable waters if such discharges are arranged to protect persons, property and equipment.

§ 126.2214 Piers and wharves.

(a) In regions subject to earthquakes, pier and wharf structures and appurtenances must be designed and

installed to resist earthquake forces, as provided in Appendix B.7 of NFPA 59A.

(b) Steel piles and other steel portions of piers and wharves must be adequately protected from atmospheric corrosion and from corrosion caused by contact with water or soils.

(c) Substructures and decks must be of substantial construction and protected from short-term LNG exposure. Decks must be constructed of a material which affords flexibility, resistance to shock, durability, strength and fire resistance.

(d) Substructures, including horizontal floors and decks, which support or are within 5 metres (15 ft.) of any pipe or equipment containing LNG, or are within 15 metres (50 ft.) of a loading flange, must be concrete or steel. Each substructure must have a fire endurance rating in all of its parts of not less than four hours.

(e) Piers that are exposed to impact or excessive abrasion by vessels or are subject to damage by floating ice or debris must be designed to minimize any damage thereby. Construction must be of materials which will substantially eliminate damage from wind, current and impact forces which could be exerted on the pier.

(f) For drainage, substructure decks must be pitched to a slope of not less than 4 mm per metre (one inch in 20 ft.). Decks must be arranged to safely drain off through scuppers or drains, or other suitable means, excess water.

(g) Any portion of the superstructure within 15 metres (50 ft.) of a loading flange or 5 metres (15 ft.) of any piping or equipment containing LNG must:

(1) Be supported by a concrete column and girder or steel column and girder. If used, steel column and girder must be protected by concrete or other fire-resistive material of a type and thickness which provide a four-hour fire endurance rating.

(2) Have a roof support constructed of reinforced concrete, protected steel, or other fire resistive material. Supporting members must have a four-hour fire endurance rating and the roof must have a three-hour fire endurance rating.

(3) Have walls constructed of noncombustible materials and which are securely fastened to the frame. All doors in exterior walls must be fire doors or be constructed of noncombustible materials.

(h) Buildings or structural enclosures on piers in which LNG is handled must meet section 22 of NFPA 59A.

(i) Heating equipment which utilizes direct combustion must not be located within 60 metres (200 ft.) of any loading flange. Electrical heating equipment, if used, must meet Class I, Group D,. Division I (explosion proof) of NFPA 70.

(j) Horizontal surfaces must be arranged to safely drain off through scuppers or drains, or by other suitable means, excess water.

(k) The operator shall locate and protect all equipment, piping and tanks normally containing LNG so that damage will not result from normal operations of vehicles on the facility.

(l) Tanks primarily for the storage of LNG or other hazardous materials must not be located upon piers or wharves, except tanks for—

(1) Surge protection;

(2) Pump suction supply; or

(3) Storage of fuel for emergency or support equipment of 1.9 cubic metres (500 gallons) or less.

(m) Warning alarms must be installed at the waterside of a facility to warn approaching or transiting water traffic of immediate danger in the event of fire or cargo release. There must be a siren alarm or an emergency rotating flashing light warning alarm, both of which must be of sufficient intensity to be heard, or seen, a distance of 1.6 km (1 mile) during normal facility working conditions.

§ 126.2215 Means of access.

There must be an all-weather access route suitable for the movement of fire apparatus to and throughout the LNG facility.

§ 126.2216 Sewers, trenches and drains.

No sewer, open trench, or drain may pass through the LNG facility that would allow LNG or vapors to be carried to areas not under the full control of the operator.

§ 126.2217 Quality assurance.

(a) The operator shall develop a quality assurance plan for a new LNG facility during the design phase of the project. The plan must include procedures that will ensure compliance with this part.

(b) The plan must establish procedures for administration, responsibility, lines of communication, standards of acceptability, documentation and other matters pertinent to the assurance of quality in the construction of the project for the following:

(1) Material specification and certification.

(2) Material fabrication.

(i) Receiving and identification.

(ii) Certification.

(iii) Marking.

(3) Welding.

(i) Qualification records.

(ii) Welding procedures.

(iii) Inspection records.

(4) Non-destructive testing.

(5) Cleaning and painting.

(6) Field construction procedures.

(c) A complete set of material certifications to meet this part, test records, job specification, and construction drawings must be maintained for the life of the facility. These documents must be updated as system revisions and modifications are made.

§ 126.2219 LNG facility layout and systems spacing.

(a) A berthed LNG vessel may not be within 50 metres (164 ft) or a distance "d", whichever is greater, of the impounding space surrounding the facility LNG storage tanks. Distance "d" must be determined from the following formula:

$$d = 0.8\sqrt{a}$$

Where

d = distance, in metres, from the edge of the impounding space to the berthed LNG vessel.

a = inside area, in square metres, measured across the top of the impounding space.

(b) Any LNG loading flange must be located at least 305 metres (1,000 ft.) from the following which are primarily intended for the use of the general public or railways:

(1) Each bridge crossing a navigable waterway.

(2) Each entrance to or superstructure of any vehicular tunnel under a navigable waterway.

§ 126.2220 Electrical power systems.

(a) The LNG facility must have the following:

(1) A primary power system.

(2) An emergency power supply.

(b) All electrical power systems must meet the National Electrical Code NFPA 70.

(1) Fixed electrical equipment and wiring installed within 15 metres (50 feet) of any LNG loading flange must comply with the class I, group D, division II requirements of NFPA 70, except that buildings or enclosures containing instrumentation and controls not fully conforming to the above classifications may be pressurized from a remote source.

(2) Areas of the LNG facility not under paragraph (b)(1) of this section must meet the classification requirements of Chapter 7 of NFPA 59A.

The emergency power supply must provide for orderly shutdown and the operation of necessary safety equipment.

(d) In the event of a power failure, there must be a means provided to ensure that all required aids to navigation are operational.

§ 126.2221 Lighting systems.

(a) The LNG facility must be adequately illuminated during operations. The facility must have—

(1) A general lighting system; and

(2) Emergancy lighting.

(b) Lighting of an LNG facility must be arranged in a regular or symmetrical pattern. This pattern must make the pier distinguishable as a fixed structure when viewed by transiting marine traffic.

(c) Area and other lighting must be shielded and directed on the dock to minimize loss of night vision aboard transiting marine traffic.

(d) For operations between sunset and sunrise, the LNG facility must assure lighting that illuminates—

(1) Each transfer connection point on the facility with an average minimum lighting intensity of 54 1x (five footcandle);

(2) Each LNG transfer operation work area on the facility with average minimum lighting intensity of 11 1x (one footcandle);

(3) Each tranfer connection point in use on any barge moored at the facility with an average minimum lighting intensity of 54 1x (five footcandle); and

(4) Each LNG transfer operations work area on any barge moored at the facility to or from which LNG is being transferred, with an average minimum lighting intensity of 11 1x (one footcandle). The lighting intensity must be measured on a Horizontal plane one metre (3.3 feet) above the barge deck or walking suface.

(e) Emergency lighting must be provided for orderly shut-down, operation of necessary safety equipment, and required navigational aids.

§ 126.2222 Communications systems.

(a) The LNG facility must have—

(1) A primary communication system;

(2) An emergancy communication system; and

(3) An operations communication system.

(b) The primary communication system must provide communication between all areas of the LNG facility.

(c) The operations communication system must be a dedicated system, continuously manned during transfer operations, to provide communication between the persons in charge on the vessel and on the LNG facility.

(d) The emergency communication system must provide communication to all those persons and locations necessary for the orderly shut-down and operation of necessary safety equipment in time of emergency. This system must be independent of and physically separated from the primary communication and power systems.

(e) Communication equipment must meet the electrical classifications in § 126.2220, except that portable amplifiers and radios utilized in the facility must be approved by the Commandant or listed by an independent laboratory that is specifically approved by the Commandant, such as Underwriters Laboratories, Inc. or Factory Mutual Research Corporation, for Class I, Group D, Division II or be classified intrinsically safe.

§ 126.2310 Detection systems.

Gas and fire detection equipment are required for the following areas:

(a) Pump, vaporizer, and process equipment.

(b) Housed mechanical equipment handling LNG or vapor.

(c) Truck, rail, or vessel loading areas.

(d) Transfer areas.

(e) Storage container penetrations for product transfer.

§ 126.2315 Fire detection.

Fire detection equipment must be one of the following types:

(a) Ultraviolet flame detection.

(b) Smoke detection.

(c) Temperature detection (such as fusible elements).

§ 126.2320 Gas detection.

Permanently installed flammable gas detection systems must meet the following:

(a) Gas detection alarms must be activated before the gas concentration exceeds 30 percent of the lower flammable limit.

(b) Pipe runs from gas sampling heads must not be passed through enclosed areas occupied by personnel unless—

(1) Gas sampling lines are equipped with shut-off valves or an equivalent arrangement to prevent cross-communication with spaces where leaking gas could accumulate; and

(2) Exhaust gas from the detector is discharged to the atmosphere in a safe location.

(c) Gas detection equipment must be capable of sampling and analyzing from each sampling head within 15-minute intervals, unless the sampling head is located in enclosed spaces where a source of ignition is continuously present and is continuously monitored.

(d) A minimum of two portable gas detectors capable of measuring 0–100 percent of the lower flammable limit must be available for use by facility personnel.

§ 126.2325 Additional fire and gas detection requirements.

(a) Gas and fire detection equipment must be installed so that they may be readily tested.

(b) Audible and visual alarms must be provided to alert operating personnel of the existence of vapor hazards and fire. These alarms must be located in the terminal control center or other manned areas.

§ 126.2330 Low temperature sensors.

When low temperature sensors are provided for the purpose of monitoring LNG leakage of liquid carryover, they must have audible and visual alarms

§ 126.2335 Automatic shutdown.

Automatic shutdown system must be designed to failsafe in response to the presence of flammable vapors at 30 percent or more of the lower flammable limit or in response to a signal indicating a fire.

§ 126.2410 Maintenance, repair and retests.

(a) The operator of the LNG facility shall develop a maintenance, repair, and retesting program for the facility. This program must include requirements for transfer, process and storage operations.

(b) Nondestructive examination methods, limitations on defects, and qualifications of the authorized inspector and personnel performing the examination must meet the requirements of section 336 of ANSI B31.3, except that substitution of inprocess examination for radiography or ultrasonic in section 336.5.1(b) of ANSI B31.3 is prohibited.

(c) Repair and maintenance that involves welding, cutting, or similar operations may be conducted at times and places authorized by the Coast Guard if they are conducted under constant supervision by the operator.

(d) The maintenance, repair and retesting program must have precautions to prevent damage or overload to those components that may be affected during the retesting activity.

§ 126.2411 Electrical systems.

Electrical power systems must be maintained in a safe condition, free of defects or modifications that may cause fire or personal injury. Defective or dangerous wiring, equipment and devices must be removed.

§ 126.2420 Maintenance requirements.

The operator shall develop and follow a preventive maintenance program that is designed to maintain all safety devices in proper working condition for the following systems:

(a) Transfer systems.

(b) Gas and fire detection equipment.

(c) All fire protection systems and safety equipment. Fire protection equipment must be maintained in accordance with the following:

(1) "Care and Maintenance of Sprinkler Systems" (NFPA 13A).

(2) "Local Protective Signaling Systems" (NFPA 72A).

(3) "Protective Signaling Systems" (NFPA 72B).

(4) "Proprietary Protective Signaling Systems" (NFPA 72D).

(5) "Standpipe and Hose Systems" (NFPA 14).
(6) "Portable Fire Extinguishers" (NFPA 10).

§ 126.2430 Inspection requirements.

(a) LNG hoses and loading arms must be visually inspected by the operator for damage or defects before each use.

(b) The operator shall conduct at regular intervals, not to exceed 3 months from the previous inspection, a comprehensive visual inspection of the storage facility for leaks, frost indications, malfunctions, or other factors that would affect safety and operation. The inspection must include, but not be limited to, the following:
(1) Valves, external piping and insulation.
(2) Relief devices.
(3) Tank foundation.
(4) Foundation heating system.

(c) The operator shall conduct at regular intervals not to exceed 6 months from the previous inspection, a visual inspection of the transfer areas and process plant for indications of leaks, malfunctions and other factors affecting safety and operations.

(d) The operator shall conduct at regular intervals, not to exceed 12 months from the previous inspection, a visual inspection of pressure-relief devices not capable of being tested, such a rupture disks.

§ 126.2440 Testing and calibration.

(a) The interval between tests on a system is dependent upon visual inspection, system modification and repair, or upon an indication which would warrant a test to assure system integrity. Piping tests must be done following alterations or repairs to the pipe system if the maximum allowable working pressure is increased. The test pressure must be 110 percent of the maximum allowable working pressure and be held for a minimum of 30 minutes.

(b) The pressure test medium must be the working fluid, other liquids, air, natural gas, or inert gas that is compatible with the system, free from deleterious materials, and, except for LNG or natural gas, nonflammable.

(c) The operator shall perform at regular intervals, not to exceed 12 months from the previous test, a test of the following equipment:
(1) Safety valve and relief valve equipment.
(2) Loading arms in accordance with the requirements of paragraph 33.7.4.3 of ANSI B31.3 (1973).

(d) The operator shall perform at regular intervals, not to exceed 6 months from the previous test, an inspection, test and calibration of all fire protection, gas detection and fire detection equipment.

(e) The operator shall perform at regular intervals, not to exceed 12 months from the previous calibration, calibration of gauges, pressure switches, controllers, transmitters and other instruments that are essential to the safety of the plant and transfer operations.

§ 126.2460 Repairs.

(a) Insulation failures, leaking flanges, valves, gauges, or other appurtenances may be repaired while the storage facility continues to operate.

(b) Repairs for safety or construction reasons must be made when the system is out of service.

(c) For those repairs that affect the structural integrity of pressure retaining components of the system, such as those made by welding, a detailed repair procedure must be established. The procedure must include each necessary step to safely execute the repair. The welding procedure must be in accordance with the standards used for initial construction. Detailed repair procedures must be established for repairs under paragraph (b) of this section.

§ 126.2510 Fire protection and safety equipment.

The operator shall obtain written approval from the COTP for the installation of any fire control system.

§ 126.2511 Fire protection systems.

(a) Each fire protection system must be maintained in good operating condition and ready for use at all times.

(b) An emergency fire pump, capable of operating during loss of primary electrical power at the LNG facility, must be installed and operable.

(c) All firefighting equipment including hydrants, standpipe and hose stations, fire extinguishers, and fire alarm boxes must be conspicuously marked and readily accessible.

(d) There must be maintained at least 1.2 metres (4 feet) of clear and open operating space around any fire alarm box, standpipe, fire hose, sprinkler valve, fire door, access hatch, or fire appliance.

(e) Fire protective and extinguishing equipment must be listed and labeled by Underwriters Laboratories, Inc. or Factory Mutual Research Corp.

§ 126.2512 Automotive fire apparatus.

(a) Fire trucks and other portable, manually operated fire control equipment must be operated by suitably trained employees. The equipment may not be used for any purpose other than firefighting.

(b) Fire and water trucks must meet NFPA 19, "Standard for Automotive Fire Apparatus."

§ 126.2520 Fire mains.

(a) A loop fire main system must be provided around the effective operating perimeter of the LNG facility and around the entire process area.

(b) The fire main system must be capable of providing water to each area, building, or structure listed in paragraph (f) of this section from two separate fire main connections without having to use more than 30 metres (98 feet) of fire hose at each connection.

(c) The capacity of the fire main system must be sufficient to supply two fire streams discharging at a minimum of 0.006 cubic metres per second (1.5 gal./sec.) per hose on each major structure, building and area unit listed in paragraph (f) of this section which could be simultaneously engulfed in a credible fire on the facility.

(d) The fire main must be supplied from two separate connections to the fire main supply.

(e) The fire main supply system must provide water for not less than four hours duration.

(f) The fire main must supply monitors, hydrants, hose stations, or sprinklers throughout the facility and must cover the following:
(1) Control building.
(2) Compressor building.
(3) Liquefaction or re-liquefaction areas.
(4) Process areas.
(5) Vaporization areas.
(6) Pumpout and storage tank areas.
(7) Truck station areas.
(8) Transfer areas.
(9) Generator buildings.
(10) Warehouse.
(11) Switchgear buildings.
(12) Office, maintenance and utility structures.

§ 126.2522 Fire main piping.

(a) A fire main system that has a "wet" piping design must have all water headers and mains located below "frost" depth. All vertical risers must be maintained in a drained condition above the "frost" depth utilizing automatic ball drip valves or equivalent means. Fire mains located in freezing climates where there exists a high water table, must be installed with provisions to isolate and pump out vertical risers and hydrants after each use.

(b) A fire main system that incorporates above ground piping located in a freezing climate must have means to prevent freezeup.

(c) Sectionalizing gate valves complete with post indicators must be installed to provide fire main isolation. If a single component of the system is inoperative, one of the sources of water supply required under § 126.2520(b) must remain operable.

(d) The fire main must be designed so that the pressure at the end of 30

metres (98 ft.) of 1½-inch hose does not exceed 1.05 M pa (152 PSIG).

(e) Pressure relief devices must be provided to ensure the fire pump discharge pressure does not exceed the design pressure of fire main piping.

(f) Piping 100 mm (4 inches) and larger must be ASTM 21.6 class 125 cast iron or the equivalent. Cast iron piping must be cleaned and tested in accordance with NFPA 24.

(g) For the marine berth, at least two international shore connections must be available for use by the local fire department. The international shore connection must meet 46 CFR Subpart 162.034.

§ 126.2523 Hydrants systems.

Hydrant systems must meet NFPA 24.

§ 126.2524 Dry chemical system.

(a) Fixed or portable dry chemical equipment must be ready for immediate use in the—

(1) Loading arm and dock area;

(2) Piping manifold and hose transfer areas;

(3) Process area;

(4) Vaporizer area;

(5) Shop areas;

(6) Office areas;

(7) Utility areas;

(8) Control room; and

(9) Storeroom areas.

(b) Dry chemical equipment and installations must meet NFPA 17 and NFPA 10 and have chemicals capable of extinguishing the types of fire most likely to be encountered.

§ 126.2525 Foam systems.

Foam systems must meet NFPA 11, 11a, or 11b.

§ 126.2526 Water deluge systems.

Water deluge systems must meet NFPA 15.

§ 126.2527 Sprinkler systems.

Sprinkler systems must meet NFPA 13.

§ 126.2550 Personnel emergency equipment.

(a) The operator shall provide the following personnel emergency equipment outfits in the quantity determined necessary by the COTP. Each outfit must include the following:

(1) Self-contained breathing apparatus, approved under 30 CFR Part 11, with a belt and lifeline attached.

(2) An explosion proof flashlight, approved by Underwriters Laboratories, Inc., for use in Class I, Group D, hazardous areas.

(3) Boots and gloves of rubber or other electrically nonconducting material.

(4) A rigid helmet that provides effective protection against impact.

(5) Protective clothing that will protect the skin from heat and burns of fire and LNG. The outer surface must be water resistant and have tolerance to LNG.

(6) A combustible gas indicator.

(b) Emergency equipment outfits must be stored in a dry, conspicious place and marked "Emergency Equipment Outfit." This equipment may not be used for any other purpose except for emergencies.

(c) The operator shall provide two personnel emergency equipment outfits:

(1) In the control room.

(2) In the dock house.

(3) At the entrance gate.

(d) Piers or marine structures extending 90 metres (295 feet) or more into the waterway and having only one means of access must have evacuation equipment for four persons. This equipment must provide protection against fire, explosion, suffocation, exposure, shock, swamping and capsizing.

§ 126.2610 LNG facility security.

(a) The operator shall provide a security system with controlled access acceptable to the COTP, which shall be designed to minimize entry by unauthorized persons.

(b) The operator shall provide a steel, chain-link security fence enclosing the facility. This fence must be at least 2.4 metres (8 feet) in height including a 0.45 metre (18 inch) 45° outrigger at the top that faces outward and is strung with three strands of barbed wire. Fencing must reach within 50 mm (2 inches) of firm ground. Culverts or depressions under fences must be filled with welded bar grilles or the equivalent.

(c) The operator shall provide adequate security personnel physically capable of performing guard duty. They must receive appropriate training in the purpose, layout, hazards and vulnerable portions of the facility.

(d) Animals used for security purposes must be restrained to eliminate a hazard to the law abiding public. Warning signs regarding the use of animals must be conspicuously posted and lighted at intervals around the perimeter fence.

§ 126.2710 Emergency response personnel.

During the following plant operational stages, the operator shall insure that the LNG facility is manned by personnel available for emergency response at the minimum levels indicated.

(a) During process plant shutdown, without any LNG at the facility, the minimum number of personnel manning the process plant must be one person who is of operator level.

(b) During process plant shutdown, with LNG in storage tanks, the minimum number of personnel manning the plant must be two persons who are of operator level.

(c) During process plant operations, without a vessel at the dock, the minimum number of personnel manning the process plant who are directly involved with LNG operations must be two persons who are of operator level, one of whom is assigned to the control room.

(d) During process plant operations, with a vessel at the dock, the minimum number of personnel manning the LNG facility must be—

(1) one person in the dock area who is of operator level;

(2) one person at the control room who is of operator level; and

(3) one person who is of supervisor level.

(e) Any additional manning as may be required must comply with the LNG facility Operations Manual.

§ 126.2712 Personnel requirements.

For each position in the facility the operator shall establish—

(a) Minimum qualifications;

(b) Job descriptions; and

(c) Training requirements.

§ 126.2722 Training requirements.

(a) The operator shall ensure that permanent maintenance, operator, and supervisor level employees must have the following minimum training:

(1) Basic firefighting, including principles in extinguishing an LNG fire.

(2) Basic first aid.

(3) Basic safety instructions for LNG and gas operations which include, but are not limited to—

(i) Properties and hazards;

(ii) Dangers of asphyxiation;

(iii) Procedures for handling liquid nitrogen; and

(iv) Procedures for handling LNG.

(5) Responsibilities of each position.

(6) Emergency procedures.

(b) The operator shall ensure that personnel of operator and supervisor level must also have the following additional training:

(1) Detailed instruction on the facility operation, including controls, functions, and operating procedures.

(2) Advanced firefighting instructions.

(3) Basic instruction in security procedures.

(4) Basic introduction to the operation and construction of LNG ships, trucks, and rail cars.

(5) Basic introduction to gas and liquid characteristics, properties, and hazards as related to the products handled by the facility.

(6) Advanced instruction in emergency procedures.

(7) Advanced first aid instructions including—

(i) Treatment of frostbite;

(ii) Treatment of burns;

(iii) Personnel resuscitation; and

(iv) Procedures for transporting injured personnel.

(c) The operator shall insure that supervisor level must also have the following additional training:

(1) Complete operating instructions for all systems within the plant.

(2) Advanced security instructions.

(d) The operator shall repeat all required training at least every two years.

§ 126.2810 LGN Facility operations.

(a) No person may operate an LNG facility under this part unless the the equipment, personnel, and operating procedures of the facility meet the requirements of this part and are in compliance with the Operations Manual.

(b) At least 60 days prior to the initial transfer or processing of liquefied natural gas the operator shall submit to the COTP an Operations Manual meeting the requirements of § 126.2821 and an Emergency Manual meeting the requirements of § 126.2822 for approval.

§ 126.2811 Person in charge: evidence of designation.

Each person in charge shall carry evidence of designation as a person in charge unless such evidence is immediately available at the facilty.

§ 126.2813 Compliance with suspension order.

No operator to whom an order of suspension has been issued under § 126.2016 may conduct LGN transfer operations until that order is withdrawn.

§ 126.2821 Operations manual.

The operator of each LNG facility to which this part applies shall prepare and submit to the COTP an Operations Manual that contains—

(a) The geographic location of the facility;

(b) A description of the facility, including a plan of the facility showing mooring areas, transfer locations, control stations, systems schematics, and fire and safety equipment;

(c) The number, duties, responsibilities and names of personnel required during each operation;

(d) The names and telephone numbers of facility supervisor level personnel, local Coast Guard unit, hospitals, fire department, police department, and other personnel who may be called by the employees of the facility in an emergency;

(e) A description of each communication system;

(f) The location and provisions at each personnel shelter;

(g) A description and the location of each emergency shutdown system;

(h) The maximum relief valve setting (or maximum system pressure when relief valves are not provided) for each transfer system;

(i) Procedures for—

(1) Vessel loading and discharge;

(2) LNG pump start-up and shutdown;

(3) Venting;

(4) Leak detection systems;

(5) Fire detection systems;

(6) Utility systems;

Extinguishment and control systems;

(8) Control room operations; and

(9) Security.

(j) Training program under §§ 126.2700–126.2799; and

(k) Maintenance, repair, and retest programs under § 126.2410.

§ 126.2822 Emergency manual.

(a) The operator shall have a separate Emengency Manual. Detailed plans shall be made to cover emergency procedures, emphasizing shutdown, cutting off gas supply and liquid flows at the LNG facility, isolation of various portions of the system, depressurizing and other applicable procedures to ensure that the escape of gas or liquid is promptly cut off or reduced as much as possible, whether or not a fire has occurred. A copy of the the Emergency Manual shall be furnished to the COTP by the operator.

(b) Each Emergency Manual must have detailed instructions for the following:

(1) General emergency procedures.

(2) Fire control and firefighting systems and procedures.

(3)Emergency lighting procedures.

(4) Emergency power system procedures.

(5) First aid procedures.

(6) Emergency shutdown procedures.

(7) Dock emergency procedures.

(8) LNG release response procedures.

(9) Response procedures for other potential emergency situations.

§ 126.2823 Manuals: amendments.

(a) The COTP may require the operator to amend the Operations Manual and the Emergency Manual.

(b) When the COTP requires an amendment to a manual, the COTP notifies the operator in writing. The operator may submit written information, views and arguments on the amendment not more than 14 days from the date of the notice After considering all relevant material presented, the COTP notifies the operator of any amendment required or adopted unless the notice is rescinded. The effective date will be not less than 30 days after the operator receives the last COTP notice unless the operator petitions the District Commander to reconsider the notice, in which case its effective date is stayed pending a decision by the District Commander. Petitions to the District Commander must be submitted in writing via the COTP.

(c) If the COTP finds that there is a condition requiring immediate action to prevent the discharge or risk of discharge of LNG that makes the procedure in paragraph (a) of this section impracticable or contrary to the public interest, the COTP may issue an amendment effective, without stay, on the date the operator receives notice of it. In such a case, the COTP includes a statement of the reasons for the finding in the notice.

§ 126.2825 Manuals changes.

(a) The operator shall keep the Operations Manual and Emergency Manual current so that at all times they meet the requirements of this part.

(b) The operator shall provide a copy of each change to either manual to the COTP at least 24 hours before transferring LNG in operations to which this part applies.

126.2826 Manuals: availability.

The operator shall keep an Operations Manual and an Emergency Manual at the LNG facility and shall make them readily available to operator level personnel, vessel personnel and to the COTP.

§ 126.2841 Smoking.

The operator shall prohibit smoking, and no person may smoke, on any portion of the waterfront facility except in locations specifically designated as smoking areas and approved by the COTP. "NO SMOKING" signs must be prominently displayed throughout prohibited areas. "Designated Smoking Area" signs must be prominently displayed throughout designated smoking areas.

§ 126.2842 Motor vehicles.

(a) Motor vehicles may not remain or park in cargo transfer areas, except under any of the following conditions:

(1) When actually awaiting opportunity to load or discharge cargo, ship supplies, or passengers and attended by a driver.

(2) When being used for or incident to maintenance, repair, or alterations and attended by a driver.

(3) When facing toward an unimpeded exit and attended by a driver.

(b) Motor vehicles may remain or park in such portions of the LNG facility as are designated and marked as "Parking Areas" by the operator when permitted by local ordinances and regulations, and provided no fire lanes

are blocked or exits impeded by their presence.

§ 126.2843 Pier automotive equipment.

Tractors, stackers, lift trucks, hoisters, and other equipment driven by internal combustion engines used on a facility must be of such construction and condition as not to constitute a fire hazard. Each unit must be kept free from excess grease, oil, or lint. Each unit must be equipped with an approved type fire extinguisher except where the COTP has determined that fire extinguishers that are adequate in numbers, type and location to protect pier automotive equipment are available at the LNG facility. When not in use, automotive equipment must be stored in a safe manner and location. Gasoline or other fuel used for such equipment must be stored and handled in accordance with accepted safe practices. Refueling of such equipment or any vehicle is prohibited on any pier within the facility.

§ 126.2844 Grounds maintenance.

The LNG facility must be free from rubbish, debris, and other materials which present a fire hazard. Burning rubbish in an open fire on a waterfront facility is prohibited. Grass on the facility must be maintained at a length of not more than three inches. Grass cuttings must be removed from the ground after mowing.

§ 126.2845 Maintenance of stores and supplies.

Hazardous materials, to be used in connection with operation or maintenance of the facility, may not be stored on any pier or elsewhere on the facility except in amounts necessary for normal current operating conditions. Covered metal containers must be provided for storage of used wiping cloths and the contents must be removed at the end of each working day.

§ 126.2851 Transfer operations: prior to transfer.

(a) No person may handle, load, discharge, or transport LNG at any facility unless a use permit has been issued by the COTP.

(b) Before transfer, the person in charge of the vessel and the person in charge of the LNG facility shall inspect all transfer equipment to ensure it is in proper operating condition. After the inspection, they shall meet and determine the transfer procedure, verify that adequate ship-to-shore communication exists, and review emergency procedures. The vessel cargo tank pressure, temperature and density conditions must be jointly inspected prior to unloading the vessel.

(c) Both persons in charge of LNG transfer operations shall review the following prior to transfer:

(1) The identity of the product to be transferred.

(2) The sequence of transfer operations.

(3) The transfer rate.

(4) The location of personnel participating in the transfer.

(5) Particulars of the transferring and receiving systems.

(6) Critical stages of the transfer operations.

(7) Federal, State and local rules that apply to the transfer of LNG.

(8) Emergency procedures.

(9) Communication systems.

(10) Watch or shift arrangement.

(d) Before transfer, the operator shall take gage readings to insure that the receiving container or vessel tank will not overfill.

§ 126.2852 Declaration of inspection.

(a) After completing the inspection and before giving their approval to start the transfer operation, the person in charge on the vessel and the person in charge on the facility pier shall complete the following Declaration of Inspection in duplicate. The original of the Declaration of Inspection must be kept aboard the vessel and the duplicate must be kept at the facility. Each must be retained for 1 year.

DECLARATION OF INSPECTION TO

TRANSFER LNG

Date:_____

Facility Name:_____

Address:_____

Vessel Name:_____ Port of_____

I,_____, being the person in charge on the vessel for the transfer of LNG about to be undertaken, do certify that I have personally inspected this vessel with reference to the following requirements and that opposite each of them I have indicated that the regulations have been complied with.

(1) Warnings are displayed as required. _____

(2) Cargo connections have been properly made and cargo valves are properly set. _____

(3) There are no fires or open flames present on the deck or in any compartment of the vessel which is located on, facing, open and adjacent to the main deck of the vessels on which cargo connections have been made. _____

(4) The LNG facility concerned has reported itself in readiness for transfer of LNG. _____

(5) If the boiler fires are lighted, an inspection has been made and they may be operated with reasonable safety. _____

(6) If the galley fires are lighted, an inspection has been made and they may be operated with reasonable safety. _____

(7) An inspection has been made to determine whether smoking is to be permitted. _____

(8) If smoking to to be permitted, spaces have been designated for that purpose. _____

I,_____, being the person in charge of the LNG facility do certify that I have personally inspected the facility with reference to the following requirements and that opposite each of them I have indicated that the regulations have been complied with:

(1) Warning signs are displayed on the facility at the point of transfer facing the shoreline, and facing each way along the shoreline without obstruction, at all times during the coupling, transfer operation and uncoupling. _____

(2) There is no repair work on the transfer system or receiving tanks during LNG transfer. _____

(3) Communication systems used in the LNG transfer operation have been tested and found to be working in a satisfactory manner. _____

(4) The transfer system has been checked to ensure that all valves are properly lined up. _____

(5) Suitable material is used in joints and in couplings when making connections to insure that they are tight and leak free. _____

(6) All bolts are used in bolted couplings to prevent leakage. _____

(7) The vessel's moorings are strong enough to hold all expected conditions of surge, current and weather and are long enough to allow adjustment for changes in drift, draft and tide during the transfer operation. _____

(8) The designated personnel are on duty to conduct the transfer operations in accordance with the facility Operations Manual and vessel LNG transfer procedures that apply to the transfer operation. _____

(9) The ship and facility personnel responsible for LNG transfer operations speak and understand the English language. _____

Person in Charge of Vessel

_____
(Signature)

_____
(Title)

_____ _____
Date Time

Person in Charge of Facility

_____
(Signature)

_____
(Title)

_____ _____
Date Time

(b) No person may transfer LNG to or from a vessel unless each person in charge has signed the Declaration of Inspection form prescribed in this section. No person in charge may sign the Declaration of Inspection unless he or the other person in charge has determined by inspection that the facility and vessel meets the requirements of this section.

§ 126.2853 Requirements for LNG transfer.

(a) When performing LNG cargo transfer operations, the facility LNG transfer system must meet the following conditions:

(1) The LNG transfer system in use must be under the continuous control and surveillance of the operator or his designated representative.

(2) There must be one person in charge present dockside at all times responsible for the LNG transfer operations from each vessel. A person in charge shall have no other duties assigned during the transfer operation.

(b) In the case of an emergency involving liquid spillage or the use of fire protection equipment with one or more vessels at the same facility, each vessel must immediately shut down transfer operations and remain shut down until authorized to resume cargo operations by the COTP.

(c) The person in charge on the LNG facility shall not start LNG transfer operations or, if started, shall discontinue transfer when any of the following conditions occur:

(1) During severe electrical storms.

(2) If a fire occurs on the facility, the vessel, or in the vicinity.

(3) If a break occurs in the LNG transfer system.

(d) If during transfer operations either person in charge requests that the transfer be discontinued, the other person in charge shall immediately comply with this request. Transfer of LNG shall not proceed until the person in charge on the facility and the person in charge on the vessel agree it is safe to conduct the transfer.

(e) Receiving container or vessel tank levels must be gauged during transfer operatios to insure they do not overfill.

(f) Transfer operations must be commenced slowly and, if any unusual variance in pressure or temperature occurs, transfer must be stopped until the cause has been determined and corrected. Pressure and temperature conditions must be monitored during the transfer operation.

(g) When gas or liquid is vented, it must be vented to a safe location.

(h) Prior to and during transfer of LNG, no other cargoes may be transferred without specific approval of the COTP. Vessels may bunker during the LNG transfer only if that bunkering is from a shorebased pipeline. Personnel involved in the bunkering operation shall not be involved in the LNG transfer.

(i) At facilities where multiple cargoes are handled, the hoses and systems must be marked to specify the allowable products.

(j) Ships, lighters, barges, or other vessels must be moored in an orderly manner to provide their rapid removal in the event of a fire.

(k) The person in charge of the vessel shall provide sufficient wire towing pendants, hung on the outboard side of moored LNG vessels, to assist in their removal from the pier in the event of an emergency.

(l) Vehicle traffic must be prohibited on the pier or dock within 30 meters (100 feet) of the loading and unloading manifold during transfer operations. Warning signs or barricades must be used to indicate when transfer operations are in progress.

(m) Material handling equipment and the fueling thereof must meet 49 CFR 176.78.

(n) Oxyacetylene or similar welding or burning or other hot work including electric welding or the operation of equipment may not be conducted on an LNG facility or vessels moored at the facility while LNG is being handled, stored, loaded, unloaded, or transported without the specific approval of the COTP.

(o) At least two facility and vessel fire hoses must be layed out and charged. The vessel fire main system must be connected to the facility fire main system.

§ 126.2901 Records: Letter of intent.

The operator shall keep on file his Letter of Intent and any changes.

§ 126.2904 Records: Inspection.

The operator shall keep on file a record of each inspection made by the Captain of the Port and any other regulatory body for a period of 5 years.

§ 126.2906 Inspection and maintenance.

The operator shall keep on file for a period of 5 years a record of the dates and results of—

(a) Each required inspection;

(b) Periodic maintenance of safety equipment and devices including fire protection;

(c) Unscheduled repairs to transfer systems;

(d) Material and equipment failures and corrective action taken; and

(e) Accidents and corrective action taken.

§ 126.2907 Tests.

The operator shall keep on file a permanent record of each test performed on the transfer systems of the LNG facility. The record must contain—

(a) Facility name and date;

(b) Employee responsible for test;

(c) Company or individual or both making test;

(d) Component or system tested;

(e) Test results; and

(f) Corrective action taken.

§ 126.2908 Personnel records.

The operator shall keep personnel records for each employee assigned to the facility which include—

(a) Name;

(b) Qualifications;

(c) Training; and

(d) Lost time accidents.

(40 Stat. 220 (50 U.S.C. 191); (86 Stat. 427 (33 U.S.C. 1224); 49 CFR 1.46(1) and (n)(4)).)

R. H. SCARBOROUGH,
Vice Admiral, U.S. Coast Guard,
Vice Commandant.

JULY 26, 1978.

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