MAINE PUBLIC UTILITIES COMMISSION
FACILITY EVALUATION REPORT FOR LIQUEFIED PETROLEUM GAS SYSTEMS UNDER THE JURISDICTION OF CFR 49, PART 192

Facility ID # _____ **Date:** _____

Date of Last Inspection: _____ **State Inspector:** _____

Facility Name/Site location: _____

Address: _____

City: _____ **State:** _____ **Zip** _____

Location: **Lat:** _____ **Long:** _____

Installation Date of Original System: _____

Number of Services: **Existing:** _____ **Active:** _____

Number of Meters: _____

Public Place: Yes: ___ **No:** ___ **Total Storage Cap. (gals. ag/ug):** _____

If More Than One Tank: Total Number ___, **Individual Tank Cap. (gals.):** _____

Facility Operator: _____

Operator's Address: _____

City: _____ **State:** _____ **Zip** _____

Facility Owner: _____

Owner's Address: _____

City: _____ **State:** _____ **Zip** _____

Facility Operator's Representative: _____

* S=Satisfactory; U=Unsatisfactory; N/A=Not Applicable; CNV = Could Not be Verified
Unless otherwise noted, all code references are to NFPA 58 (2004 Edition).

Section	ANSI/NFPA 58 REQUIREMENTS General	S	U	N/A or CNV
4.2.3	The presence of odorant is determined by sniff testing or other means and the results documented: (a) Whenever LP-Gas is delivered to a bulk plant. (b) When shipments of LP-Gas bypass the bulk plant.			
	The operator ensures that the gas in the system is odorized.			
5.7.11.1(f)	Shutoff valves shall be readily accessible for operation and maintenance under normal emergency conditions.			
5.7.11.1(g)	A ladder is permanently fixed to the tank if it's higher than six feet above the ground or a valve can be operated remotely from a point 6 feet or less from the ground.			
6.11	Hydrostatic relief valves must be used when liquid can be trapped between two valves in the liquid piping.			
Section	**Piping - NFPA 58 REQUIREMENTS** **Note: Bolded items in this section indicate these records to be evaluated as deemed appropriate by the ME PUC and State Inspector.**	**S**	**U**	**N/A or CNV**
6.8.3.3	Piping is used for pressures up to 125 psi designed for 125 psi or greater.			
	Piping being used for pressures greater than 125 psi must be designed for 250 psi or greater.			
	Piping used for pressures greater than tank pressure shall be designed for 350 psi or greater.			
5.8.3	Pipe or tubing is of a suitable material for the purpose it is being used for.			
5.8.4 and 5.8.5	Fittings for pipe and tubing is of a suitable material they are being used for.			
6.8.4.1	Polyethylene pipe is installed outdoors and underground.			
6.8.1.1(4)	There is no more than 20 psi being piped into any buildings. Note: Inspector to verify if pressure gauge installed and if reading less than 20 psi. If pressure gauge not installed or inaccessible (e.g., in building), so note. ☐ Inspect at tank(s) ☐ Inspect at meter(s)/second stage regulator(s)			
6.8.1.1	The vapor pressure in polyethylene piping system is 30 psi or less. Note: Inspector to verify if pressure gauge installed and if reading less than 30 psi. If pressure gauge not installed or inaccessible (e.g., in building), so note. ☐ Inspect at tank(s) ☐ Inspect at meter(s)/second stage regulator(s)			
6.8.3.5	Fittings used in excess of 125 psi must be Schedule 80.			
	Fittings used for Schedule 40 must be welded if over 125 psi.			
	If the pipe is brazed, the melting point of the brazing material is at least 1000 deg. F.			
6.8.3.8	Tank pressure manifold piping is designed so that the LP condensate goes back to the tank.			
6.8.3.9(b)	There is no non-metallic pipe, tubing, or hose used in a piping system that is permanently interconnecting containers.			
6.8.3.10	The above ground piping is supported properly and the piping is protected against physical damage from vehicles.			
6.8.3.11	The portion of aboveground piping in contact with a support or a corrosion-causing substance shall be protected against corrosion. Note: Inspector to look for evidence of an insulator board, etc.			
6.8.4.3	In a polyethylene system there is an anode- less riser that connects the underground piping to the above ground piping.			
	The horizontal section of the riser has at least twelve inches of cover. Note: Inspector to note if riser is labeled with a sticker with maximum and/or minimum burial depth lines indicated and so note.			
6.8.3.14	The underground metallic piping is protected against corrosion. Note: Inspector to look for evidence of an insulating gasket and/or test station and so note.			

Section	Meters, Regulators & Pressure Relief Devices	S	U	N/A or CNV
6.7.3	For a fixed piping system that serves ½ psig appliance systems, the system shall have a two-stage system, a two- stage integral regulator, or a 2 psi regulator.			
	Gas distribution systems utilizing multiple second-stage regulators shall be permitted to use a high-pressure regulator installed at the container provided a first-stage regulator is installed downstream of the high-pressure regulator and ahead of the second-stage regulators.			
	If a high-pressure regulator is used a first stage regulator shall be permitted between it and the second stage regulator, or if a high-pressure regulator is used and rated for a capacity of over 500,000 Btu/hr, there must be over pressure protection for both the high-pressure regulator and the second stage regulators.			
6.7.4.3	The first stage or high-pressure regulator shall be installed outside. Note: Exceptions (1) through (7) of Code do not apply to jurisdictional LPG facilities.			
6.7.4.4	The regulator set-up is designed against freezing rain, sleet, snow, ice, mud or debris (integrally or otherwise).			
6.7.4.5	The regulators relief vent is installed at least three feet horizontally from any building opening that is below the discharge of the vent.			
6.7.4.6	The point of discharge is at least five feet away from any source of ignition, direct vent appliance, or mechanical ventilation air intake.			
6.7.4.8	The vent of a regulator that is installed inside of a building must be piped to the outside and the vent location meets the requirements.			
6.6.6.1(H)	Regulator vents for underground or mounded containers must be mounted above the highest probable water level. Note: Inspector to note if the vent location appears to be too low based on good engineering judgment.			
6.13	In areas where heavy snow fall is anticipated, piping, regulators and meters, and other equipment installed in the piping system shall be protected from the forces anticipated as a result of accumulated snow.			
6.8.1.2	LP-Gas vapor pressures exceeding 10 psi within a building or separate areas of buildings, that meet one of the criteria in this section, must be in accordance with Chapter 10.			
6.15.5.2	Liquid meters shall be installed so that the meter housing is not subject to excessive strains from the connecting piping. If not provided in the piping design, the use of flexible connectors shall be permitted.			
6.15.5.3	Vapor meters shall be installed so as to minimize the possibility of physical damage.			

Section	Tanks	S	U	N/A or CNV
5.2.1.4	Containers showing serious denting, bulging, gouging, or excessive corrosion must be removed from service. Note: Inspector to make visual observation of exterior of tank(s); internal corrosion not included in this assessment.			
5.2.1.5	Repairs or alterations of containers must comply with the regulations, rules, or code under which the container was fabricated. Note: Inspector to ask Operator if there have been any modifications to the tank(s) since the last inspection. If so, Operator needs to provide documentation to confirm such modifications were in accordance with ASME requirements.			
5.2.2.2	DOT cylinders must be current or have a current re-qualification date.			
5.2.4	The minimum design pressure for ASME containers is in accordance with Table 5.2.4.2. Note: Inspector to verify this information via container nameplate.			
5.2.4.1	The minimum design service pressure for DOT cylinders must be in accordance with CFR 49. Note: Inspector to verify this information via tank nameplate.			
5.2.5.3	Containers designed to be filled volumetrically shall be equipped for filling into the vapor space.			

5.2.5.4	Containers that are greater than 125 gal water capacity through 2000 gallon water capacity are provided with a ¾" or larger connection for liquid evacuation.			
6.7.2.12	On underground tanks over 2000 gal. the relief valve stacks at least 7 feet above the ground.			
6.7.2.11	On underground tanks for 2000 gal. or less, the relief valves shall discharge into the manhole or housing when the manhole or housing is ventilated.			
6.3	Containers are installed the proper distance from important buildings or property that can be built on (in accordance with table 6.3.1).			
6.3.4.1	For underground/above ground tanks, the separation between tanks is at least three feet or more (table 6.3.1). Note: For underground tanks, Inspector to refer to typical storage tank dimensions and if tank dome/manway can be accessed to measure tank separation based on this data and so note in form.			
6.3.9	The distance measured horizontally from the point of discharge of a container pressure relief valve to any building opening below the level of such discharge shall be in accordance with Table 6.3.9.			
6.3.10	The distance measured in any direction from the point of discharge of a container pressure relief valve, vent of a fixed maximum liquid level gauge on a container, and the container filling connection to exterior sources of ignition, openings into direct-vent (sealed combustion system) appliances, and mechanical ventilation air intakes shall be in accordance with Table 6.3.9.			
6.4.5.2	There shall be no loose combustible materials, weeds, or dry grass within ten feet of the tank.			
6.4.5.12	No portion of an above ground container is located within six feet of a vertical plane beneath overhead power lines that are over 600 volts nominal.			
6.20.1.1	Tanks must be located at least ten feet from any source of electrical equipment (see table 6.20.2.2).			
6.6.1.4	Above ground containers shall be painted.			
6.6.3.1(c)	If the tank is more than a 2000-gal tank, it is mounted on saddles that fit the contour of the tank.			
6.6.3.5	The saddle has a pad between it and the tank that prevents corrosion between the tank and the saddle.			
6.6.6.3	If the tank is mounded there is at least one foot of cover over the tank. Note: If feasible, Inspector to visually verify depth of cover with dome/manway opened and so note. If any portion of tank is exposed, so note on form.			
6.6.6.3(3)	Valves and other appurtenances are accessible without disturbing the mounding material.			
6.6.6.3	The mounded tank is protected against corrosion. Note: Inspector to look for evidence of test stations and request test station measurement data from Operator.			
6.6.6.1(a)	On an underground tank there is at least six inches of cover. Note: If feasible, Inspector to visually verify depth of cover with dome/manway opened and so note. If any portion of tank is exposed, so note on form.			
6.6.6.1	If subject to loading from vehicles, there is at least eighteen inches of cover (for a non-interchangeable tank or, if the tank is an interchangeable tank, then no more than twelve inches of cover) and protected from vehicle traffic. Note: This item to be addressed on case by case basis.			
6.6.6.1 (B)	The tank housing, piping, etc. in the above scenario is protected against traffic.			
6.6.6.1.(D)	The tank, housing, piping, etc. is protected against vehicles.			
6.6.6.2 (1)	Partially underground, unmounded ASME containers shall be protected against corrosion.			
6.7.2.4	Rain caps or other means shall be provided to minimize the possibility of the entrance of water or other extraneous matter into the relief device or any discharge piping. Provisions shall be made for drainage where the accumulation of water is anticipated.			

6.7.2.6	The design of the pressure relief valve drain opening shall provide the following: (1) protection of the container against flame impingement resulting from ignited product escaping from the drain opening (2) direction of the pressure relief valve drain opening so that adjacent container(s), piping, or equipment are not subject to flame impingement.			
5.2.5.5	Containers larger than 2000 gal water capacity is equipped with an opening for a pressure gauge. Note: Inspector to look for pressure gauge or plugged connection.			
6.6.3.3 And Table 6.6.3.3.	For horizontal containers with attached supports that are greater than 2000 gal water capacity and installed on a concrete foundation, the height of the bottom of the container is a maximum of 6 inches above the concrete foundation.			
	For horizontal containers with attached supports that are less than 2000 gal water capacity and installed on concrete foundations raised above the ground level by more than 12 inches: The height of the bottom of the container is between 2 inches and 12" above the concrete foundation			
	For horizontal containers with attached supports that are less than 2000 gal water capacity and installed on paved or concrete pads within 4 inches of ground level: The height of the bottom of the container is not greater than 24" above the paved surface or top of the concrete pad.			
5.2.8.1(a)	If one or more compressed gases are stored or used in the same areas as LP-Gas, the containers shall be marked "Flammable" and either "LP-Gas," "LPG," "Propane," or "Butane."			
5.7.2.1	Containers shall be equipped with one or more pressure relief devices designed to relieve vapor.			
5.7.2.4	A) Pressure relief valves shall be designed for sufficient relieving capacity with the requirements of Table 5.7.2.4(a). Note: Inspector to look for pressure setting either stamped on relief valve or on a tag.			
5.7.2.8	B) Pressure relief valves shall be marked accordingly: o Pressure (psig) at which valve is set to start to leak o Rated relieving capacity in cfm of air at 60 °F and 14.7 psia o Manufacturer's name and catalog number			
5.7.2.9	C) Shut off valves shall be eliminated between the container and pressure relief device.			
5.7.2.10	D) Pressure relief devices shall be designed to minimize tampering.			
5.7.7.1	A) Containers up to 4000 gal water capacity shall comply with Table 5.7.7.1, Column 5. Note: If facility has tank(s) greater than 2000 gal water capacity AND is a bulk or industrial plant, Inspector to review facility for compliance with 5.7.7.3, below.			
5.7.7.3	B) For containers over 4000 gal water capacity or meets description in Note above, must comply with: 1) For vapor and liquid withdrawal openings: a. A positive shut-off valve located as close to the tank as possible. b. An internal valve with an integral excess flow valve or excess flow protection.			
	2) For vapor and liquid inlet openings: a. A positive shut-off valve in combination with either a backflow check valve or excess flow valve. b. An internal valve with an integral excess flow valve or excess flow protection.			

	3) Other container appurtenances: a. An internal spring-type, flush-type full internal, or external pressure relief valve (See Annex A). b. Fixed liquid level gauge. c. Float gauge, rotary gauge, or slip tube gauge. d. Pressure gauge. e. Temperature gauge.			
Section	**Indirect-Fired & Electric Vaporizers** **Note: Bolded items in this section indicate these records to be evaluated as deemed appropriate by the ME PUC and State Inspector**	**S**	**U**	**N/A or CNV**
6.19.2.1	Vaporizers installed in a building must comply with section 10.2 or 10.3.			
6.19.2.2	The building or structure shall not have any unprotected drains to sewer or sump pits.			
6.19.2.3	Pressure relief valves must be piped to the outside.			
6.19.2.4	If the heat source is gas-fired and located within 15 feet, see direct-fired vaporizers for requirements (6.19.3).			
6.19.2.6	If gas-fired heat source, it must have an automatic safety device.			
Section	**Direct-Fired Vaporizers** **Note: Bolded items in this section indicate these records to be evaluated as deemed appropriate by the ME PUC and State Inspector.**	**S**	**U**	**N/A or CNV**
6.19.3.1	If vaporizer is in a building it must be built according to Chapter 10.			
6.19.3.2	Drains or sump pump cannot be shared with another structure.			
6.19.3.3	Pressure relief valve must be piped to the outside.			
6.19.3.5	A manual shutoff shall be installed in each connection of the container that is supplying the vaporizer.			
6.19.3.6	For direct-fired vaporizers see section 6.19.3.6 and 6.19.4.5: • Vaporizer is 10 ft from container; • Vaporizer is 15 ft from container shutoffs; • Vaporizer is 15 ft from the point of transfer (if transfer is within 15 ft, burner and pilot must be shut off when transferring liquid) • Vaporizer is 25 ft from nearest building or property line.			
Section	**Waterbath Vaporizers** **Note: Bolded items in this section indicate these records to be evaluated as deemed appropriate by the ME PUC and State Inspector.**	**S**	**U**	**N/A or CNV**
6.19.6.1	If electrically heated, all electrical equipment must be Class 1, Group D. (Treat as an indirect-fired vaporizer)			
6.19.6.2	If not electrically heated, treat as direct-fired.			
Section	**PART 192 REQUIREMENTS** **Field Performance Review**	**S**	**U**	**N/A or CNV**
.181	Valve Locations – distribution line			
.365	Valve Locations – service line			
.365 (a)	Each service line has a valve installed upstream of the regulator, or if no regulator, upstream of the meter.			
.365 (b)	Each service line has a shut-off valve in a readily accessible location that, if feasible, is outside of the building.			
.365 (c)	Any underground service-line valve is located in a covered durable curb box or standpipe that allows ready operations of the valve and is supported independently of the service lines.			
.463	Cathodic Protection Measures Are In Place			

.467(b)	One or more insulating devices must be installed where electrical isolation of a portion of a pipeline is necessary to facilitate the application of corrosion control			
.479	Visually inspect facility for presence of atmospheric corrosion.			
.605(a) (8)	Knowledge of Operating Personnel			
.707	Line Markers Note: Does not apply to Mains in Class 3 or 4 areas.			
.751	Warning Signs are posted where appropriate.			

Inspector Comments: