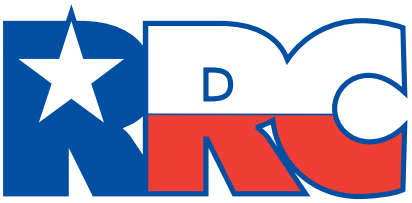
TEXAS LNG EXAMINATION STUDY GUIDE

Category 45
Motor Fuel
Management Level



RAILROAD COMMISSION OF TEXAS

September 2012

NOTICE

This publication is intended for use in its entirety as a guide for persons preparing to take Railroad Commission LNG qualifying examinations. Any other use or distribution of this publication or use or distribution of any portion of this publication for any purpose whatsoever is considered by the Railroad Commission of Texas to be misuse of this publication.

This publication is not intended to be an exhaustive treatment of the subjects covered and should not be interpreted as precluding the use of other safety programs or procedures that comply with (1) applicable federal, state, and/or local code provisions, statutes, ordinances, and/or other regulations, including, but not limited to, the Railroad Commission of Texas' LNG Safety Rules (16 *Texas Administrative Code*, Chapter 14) and codes adopted by the Railroad Commission of Texas, and/or (2) other industry standards and/or practices.

Every effort was made to ensure that this publication was accurate and up-to-date as of the date of publication. The reader is cautioned, however, about reliance on this publication or any portion thereof at any time thereafter, particularly because changes in technology are likely to occur that might make portions of this publication inaccurate and out-of-date. The Railroad Commission of Texas assumes no liability, under any circumstances, for any actions taken or omissions made in reliance of the contents of this publication, from whatever source, or any other consequences of any such reliance.

Exam administration

Taking an examination in Austin

You may take any Railroad Commission qualifying examination in Austin without pre-registering ("walk-in") on any business day, excluding holidays, from 8:00 a.m. to 12:00 noon at the Commission's Alternative Fuels Training Center. The training center is located at 6506 Bolm Road, on the northwest corner of the intersection of Bolm Road and U.S. Highway 183.

Tuesdays and Thursdays are the preferred days for walk-in examinations.

(See map to Training Center on page 22.)

Taking an examination outside of Austin

You may also take any Railroad Commission qualifying examination at more than two dozen other locations statewide. Exam dates, times and locations are listed three months in advance on the Commission's web site. To view a complete schedule, go to www.rrc.state.tx.us. From the drop-down menu under "Education and Training," choose "Training Classes & Qualifying Exams" and click on "Class/Exam Schedule." The online schedule has links to maps showing each class and exam location.

You must register at least two business days in advance to take an examination outside of Austin. To register online, go to www.rrc.state.tx.us. From the drop-down menu under "Education and Training," choose "Training Classes & Qualifying Exams" and click on "Register Now." The web site allows you to register up to four people for an examination.

When you register online, you will receive a return e-mail confirming the registration and the dates and locations of the exams. Registering online also ensures that you will receive advance notification of any changes in the examination date, time or location.

Payment for exams; LNG Form 2016; ID required

The fee is $40.00 for each employee-level exam and $70.00 for each management-level exam. Fees are non-refundable by state law, and cash cannot be accepted.

You may pay the required examination fee at any exam location by check or money order payable to the Railroad Commission of Texas. LNG Form 2016, "Application for Examination," may also be completed at the examination site. Examinees must also present an official state-issued driver's license or photo ID at the exam site.

You may also pay your examination fee by credit card in advance online. To pay by credit card, go to www.rrc.state.tx.us. From the drop-down menu under "Education and Training," choose "Training Classes & Qualifying Exams" and click on "Pay Online." Be sure to print out the confirmation page in Step 6. Make a copy of the confirmation page for your records and bring a copy with you to the examination site.

Closed-book examinations

All Railroad Commission management-level qualifying examinations are closed book. This study guide may not be used during any management-level examination.

Examination time limit

Railroad Commission LNG qualifying examinations must be completed within two hours after the examination is given to you, including any breaks you elect to take. The examination proctor is the official timekeeper. You must submit both the examination itself and your answer sheet to the proctor within the two-hour limit.

Grades, reports and retakes

The minimum passing grade is 75 percent on all Railroad Commission qualifying examinations.

Examinations administered at the Training Center in Austin are graded on-site, and examinees are immediately informed of the results. If you fail an examination that you took in Austin, you may retake that same examination only one additional time during a business day. Any subsequent examination must be taken on another business day, unless approved by the Commission.

Exams taken outside of Austin are graded as soon as possible, and the results of the examination are reported within 10 working days.

If you pass an examination, the Railroad Commission will issue you a blue certification card within 10 working days. You will be notified by letter if you fail an examination.

Contacts

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TEXAS LNG EXAMINATION STUDY GUIDE
MANAGEMENT LEVEL CATEGORY 45
MOTOR FUEL

Who should use this guide?

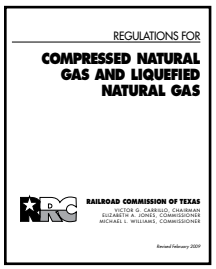
You should use this guide if you plan to take the Railroad Commission's management-level qualifying examination for LNG motor fuel. This certification authorizes the sale and installation of LNG motor or mobile fuel containers and the sale, repair and installation of LNG motor or mobile fuel systems.

What books do I need?

This examination tests your knowledge of the laws and standards that apply to the sale and installation of LNG motor or mobile fuel containers and to the sale, repair, and installation of LNG motor or mobile fuel systems in Texas.

These laws and standards are found in the Railroad Commission's *Regulations for Compressed Natural Gas and Liquefied Natural Gas* (16 *Texas Administrative Code*, Chapter 14), known informally as the Commission's LNG Safety Rules.

Where do I get the book?



You may download the current edition of the Railroad Commission's *Regulations for Compressed Natural Gas and Liquefied Natural Gas* free online. Go to the Commission's home page at www.rrc.state.tx.us. From the drop-down menu under "Education and Training," choose "Training Classes & Qualifying Exams" and click on "CNG/LNG Safety Rules (PDF)." You may also buy a printed copy of the book for $10.00, tax included, by calling the Railroad Commission's publications office at (512) 463-7309.

Sections and topics

Before you take this examination you should know the definitions on pp. 8-10 of this study guide and the contents of the sections of the codes and standards listed below. The actual examination may not include questions on all of the listed sections and topics. The questions on the examination are not organized by topic as they are in this study guide.

Regulations for Compressed Natural Gas and Liquefied Natural Gas

§14.2604	System Component Qualification
§14.2607	Vehicle Fuel Containers
§14.2610	Installation of Vehicle Fuel Containers
§14.2613	Engine Fuel Delivery Equipment
§14.2616	Installation of Venting Systems and Monitoring Sensors
§14.2619	Installation of Piping
§14.2622	Installation of Valves

§14.2625	Installation of Pressure Gauges
§14.2628	Installation of Pressure Regulators
§14.2631	Wiring
§14.2634	Vehicle Fueling Connection
§14.2637	Signs and Labeling

Texas Natural Resources Code

§116.031	License Requirement
§116.032	License and Registration Fees
§116.033	Application and Renewal Procedures
§116.034	Examination And Seminar Requirements
§116.0345	License or Registration by Endorsement
§116.0346	Provisional License Or Registration
§116.035	Denial of License
§116.036	Insurance Requirement
§116.037	Disciplinary Action
§116.038	Staggered Renewal of Licenses
§116.072	Registration
§116.141	Injunctive Relief
§116.142	Criminal Penalty
§116.143	Administrative Penalty
§116.144	Penalty Assessment Procedure

Terms and definitions

NOTE: The list below is not exhaustive. You are responsible for knowing all the terms and definitions that apply to the LNG activities you will perform.

Regulations for Compressed Natural Gas and Liquefied Natural Gas

Aggregate water capacity is the sum of all individual container capacities as measured by weight or volume of water when the containers in a battery at an installation are full.
LNG Safety Rules, §14.2007(2)

ASME means the American Society of Mechanical Engineers.
LNG Safety Rules, §14.2007(6)

An **automatic fuel dispenser** is a fuel dispenser which requires transaction authorization.
LNG Safety Rules, §14.2007(8)

Certified means authorized to perform LNG activities under the direction of a licensee; however, certification alone does not allow an individual to perform LNG activities that require licensing.
LNG Safety Rules, §14.2007(10)

Combustible material is a solid material which, in the form in which it is used and under the conditions anticipated, can be ignited and will burn, support combustion, or release flammable vapors when subjected to fire or heat.
LNG Safety Rules, §14.2007(11)

A **commercial installation** is an LNG equipment installation located on premises other than a single-family dwelling used primarily as a residence.
LNG Safety Rules, §14.2007(12)

A **container** is any LNG vessel manufactured to the applicable sections of the API Code, ASME Code, or DOT requirements in effect at the time of manufacture.
LNG Safety Rules, §14.2007(15)

Container appurtenances are components installed in container openings, including but not limited to pressure relief devices, shutoff valves, backflow check valves, excess flow check valves, internal valves, liquid level gauges, pressure gauges, and plugs.
LNG Safety Rules, §14.2007(16)

A **conversion** is the changes made to a vehicle to allow it to use LNG as a motor fuel.
LNG Safety Rules, §14.2007(17)

Design pressure is the pressure at which a system or portion of that system is designed to operate.
LNG Safety Rules, §14.2007(18)

A **dispensing system** is that combination of valves, meters, hoses, piping, electrical connections, and fuel connections used to distribute LNG to mobile or motor fuel containers.
LNG Safety Rules, §14.2007(20)

DOT means the United States Department of Transportation.
LNG Safety Rules, §14.2007(21)

A **fixed-length dip tube** is a pipe with a fixed open end positioned inside a container at a designated elevation to measure a liquid level.
LNG Safety Rules, §14.2007(26)

Ignition source means any item, substance, or event having adequate temperature and energy release of the type and magnitude sufficient to ignite any flammable mixture of gases or vapors that could occur at a site.
LNG Safety Rules, §14.2007(28)

LNG is natural gas, consisting primarily of methane that has been condensed to liquid by cooling.
LNG Safety Rules, §14.2007(37)

An **LNG system** is a system of safety devices, containers, and other LNG equipment installed at a facility or on a vehicle and designed for use in the sale, storage, transportation for delivery, or distribution of LNG.
LNG Safety Rules, §14.2007(38)

A **mobile fuel container** is an LNG container mounted on a vehicle and used to store LNG as the fuel supply for uses other than motor fuel.
LNG Safety Rules, §14.2007(42)

Motor fuel system means an LNG system to supply LNG as a fuel for an engine used to propel the vehicle.
LNG Safety Rules, §14.2007(45)

The **point of transfer** is the point at which a connection is made to transfer LNG from one container to another.
LNG Safety Rules, §14.2007(53)

A **pressure relief valve** is a valve which is designed both to open automatically to prevent a continued rise of internal fluid pressure in excess of a specified value (set pressure) and to close when the internal fluid pressure is reduced below the set pressure.
LNG Safety Rules, §14.2007(54)

A **pressure vessel** is a container or other component designed in accordance with the ASME Code.
LNG Safety Rules, §14.2007(55)

PSIG means pounds per square inch gauge.
LNG Safety Rules, §14.2007(57)

A **trainee** is an individual employed by a licensee for a period not to exceed 45 days without that individual having successfully completed the required examinations for the LNG activities to be performed.
LNG Safety Rules, §14.2007(67)

Water capacity is the amount of water in gallons required to fill a container.
LNG Safety Rules, §14.2007(75)

Key topics

NOTE: The list below is not exhaustive. You are responsible for knowing all the facts, rules, standards and procedures that apply to the LNG activities you will perform, as well as the rules and standards highlighted in this guide.

As you study the applicable codes and standards, pay special attention to the facts, rules and procedures related to the following key topics. Then, when you take the examination, read each question very carefully.

ENGINE FUEL SYSTEMS

System Component Qualification

(a) Components in the engine compartment normally in contact with LNG must be suitable for service over a range of temperatures of -260 degrees Fahrenheit to +250 degrees Fahrenheit. Other components not normally in contact with LNG must be suitable for service over a range of -40 degrees Fahrenheit to +250 degrees Fahrenheit.

(b) Components outside the engine compartment normally in contact with LNG must be suitable for service over a range of temperatures from -260 degrees Fahrenheit to +180 degrees Fahrenheit. Other components not normally in contact with LNG must be suitable for service over a range from -40 degrees Fahrenheit to +180 degrees Fahrenheit.

(c) Fuel-carrying components (excluding service valves, tubing, and fittings) must be labeled or stamped with the following:

(1) the manufacturer's name or symbol;

(2) the model designation;

(3) the maximum allowable working pressure;

(4) the design temperature range;

(5) direction of flow of fuel when necessary for correct installation; and

(6) capacity or electrical rating as applicable.
LNG Safety Rules, §14.2604

Vehicle Fuel Containers

(a) Containers must be designed, tested, and marked or stamped in accordance with DOT Specification 4L or ASME Code, "Rules for the Construction of Pressure Vessels," Section VIII, Division 1, applicable on the date of manufacture.

(b) The owner of a LNG engine fuel system container must be responsible for its suitability for continued service.

(d) LNG engine fuel systems' containers must be equipped with a dip tube or other device so that the maximum filling volume of the container complies with the Railroad Commission's LNG regulations.

(h) LNG engine fuel systems' container appurtenances must have a rated maximum allowable working pressure not less than the maximum allowable working pressure of the container.

Pressure-containing metal parts of appurtenances, except fusible elements, must have a minimum melting point of 1,500 degrees Fahrenheit.

(i) Containers must be equipped with the pressure relief devices and pressure control valves required by the code or regulations under which the containers were designed.

The pressure relief devices and pressure control valves for an engine fuel system must communicate directly with the vapor space of the container.

The pressure relief devices and pressure control valves for an engine fuel system must be designed to minimize the possibility of tampering.

(j) LNG engine fuel systems' valves must be readily accessible and operable without the use of tools.

A shutoff valve must be installed directly on the container vapor outlet with no intervening fitting other than pressure relief devices.

A shutoff valve installed on the vapor outlet of a container must be marked with the words VAPOR SHUTOFF VALVE.

A shutoff valve required to be installed directly on an LNG container's liquid outlet must be marked with the words LIQUID SHUTOFF VALVE.
LNG Safety Rules, §14.2607

Installation of Vehicle Fuel Containers

(a) Vehicle fuel containers must comply with the following specifications:

(1) Fuel containers on vehicles other than school buses, mass transit, or other vehicles used in public transportation may be located within, below, or above the driver or passenger compartments, provided all connections to the containers are external to or sealed and vented from those compartments.

Motor fuel containers installed on a special transit vehicle may be installed in the passenger compartment, provided all connections to the containers are external to or sealed and vented from those compartments.

(2) Fuel supply components and containers must be mounted in a location to minimize damage from collision.

No part of a container or its appurtenances must protrude beyond any part of the vehicle at the point of installation.

(3) Fuel systems must be installed with as much road or ground clearance as practicable, but not less than the minimum road or ground clearance of the vehicle when loaded to its gross vehicle weight rating.

The minimum distance must be measured from the lowest part of the fuel system.

(4) No portion of a fuel supply container or container appurtenance must be located ahead of the front axle or behind the rear bumper mounting face of a vehicle.

Fuel container valves must be protected from physical damage using the vehicle structure, valve protectors, or a suitable metal shield.

(5) Fuel supply containers located less than eight inches from the exhaust system must be shielded from direct heat.

(6) Mountings must minimize fretting corrosion between the fuel container and the mounting system by means of rubber insulators or other suitable means.

(7) Fuel containers must not be installed where they would adversely affect the driving characteristics of the vehicle.

(8) Fuel containers on school buses or mass transit vehicles must be installed on the underside of the vehicle, except as specified in the Railroad Commission's Regulations for LNG.

Fuel containers on special transit vehicles must be installed in a location which will not interfere with vehicle operation.

(9) Fuel containers, appurtenances, and connections may be enclosed in a shroud-type structure, provided it is securely attached to the container and liquid-tight.

The shroud access doors must be secured in place by fasteners such as wing nuts or spring-loaded latches and must not require the use of tools for removal.

The use of locks on shroud access doors is prohibited.

(b) Fuel supply containers must be connected or mounted to comply with the following specifications:

(1) Fuel supply container connections must be external to or sealed and vented from the driver and passenger compartments or any space containing radio transmitters or other spark-producing equipment.

(2) Fuel supply container mounting brackets must prevent the container from jarring loose, slipping or rotating.

(c) Roof-mounted containers are allowed if the vehicle was originally designed and manufactured to have roof-mounted containers or if the original manufacturer approves the design of the structure mounting.

(d) Container markings must be readable after a container is permanently installed on a vehicle.
LNG Safety Rules, §14.2610

Engine Fuel Delivery Equipment

(a) Vaporizers must completely vaporize the LNG and heat the vapor to the appropriate temperature prior to the vapor entering the pressure regulator when the vaporizer is subjected to the maximum fuel flow rate.

Engine exhaust gases may be used as a direct source of heat to vaporize the fuel if the materials of construction of those parts of the vaporizer in contact with the exhaust gases are resistant to corrosion from those gases.

(b) Pressure regulator inlets and chambers must have a maximum allowable working pressure of at least the maximum allowable working pressure of the container.

(d) Pipe, tubing, and fittings between the vehicular fuel container and the pressure regulator must be designed to withstand a pressure of at least two times the maximum allowable working pressure of the container.

(3) Tubing must be stainless steel, brass, or copper, and must comply with the following:

(A) stainless steel tubing: ANSI B31.3, Specification for Seamless and Welded Austenitic Steel Tubing for General Service (ASTM A 269);

(B) copper tubing: Type K or L, ANSI H23.1, Specification for Seamless Copper Water Tube (ASTM B 88);

(C) copper tubing: ANSI H23.5, Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service (ASTM B 280); or

(D) brass tubing: ANSI H36.1, Specification for Seamless Brass Tube (ASTM B 135)

(4) Pipe joints used in an LNG engine fuel system must be threaded, welded or brazed.
LNG Safety Rules, §14.2613

Installation of Venting Systems and Monitoring Sensors

(a) Pressure relief devices and pressure-carrying components installed within a closed compartment must be vented to the outside of the vehicle in a suitable location for engine fuel systems.

(c) Vents in an LNG engine fuel system must not restrict the operation of a fuel container's pressure relief device or pressure relief device channel.

(g) The number of sensors to be installed on all LNG-fueled vehicles must comply with the area of coverage for each sensor and the size of the vehicle.
LNG Safety Rules, §14.2616

Installation of Piping

(b) Fuel lines must be supported at least every 21 to 27 inches.

(c) Fuel lines passing through a panel must be protected against abrasion by grommets or similar devices such as fittings. Fuel lines passing through a panel must snugly fit both the supply lines and the holes in the panel.

(d) Fuel lines must have a minimum clearance of eight inches from the engine exhaust system or must be shielded against direct heat.

(e) Piping or tubing must pass through the floor of a vehicle directly beneath or adjacent to the container. If a branch line is required, the tee connection must be in the main fuel line under the floor and outside the vehicle.

(f) Hydrostatic relief valves must be installed in each section of piping or tubing in which LNG can be isolated between shutoff valves, to relieve to a safe atmosphere the pressure which could develop from the trapped fuel. The pressure relief valve must have a pressure not greater than the maximum allowable working pressure of the line it protects.

(g) Joint compound or tape acceptable for use with LNG must be applied to all male pipe threads prior to assembly.

(h) Piping and fittings must be clean and free from cutting or threading burrs and scaling. The ends of all piping must be reamed.

(i) Bends in piping or tubing are prohibited if the bend weakens the pipe or tubing. Bends must be made by bending tools designated for this purpose.

(j) Joints or connections must be located only in an accessible location.

(k) Fuel connections between a tractor and trailer or other vehicle units are prohibited.
LNG Safety Rules, §14.2619

Installation of Valves

(a) Valves, valves packing, gaskets, and seats must be suitable for the intended service and must comply with the following:

> (1) Shutoff valves for engine fuel systems must have a maximum allowable working pressure of at least the maximum allowable working pressure of the container. Leakage must not occur at less than 1 ½ times the maximum allowable working pressure of the valve.
>
> (2) Valve parts, except gaskets, packing, and seats that come in contact with the fuel must be stainless steel, brass, or copper.

(b) Valves must be securely mounted and shielded or installed in a protected location to minimize damage from vibration and unsecured objects.

(c) In vehicles whose engines do not incorporate an automatic shutoff in the engine fuel system, a positive shutoff valve must be installed in the fuel supply line at the inlet to the pressure regulator. The shutoff valve must automatically close and prevent the flow of fuel to the engine when the ignition switch is off or in the accessory position, or when the engine is not running and the ignition switch is on.

(d) When multiple fuel systems are installed on the vehicle, automatic valves must be provided as necessary to shut off the fuel not being used.

(e) Fueling systems must be equipped with a backflow check valve which will prevent the return of gas from the container to the filling connection.

(f) Valves must be installed so that their weight is not placed on or supported by the attached lines.
LNG Safety Rules, §14.2622

Installation of Pressure Gauges

(a) Pressure gauges located within driver or passenger compartments must be installed so that no gas will flow through the gauge in the event of failure. Installed pressure gauges must be readily visible by the driver.

(b) Pressure gauges installed outside driver or passenger compartments must be equipped with a limiting orifice, a shatter-proof dial lens, and a body relief.

(c) Gauges must be securely mounted, shielded, and installed in a protected location to prevent damage from vibration and unsecured objects.
LNG Safety Rules, §14.2625

Installation of Pressure Regulators

(b) Means must be provided in an LNG engine-fuel system to prevent regulator malfunctions due to low temperatures.

(c) Regulators in an LNG engine-fuel system must be installed so that their weight is not placed on or supported by the attached gas lines.
LNG Safety Rules, §14.2628

Wiring

(a) Wiring in an LNG engine-fuel system must be installed, supported, and secured in a manner to prevent damage due to vibration, shock, strains, wear or corrosion.

(b) Wiring must be sized and fuse-protected with the size and fuse rating adequate for the current draw.
LNG Safety Rules, §14.2631

Vehicle Fueling Connection

(a) Vehicle fueling connections must provide for the reliable and secure connection of the fuel system containers to a source of LNG.

(b) Fueling connections must be designed for the pressure expected under normal conditions and corrosive conditions which might occur.

(c) Fueling connections must prevent escape of gas when the connector is not properly engaged or becomes separated.

(d) Refueling receptacles on engine fuel systems must be firmly supported and must:

(1) receive the fueling connector and accommodate the maximum allowable working pressure of the vehicle fuel system;

(2) incorporate a means to prevent the entry of dust, water, and other foreign material. If the means used is capable of sealing system pressure, it must be capable of being depressurized before removal; and

(3) have a different fueling connection for each pressure base vehicle fuel system.
LNG Safety Rules, §14.2634

Signs and Labeling

(a) Fueling connection receptacles on an engine fuel system are required to have a sign or label reading LNG FUELED VEHICLE with any color capital letters at least 2 inches high with contrasting background.

LNG Safety Rules, §14.2637, **Table 1**

SAMPLE QUESTION

The emergency shutdown device at an LNG fuel storage installation that includes an automatic dispenser must be distinctly marked for easy _____.

A. Maintenance
B. Recognition
C. Actuation
D. Inspection

Answer: B

GENERAL REQUIREMENTS (ADMINISTRATIVE)

Licenses, Related Fees

(b)(7) A Category 45 license for motor fuel authorizes the sale and installation of LNG motor or mobile fuel containers and the sale, repair, and installation of LNG motor or mobile fuel systems. The original license fee is $100; the renewal fee is $50.

LNG Safety Rules, §14.2013

License Requirements

(c) Licensees must maintain a copy of the current version of the *Regulations for Liquefied Natural Gas* adopted by the Commission and must provide at least one copy to each company representative and operations supervisor.

(d) Licensees and operations supervisors at each outlet must have all current licenses and certificates available for inspection during regular business hours.

(f)(2) If a person's license has been expired for more than 90 calendar days but less than one year, the person must submit a renewal fee that is equal to two times the renewal fee.

(f)(3) If a person's license has been expired for one year or longer, that person may not renew, but must comply with the requirements for issuance of an original license.

LNG Safety Rules, §14.2016

Certification Requirements

(a)(1) No individual may work or be employed in any capacity which requires contact with LNG or LNG systems until that individual has submitted to and passed a commission examination

(a)(5)(B) Successful completion of any required examination must be credited to the individual.

An individual who has been issued a certification card must make the card readily available and must present the card to any Commission employee or agent who requests proof of certification.

(a)(5)(C) Any individual who fails an examination must be immediately disqualified from performing any LNG activities covered by that examination.

(d) To maintain active status, a certificate holder must pay the $25 annual renewal fee on or before May 31 of each year.
LNG Safety Rules, §14.2019

Report of LNG Incident/Accident

(a) If an incident or accident occurs during transport, as a result of a pullaway, or where LNG is or is suspected to be the cause, the licensee or nonlicensee owning, operating, or servicing the installation must notify the Railroad Commission by telephone as soon as possible after the licensee or nonlicensee has knowledge of the incident or accident if any of the following occurs:

(1) a spill of 25 gallons or more of LNG;

(2) property damage of $1,000 or greater; or

(3) an injury requiring transport to a medical facility.

(b) Any transport unit required to be involved in an accident where there is damage to the tank, piping appurtenances, or any release of LNG resulting from the accident must be reported to the Railroad Commission, regardless of the accident location. Any LNG-powered motor vehicle used for school transportation or mass transit, including any state-owned vehicle, which is involved in an accident resulting in a release of LNG or damage to LNG equipment must be reported to the Railroad Commission, regardless of the accident location.

(c) The telephone notification must include the following information:

(1) the date and time of the incident or accident;

(2) type of structure or equipment involved;

(3) resident's or operator's name;

(4) physical location;

(5) number and type of injuries or fatalities;

(6) whether fire, explosion, or leak has occurred;

(7) whether LNG is currently leaking; and

(8) whether immediate assistance from the division is requested.

(d) The individual making the telephone notification must leave his or her name and telephone number.

(e) Following the initial telephone report of any of the incidents or accidents described in this section, the licensee must file LNG Form 2020 with the Railroad Commission. The form must be postmarked within 14 calendar days of the date of initial notification to the Railroad Commission.
LNG Safety Rules, §14.2049

Entry on Property; Inspection and Investigation

(a) A Commission-authorized person may enter the premises of a licensee or any building or other premises open to the public or inspect any LNG system or motor vehicle equipped with LNG equipment any reasonable time.

(b) Any authorized Commission representative may enter any building or premises where an accident has occurred in which LNG was a probable cause for purposes of investigating the cause, origin, and circumstances of such accident.

During the Commission investigation of an LNG-related accident the Commission may request that any state or local authority having jurisdiction take appropriate action as may be necessary for preservation of property and premises.
Texas Natural Resources Code, §116.015

Licensing Requirements

(a) A person is required to obtain a license from the Commission to engage in any of the following activities:

(1) work that includes the manufacture, assembly, repair, testing, sale, installation, or subframing of LNG containers for use in this state;

(2) systems work that includes the sale, installation, modification, or servicing of LNG systems for use in this state, including the installation, modification, or servicing by any person, except a political subdivision, of a LNG motor fuel system or mobile fuel system on a vehicle used in the transportation of the general public; or

(3) product work that includes the sale, storage, transportation for delivery, or dispensing of LNG in this state.

(b) A license obtained by a partnership, corporation or other legal entity extends to the entity's employees who are performing LNG work, provided that each employee is qualified and registered as required by rules adopted by the Commission.

(c) No license is required by an original vehicle manufacturer or a subcontractor of such manufacturer for the installation and sale of a new LNG system when such system is installed on a new original vehicle fueled by LNG.
Texas Natural Resources Code, §116.031

Insurance Requirements

(a) All licensees must acquire and maintain appropriate workers' compensation or coverage for its employees under policies of work-related accident, disability, and health insurance, including coverage for death benefits, from an insurance carrier authorized to provide coverage in this state and other insurance coverage required by the Commission in the amounts required by the Commission.
Texas Natural Resources Code, §116.036

Disciplinary Action

(e) If the Commission determines that a probable violation or noncompliance concerning LNG motor vehicles constitutes an immediate danger to the public health, safety, and welfare, it must require the immediate cessation of the probable violation or noncompliance and proceed with a hearing.
Texas Natural Resources Code, §116.037

Registration

(a) Each motor vehicle that is equipped with an LNG cargo tank and each motor vehicle used principally to transport LNG in portable cylinders or containers must be registered with the Commission as provided by Commission rules.
Texas Natural Resources Code, §116.072

Warning Tags

(a) A warning tag may be attached in a conspicuous location by an employee, agent, or inspector of the commission to any LNG motor vehicle required to be registered, declared unsafe or dangerous for service or to any LNG equipment or system that is defective.

(b) A person may not sell, furnish, deliver, or supply LNG for use or consumption by or through a motor vehicle or system in a public place or operate a motor vehicle having LNG equipment to which a warning tag is attached.

(c) A warning tag may be removed on approval of the commission or by a person designated by the commission to remove the tag.
Texas Natural Resources Code, §116.103

Injunctive Relief

(a) On request of the commission, the Attorney General of Texas may bring suit in the name of the state to enjoin a person from violating this chapter or a rule adopted under this chapter.
Texas Natural Resources Code, §116.141

Administrative Penalty

(a) A civil penalty under Chapter 116 may be assessed after the persons charged with the violation have been given an opportunity to schedule or be granted a public hearing.

(b) Each day a violation continues may be considered a separate violation for purposes of penalty assessments, the maximum civil penalty that may be assessed is $10,000 per day per violation.
Texas Natural Resources Code, §116.143

Penalty Assessment Procedure

(a) A civil penalty may be assessed only after the person charged with the violation has been given an opportunity for a public hearing.
Texas Natural Resources Code, §116.144

SAMPLE QUESTION

Successful completion of _____ examination is credited and accrues to the examinee, not the employer.

A. A management-level
B. An employee-level
C. Any required
D. Any state or federal LNG

Answer: C

RRC ALTERNATIVE FUELS TRAINING CENTER 4044 PROMONTORY POINT DR., AUSTIN