

Inspection Output (IOR)

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Inspection Information

Inspection Name	Mobile LNG Trailer	Operator(s)	NORTHWEST NATURAL GAS CO (13840)	Plan Submitted	04/16/2019
		Lead	Dennis Ritter	Plan Approval	04/22/2019
Status	PLANNED	Observer(s)	Scott Rukke, David Cullom, Lex Vinsel, Anthony Dorrrough, Derek Norwood, Scott Anderson, Darren Tinnerstet		by Joe Subsits
Start Year	2019	Supervisor	Joe Subsits	All Activity Start	04/15/2019
System Type	LNG	Director	Sean Mayo	All Activity End	04/18/2019
Protocol Set ID	LNG.2018.02			Inspection Submitted	--
				Inspection Approval	--

Inspection Summary

Inspection Scope and Summary

Basis for inspection:

Per 49 CFR Part 193.2019 Mobile and Temporary LNG facilities

(a) Mobile and temporary LNG facilities for peakshaving application, for service maintenance during gas pipeline systems repair/alterations, or for other short term applications need not meet the requirements of this part if the facilities are in compliance with applicable sections of NFPA 59A-2001.

NFPA 59A (2001 ed) Section 2.3.4, 2.3.5

2.3.4 The temporary use of LNG portable equipment for peakshaving applications or for service maintenance during gas systems repair or alteration or for other short-term applications shall be permitted where the following requirements are met: (a) LNG transport vehicles complying with DOT requirements (see 8.5.1.1) shall be used as the supply container. (b) All portable LNG equipment shall be operated by at least one person qualified by experience and training in the safe operation of these systems. All other operating personnel, at a minimum, shall be qualified by training. (c) Each operator shall provide and implement a written plan of initial training to instruct all designated operating and supervisory personnel in the characteristics and hazards of LNG used or handled at the site, including low LNG temperature, flammability of mixtures with air, odorless vapor, boil-off characteristics, and reaction to water and water spray; the potential hazards involved in operating activities; and how to carry out the emergency procedures that relate to personnel functions and to provide detailed instructions on mobile LNG operations. (d) Provisions shall be made to minimize the possibility of accidental discharge of LNG at containers endangering adjoining property or important process equipment and structures or reaching surface water drainage. Portable or temporary containment means shall be permitted to be used. (e) Vaporizer controls shall comply with 5.3.1, 5.3.2, and Section 5.4. Each heated vaporizer shall be provided with a means to shut off the fuel source remotely. The device also shall be operable at the installed location. (f) Equipment and operations shall comply with 11.4.5(b), 11.4.5.2(b), Section 8.7, 8.8.1, 9.1.2, 9.2.1, 9.2.2, 9.2.3, and 2.3.4(c). Clearance distance provisions shall not apply. (g) The LNG facility spacing specified in Table 2.2.4.1 shall be maintained, except where necessary to provide temporary service on a public right-of-way or on property where clearances specified in Table 2.2.4.1 are not feasible and the following additional requirements are met: (1) Traffic barriers shall be erected on all sides of the facility subject to passing vehicular traffic. (2) The operation shall be continuously attended to monitor the operation whenever LNG is present at the facility. (3) If the facility or the operation causes any restriction to the normal flow of vehicular traffic, in addition to the monitoring personnel required in 2.3.4(g)(2), flag persons shall be continuously on duty to direct such traffic. (h) Reasonable provision shall be made to minimize the possibility of accidental ignition in the event of a leak. (i) Portable or wheeled fire extinguishers recommended by their manufacturer for gas fires shall be available at strategic locations. These extinguishers shall be provided and maintained in accordance with NFPA 10, Standard for Portable Fire Extinguishers. (j) The site shall be continuously attended and provisions shall be made to restrict public access to the site whenever LNG is present. 2.3.5 If odorization is required of the emergency facility, the restrictions of 2.2.4.1 shall not apply to the location of odorizing equipment containing 20 gal (7.6 L) of flammable odorant or less within the retention system.

Facilities visited and Total AFOD

Monday April 15, 2017 Travel, Begin Inspection 10:00 am--Procedures, Records and Observations

Monday April 15, 2017 Exit Interview 4:00 pm--No findings for the inspection. One issue noted below.

Total AFODs 1 day

Summary of Significant Findings
(DO NOT Discuss Enforcement options)

There were no significant findings from the inspection.

Only issue noted during inspection was the Part 193 LNG procedures for the mobile trailer are kept with the LNG procedures for the LNG plant. They are also kept in multiple binders which made the review somewhat cumbersome. Suggested they pull together all relevant procedures for the Mobile LNG trailer together in one binder and number/format accordingly.

Primary Operator contacts and/or participants

See Attendance Form for full details.

Samantha Rookstool

Jaimie Lemke

Margaret Locke

Kerry Shampine

Kenneth Austin

Operator executive contact and mailing address for any official correspondence

Jon G. Huddleston

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Scope (Assets)

#	Short Label	Long Label	Asset Type	Asset IDs	Excluded Topics	Planned	Required	Total Inspected	Required % Complete
1.	LNG	LNG Trailer	other	LNG	--	3	3	3	100.0%

1. Percent completion excludes unanswered questions planned as "always observe".

Plans

#	Plan Assets	Focus Directives	Involved Groups/Subgroups	Qst Type(s)	Extent	Notes
1.	LNG	n/a	GENERIC.GENERIC.GENPROCEDURE.P	P, R, O, S	Detail	Does the operator's procedures for vaporizer controls comply with NFPA 59A 8.4.1, 8.4.2 and 8.5? 5.9.1(7)

#	Plan Assets	Focus Directives	Involved Groups/Subgroups	Qst Type(s)	Extent	Notes
2.	LNG	n/a	GENERIC.GENERIC.GENRECORD.R	P, R, O, S	Detail	Do the records indicate vaporizer controls comply with NFPA 59A 8.4.1, 8.4.2 and 8.5? 5.9.1(7)
3.	LNG	n/a	GENERIC.GENERIC.GENOBSERVE.O	P, R, O, S	Detail	Does the operator' vaporizer controls comply with NFPA 59A 8.4.1, 8.4.2 and 8.5? 5.9.1(7)
4.	LNG	n/a	GENERIC.GENERIC.GENPROCEDURE.P	P, R, O, S	Detail	Does the operator's procedure state that the LNG transport vehicle comply with US DOT requirements for the supply trailer? 5.9.1(1)
5.	LNG	n/a	GENERIC.GENERIC.GENRECORD.R	P, R, O, S	Detail	Do the operator's records indicate that the LNG transport vehicle complies with US DOT requirements for the supply trailer? 5.9.1(1)
6.	LNG	n/a	GENERIC.GENERIC.GENOBSERVE.O	P, R, O, S	Detail	Does the operator's LNG transport vehicle comply with US DOT requirements for the supply trailer? 5.9.1(1)
7.	LNG	n/a	GENERIC.GENERIC.GENPROCEDURE.P	P, R, O, S	Detail	Does the operator's procedures state that all portable LNG equipment shall be operated by at least one person qualified by experience and training in the safe operation of these systems? 5.9.1(2)
8.	LNG	n/a	GENERIC.GENERIC.GENRECORD.R	P, R, O, S	Detail	
9.	LNG	n/a	GENERIC.GENERIC.GENOBSERVE.O	P, R, O, S	Detail	
10.	LNG	n/a	GENERIC.GENERIC.GENPROCEDURE.P	P, R, O, S	Detail	
11.	LNG	n/a	GENERIC.GENERIC.GENRECORD.R	P, R, O, S	Detail	Do the operator's records indicate that all portable LNG equipment was operated by at least one person qualified by experience and training in the safe operation of these systems? 5.9.1(2)
12.	LNG	n/a	GENERIC.GENERIC.GENPROCEDURE.P	P, R, O, S	Detail	Do the operator's procedures state that all other LNG operating personnel, at a minimum, shall be qualified by training? 5.9.1(3)
13.	LNG	n/a	GENERIC.GENERIC.GENRECORD.R	P, R, O, S	Detail	Do the operator's records indicate that all other LNG operating personnel, at a minimum, were qualified by training? 5.9.1(3)
14.	LNG	n/a	GENERIC.GENERIC.GENPROCEDURE.P	P, R, O, S	Detail	Does the operator provide a written plan of initial training to instruct all designated operating and supervisory personnel in the characteristics and hazards of LNG used or handled at the site, including low LNG temperature, flammability of mixtures with air, odorless vapor, boil-off characteristics, and reaction to water and water spray; the potential hazards involved in operating activities; and how to carry out the emergency procedures that relate to personnel functions and to provide detailed instructions on mobile LNG operations? 5.9.1(4)
15.	LNG	n/a	GENERIC.GENERIC.GENRECORD.R	--	Detail	Do the operator's records indicate that initial training to instruct all designated operating and supervisory personnel in the characteristics and hazards of LNG used or handled at the site, including low LNG temperature, flammability of mixtures with air, odorless vapor, boil-off characteristics, and reaction to water and water spray; the potential hazards involved in operating activities; and how to carry out the emergency procedures that relate to personnel functions and to provide detailed instructions on mobile LNG operations? 5.9.1(4)
16.	LNG	n/a	GENERIC.GENERIC.GENPROCEDURE.P	P, R, O, S	Detail	Do the operator's procedures make provisions to minimize the possibility of accidental discharge of LNG at containers endangering adjoining property or important process equipment and structures or reaching surface water drainage? 5.9.1(5)

Plan #	Assets	Focus Directives	Involved Groups/Subgroups	Qst Type(s)	Extent	Notes
17.	LNG	n/a	GENERIC.GENERIC.GENRECORD.R	P, R, O, S	Detail	Do the operator's records indicate appropriate training and/or routine inspections were conducted to minimize the possibility of accidental discharge of LNG at containers endangering adjoining property or important process equipment and structures or reaching surface water drainage? 5.9.1(5)
18.	LNG	n/a	GENERIC.GENERIC.GENPROCEDURE.P	P, R, O, S	Detail	Does the operator's procedures permit portable or temporary containment be used? 5.9.1(6)
19.	LNG	n/a	GENERIC.GENERIC.GENRECORD.R	--	Detail	Do the operator's records show training for implementing and implementation of portable or temporary containment? 5.9.1(6)
20.	LNG	n/a	GENERIC.GENERIC.GENPROCEDURE.P	P, R, O, S	Detail	Does the operator's procedures require each heated vaporizer be provided with a means to shut off the fuel source remotely and at the installed location? 5.9.1(8)
21.	LNG	n/a	GENERIC.GENERIC.GENRECORD.R	P, R, O, S	Detail	Do the operator's records indicate that each heated vaporizer was provided with a means to shut off the fuel source remotely and at the installed location? 5.9.1(8)
22.	LNG	n/a	GENERIC.GENERIC.GENOBSERVE.O	P, R, O, S	Detail	Does each heated vaporizer have a means to shut off the fuel source remotely and at the installed location? 5.9.1(8)
23.	LNG	n/a	GENERIC.GENERIC.GENPROCEDURE.P	P, R, O, S	Detail	Does the operator's procedures require equipment and operations comply with 14.6.1 Where bulk transfers are made into stationary storage containers, the LNG being transferred shall be compatible in composition or in temperature and density with the LNG already in the container. 14.6.2 Where the composition or the temperature and density are not compatible, means shall be taken to prevent stratification and vapor evolution that could cause rollover. Section 11.8 11.8.1 Hoses or arms used for transfer shall be designed for the temperature and pressure conditions of the loading or unloading system. 11.8.2 Hoses shall be approved for the service and shall be designed for a bursting pressure of at least five times the working pressure. 11.8.3 Flexible metallic hose or pipe and swivel joints shall be used where operating temperatures can be below -60°F (-51°C). 11.8.4 Loading arms used for marine loading or unloading shall have alarms to indicate that the arms are approaching the limits of their extension envelopes. 11.8.5 Counterweights shall be selected to operate with ice formation on uninsulated hoses or arms. 11.8.6 Hoses shall be tested at least annually to the maximum pump pressure or relief valve setting and shall be inspected visually before each use for damage or defects. 11.8.7 Marine loading or unloading operations shall be periodically tested as required by the authority having jurisdiction. 11.9.1 Communications shall be provided at loading and unloading locations to allow the operator to be in contact with other personnel associated with the loading or unloading operation. 12.2.1, 12.2.* General. Fire protection shall be provided for all LNG facilities. 12.2.1* The extent of such protection shall be determined by an evaluation based on fire protection engineering principles, analysis of local conditions, hazards within the facility, and exposure to or from other property. Section 12.3, 12.3.3 If equipment shutdown will introduce a hazard or result in mechanical damage to equipment, the shutdown of any equipment or

#	Plan Assets	Focus Directives	Involved Groups/Subgroups	Qst Type(s)	Extent	Notes
						its auxiliaries shall be omitted from the ESD system if the effects of the continued release of flammable or combustible fluids are controlled. 12.3.4 The ESD system(s) shall be of a fail-safe design or shall be otherwise installed, located, or protected to minimize the possibility that it will become inoperative in the event of an emergency or a failure at the normal control system. 12.3.5 ESD systems that are not of a fail-safe design shall have all components that are located within 50 ft (15 m) of the equipment controlled in either of the following ways: (1) Installed or located where they cannot be exposed to a fire (2) Protected against failure due to a fire exposure of at least 10 minutes duration 5.9.1(4), with the exception of the clearance distance provisions? 5.9.1(9)
24.	LNG	n/a	GENERIC.GENERIC.GENRECORD.R	P, R, O, S	Detail	Do the operator's records indicate that equipment and operations complied with 14.6.1, 14.6.2, Section 11.8, 11.9.1, 12.2.1, Section 12.3, 12.3.3 12.3.4, 12.3.5, and 5.9.1(4), with the exception of the clearance distance provisions? 5.9.1(9)
25.	LNG	n/a	GENERIC.GENERIC.GENOBSERVE.O	P, R, O, S	Detail	

Plan Implementations

#	Activity Name	SMAR T Act#	Start Date	End Date	Focus Directive s	Involved Groups/Subgroup s	Asset s	Qst Type(s)	Planned	Required	Total Inspected	Required % Complete
1	inspection week	--	04/15/2019	04/18/2019	n/a	all planned questions	all assets	all types	3	3	3	100.0%

1. Since questions may be implemented in multiple activities, but answered only once, questions may be represented more than once in this table.
2. Percent completion excludes unanswered questions planned as "always observe".

Forms

No.	Entity	Form Name	Status	Date Completed	Activity Name	Asset
1.	Attendance List	inspection week	COMPLETED	04/17/2019	inspection week	LNG

Results (Unsat,Concern values, 0 results)

This inspection has no matching Results.

Report Parameters: Results: Unsat,Concern

Except as required to be disclosed by law, any inspection documentation, including completed protocol forms, summary reports, executive summary reports, and enforcement documentation are for internal use only by federal or state pipeline safety regulators. Some inspection documentation may contain information which the operator considers to be confidential. In addition, supplemental inspection guidance and related documents in the file library are also for internal use only by federal or state pipeline safety regulators (with the exception of documents published in the federal register, such as advisory bulletins). Do not distribute or otherwise disclose such material outside of the

state or federal pipeline regulatory organizations. Requests for such information from other government organizations (including, but not limited to, NTSB, GAO, IG, or Congressional Staff) should be referred to PHMSA Headquarters Management.