

49 CFR Part 193 LNG Facility Jurisdiction 6/17/2015

Question: The abundant supply of domestic natural gas is driving development of new ways to use, process, and transport LNG. Can PHMSA provide guidance as to which LNG facilities are regulated under 49 CFR Part 193?

Answer: The Pipeline Safety Statute codified in 49 U.S. Code § 60101, *et seq*, directs US DOT to establish and enforce standards for liquefied natural gas pipeline facilities. An LNG facility is a gas pipeline facility used for converting, transporting or storing liquefied natural gas.

Many LNG facilities are subject to the regulatory and enforcement authority of the Department of Transportation through PHMSA. A simple but not complete test to determine if an LNG facility is regulated under 49 CFR Part 193 is to identify both the source and the consumer of the LNG. The facility is regulated under 49 CFR Part 193 if the LNG facility either receives from or delivers to a 49 CFR Part 192 pipeline.

49 CFR Part 193 does not apply to:

- (1) LNG facilities used by ultimate consumers of LNG or natural gas.
- (2) LNG facilities used in the course of natural gas treatment or hydrocarbon extraction that do not store LNG.
- (3) In marine cargo transfer systems and associated facilities, any matter other than siting pertaining to the system or facilities between the marine vessel and the last manifold (or, in the absence of a manifold, the last valve) located immediately before a storage tank.
- (4) Any LNG facility located in navigable waters (as defined in Section 3(8) of the Federal Power Act (16 U.S.C. 796(8))).

Operators should assume an LNG facility used in the transportation of gas by a 49 CFR Part 192 pipeline is regulated under 49 CFR Part 193 unless specifically exempted in Section 193.2001(b).

LNG facilities may be regulated by PHMSA even though they are not regulated by the FERC.

The 'ultimate consumer' provision provides a very limited exemption from 49 CFR Part 193. PHMSA interpretation # [PI-10-0025](#) provides guidance. Here is an excerpt:

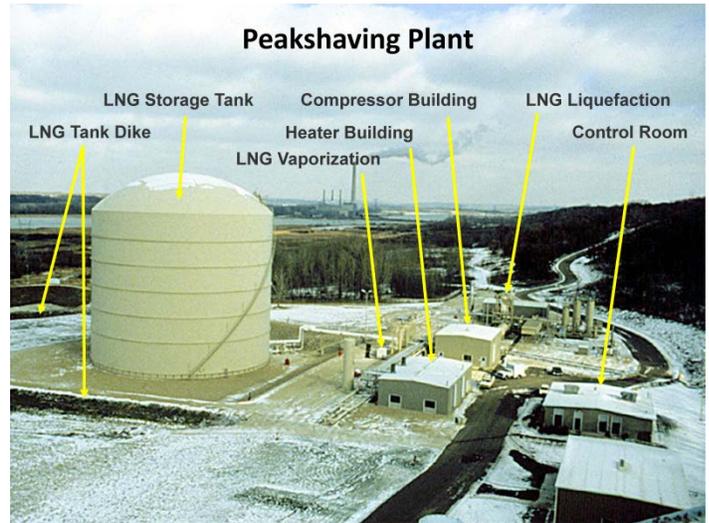
During the rulemaking that led to the adoption of § 193.2001(b)(1), OPS explained that the intent of that provision was to create an exception for "an LNG facility used by the ultimate consumer of the product". Likewise, in responding to a series of questions from a congressional committee, OPS stated that the exception in § 193.2001(b)(1), was designed for "small" facilities which are "generally located in industrial plants ... [to] serve as a supply of energy or feedstock for the plant." Unlike these examples, the Maine LMF facilities would be used to produce LNG for sale and distribution by truck, not solely for onsite consumption. Therefore, OPS concludes that your client's facilities would not qualify for the end-user exception in § 193.2001(b)(1).

Follow this [link](#) for a map of LNG Plants regulated under 49 CFR Part 193 (except mobile and temporary).

Examples of LNG facilities to illustrate if they are or are not regulated under 49 CFR Part 193:

1. Peakshaving LNG Facilities

LNG peakshaving facilities receive natural gas from gas transmission pipelines during warm months, liquefy the gas, and store the liquefied natural gas until cold weather. During severe cold periods, liquid is withdrawn from storage, vaporized, and re-injected into the gas transmission or distribution pipeline to meet peak winter demands for natural gas. LNG peak-shaving plants are typically located at strategic sites in the pipeline system. Many of these plants were built in the 1970's and are located in the northeast. **Peakshaving facilities are regulated under 49 CFR Part 193.**



Peakshaving LNG Facility, Minnesota
(Source: Used with permission from Quest Consultants Inc.)

2. Satellite LNG Facilities

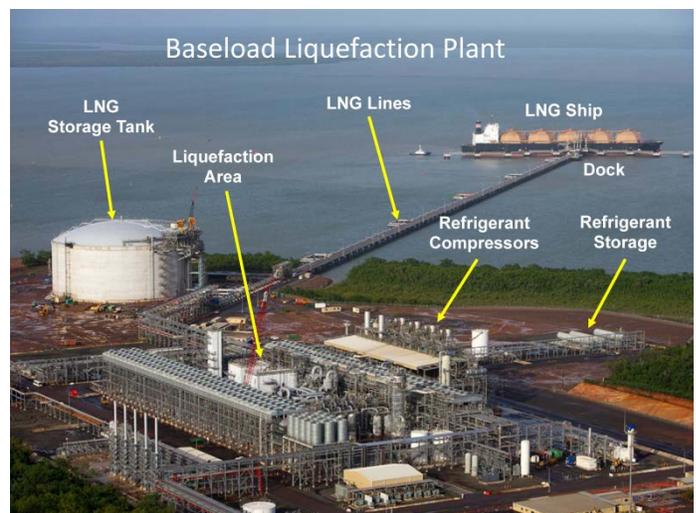
Satellite LNG facilities have storage and vaporization capabilities but do not include process equipment to liquefy the natural gas into LNG. Satellite facility storage tanks are vertical or horizontal. LNG is trucked to satellite facilities. Storage of LNG is needed for reliable supply of natural gas in areas with pipeline capacity limitations and during peak demand periods when demand exceeds supply. There are many satellite facilities in the northeast. A few facilities supply the year-round demand for natural gas in small towns. **Satellite LNG facilities that inject natural gas into 49 CFR Part 192 pipeline are regulated under 49 CFR Part 193.**



Satellite LNG Facility
(Source: Used with permission from Quest Consultants Inc.)

3. LNG Marine Terminals

- **LNG Export Terminals** - At LNG marine export terminals, large quantities of natural gas are liquefied and stored for a short period before being loaded aboard specialized tanker ships which export the LNG. There are more than a dozen export terminals under construction. **LNG export terminals used in the transportation of gas by 49 CFR Part 192 pipelines are regulated under 49 CFR Part 193.**



LNG Export Terminal - Darwin, Australia

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- **LNG Import Terminals** - LNG tanker ships are used to supply marine import terminals with LNG. The LNG is transferred into large storage tanks, where it is then withdrawn, vaporized, and supplied to interstate pipeline system. Import only terminals do not have facilities for liquefying natural gas. Several import terminals are being converted to export terminals. **Import terminals used in the transportation of gas by 49 CFR Part 192 pipelines are regulated under 49 CFR Part 193.**



LNG Import Terminal, Trunkline LNG, Louisiana Source: US DOT PHMSA

- **LNG Import/Export Terminals** - There are marine terminals that are capable of both importing and exporting LNG depending on gas supply and economic factors. **Import/export terminals used in the transportation of gas by 49 CFR Part 192 pipelines are regulated under 49 CFR Part 193.**

4. Marine Cargo Transfer System

The marine cargo transfer system consists of all components used to transfer LNG between the marine vessel and the last downstream valve on an onshore storage tank. **Other than the siting requirements in Subpart B of 49 CFR Part 193, facilities between the vessel and the last valve on the storage tank are not regulated under 49 CFR Part 193.**



Marine Cargo Transfer System, PT Badak, Indonesia
(Source: Used with permission from Quest Consultants Inc.)

5. LNG Tanker or Carrier

LNG tanker ships or carriers are regulated by the United States Coast Guard. **LNG tankers and carriers are not regulated under 49 CFR Part 193.**



LNG Tanker or Carrier
(Source: Used with permission from Quest Consultants Inc.)

6. LNG Tank Trucks

LNG tank trucks are generally used for transporting LNG from peakshaving plants and baseload receiving terminals to LNG satellite facilities. **LNG tank trucks are not regulated under 49 CFR Part 193.**



LNG Tank Trucks
(Source: Used with permission from Quest Consultants Inc.)

7. LNG ISO Tank Containers

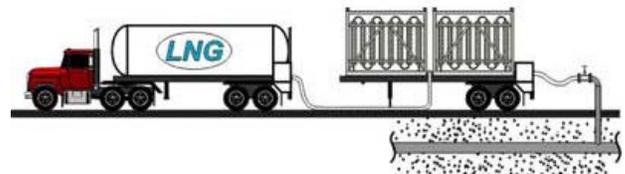
LNG ISO tank containers are used to transport LNG in small quantities by rail, vessel, or truck. **LNG ISO tank containers are not regulated under 49 CFR Part 193 unless they are used as storage vessels at an LNG plant connected to a Part 192 pipeline.**



LNG ISO Tank Containers (Source: Used with permission from Corban Energy Group)

8. Mobile and Temporary LNG Facilities

LNG facilities that are small enough to be portable are often used as a way of providing natural gas to a portion of a Part 192 gas pipeline system for peakshaving or for gas supply during pipeline repair, assessment, or maintenance. The mobile and portable LNG facility pictured here consists of an LNG truck (which functions as a delivery vehicle and a storage tank), an ambient air and/or indirect-heated vaporizers, and associated control equipment. **These facilities are regulated under 49 CFR Part 193. However, these facilities need not meet all the requirements of Part 193 under certain circumstances. Specific requirements for these facilities appear in § 193.2019.**



Mobile LNG Facility (Source: Used with permission from Quest Consultants Inc.)

9. Natural Gas Processing Plants

Hundreds of natural gas processing plants produce pipeline quality natural gas by removing impurities from raw natural gas (i.e., natural gas as it comes from gas and oil wells). A few gas processing plants produce LNG

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in order to remove nitrogen from the natural gas. They regasify the LNG and inject the resulting natural gas into transmission pipelines. **If the LNG is not stored, 49 CFR Part 193 does not apply to the LNG facility due to the exception in § 193.2001(b)(2).**

10. Small-Scale LNG Applications

The non-traditional LNG applications, sometimes referred to as ‘small-scale LNG’, are expanding.

- a. **Distributed LNG Production** – Applications for small scale LNG at much lower than historic production rates, some as small as 1,500 gallons per day, can be sited at many locations. Flare gas recovery, coal mine methane, coal bed methane, flare gas, and bio-LNG may be viable sources of natural gas for liquefaction through a small-scale process. LNG may be produced at stranded gas fields, areas without access to 49 CFR Part 192 infrastructure. Small scale LNG production may be conducted anywhere on a gas distribution system. **If a 49 CFR Part 192 pipeline is the source of the natural gas or receives the natural gas, the facility is regulated under CFR 49 Part 193. If the LNG is used in the course of gas treatment or hydrocarbon extraction and the LNG is not stored, the facility is not regulated under 49 CFR Part 193.**



Small-Scale LNG Production System (Source: Used with permission from Dresser-Rand Company, Olean, New York)

- b. **Agriculture and Industry On-site Storage and Regasification** – LNG facilities that store and vaporize LNG produced on-site or LNG supplied by another transportation mode **would not be regulated under CFR 49 Part 193 when the LNG is consumed solely by the LNG facility owner.**
- c. **Consumption in LNG Powered Equipment - Vehicle fuel** – Heavy duty trucks, buses, ships, railroad locomotives, and mining vehicles may have dual fuel systems (LNG and diesel), or may convert or replace diesel and other distillate fuel systems with LNG systems. **The vehicles consuming the LNG are not regulated under 49 CFR Part 193.**
- d. **Satellite LNG Facility - LPG to LNG Conversion** – LNG may be used as a substitute for liquefied propane gas (LPG) to supply remote communities not served by the interstate pipelines. The community is served from a central storage facility where the LNG is vaporized and delivered via pipeline to customers. **Since the pipelines are regulated under 49 CFR Part 192, the LNG facility would also be regulated under 49 CFR Part 193.**

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- e. **Marine Vessels** - LNG has traditionally been transported by large ships for use as utility gas supply. Within the marine industry, LNG demand and transportation is being driven by emissions regulations as well as economics. LNG is being used for bunker and propeller fuel. LNG is also being transported to fuel ships via smaller bunker barges. **Vessels consuming LNG fuel or transporting LNG are not regulated under CFR 49 Part 193.**



LNG Bunker Barge (Source: Used with permission from LNG America)

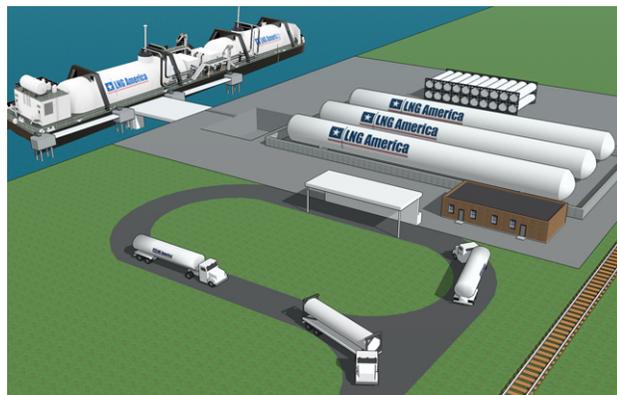
- f. **LNG Refueling Stations** - These LNG facilities operate as refueling facilities for vehicles that use LNG for fuel. The vehicles range from fleets of public buses, to ground support vehicles at airports, to railroad locomotives. The LNG is delivered by truckload. **These facilities are not regulated under 49 CFR Part 193.**



LNG Fueling Station (Source: Used with permission from Quest Consultants Inc.)

- g. **LNG Depots** - Transporting LNG by vessel, truck, or rail is an alternative to supply locations where no pipeline infrastructure is available or the LNG is used as a final product.

- **LNG Marine Depot** - Marine terminals are staging areas where LNG can be placed at major ports or waterways for subsequent distribution to customers. Each marine depot will have storage capacity for the region and is designed to be flexible and scalable. They are capable of loading LNG bunker barges, trucks, ISO containers, and third-party vehicles. They will also serve as fuel stops for towboats and other small marine craft in the area. **This facility is not regulated under 49 CFR Part 193.**



LNG Marine Depot (Source: Used with permission from LNG America)

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- **LNG Inland Depot** (LNG Distribution Centers) - Inland depots are land-based and designed to meet customers' needs by creating a centralized location to source LNG for a given region. With variable storage capacity through the use of ISO containers, the inland depots are placed where customers can source LNG for regional demand. **This facility is not regulated under 49 CFR Part 193.**



LNG Inland Depot (Source: Used with permission from LNG America)

- h. **Floating Liquefaction Facility** – One floating LNG export facility has been proposed in the United States. The facility is comprised of four components: a natural gas pipeline (CFR 49 Part 192), onshore meter and compression facilities, offshore fixed mooring structure (platform), and an offshore floating facility for pre-treatment, liquefaction and storage. **The floating liquefaction facility is regulated under 49 CFR Part 193 if it is being supplied by a 49 CFR Part 192 pipeline. Floating facilities are not regulated under 49 CFR Part 193 if they are in navigable waterways due to the exception in § 193.2001(b)(4). Generally, a floating facility will be in water deep enough and far enough from the coast line such that it will be in navigable waterways, in which case the U.S. Coast Guard is the authority having jurisdiction.**
- i. **Floating Gasification Facility** – A floating gasification facility would be used in areas where near-shore LNG vessel access is not possible due to depth restrictions or where onshore congestion would preclude it. The LNG is vaporized on the vessel and transferred to the onshore pipeline. **The floating gasification facilities are regulated under CFR 49 Part 193 if the LNG facility supplies gas to a pipeline regulated under 49 CFR Part 192. Floating facilities are not regulated under 49 CFR Part 193 if they are in navigable waterways due to the exception in § 193.2001(b)(4).**
- j. **Oil and gas drilling equipment** – Satellite LNG plants provide fuel to power drill rigs in place of diesel. If the LNG is consumed by the power drill rigs, **the plant is not regulated under 49 CFR Part 193 due to the exemption for the ‘ultimate consumer,’ even if the source of natural gas is a 49 CFR Part 192 pipeline.**
- k. **Off grid power generation** – LNG fueled distributed power plants that are supplied by 49 CFR Part 192 pipelines are regulated under 49 CFR Part 193 unless the power plant qualifies for the ‘ultimate consumer’ exemption in 193.2001(b)(1). **Power plants where the LNG was supplied by means other than a 49 CFR Part 192 pipeline would not be regulated under 49 CFR Part 193.**