2021

PROPANE education & research COUNCIL

COMPREHENSIVE COMPLIANCE HANDBOOK

TABLE OF CONTENTS

INTRODUCTION TO REGULATIONS, CODES, AND STANDARDS

INTRODUCTION

Can you explain all the regulatory requirements you are required to comply with for your business? Are you sure you know all those applicable requirements and how to comply?

Do you know:

- Who a regulation applies to.
- What needs to be complied with.
- How to comply.
- When to comply.
- Where to go to get more information.
- Why it is important to comply.

Navigating the landscape of regulations, codes, and standards in the operation of our business can be a daunting task. Cross referencing of codes and standards and how they all tie together or interact with each other can also be daunting.

One thing is certain, it is your job to know what requirements apply to your business and in your jurisdiction. This handbook is intended help you with that.

In some cases, state and local jurisdictions may use the codes and standards being presented here to adopt all or part of them. There may be additional specific state and local regulations, codes, and ordinances that you need to be aware of that are not included in this document.

THIS HANDBOOK IS INTENDED TO:

- Show that there are a variety of regulations, codes, and standards that apply to the propane industry and the systems you install and service.
- Familiarize you with them and how to navigate them.
- Provide a sense of responsibility on the part of the industry when installing and servicing equipment.
- Show the resources you have at your disposal.
- Open communication between field personnel and those resources.

TERMS YOU MAY HEAR AS YOU NAVIGATE CODES AND STANDARDS

Authority Having Jurisdiction (AHJ)
The Authority Having Jurisdiction is an organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

Incorporation by Reference
Incorporation by Reference is the act of including a second document within another document by only mentioning the second document. This act makes the entire second document a part of the main document.

DISCLAIMER

The Regulatory Summaries included here are not exhaustive, however, and it is recommended that readers familiarize him/herself with the regulations directly. The Regulatory Summaries do not include state-specific information. The Regulatory Summaries are provided solely for informational purposes. It is not to be construed as legal advice or legal guidance. PERC and NPGA expressly disclaim any liability associated with the accuracy or content of the information contained in this document.

SECTION 1: CODE OF FEDERAL REGULATIONS

CODE OF FEDERAL REGULATIONS

The Code of Federal Regulations (CFR) is the enactment of the general and permanent rules and regulations, sometimes called Administrative Law, published almost daily in a document called the Federal Register by the executive departments and agencies of the federal government of the United States. The CFR is divided into 50 titles that represent broad areas subject to federal regulation.

You can browse the CFRs at the following link:
www.govinfo.gov/app/collectione/cfr

FEDERAL REGISTER

The Federal Register is the daily journal of the federal government published every business day by the National Archives and Records Administration Office of the Federal Register. The Federal Register contains federal agency regulations, proposed rules, and notices of interest to the public. Here is how it works.

In general, a government agency will publish a new regulation or a change to a regulation in proposed form by issuing a docket number and a Notice of Proposed Rulemaking (NPRM). This NPRM is then written into the Federal Register soliciting public comment. Sometimes, when the agency wants increased public comment or take the conversation a bit slower, they will issue an Advanced Notice of Proposed Rule Making (ANPRM).

Here is a real example: Many years ago, USDOT wished to make changes to the requirements regarding training for commercial drivers issued, via the Federal Register, a proposal. The docket number was HM-126. This docket went through a series of public comment periods and subsequent changes until the final rule written into the Federal Register was HM-126F, or HM-126 Version F. Once the new Tile 49 CFR was published, which happens approximately once each calendar year, the rule was written into the law as 49 CFR 172.704 Training Requirements. Once the rule is written into the code, the docket number then ceases to exist. 172.704 has gone through at least one revision since original final rule.

You can keep abreast of changes going on through the Federal Register. It is available for review online or through several subscription services.

You can search the Federal Register at the following link:
www.federalregister.gov/

SECTION 2: UNITED STATES DEPARTMENT OF TRANSPORTATION

INTRODUCTION TO DOT

Instituted by an act of Congress on October 15, 1966, the Department of Transportation (DOT) was established, in part, to ensure our nation has the safest, most efficient, and modern transportation system in the world.

The U.S. Department of Transportation develops and enforces regulations on the movement of goods and passengers across all modes of interstate transportation.

The priorities of DOT are:

- Safety.
- Rebuilding America's critical infrastructure.
- Engaging with emerging technologies to address legitimate public concerns about safety, security, and privacy.

VARIOUS AGENCIES

There are 10 agencies associated with the U.S. Department of Transportation.

- *National Highway Traffic Safety Administration (NHTSA)
- *Federal Highway Administration (FHWA)
- *Pipeline and Hazardous Materials Safety Administration (PHMSA)
- *Federal Motor Carrier Safety Administration (FMCSA)
- *Federal Railroad Administration (FRA)
- Federal Aviation Administration (FAA)
- Office of the Inspector General (OIG)
- Saint Lawrence Seaway Development Corporation (SLSDC)
- Federal Transit Administration (FTA)
- Maritime Administration (MARAD)

Five of these agencies, marked with asterisk, regulate specific aspects of the modes of transportation within the propane industry. DOT also regulates the intrastate transportation of hazardous materials.

In general, DOT regulations preempt state, territorial, and local regulatory requirements to the extent that there is a conflict. However, regulations by FMCSA set the 'floor' of requirements. State, territorial, and local governments may layer additional regulations above FMCSA requirements. For instance, state, territorial, and local governments may add regulatory limitations on the movement of commercial motor vehicles based on weight and size.

The Regulatory Summaries serve to provide a brief overview of regulations applicable to the movement of propane.

TITLE 49 CODE OF FEDERAL REGULATIONS (49CFR)

Title 49, Code of Federal Regulations – Transportation is one of the 50 titles comprising the United States Code of Federal Regulations (CFR). Title 49 is the principle set of rules and regulations issued by the Departments of Transportation and Homeland Security, the federal agencies of the United States regarding transportation and transportation related security. Publication of Title 49 began in 1938, originally called Transportation and Railroads. It was changed to Transportation in 1949.

You can search Title 49 Code of Federal Regulations at the following link: *www.fmcsa.dot.gov/regulations/title49/b/5/3*

DOT TABLE OF CONTENTS

PART 1: REPORTING, RECORDKEEPING, AND TRAINING REQUIREMENTS

HAZARDOUS MATERIALS REGISTRATION

The Pipeline and Hazardous Materials Safety Administration (PHMSA) of DOT requires that companies moving hazardous materials (offeror, shipper, transporter, etc.) in commerce must register with PHMSA, including a registration fee based on business classification as specified in the regulations. The regulations also specify the due date and number of years the registration is valid. The regulations require that the company keep record of registration at the principal place of business for three years from the date it was issued. The regulations also require a copy of the current registration certificate in all commercial motor vehicles operated by the company.

Registration can be done online or by mail. Registration details including methods for filing and registration fees can be found using the links below.

Regulation References:

- ***49 C.F.R. Subpart G*** – Registration of Persons Who Offer or Transport Hazardous Materials
- ***Registration Overview – PHMSA:*** Online information detailing the registration fees, due dates, and instructions as well as an online portal and mailing address to submit registration forms and fee payments.
  PHMSA Online Registration.

MOTOR CARRIER REGISTRATION AND REPORTING

Motor carriers that transport hazardous materials must register with the Federal Motor Carrier Safety Administration (FMCSA) of DOT. The regulations provide the registration form and identify the necessary information. Part of the registration process includes that motor carriers must maintain a prescribed minimum financial responsibility based on criteria listed in the regulations. Motor carriers must also satisfy safety fitness standards in an on-site review by a FMCSA safety specialist, who provides the motor carrier with a safety rating. The regulations detail the criteria for the safety ratings, including an "unsatisfactory" rating that could prohibit the motor carrier from transporting hazardous materials.

After completion of the registration process, motor carriers receive a U.S. DOT registration number for display on all commercial motor vehicles operated by the motor carrier. In addition, FMCSA requires annual reporting by certain motor carriers according to carrier class as defined by the regulations.

Information regarding registration can be accessed at:
www.fmcsa.dot.gov/registration

Regulation References:

- ***49 C.F.R. Part 385 Subpart A*** – Safety Fitness Procedures, General
- ***49 C.F.R. Part 387 Subpart A*** – Minimum Levels of Financial Responsibility for Motor Carriers, Motor Carriers of Property
- **49 C.F.R. Part 390**
  - ***Section 390.21*** – Marking of CMVs and Intermodal Equipment
  - ***Subpart E*** – Unified Registration System
- ***49 C.F.R. Part 369*** – Reports of Motor Carriers

Additional Resource(s):

- ***Registration Overview – FMCSA:*** Online information detailing the U.S. DOT Registration Number registration process, the required forms and information, as well as the process to update registration information.
  FMCSA Online Registration.
- ***Safety and Fitness Electronic Records System (SAFER):*** An online database to view company safety data as well as administer services for motor carriers, such as fine payment, challenge safety determinations, view route registries, and verify safety permits.
  Access a company snapshot.

SECURITY PLANS AND RECORDKEEPING

The Pipeline and Hazardous Materials Safety Administration (PHMSA) of DOT requires every entity transporting a hazardous material to develop and implement a security plan to address potential risks associated with the movement of hazardous materials. The regulations specify the components of the security plan as well as which employees must receive training on the security plan. The regulations also specify who may have access to security plans and where security plans must be located, which includes copies on commercial motor vehicles. The security plans are applicable to over-the-road and railway transportation. The regulations also specify the period that security plans must be retained for recordkeeping.

Regulation References:

- ***49 C.F.R. Subpart I*** – Safety and Security Plans
- ***49 C.F.R. Part 172, Section 172.704*** – Training Requirements

Additional Resource(s):

- ***Training and Security Requirements – PHMSA:*** An online copy of a presentation by PHMSA regarding security plan development and training employees on security plans.
- ***Security Requirements Brochure - PHMSA:*** An online copy of a brochure by PHMSA providing any overview of security plan requirements and the security threats for employees to consider.

CARGO TANK RECORDKEEPING

The Pipeline and Hazardous Materials Safety Administration (PHMSA) of DOT requires that the owner of a cargo tank must maintain records on each cargo tank and the cargo tank motor vehicle.

The regulations specify the types of certifications, testing results, and inspection reports that must be retained for a prescribed period and where the records must be stored. Those include but are not limited to the manufacturer's certificate, the cargo tank ASME U-1A data report, and any certifications delivered by the manufacturer. This information must be retained throughout the ownership of the cargo tank and for one year thereafter.

The regulations also detail multiple processes to obtain replacement certifications and inspection reports. Additionally, PHMSA regulations detail registration and recordkeeping requirements for entities and individuals who manufacture, assemble, inspect, test, certify, or repair cargo tanks and cargo tank motor vehicles.

Regulation References:

- ***49 C.F.R. Part 180, Section 180.417*** – Qualification and Maintenance of Cargo Tanks, Reporting and record retention requirements
- ***49 C.F.R. Subpart F*** – Registration of Cargo Tank and Cargo Tank Motor Vehicle Manufacturers, Assemblers, Repairers, Inspectors, Testers, and Design Certifying Engineers

Additional Resource(s):

- ***National Board of Boiler and Pressure Vessel Inspectors:*** The website of the National Board, which may have records of the certification or manufacture of a cargo tank.

  – See Standards, Section 8
- ***Cargo Tank Registration and Resources Brochure - FMCSA:*** An online copy of a brochure by FMCSA that provides an overview of the requirements for cargo tank inspectors and cargo tank inspection recordkeeping.

COMMERCIAL MOTOR VEHICLE INSPECTIONS AND RECORDKEEPING

The Federal Motor Carrier Safety Administration (FMCSA) of DOT requires systematic inspection of commercial motor vehicles and records of the inspections, maintenance, and repairs. The regulations specify annual and periodic inspection of the vehicle. The regulations specify an inspector's qualifications for annual and periodic inspections and an appendix to the regulations lists the minimum standards for annual and periodic inspections. The regulations detail the required content of annual and periodic inspection records, such as training of inspection requirements, nature of inspection, maintenance and repair dates, lubrication inspections, etc.

Pre-trip and post-trip inspections by vehicle operators are also required by the regulations. The regulations detail the items operators must inspect prior to operating the vehicle as well as what conditions require an operator to complete a post-trip inspection report. The regulations also state how to record repair reports based on defects identified by operators in inspections. The period for record retention of the various vehicle reports is specified in the regulations.

Regulation References:

- ***49 C.F.R. Part 396*** – Inspection, Repair, and Maintenance

Additional Resource(s):

- ***Appendix G - Minimum Periodic Inspection Standards - FMCSA:*** An online accessible copy of an appendix by FMCSA that details defective conditions that would cause a vehicle to fail an inspection.
- ***Annual Vehicle Inspection Report - FMCSA:*** An online copy of a sample annual vehicle inspection report produced by FMCSA.
- ***FMCSA Policy on Certification of Vehicle Inspectors, Safety Auditors, and Safety Investigators:*** An online accessible copy of a policy statement by FMCSA regarding standards for inspectors and auditors. ***Operational Policy for Inspector Training and Certification***.

HAZARDOUS MATERIALS INCIDENT REPORTING

U.S. Department of Transportation (DOT) regulations require the reporting of an incident that involves a hazardous material. The report must be submitted to DOT within a prescribed amount of time, which depends on the ramifications of the incident, ramifications like fatality, public evacuation, road closure, etc. DOT also requires that incident reports be updated within a specific amount of time based on whether additional ramifications developed, such as damage above a monetary threshold or revised analysis on the root cause. The DOT regulations specify the method, format, and deadline for reporting incidents.

Requirements for Hazardous Materials incident reporting can be accessed at: www.phmsa.dot.gov/hazmat-program-management-data-and-statistics/data-operations/incident-reporting

Regulation References:

- ***49 C.F.R. Subpart B*** – Incident Reporting, Notification, Bureau of Explosives (BOE) Approvals and Authorizations

Additional Resource(s) if the incident involves a pipeline accident:

- ***Pipeline Incident Reporting – PHMSA:*** Online information providing an overview of incident reporting requirements for hazardous materials and pipelines as well as the online portal to submit incident reports and the necessary forms and instructions.

HAZARDOUS MATERIALS VEHICLE ACCIDENT REPORTING

The Federal Motor Carrier Safety Administration (FMCSA) of DOT requires that motor carriers assist the investigation of an accident by providing information to FMCSA, state, or law enforcement officials. The regulation specifies the information a motor carrier must make available as well as the time period that such information must be kept.

Information regarding assistance in investigations can be accessed at: www.fmcsa.dot.gov/regulations/title49/section/390.15

Regulation References:

- ***49 C.F.R. Part 390, Section 390.15*** – Assistance in investigations and special studies

Additional Resource(s):

- ***Accident Register Form - FMCSA:*** An online accessible copy of a sample accident registration form provided by FMCSA.
- ***Guidance Questions & Answers - FMCSA:*** An online question-and-answer series developed by FMCSA regarding accident records, inspections, and regulatory requirements.

ALCOHOL AND SUBSTANCE ABUSE TESTING AND REPORTING

The U.S. Department of Transportation requires that all transportation employers conduct alcohol and substance abuse tests and report results according to the regulations. The regulations detail what entities may perform the required testing, recordkeeping requirements, and return to work prerequisites as well as standards and procedures for medical review officers and confidentiality requirements.

The Federal Motor Carrier Safety Administration (FMCSA) issues regulations regarding alcohol and substance use specifically by commercial motor vehicle drivers. FMCSA regulations detail the procedure and occasion for required testing as well as reporting requirements through the Commercial Driver's License Drug and Alcohol Clearinghouse. FMCSA regulations also list training requirements for supervisors that includes administering testing, addressing violations, and confidentiality.

You can obtain more information by accessing the Office of Drug and Alcohol Policy and Compliance, a website by the U.S. Department of Transportation that provides an overview of drug and alcohol testing and reporting requirements as well as resources for employers and employees. The website can be accessed at: www.transportation.gov/odapc

Regulation References:

- ***49 C.F.R. Part 40*** – Procedures for Transportation Workplace Drug and Alcohol Testing Programs
- ***49 C.F.R. Part 382*** – Controlled Substances and Alcohol Use and Testing
- ***49 C.F.R Part 382, Section 382.107*** – Definitions: The definition of a commercial motor vehicle as it applies to the type of vehicles that drivers are subject to drug and alcohol testing.
- ***Overview of Drug and Alcohol Rules - FMCSA:*** An online database of the requirements, compliance guides, and regulatory processes required by FMCSA for commercial motor vehicle drivers.
- ***Drug & Alcohol Clearinghouse - FMCSA:*** An online database for drug and alcohol testing results, violations, and corrections. Accessible by employers, state driver's license administrations, and law enforcement officials. Employers are required to review the database prior to hiring new drivers and report to the database during the testing history of employee-drivers.

JURISDICTIONAL PIPELINE SYSTEM EMPLOYEE TRAINING AND RECORDKEEPING

The Pipeline and Hazardous Materials Safety Administration (PHMSA) of DOT requires that hazardous materials personnel that are responsible for tasks associated with jurisdictional pipeline systems must receive training through a systematic program developed by the employer. The regulations specify the level of detail in the training based on the functions or roles of the employees. The regulations specify when employees must receive training and the recordkeeping of the training. The regulations also explain which training requirements by other federal agencies may be used to satisfy components of hazardous materials employee training.

Regulation References:

- ***49 C.F.R. Subpart H*** – Training

Additional Resource(s):

- ***Training Requirements for Industry - PHMSA:*** An online database of hazardous materials training information, divided by transportation method, produced by PHMSA.
- ***Webinars and Workshops - PHMSA:*** An online listing of hazardous materials training courses and resources offered by PHMSA.

COMMERCIAL DRIVERS

RECORDKEEPING, QUALIFICATIONS, AND LICENSES

The Federal Motor Carrier Safety Administration (FMCSA) regulates the commercial driver's license process, including notification and reporting requirements for drivers, employers of drivers, and state driver's license administrations. The regulations detail requirements for state driver's license administrations in the issuing of commercial driver's licenses, limited licenses, and endorsements. The regulations detail the self-reporting requirements for commercial drivers as well as required knowledge and skills. The FMCSA regulations also detail qualifications and disqualifications of commercial drivers, including medical issues, and the process to resolve any disqualification. The regulations also outline limited exemptions for certain commercial operations.

Regulation References:

- ***49 C.F.R. Part 391*** – Qualifications of Drivers and Longer Combination Vehicle (LCV) Driver Instructors
- ***49 C.F.R. Part 383*** – Commercial Driver's License Standards; Requirements and Penalties

Additional Resource(s):

- ***Commercial Driver's License Program - FMCSA:*** A website by FMCSA to provide an overview of regulatory requirements and procedures for commercial drivers, commercial driver-employers, state driver's license administrations, and law enforcement officials. The website includes guidance materials and updates on regulatory rulemakings.

WHEN IS A CDL REQUIRED?

A CDL must be obtained by the driver of any of the following vehicles:

- Any combination of vehicles with a gross combined weight rating (GCWR) of 26,001 or more pounds, providing the gross vehicle weight rating (GVWR) of the vehicle being towed is in excess of 10,000 pounds.
- Any single vehicle with a GVWR of 26,001 or more pounds, or any such vehicle towing another not in excess of 10,000 pounds.
- Any vehicle, regardless of size, designed to transport 16 or more persons, including the driver.
- Any vehicle required by federal regulations to be placarded while transporting hazardous materials.

COMMERCIAL DRIVER TRAINING AND RECORDKEEPING

The Federal Motor Carrier Safety Administration (FMCSA) regulates the training of commercial motor vehicle drivers. FMCSA prescribes minimum training requirements for commercial driver's license applicants that includes classroom education and testing as well as behind-the-wheel instruction and satisfactory performance of behind-the-wheel skills. FMCSA regulations require specific elements included in classroom instruction as well as the format and testing of instruction, which must be complete by a deadline specified in the regulations. FMCSA regulations also prescribe elements that a driver applicant must demonstrate in behind-the-wheel training. The regulations also prescribe reporting and recordkeeping requirements for employers of drivers and trainers of driver-applicants. The regulations detail specific requirements for the training of licensed commercial drivers seeking a license upgrade and/or endorsement, including a hazardous materials endorsement.

Regulation References:

- ***49 C.F.R. Subpart H*** – Training
- ***49 C.F.R. Subpart E*** – Entry-Level Driver Training Requirements Before February 7, 2022
- ***49 C.F.R. Subpart F*** – Entry-Level Driver Training Requirements After February 7, 2022

Additional Resource(s):

- ***Entry-Level Driver Training - FMCSA:*** A website by FMCSA to provide an overview of regulatory requirements and procedures for entry-level drivers after February 7, 2022. The materials and guidance include frequently asked questions for driver-applicants, employers of driver-applicants, training providers—who may or may not be employers of driver-applicants—and state driver's license administrations.

HAZMAT TRAINING REQUIREMENTS

To help identify the training requirements for employees working in the propane industry, we will first define a hazmat employee. According to DOT, a hazmat employee is a person that:

- Loads, unloads, or handles hazardous materials.
- Designs, manufacturers, fabricates, inspects, marks, maintains, reconditions, repairs, or tests a package that is used in transporting hazardous material in commerce, or directly affects hazardous materials transportation safety.

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COMMERCIAL DRIVER TRAINING AND RECORDKEEPING (CONTINUED)

Hazmat employee training must include the following:

- **General awareness/familiarization training** designed to provide familiarity with the requirements, and to enable the employee to recognize and identify hazardous materials consistent with the hazard communication standards.
- **Function-specific training** concerning requirements of the regulations, exemptions, or special permits issued, that are specifically applicable to the functions the employee performs.
- **Safety training** that includes emergency response information required by the regulations.
  - Measures to protect the employee from the hazards associated with hazardous materials to which they may be exposed in the workplace, including specific measures the hazmat employer has implemented to protect employees from exposure; and
  - Methods and procedures for avoiding accidents, such as the proper procedures for handling packages containing hazardous materials.
- **Security awareness training** that provides an awareness of security risks associated with hazardous materials transportation and methods designed to enhance transportation security. This training must also include a component covering how to recognize and respond to possible security threats. New hazmat employees must receive the security awareness training required by this paragraph within 90 days after employment.
- **In-depth security training.** Each hazmat employee of a person required to have a security plan who handles hazardous materials covered by the plan, performs a regulated function related to the hazardous materials covered by the plan, or is responsible for implementing the plan must be trained concerning the security plan and its implementation. Security training must include company security objectives, organizational security structure, specific security procedures, specific security duties and responsibilities for each employee, and specific actions to be taken by each employee in the event of a security breach.

OSHA, EPA, and other training: Training conducted by employers to comply with the OSHA or EPA hazard communication programs, or training conducted by employers to comply with security training programs required by other Federal or international agencies, may be used to satisfy the training requirements to the extent that such training addresses the training components specified in the regulations.

INITIAL AND RECURRENT TRAINING

Initial training: A new hazmat employee, or a hazmat employee who changes job functions may perform those functions prior to the completion of training provided –

- The employee performs those functions under the direct supervision of a properly trained and knowledgeable hazmat employee; and
- The training is completed within 90 days after employment or a change in job function.

Recurrent training: A hazmat employee must receive the training required by this subpart at least once every three years. For in-depth security training required, a hazmat employee must be trained at least once every three years or, if the security plan for which training is required is revised during the three-year recurrent training cycle, within 90 days of implementation of the revised plan.

Relevant Training: Relevant training received from a previous employer or other source may be used to satisfy the requirements of the regulations provided a current record of training is obtained from the hazmat employees' previous employer.

Compliance: Each hazmat employer is responsible for compliance with the regulations regardless of whether the training has been completed.

Recordkeeping: Each hazmat employer must create and retain a record of current training of each hazmat employee, inclusive of the preceding three years, in accordance with the regulations for as long as that employee is employed by that employer as a hazmat employee and for 90 days thereafter. A hazmat employer must make a hazmat employee's record of current training available upon request, at a reasonable time and location, to an authorized official of the Department of Transportation or of an entity explicitly granted authority to enforce the regulations. The training record must include:

1. The hazmat employee's name.
2. The most recent training completion date of the hazmat employee's training.
3. A description, copy, or the location of the training materials used to meet the requirements.
4. The name and address of the person providing the training; and
5. Certification that the hazmat employee has been trained and tested.

Limitations: The following limitation applies: A hazmat employee who repairs, modifies, reconditions, or tests packaging, as qualified for use in the transportation of hazardous materials, and who does not perform any other function subject to the regulations, is not subject to the safety training requirements mentioned above.

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COMMERCIAL DRIVER TRAINING AND RECORDKEEPING (CONTINUED)

RESPONSIBILITY FOR COMPLIANCE AND TRAINING

These federal requirements are applicable to the acceptance and transportation of hazardous materials by private, common, or contract carriers by motor vehicle.

Responsibility for compliance. Unless this regulation specifically provides that another person shall perform a particular duty, each carrier, shall perform the duties specified and comply with all applicable requirements in the regulations and shall ensure its hazmat employees receive training in relation thereto.

Responsibility for training. A carrier may not transport a hazardous material by motor vehicle unless each of its hazmat employees involved in that transportation is trained as required by the regulations.

No unnecessary delay in movement of shipments.
All shipments of hazardous materials must be transported without unnecessary delay, from and including the time of commencement of the loading of the hazardous material until its final unloading at destination.

DRIVER TRAINING

No carrier may transport, or cause to be transported, a hazardous material unless each hazmat employee who will operate a motor vehicle has been trained in the applicable regulations that apply and the procedures necessary for the safe operation of that motor vehicle.

Driver training shall include the following subjects:

- Pre-trip safety inspection.
- Use of vehicle controls and equipment, including operation of emergency equipment.
- Operation of vehicle, including turning, backing, braking, parking, handling, and vehicle characteristics including those that affect vehicle stability, such as effects of braking and curves, effects of speed on vehicle control, dangers associated with maneuvering through curves, dangers associated with weather or road conditions that a driver may experience (e.g., blizzards, mountainous terrain, high winds), and high center of gravity.
- Procedures for maneuvering tunnels, bridges, and railroad crossings.
- Requirements pertaining to attendance of vehicles, parking, smoking, routing, and incident reporting; and
- Loading and unloading of materials, including:
  - Compatibility and segregation of cargo in a mixed load.
  - Package handling methods; and
  - Load securement.

Specialized requirements for cargo tanks and portable tanks.
In addition to the training requirement of the above content, each person who operates a cargo tank or a vehicle with a portable tank with a capacity of 1,000 gallons or more must receive training applicable to the requirements of this subchapter and have the appropriate state-issued commercial driver's license required by 49 CFR part 383.

Specialized training shall include the following:

- Operation of emergency control features of the cargo tank or portable tank.
- Special vehicle handling characteristics, including high center of gravity, fluid-load subject to surge, effects of fluid-load surge on braking, characteristic differences in stability among baffled, unbaffled, and multi-compartmented tanks; and effects of partial loads on vehicle stability.
- Loading and unloading procedures.
- The properties and hazards of the material transported; and
- Retest and inspection requirements for cargo tanks.

The training required by the above may be satisfied by compliance with the current requirements for a Commercial Driver's License (CDL) with a tank vehicle or hazardous materials endorsement.

Training required must conform to the regulations with respect to frequency and recordkeeping.

PART 2: CARGO TANK CONTAINER REGULATIONS

SHIPPING PAPERS

The Pipeline and Hazardous Materials Safety Administration (PHMSA) requires that each person who offers a hazardous material for transportation must describe the hazardous material on shipping papers according to specifications detailed in the regulations.

One of the most frequently cited safety violations of the Hazardous Materials Regulations (HMR), Title 49 CFR Parts 100-185, is the failure of the shipper to properly describe the hazardous material on the shipping paper.

The proper shipping description of a hazardous material consists of:

- A basic description,
- Additional information (depending on materials and mode of transport),
- Quantity of hazardous material, and
- Type of packaging used.

The basic description of a hazardous material includes the Identification Number, the Proper Shipping Name, Hazard Class, and Packing Group (when applicable). This information must be placed on the shipping paper in the specific order required in Part 172, Subpart C of the HMR. By failing to follow these requirements, shippers of hazardous materials not only put themselves at risk of being cited, but more importantly, they put others at risk should an incident or spill occur. The HMR do not require that a shipper use a special form. The HMR only require the proper information be placed on the shipping paper in the proper sequence.

The regulations include sample language to indicate the volume or quantity of a product as well as sample language to confirm that the product was received as listed on the shipping paper. The regulations describe the perimeters for electronic shipping papers to rail carriers.

In addition, the regulations outline how the shipping paper is to be handled by the driver while in transportation. The driver must ensure that the shipping paper is readily available to, and recognizable by, authorities in the event of an accident or inspection.

The driver and the carrier must:

- Clearly distinguish the shipping paper, if it is carried with other shipping papers or other papers of any kind, by either distinctively tabbing it or by having it appear first; and
- Store the shipping paper as follows:
  - When the driver is at the vehicle's controls, the shipping paper must be:
    - Within his immediate reach while he is restrained by the lap belt; and
    - Either readily visible to a person entering the driver's compartment or in a holder which is mounted to the inside of the door on the driver's side of the vehicle.
  - When the driver is not at the vehicle's controls, the shipping paper shall be:
    - In a holder which is mounted to the inside of the door on the driver's side of the vehicle; or
    - On the driver's seat in the vehicle.

The regulations also detail the entities that must maintain records of shipping papers and the acceptable recordkeeping format. Additionally, the regulations specify shipping paper requirements applicable to an individual who transports a hazardous material, including recordkeeping requirements.

Regulation References:

- ***49 C.F.R. Subpart C*** – Shipping Papers
- ***49 C.F.R. Part 177, Section 177.817*** – Carriage by Public Highway, Shipping Papers

Additional Resource(s):

- ***Hazmat Transportation Requirements – PHMSA:*** An online copy of a PHMSA brochure to summarize the transportation requirements, including properly written, retained, and delivered shipping papers for hazardous materials.
- ***FMCSA Guide for Preparing Shipping Papers***

EMERGENCY RESPONSE INFORMATION

The Pipeline and Hazardous Materials Safety Administration (PHMSA) requires that a shipment of hazardous materials include "emergency response information" which may be on the shipping paper itself or attached to the shipping paper.

This emergency response information can be used in the event of an incident involving hazardous materials to assist emergency responders in responding at the scene.

At a minimum, this information must include:

1. The basic description,
2. Immediate hazards to health,
3. Risks of fire or explosion,
4. Immediate precautions to be taken in event of an accident or incident,
5. Immediate methods for handling fires,
6. Initial methods for handling spills or leaks in the absence of fire, and
7. Preliminary first aid measures.

The regulation prescribes the format and content of the emergency response information. The regulation specifically identifies the recordkeeping requirement for emergency response information according to carriers and facility operators. The regulations also require that the emergency response information be readily available for emergency responders and law enforcement.

Regulation References:

- ***49 C.F.R. Subpart G*** – Emergency Response Information

Additional Resource(s):

- ***Occupational Safety & Health Administration (OSHA) Guide – Hazard Communication Standard:*** OSHA regulations prescribe that hazardous material containers are labeled with specific information to communicate the hazard to workers who handle the containers. The label requirements include emergency contact information, which may be satisfied by the information detailed according to the PHMSA Emergency Response Information regulations.

  – See Section 3, Hazard Communication

CARGO TANK MARKINGS

The Pipeline and Hazardous Materials Safety Administration (PHMSA) requires that each entity offering a hazardous material for transportation and each carrier engaged in transportation must mark packages, freight containers, and transport vehicles holding hazardous materials.

The regulations prescribe marking requirements according to non-bulk packaging, bulk packaging, cargo tanks, and rail tank cars. The regulations describe the approximate location for markings with respect to other advertisement or details. The regulations also detail when marking is unnecessary. The regulations include specific requirements for portable tanks, including when it is appropriate for NON-ODORIZED marking on portable tanks containing propane. The marking regulations include requirements for placards that display the identification number and other required information, which must be in accordance with specific size standards.

Regulation References:

- ***49 C.F.R. Subpart D*** – Marking

Additional Resource(s):

- ***Federal Motor Carrier Safety Administration Hazardous Materials Markings, Labeling and Placarding Guide:*** An online guide produced by the Federal Motor Carrier Safety Administration that includes applicable requirements by PHMSA for the proper marking of cargo tanks.

PLACARDING

The Pipeline and Hazardous Materials Safety Administration (PHMSA) requires the placarding of containers transporting hazardous materials. The regulations prescribe prohibited placarding and when placarding is not required as well as permissive placarding, which is placarding that may be displayed but is not required. The regulations detail placarding requirements such as the placard name, design according to hazardous material category, visibility of the placard, and size specifications.

Regulation References:

- ***49 C.F.R. Subpart F*** – Placarding

Additional Resource(s):

- ***Appendix A to Part 172 – Office of Hazardous Materials Transportation Color Tolerance Charts and Tables:*** The regulations include an appendix detailing the color type requirements for placards and labels.
- ***Federal Motor Carrier Safety Administration Hazardous Materials Markings, Labeling and Placarding Guide:*** An online guide produced by the Federal Motor Carrier Safety Administration that includes applicable requirements by PHMSA for the proper marking of cargo tanks.

BULK PACKAGING VS. NON-BULK PACKAGING

One thing often confused is the terms bulk packaging and non-bulk packaging. This is true when discussing placarding and shipping paper requirements. It is important to know the difference.

Bulk packaging is something such as a vehicle or container into which hazardous materials can be loaded with no other forms of containment. Examples of bulk packaging include cargo tanks, portable tanks, tank cars and intermediate bulk containers.

Bulk packaging must also have a minimum capacity which is greater than 119 gallons for liquids, more than 882 pounds for solids, and a water capacity more than 1,000 pounds for gases.

Non-bulk packaging is something that does not meet the criteria for bulk packaging. Essentially, non-bulk packaging must have a maximum capacity of 199 gallons or less for liquids, a mass of 882 pounds or less for solids, or a water capacity of 1,000 pounds or less for gases.

CARGO TANK COMPLIANCE, TRAINING, AND EMERGENCIES

The Pipeline and Hazardous Materials Safety Administration (PHMSA) and the Federal Motor Carrier Safety Administration (FMCSA) share overlapping jurisdiction on the transportation of hazardous materials. PHMSA regulations require that persons responsible for the transportation of hazardous materials comply with training requirements by PHMSA as well as FMCSA, which include regulations on shipping papers, driver training, and vehicle inspection. PHMSA also specifies acceptable emergency circumstances to move vehicles transporting hazardous materials, such as leaks, disposal, and unmarked or unplacarded vehicles.

Regulation References:

- ***49 C.F.R. Part 177, Subpart A*** – Carriage by Public Highway: General Information and Regulations

Additional Resource(s):

- ***PHMSA: Hazmat Transportation Training Requirements:*** An overview of portions of the federal regulations that require training on the transportation of hazardous materials.
- ***PHMSA Webinar: Hazardous Materials Transportation Training Requirements:*** A brief online webinar recording that references portions of the federal regulations that require training for the transportation of hazardous materials.
  - Part 1: Hazardous Materials Employee Training and Recordkeeping
  - Part 1: Commercial Drivers: Training

CARGO TANK LOADING AND UNLOADING

The Pipeline and Hazardous Materials Safety Administration (PHMSA) regulates minimum requirements for loading and unloading procedures, personnel, and equipment. For example, PHMSA regulations require vehicle attendance of qualified personnel during the loading and unloading process as well as inspection and minimum safety features of loading and unloading hoses, valves, etc. The regulations also prescribe minimum vehicle safety check procedures and distinguish operation requirements for metered delivery service of propane.

PHMSA also regulates the shipping papers, packages (cylinders, portable tanks, etc.), placement of packages on vehicles, and non-specification cargo tanks. The regulations provide for exceptions from the requirements based on small quantities, agricultural operations, and materials of trade.

Regulation References:

- ***49 C.F.R. Part 177, Subpart B - Loading and Unloading***
- ***49 C.F.R. Part 173 – Shippers*** – General Requirements for Shipments and Packaging
  - Subpart A – General
  - Subpart B – Prepare of Hazardous Materials for Transportation
  - Subpart G – Gases; Preparation and Packaging

Additional Resource(s):

- ***Cargo Tank Motor Vehicle (CMTV) - Loading/Unloading Operations: Recommended Best Practices Guide:*** A guide produced by PHMSA on the loading and unloading procedures for cargo tank vehicles.
- ***Liquefied Compressed Gases: Compliance Assistance Guide:*** An overview document by PHMSA that outlines regulations applicable to emergency discharge equipment, unloading and attendance requirements, inspection and maintenance requirements, and reporting and recordkeeping requirements.

MATERIALS OF TRADE (MOTS)

Certain hazardous materials transported in small quantities as part of a business are subject to less regulation, because of the limited hazard they pose. These materials are known as Materials of Trade.

MOTs are hazardous materials, other than hazardous waste, that are carried on a motor vehicle:

- To protect the health and safety of the motor vehicle operator or passengers, such as insect repellent or a fire extinguisher; or
- To support the operation or maintenance of a motor vehicle (including its auxiliary equipment), such as a spare battery or gasoline; or
- To directly support a principal business a private motor carrier (including vehicles operated by a rail carrier) that is other than transportation by motor vehicle – for example, landscaping, pest control, painting, plumbing, or welding services.

Be aware that it is your responsibility to know if you are transporting a hazardous material and the requirements in the HMR that apply. **The regulations that apply to MOTs are found in 49 CFR Section 173.6. They include:**

- General knowledge of MOTs regulations.
- Quantity limitations.
- Packaging requirements; and
- Marking and labeling requirements.
- The MOTs regulations do not require:
  - Shipping papers.
  - Emergency response information.
  - Placarding.
  - Formal training or retention of training records.

Regulation References:

- ***Title 49, Code of Federal Regulations (49 CFR), Parts 171-180.***
- ***What Are Materials of Trade:*** A brochure by PHMSA to provide additional explanation on the Materials of Trade exemption to the loading and unloading regulatory requirements.

CARGO TANK DELIVERY HOSE ASSEMBLY AND EMERGENCY DISCHARGE SYSTEM

The Pipeline and Hazardous Materials Safety Administration (PHMSA) specifically regulates the inspection and maintenance of delivery systems for the movement of liquefied compressed gases from cargo tanks. These requirements are categorized under the regulations for qualification and maintenance of cargo tanks.

Regulation References:

- ***49 C.F.R. Part 180, Subpart 180.416:*** Discharge system inspection and maintenance program for cargo tanks transporting liquefied compressed gases
- ***49 C.F.R. Part 180, Appendix A:*** Internal Self-closing Stop Valve Emergency Closure Test for Liquefied Compressed Gases
- ***49 C.F.R. Part 180, Appendix B:*** Acceptable Internal Self-Closing Stop Valve Leakage Tests for Cargo Tanks Transporting Liquefied Compressed Gases

CARGO TANK INSPECTIONS AND REQUALIFICATION

The Pipeline and Hazardous Materials Safety Administration (PHMSA) prescribes regulations on the procedure and personnel to inspect and requalify cargo tanks that transport propane. The regulations also specify recordkeeping policies, including duration and location, to document inspections, determinations, requalification, etc. PHMSA regulations specify the placement and components of markings as well as records to identify cargo tank inspections and requalification. In addition, the Federal Motor Carrier Safety Administration (FMCSA) requires proper registration and recordkeeping for cargo tank inspectors, testers, repairers, etc.

Regulation References:

- ***49 C.F.R. Part 180*** – Continuing Qualification and Maintenance of Packaging
  - ***Subpart A*** – General
  - ***Subpart E*** – Qualification and Maintenance of Cargo Tanks
- ***49 C.F.R. Part 107, Subpart F*** – Registration of Cargo Tank and Cargo Tank Motor Vehicle Manufacturers, Assemblers, Repairers, Inspectors, Testers, and Design Certification Engineers

Additional Resource(s):

- ***DOT Specification Cargo Tank Program:*** Test and Inspection Facilities: A brochure by FMCSA that outlines the facility registration requirements and training requirements for cargo tank inspection operations.
- ***FMCSA Registration:*** An online portal by FMCSA to register cargo tank motor vehicles.
- ***Cargo Tank Search:*** An online database by FMCSA that lists cargo tank inspection and requalification operations.
  - Part 1: Cargo Tank Recordkeeping

CONTAINERS

MARKING AND LABELING

The Pipeline and Hazardous Materials Safety Administration (PHMSA) regulates the marking and labeling of containers that transport propane. The regulations specify the proper names, identification numbers, abbreviations, flammable and other terminology, colors, and overall as well as font size for marking and labeling propane containers. The Occupational Safety & Health Administration (OSHA) coordinates hazardous materials communication requirements, which includes labels and descriptions, with the PHMSA regulations; however, the OSHA regulations extend beyond the PHMSA requirements.

Regulation References:

- ***49 C.F.R. Part 172***
  - ***Subpart B*** – Table of Hazardous Materials and Special Provisions
  - ***Subpart D*** – Marking
  - ***Subpart E*** – Labeling

Additional Resource(s):

- ***Package Selection Marking and Labeling Requirements:*** A presentation by PHMSA that outlines marking and labeling requirements as well as requirements by OSHA that overlap.
- ***DOT Chart 16: Hazardous Materials Markings, Labeling, and Placarding Guide:*** A chart that displays various markings, labels, and placarding required by PHMSA for different hazardous materials.
- ***Labeling of Hazardous Chemicals for Bulk Shipments:*** A brief comparison of labeling requirements jointly published by PHMSA and OSHA.
- ***Occupational Safety & Health Administration (OSHA) Guide – Hazardous Communication Standard:*** OSHA regulations prescribe that hazardous material containers are labeled with specific information to communicate the hazard to workers who handle the containers. The label requirements include emergency contact information, which may be satisfied by the information detailed according to the PHMSA Emergency Response Information regulations.

ASME CONTAINERS

The Pipeline and Hazardous Materials Safety Administration (PHMSA) regulates the transportation of containers designed to specifications by the American Society of Mechanical Engineers (ASME); commonly known as ASME containers. PHMSA regulations specify the conditions and safeguards required for the transportation of ASME containers with certain percentages of propane product. The requirements within the first provision of part 173.315(j) allows the industry to transport ASME tanks with 5 percent or less liquid volume.

PHMSA incorporates by reference the design and construction of ASME containers. The National Fire Protection Association (NFPA) also details handling, placement, and other requirements for ASME containers in the NFPA 58 Liquefied Petroleum Gas Code. Every state in the U.S. has adopted or incorporated by reference an edition of the NFPA 58 Liquefied Petroleum Gas Code.

Regulation References:

- ***49 C.F.R. Part 173.315(j)*** – Compressed gases in cargo tanks and portable tanks; Consumer storage containers

The second provision of this regulation allows ASME propane storage containers larger than 125-gallon water capacity located at a customer location to be transported with more than 5 percent propane in them if the following conditions are met:

- The ASME tank is no greater than 500 gallons water capacity.
- Must be only transported one-way from the customer location to the owners nearest facility.
- Must be the only propane tank on the bed of the truck for transportation.
- Must not be filled beyond its maximum permitted filling limit.
- Prior to loading, the tank must be inspected by a trained and qualified person to verify that the container is safe to transport. It must be inspected for leaks, corrosion, dents, distortions, defects in the welds, and other conditions that may render it unsafe for transportation.
- A record of the above inspection that includes the person's name performing the inspection, their signature, the date of the inspection, inspectors contact information, the container serial number and size in water capacity, and the estimated amount of propane in the tank. The inspector certifies that the container has been inspected and has no defects that would render it unsafe for transportation. This record of inspection is required to be retained by the container owner for a minimum of two years.
- When loading on the truck, the tank must be lifted using slings that are completely wrapped around the container as the lifting lugs cannot be used when the tank has more than 5 percent of propane in it. Lifting slings must have the proper ratings to accommodate the weight of the container and the propane in it. All lifting slings must comply with the ASME B30.9 requirements and must be visually inspected prior to use. Do not use slings that show defects or excessive wear that render them unsafe to use.
- The storage container must be secured on the vehicle so that the container is completely within the envelope of the vehicle and does not extend beyond the vehicle frame.
- The storage container must be placed on the vehicle in a manner, such as in a cradle, which ensures that no weight is placed on the supporting legs during transportation.

Section continued on next page »

ASME CONTAINERS (CONTINUED)

- The storage container must be secured against movement during transportation. Straps or chains used as tie-downs must be rated to exceed the maximum load to be transported and conform to the requirements in the regulations.
- Valves or other fittings must be adequately protected against damage during transportation.
- Tow trailers used to transport a container in accordance with this regulation, must have rear end protection that conforms to the federal requirements.

Propane storage containers of less than 125 gallons may be shipped when charged with propane in compliance with DOT filling density. This applies to DOT cylinders as well as ASME tanks up to 125-gallon water capacity.

Additional Resource(s):

- ***Incorporation by Reference Edition Update for ASME:*** A direct final rulemaking by PHMSA to incorporate by reference ASME standards for containers.
- ***Incorporation of Certain Cargo Tank Special Permits into Regulations:*** A final rulemaking by PHMSA to incorporate into the hazardous materials regulations a former special permit for the transportation of ASME containers with a specific percentage of propane product present in accordance with the maximum water capacity of the container.
- ***NFPA 58 Liquefied Petroleum Gas Code:*** A nongovernmental organization that considers and agrees upon requirements for the storage, handling, and transportation of propane, which is adopted or incorporated by reference at the state and/or local level.

DOT SPECIFICATION CYLINDERS

The Pipeline and Hazardous Materials Safety Administration (PHMSA) regulates the handling, marking, inspection and requalification, and transportation of propane cylinders. The regulations specify the process by which a facility receives approval from PHMSA to requalify cylinders as well as the required training for employees that perform requalification and inspect cylinders prior to filling with propane.

The PHMSA regulations include recordkeeping requirements for the inspection, requalification, repair, and markings of DOT-specification cylinders.

Regulation References:

- ***49 C.F.R. Part 107, Subpart I*** – Approval of Independent Inspection Agencies, Cylinder Requalifiers, and Non-domestic Chemical Analyses and Tests of DOT Specification Cylinders
- ***49 C.F.R. Part 173, Subpart G*** – Gases; Preparation and Packaging Cylinders
- ***49 C.F.R. Part 180, Subpart C*** – Qualification, Maintenance and Use of Cylinders

Additional Resource(s):

- ***Procedures for Application for Approval to Requalify DOT Cylinders:*** An overview by PHMSA on the DOT Cylinder Requalification Program and applicability to requalification performed within as well as outside of the United States.
- ***Cylinder Requalifiers:*** An online outline of requirements to perform cylinder requalification, and an online tool maintained by PHMSA to locate a facility with approval to perform cylinder requalification.
- ***PHMSA Letter of Interpretation to NPGA:*** PHMSA letter of interpretation to NPGA regarding the need to have copies of the necessary CGA pamphlets to conduct DOT cylinder visual inspections. Other content that describes the required inspection criteria if the content is the same as the CGA pamphlets.
- ***Cylinder Requalification Program:*** The PERC cylinder requalification program using the visual inspection method provides inspection criteria that matches up with the CGA pamphlets and therefore can be used to conduct a visual inspection on a DOT cylinder. It is the user's responsibility to verify the content is the same and that they maintain a copy at the site.
- ***Does your Cylinder Requalification Training by the Visual Inspection Method Meet the Requirements of 49 CFR 172.704:*** A guidance document by PHMSA that combines the cylinder requalification regulatory requirements with the training requirements applicable to employees that handle hazardous materials.
- ***Is Your Cylinder Safe to Fill?:*** A poster by PHMSA to provide guidance on the requalification deadlines for DOT-specification cylinders based on the method of requalification performed by the facility that holds DOT approval to perform requalification.
- ***Requalification Guidance for Propane Cylinders:*** A general guidance document by PHMSA to assist all employees that requalify propane cylinders.
- ***Cylinder Manufacturers:*** A webinar presentation by PHMSA that outlines the regulatory requirements for manufacturers of cylinders.

PART 3: MOTOR CARRIER AND VEHICLE OPERATION REGULATIONS

MOTOR CARRIER SAFETY FITNESS

The Federal Motor Carrier Safety Administration (FMCSA) regulates the safety standards for the operation of commercial motor vehicles and commercial motor carriers. A primarily component of FMCSA regulations is a Safety Fitness assessment of motor carriers. The Safety Fitness regulations specify minimum requirements for training, operation, inspections, accidents, etc. for motor carriers that operate commercial motor vehicles. The regulations also detail a process by which motor carriers may resolve Safety Fitness Determinations.

To meet FMCSA's safety fitness standard, a motor carrier must demonstrate that it has adequate and effective safety management controls in place to ensure compliance with the FMCSR's and HMR's that apply to its operation.

Regulation References:

- ***49 C.F.R. Part 385, Subpart A*** – Safety Fitness Procedures

Additional Resource(s):

- ***FMCSA Safety Fitness Determination:*** An online portal by FMCSA that identifies the Safety Fitness Determination standards, procedures, and assessment scores for motor carriers.
  - Part 1: Motor Carrier Registration and Reporting

MOTOR CARRIER FINANCIAL RESPONSIBILITY

The Federal Motor Carrier Safety Administration (FMCSA) requires minimum levels of insurance for property and passenger motor carriers. The regulations specify forms, scope of insurance, recordkeeping requirements, etc. The FMCSA regulations specify fiduciary responsibilities as well as penalties and procedures for violations of the minimum insurance requirements.

Regulation References:

- ***49 C.F.R. Part 387, Subpart A*** – Minimum Levels of Financial Responsibility for Motor Carriers: Motor Carriers of Property

Additional Resource(s):

- ***Insurance Filing Requirements:*** An overview by FMCSA of the minimum financial responsibility requirements for motor carriers, including online links to forms, frequently asked questions, and the Unified Registration System.
  - Part 1: Motor Carrier Registration and Reporting

MOTOR CARRIER PARTS AND ACCESSORIES

The Federal Motor Carrier Safety Administration (FMCSA) regulates the minimum features, conditions, and placement of parts and accessories on commercial motor vehicles. In addition to lamps, electrical wiring, braking systems, emergency equipment, etc., the regulations prescribe cargo securement standards. In relation, FMCSA regulates the inspection, repair, and maintenance of commercial motor vehicles, which includes applicable recordkeeping requirements.

Regulation References:

- ***49 C.F.R. Part 393*** – Parts and Accessories Necessary for Safe Operation
- ***49 C.F.R. Part 396*** – Inspection, Repair, and Maintenance

Additional Resource(s):

- ***Guidance Q&A:*** An online listing of questions and answers by FMCSA regarding parts and accessories regulations.

OPERATION OF COMMERCIAL MOTOR VEHICLES

The Federal Motor Carrier Safety Administration (FMCSA) prescribes minimum requirements for the operation of commercial motor vehicles and minimum standards for equipment and inspections. The regulations also prohibit operation due to certain conditions of the driver and the regulations detail emergency procedures. Additionally, FMCSA prescribes regulations on the use of mobile telephones and devices.

Regulation References:

- ***49 C.F.R. Part 392*** – Driving of Commercial Motor Vehicles
- ***49 C.F.R. Part 397, Subpart A*** – Transportation of Hazardous Materials; Driving and Parking Rules

Additional Resource(s):

- ***Guidance Q&A:*** An online listing of questions and answers by FMCSA regarding the operation of commercial motor vehicles and applicable regulations.

HOURS OF SERVICE

The Federal Motor Carrier Safety Administration (FMCSA) regulates the hours of service by drivers who operate commercial motor vehicles. Hours of service regulations identify the **maximum amount of on-duty time** as well as the **maximum amount of driving time.** The hours-of-service regulations also require breaks in driving time and/or on-duty time, some of which require the driver to be off-duty and/or rest in the sleeper berth of the vehicle. There are distinctions in the regulatory requirements for short-haul operations as well as different requirements for property versus passenger vehicles. The hours-of-service regulations also require electronic logging devices to monitor and record driving operations; however, the regulations prescribe separate operation logs for occasional drivers.

150 AIR-MILE RADIUS EXEMPTION

Most drivers in the retail propane industry are covered by what is known as the 150 Air-Mile Radius Exemption which exempts drivers from maintaining an hours-of-service logbook. In the propane industry, this typically applies to drivers who operate bobtails and cylinder trucks that transport propane locally. The exemption applies even when crossing state lines.

This exemption specifically applies to drivers who:

- Operate within a 150 air-mile radius of the normal work reporting location.
- Return to the work reporting location before the end of each shift.
- Are released from work within 12 consecutive hours.
- Have 10 consecutive hours off duty separating each 12 hours on duty.
- Do not exceed 11 hours driving time following 10 consecutive hours off duty.

Even if you qualify for this exemption, you must record your hours of service.

The employer is required to maintain six months of accurate time records showing:

- The time you report and are released from duty each day.
- The total number of hours you are on duty.

HOURS OF SERVICE RULES FOR OVER THE ROAD DRIVERS AND DRIVERS NOT SUBJECT TO 150 AIR MILE RADIUS EXEMPTION

Drivers who travel long distances and/or over an extended period are considered "over-the-road" drivers and follow a different set of hours-of-service rules.

For example, most propane transport drivers will not qualify for the 150 air-mile radius exemption because they drive more than 150 miles from the home terminal and may be away overnight.

The also may be times that a bobtail or cylinder delivery driver may travel outside the 150 air-mile radius exemption.

DOT has established the following rules for these drivers:

- **11-Hour Driving Rule**

  Drivers may drive a maximum of 11 hours after which you must have at least 10 consecutive hours off duty before driving again.

- **60/70 Hours-of-Service Rule**

  Drivers may not drive after being on duty 60 hours in seven consecutive days, or 70 hours in eight consecutive days. Drivers may "restart" your 60 or 70-hour clock after having at least 34 consecutive hours off duty.

- **14 Consecutive Hours On-Duty Rule**

  Drivers must have at least 10 consecutive hours of rest after 14 consecutive hours on duty. The 14-hour on-duty period can be extended by two hours if the driver was released from duty at your normal work location for the previous five duty periods and are released from duty at that location within 16 hours. Drivers can use this exception only once in a seven-/eight-day period unless the driver has had at least 34 consecutive hours off duty.

  There are several exemptions that extend on-duty times, pause driving times, or waive break requirements, and drivers can identify if any of these apply to their operations by reviewing the regulations at 49 CFR 395.

- **Maintaining Time Records**

  Each company should have an established set of procedures to help ensure driver compliance with the hours-of-service regulations. Drivers should be trained and take time to understand the HOS requirements.

  As mentioned previously, most bobtail drivers operate under the 150 air-mile radius exemption. Drivers under this exemption are not required to complete a driver's daily logbook like an over-the-road driver would. However, all drivers must record their start time, release time, and total on-duty hours as a minimum.

  Drivers who travel outside the 150-mile radius must maintain a driver's daily log for that day.

Regulation References:

- ***49 C.F.R. Part 395*** – Hours of Service of Drivers
- ***49 C.F.R. Part 395, Appendix A*** – Functional Specifications for All Electronic Logging Device

Additional Resource(s):

- ***Summary of Hours of Service Regulations:*** An online side-by-side chart of property and passenger hours of service regulations by FMCSA to briefly identify maximum driving, on-duty, and off-duty requirements.
- ***Guidance Q&A:*** An online list of questions and answers by FMCSA regarding each provision of the hours of service regulations.
- ***Electronic Logging Devices:*** A website by FMCSA to detail the minimum requirements for ELDs to educate ELD manufacturers, motor carriers, drivers, and enforcement professionals.

EMERGENCY DECLARATIONS

The Federal Motor Carrier Safety Administration (FMCSA) allow for a Declaration of Emergency that temporarily waives regulations in Part 390-399 of the Code of Federal Regulations.

A Declaration of Emergency is based on an emergency event, natural or manmade, with the purpose to support motor carriers' direct assistance to provide relief for those impacted by the emergency event. The regulations permit a state governor, or authorized representative, to produce a Declaration of Emergency for his/her state.

FMCSA has authority to produce a regional Declaration of Emergency applicable to multiple states. A Declaration of Emergency produced by a state governor, authorized representative, or FMCSA is applicable to motor carrier operations that provide relief to the state(s) identified in the Declaration of Emergency regardless of the motor carriers' location of origin.

Regulation References:

- ***49 C.F.R. Part 390.23*** – Relief from Regulations

Additional Resource(s):

- ***General Emergency FAQs:*** An online series of questions and answers by FMCSA on the scope and applicability of emergency declarations.
- ***Emergency Declarations, Waivers, Exemptions and Permits:*** An online list of emergency declarations by FMCSA and states.
- ***Hours of Service Waivers:*** A webpage by the National Propane Gas Association that lists active emergency declarations by FMCSA and states that apply to propane motor carrier operations.
- ***Guidance for States on Relief from Federal Motor Carrier Safety Regulations in an Energy Emergency:*** A guidance document on emergency declarations by FMCSA and state governors produced by the National Association of State Energy Officials in consultation with the National Propane Gas Association and FMCSA.

PART 4: RAILCAR REGULATIONS

SHIPMENT REQUIREMENTS

The Pipeline and Hazardous Materials Safety Administration (PHMSA) shares jurisdiction with the Federal Railroad Administration (FRA) on the regulation of hazardous materials transportation via railroad. PHMSA requirements on shipping papers, placarding, marking, etc. extend to railcars containing hazardous materials.

PHMSA regulations also mandate various safety features that must be present on railcars that transport propane. In addition, PHMSA regulations extend to procedures to ensure proper odorization of propane that is transported via railcar.

Regulation References:

- 49 C.F.R. Part 173, Shippers
  - ***49 C.F.R. 173.31*** – Preparation of Hazardous Materials for Transportation: Use of tank cars
  - ***49 C.F.R. 173.314*** – Compressed gases in tank cars and multi-unit tank cars

Additional Resource(s):

- ***Railroad Safety:*** A website by FRA that connects to safety guidance documents, accident data, reports, and investigations.

HANDLING AND UNLOADING

The Pipeline and Hazardous Materials Safety Administration (PHMSA) shares jurisdiction with the Federal Railroad Administration (FRA) on the regulation of hazardous materials transportation via railroad. PHMSA regulations apply to railcar inspections, safety features, prompt movement, etc. PHMSA also regulates the process to unload railcars containing propane.

Regulation References:

- 49 C.F.R. Part 174, Carriage by Rail
  - ***49 C.F.R. 174, Subpart A*** – General Requirements
  - ***49 C.F.R. 174, Subpart B*** – General Operating Requirements
  - ***49 C.F.R. 174, Subpart C*** – General Handling and Loading Requirements
  - ***49 C.F.R. 174, Subpart D*** – Handling of Placarded Rail Cars, Transport Vehicles and Freight Containers
  - ***49 C.F.R. 174, Subpart F*** – Detailed Requirements for Class 2 (Gases) Materials

PART 5:
FEDERAL MOTOR CARRIER SAFETY REGULATIONS (FMCSR)

WHAT IS FMCSR?

Federal Motor Carrier Safety Regulations (FMCSR) is a compendium of rules and regulations of the Federal Motor Carrier Safety Administration (FMCSA) that apply to the motor carrier industry, including private and exempt motor carriers.

The regulations relate to such diverse areas as requirements for registration as a motor carrier, broker, or freight forwarder, safety, financial responsibility, driver qualification, hours-of-service, and maintenance of vehicles.

Generally, when completing the driver qualification folder for your commercial drivers, you may issue an FMCSR Handbook to your driver. They may sign the tear page inside the front cover, acknowledging receipt of the book and agreeing to familiarizing themselves with the regulations. That tear page may be included in their driver qualification file.

As stated, the FMCSR is a compendium of the 49 CFR rules applying to the operation of commercial drivers and commercial motor vehicles. Each book has a table of contents and an index to make information easier to find. Some of the important information you may need to know for successful operation of your delivery fleet are in this book.

Some of the rules included in the FMCSR Handbook are:

- Driving of Commercial Motor Vehicles
  - Applicable Operating Rules
  - Railroad Crossings
  - Seat Belts
  - Emergency Signals
- Safe Operation of CMV
  - Lamps, Reflective Devices, Electrical Wiring
  - Brakes
  - Windows and Glass
  - Fuel System
  - Emergency Equipment
  - Cargo Securement
- Inspection, Repair, and Maintenance
  - General Requirements
  - Lubrication
  - Post Vehicle Inspection
  - Pre-trip Inspection
- Periodic Inspection
- Inspector Qualifications
- Parking Rules
- Employee Safety and Health Standards

SECTION 3: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

INTRODUCTION TO OSHA

With the Occupational Safety and Health Act of 1970, Congress created the Occupational Safety and Health Administration (OSHA) to ensure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance.

OSHA is part of the United States Department of Labor. The administrator for OSHA is the Assistant Secretary of Labor for Occupational Safety and Health. OSHA's administrator answers to the Secretary of Labor, who is a member of the cabinet of the President of the United States.

The OSH Act covers most private sector employers and their workers, in addition to some public sector employers and workers in the 50 states and certain territories and jurisdictions under federal authority.

The U.S. Occupational Safety & Health Administration (OSHA) develops and enforces regulations on workplace safety, which extends beyond a facility to include materials, vehicles, and equipment. OSHA regulations set requirements applicable to daily operations, employer-employee communication, and recordkeeping and reporting to OSHA. The agency also sets requirements for emergency planning as well as storage and handling regulations specifically for propane and other hazardous materials.

OSHA regulations are federally mandated to apply across the country. State occupational agencies may request permission from OSHA to deviate from the federal agency requirements regarding specific provisions. These deviations may add regulatory requirements not present under the federal OSHA regulations, set standards above the OSHA regulations, increase the industries subject to a set of federal OSHA regulations, or make other distinctions. All OSHA-approved state occupational agencies are listed on OSHA's website.

- ***About OSHA:*** An overview of the federal agency and general resources provided by OSHA.
- ***State Plans:*** A listing of OSHA-approved state plans that deviate from federal OSHA regulations.

The Regulatory Summaries serve to provide a brief overview of regulations applicable to propane companies. The Regulatory Summaries are not exhaustive, however, and it is recommended that readers familiarize him/herself with the regulations directly. The Regulatory Summaries do not include state-specific information. The Regulatory Summaries are provided solely for informational purposes. It is not to be construed as legal advice or legal guidance. PERC and NPGA expressly disclaim any liability associated with the accuracy or content of the information contained in this document.

TITLE 29 CODE OF FEDERAL REGULATIONS (29 CFR)

29 CFR - Labor is another one of the fifty titles comprising the United States Code of Federal Regulations, containing the principal set of rules and regulations issued by federal agencies regarding labor. **There are several parts to 29 CFR where OSHA provides rules involving workplace safety in several industries, we will focus on two. They are:**

- **29 CFR 1910 - General Industry**
  OSHA's 1910 standards apply to the workplace in many industries. They are what's commonly known as horizontal standards. OSHA uses the term "general industry" to refer to all industries not included in agriculture, construction or maritime. General industries are regulated by OSHA's general industry standards, directives, and standard interpretations.
- **29 CFR 1926 – Construction**
  OSHA's 1926 standards apply to workplace safety related to activities where construction is involved.

OSHA SECTION TABLE OF CONTENTS

PART 1: GENERAL REGULATIONS ON EQUIPMENT, FACILITIES, AND OPERATIONS

GENERAL DUTY CLAUSE

The Occupational Safety and Health Act of 1970 (OSH Act) created the Occupational Safety and Health Administration (OSHA) with a selection of specific responsibilities and duties. The General Duty Clause of the OSH Act mandates that "each employer shall furnish to each of his employees' employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees." To achieve this, the General Duty Clause also mandates that employers follow the safety and health regulations created by OSHA.

Regulation References:

- ***29 USC 654*** – General Duty Clause of the OSH Act of 1970

Additional Resource(s):

- ***Elements necessary for a violation of the General Duty Clause:*** A letter of interpretation by OSHA staff that identifies the elements or factors that must be present to demonstrate an employer violated the General Duty Clause. A letter of interpretation is not the same as a regulation or rulemaking but is subject to the interpretation of an OSHA staff and written in response to a specific question. A letter of interpretation may be modified or changed by another interpretation letter without notice or public engagement.
- ***Small Business Handbook:*** An online publication by OSHA that details general safety, training, and inspection regulations required by OSHA.

WARNINGS AND PHYSICAL HAZARDS

The Occupational Safety and Health Administration (OSHA) sets standards for the **sanitation and conditions of workplace facilities.**

The regulations include minimum requirements with respect to the number of employees, **color code markings to warn of physical safety hazards,** and accident prevention signs and tags for equipment.

The regulations also mandate written training programs for employees with different exposure or access to machines and equipment. The regulations also require procedures and tools to **lockout/tagout** access to machines, equipment, and other energized sources. In the propane industry and as an example, employees troubleshooting electrical components of bulk plant pumps and compressors need to be aware of these OSHA requirements to avoid electrical shock hazards for their safety.

OSHA also requires employers to obtain permits and satisfy specific conditions for employees to work in **confined spaces.** The regulations describe minimum work equipment, retrieval, and emergency procedures as well as employee training and supervising for work in confined spaces. An example in the industry may be an employee that needs to enter the inside of a bulk plant tank or a cargo tank to conduct a visual inspection. Confined space entry training must be completed in accordance with the company written plan before an employee may enter a confined space for their safety.

Regulation References:

- ***29 C.F.R. 1910 Subpart J*** – General Environmental Controls

Additional Resource(s):

- ***Lockout/Tagout Program:*** A thorough online overview of lockout/tagout requirements, training, and examples produced by OSHA.
- ***Appendix A to Section 1910.147 – Typical Minimal Lockout Procedure:*** An example by OSHA of a lockout procedure applicable to the lockout/tagout requirements.

ELECTRICAL SYSTEMS

The Occupational Safety and Health Administration (OSHA) sets standards for the design of electrical systems as well as the safe work practices, maintenance requirements, and safety requirements for special equipment. The regulations distinguish training requirements for 'qualified' workers with specific electrical training and 'unqualified' workers who may perform work functions near electrical systems.

The regulations also detail additional safeguards for personal protective equipment and tools including the use of portable power tools, electrical cords and Ground Fault Circuit Interrupters (GFCI).

Regulation References:

- ***29 C.F.R. 1910 Subpart S*** – Electrical

Additional Resource(s):

- ***Controlling Electrical Hazards:*** An overview briefing by OSHA regarding electrical system regulations, safety protocols, and hazards across the General Industry and Construction Industry.

In addition to the OSHA regulations that apply to electrical systems, NFPA 70E includes codes that apply to electrical safety. Certain electrical troubleshooting performed by propane industry employees may require specific PPE for arc-flash protection especially on higher voltage components found in bulk or industrial plant electrical systems such as motor control centers.

GENERAL MATERIALS HANDLING AND STORAGE

The Occupational Safety and Health Administration (OSHA) details requirements for the use of mechanical equipment, such as:

- Forklift trucks,
- Overhead cranes,
- Truck cranes, and
- Slings,
- As well as requirements to securely store and maintain the equipment.

The regulations also specify the method and frequency of servicing equipment that handles materials and stores materials at the workplace and/or worksite.

OSHA requirements include the handling and storage of equipment fuel and batteries.

The regulations also prescribe the minimum training requirements and refresher training for employees who use mechanical equipment, including forklifts, cranes, and slings. The requirements include periodic inspection of mechanical equipment, as well.

Regulation References:

- ***29 C.F.R. Part 1910, Subpart N*** – Materials Handling and Storage

Additional Resource(s):

- ***Materials Handling and Storage:*** A thorough online outline by OSHA to answer questions on moving, handling, and storing materials and equipment.
- ***Guidance on Safe Sling Use:*** An online overview by OSHA to provide additional information on the use of slings to move and handle materials.

PERSONAL PROTECTIVE EQUIPMENT

The Occupational Safety and Health Administration (OSHA) sets minimum standards for the design of personal protective equipment as well as the type of personal protective equipment that must be worn at the performance of certain work functions. An example of PPE used in the propane industry is the vinyl-coated or similar gloves employees wear to protect their hands any time they transfer liquid propane. Eye and face protection is another example such as when handling methanol or grinding metal and other surfaces.

The regulations describe training requirements for different types of personal protective equipment.

The agency also details requirements for personal fall protection systems, which is separate but related to *Walking Working Surfaces* regulations.

OSHA regulates personal protective equipment in two segments of the federal regulations: *General Industry Standards*, and *Construction Industry Standards*. This summary addresses the *General Industry Standards* for *Personal Protective Equipment*.

Regulation References:

- ***29 C.F.R. 1910 Subpart I*** – Personal Protective Equipment

Additional Resource(s):

- ***Personal Protective Equipment:*** An online overview by OSHA of personal protective equipment standards, hazards, purchase, and Construction Industry Standards.

WALKING AND WORKING SURFACES

The Occupational Safety and Health Administration (OSHA) prescribes minimum standards for all walking-working surfaces across all workplaces. The regulations include specifications on the use, condition, maintenance, inspection, and repair of all surfaces utilized by employees to perform work functions. This includes floors, egresses, ladders, stairways, docks, scaffolds, etc. The regulations also detail requirements for fall protection applicable to a variety of equipment. The regulations specify training requirements, including mandatory topics as well as training intervals.

Regulation References:

- ***29 C.F.R. Part 1910, Subpart D*** – Walking Working Surfaces

Additional Resource(s):

- ***Walking Working Surfaces and Personal Fall Protection Systems Frequently Asked Questions:*** An overview by OSHA of the walking-working surfaces and personal fall protection system regulation, and a list of frequently asked questions and answers.
- ***Fact Sheet - OSHA:*** An overview of the walking-working surfaces and personal fall protection system regulation including various types of equipment specifically identified in the regulation as well as options for protection.

PORTABLE POWER TOOLS

The Occupational Safety and Health Administration (OSHA) regulates the handling and storage of portable powered tools. The regulations define the types of powered tools subject to the requirements. The requirements specify the use, inspection, and maintenance of the tools.

Regulation References:

- ***29 C.F.R. Part 1910, Subpart P*** – Electrical

Additional Resource(s):

- ***Hand and Power Tools:*** An overview booklet by OSHA that outlines the regulatory requirements for the use, training, and inspection of power tools.

MACHINERY AND MACHINE GUARDING

The Occupational Safety and Health Administration (OSHA) prescribes the types of guarding and safe handling of all machinery, including metal cutting machinery. The guards provided around fixed or portable liquid pumps or vapor compressors are included in this regulation. These guards are meant to protect employees from the hazard of moving motors, belts and pulleys. The regulations include the safe storage and operation of machinery equipment as well as inspection requirements.

Regulation References:

- ***29 C.F.R. 1910 Subpart O*** – Machinery and Machine Guarding

Additional Resource(s):

- ***Machine Guarding eTool:*** An online resource by OSHA that details requirements by types of equipment, common accidents and prevention techniques, and additional resources.

INJURY AND ILLNESS RECORDKEEPING AND REPORTING

The Occupational Safety and Health Administration (OSHA) requires that employers maintain records of illnesses and injuries incurred by employees while performing work functions. The agency distinguishes requirements according to the number of employees. The regulations identify recording criteria for different types of illnesses and injuries. In addition to recordkeeping, OSHA requires periodic reporting of recordable illnesses and injuries to the government, which varies according to the number of employees.

Regulation References:

- ***29 C.F.R. 1904*** – Recording and Reporting Occupational Injuries and Illnesses

Additional Resource(s):

- ***Appendix A to Subpart E of Part 1904:*** A list of industries that are required to complete annual electronic illness and injuries forms for submission to OSHA.
- ***OSHA Injury and Illness Recordkeeping and Reporting Requirements:*** A website by OSHA to provide information on the injury and illness recordkeeping and reporting requirements for a variety of industries and businesses of different sizes. Additional resources include reporting forms, training modules, and news releases on changes to the reporting requirements.

TRUCK CRANES IN CONSTRUCTION

The Occupational Safety and Health Administration (OSHA) regulates the operation of various types of truck cranes under General Industry standards and under *Construction Industry* standards. This summary addresses OSHA requirements for truck cranes that operate in construction.

In November 2018, a final rulemaking action by OSHA addressed when the *Truck Cranes in Construction* regulation applies to propane companies that operate a truck crane at a construction site: *Propane field technician operators would fall under the crane rule in only one very specific and limited scenario: Installation of new tanks (not replacement of existing tanks in kind) at a construction site.*

When operating a truck crane in construction, OSHA regulations require truck crane operator training and third-party certification as well as other regulatory requirements for the inspection and operation of truck crane equipment, signals, and site preparation.

Regulation References:

- ***29 C.F.R. 1926.1400*** – Subpart CC – Cranes and Derricks in Construction

Additional Resource(s):

- ***Cranes and Derricks in Construction: Operator Qualification, OSHA:*** November 2018 final rulemaking action by OSHA that states at page 56234 when the truck cranes in construction regulation applies to propane companies that operate a truck crane.
- ***Cranes & Derricks in Construction:*** A website by OSHA to provide an overview, frequently asked questions, and other information on federal OSHA rulemakings for the use of truck cranes in construction.
- ***Crane Training Resources:*** PERC Mobile Crane training program resources.
- ***PERC Learning Center:*** PERC Learning Center to access Mobile Crane training online.

EXCAVATION IN CONSTRUCTION

The Occupational Safety and Health Administration (OSHA) sets regulations for the minimum safety requirements for open excavations. The regulations include underground installations, access, and egress requirements as well as minimum requirements for inspections and protective systems.

Regulation References:

- ***29 C.F.R. 1926.650*** – Subpart P – Excavations

Additional Resource(s):

- ***Trenching and Excavation:*** A website by OSHA to provide an overview of regulatory requirements and procedures for trenching and excavation work that may apply to underground installations of propane tanks, among other equipment.
- ***OSHA Fact Sheet Trenching and Excavation Safety:*** An overview fact sheet by OSHA to summarize the regulatory requirements for trenching and excavation activities.

TRUCK CRANES GENERAL INDUSTRY

The Occupational Safety and Health Administration (OSHA) regulates the operation of various types of truck cranes under General Industry standards and under Construction Industry standards. This summary addresses OSHA requirements for truck cranes that operate under the general industry standards.

Crane truck operators working under the general industry standard must be designated by the employer that they are qualified to operate a truck crane. You may reference the links below that will provide educational resources that PERC provides to assist in qualifying crane operators that perform duties under the general industry standards.

- ***Materials Handling and Storage - Crawler locomotive and truck cranes.***

  "Designated personnel." Only designated personnel shall be permitted to operate a crane covered by this section.

  "Designated" means selected or assigned by the employer or the employer's representative as being qualified to perform specific duties.

- ***Electrical - Selection and use of work practices.***

  "General." Safety-related work practices shall be employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts when work is performed near or on equipment or circuits which are or may be energized. The specific safety-related work practices shall be consistent with the nature and extent of the associated electrical hazards.

- ***PERC Mobile Crane training program resources.***
- ***PERC Learning Center to access Mobile Crane training online.***

PART 2: EMERGENCY PLANNING AND RESPONSE INFORMATION

EMERGENCY AND FIRE SAFETY

The Occupational Safety and Health Administration (OSHA) requires emergency action plans and fire prevention plans as well as safeguards and features for exit routes in case of an emergency.

The regulations also set design and construction requirements for exit routes. The requirements include minimum components to emergency and fire prevention plans, including written documentation, and training of employees regarding the plans.

Regulation References:

- ***29 C.F.R. 1910 Subpart E*** – Exit Routes and Emergency Planning

Additional Resource(s):

- ***Emergency Preparedness and Response:*** A website by OSHA to provide information on general preparedness as well as response to specific natural disasters. Additional information on related OSHA regulations and training for employees.

EMERGENCY ACTION PLAN

An emergency action plan (EAP) is a written document required by OSHA standards. The purpose of an EAP is to facilitate and organize employer and employee actions during a workplace emergency, disaster, or crisis. The plan must be kept in the workplace and available for employees to review. OSHA also requires that employees be trained appropriately on the plan.

According to OSHA, there are several components to any Emergency Action Plan:

- Provide responses to different types of emergencies. The way you would respond to a tornado would be different than the way your company would handle a chemical spill, an earthquake, or a fire.
- Include an evacuation plan for every section of the facility.
- Keep a list both inside and outside your building that includes the names, phone numbers, addresses and emergency contact info for every employee and worker who may be on site and a method for accounting for all employees after the evacuation.
- Document the contact information and responsibilities for outside responders such as fire, police, utility providers, who will assist in an emergency.
- List employee procedures and roles including the reporting of the emergency and the procedures for individuals who may remain behind to perform critical operations after an evacuation.
- Include the responsibilities and contact information of the response commander; emergency coordinator; floor monitors; and individuals who will assist the physically challenged or perform other medical and rescue duties.
- Perform routine checks to ensure that everyone remembers their specific role and responsibility in handling catastrophes.
- Implement a communication plan, a method to inform every employee that the EAP has been implemented.

OSHA requires training on the emergency action plan to all employees. Employees need to be trained when the following occurs:

- An employee is assigned initially to a job.
- An employee's responsibilities under the plan changes.
- The plan is changed.

OSHA recommends annual refresher training and drills for all employees.

FIRE EXTINGUISHER TRAINING

OSHA requires employers to provide education to their employees if they require them to utilize a fire extinguisher in the workplace. The standards are designed to provide options to comply with the intent of the standard as follows:

- One option that does not require education on how to use a fire extinguisher is to require all employees to evacuate from the workplace in the event of a fire alarm.
- Another option is to only educate certain employees to use fire extinguishers in the workplace while all others evacuate immediately upon an alarm.
- The final option is to permit all employees to use a fire extinguisher and provide education on the proper use.

Where an employer has provided portable fire extinguishers for employee use in the workplace, the employer shall also provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage firefighting and training in the use of appropriate equipment. The education shall be provided upon initial employment and at least annually thereafter.

In meeting the requirements of these standards, the employer may provide educational materials, without classroom instruction, using employee notice campaigns using instruction sheets or flyers or similar types of informal programs; or he may provide onsite training which exposes employees to the actual "feeling" of firefighting by simulated fires for training employees in the proper use of extinguishers.

OSHA also provides standards for inspection, maintenance, and testing of fire extinguishers that you need to be familiar with as it applies to your workplace.

The link below will take you to the standards that apply.
OSHA regulations that provide an employer different options.

FIRE PREVENTION PLAN

The purpose of the fire prevention plan is to prevent a fire from occurring in the workplace. It describes the fuel sources (hazardous or other materials) on site that could initiate or contribute both to the spread of a fire, as well as the building systems, such as fixed fire extinguishing systems and alarm systems, in place to control the ignition or spread of a fire.

A fire prevention plan must be in writing, be kept in the workplace, and be made available to employees for review. However, an employer with 10 or fewer employees may communicate the plan orally to employees.

At a minimum, your fire prevention plan must include:

- A list of all major fire hazards, proper handling and storage procedures for hazardous materials, potential ignition sources and their control, and the type of fire protection equipment necessary to control each major hazard.
- Procedures to control accumulations of flammable and combustible waste materials.
- Procedures for regular maintenance of safeguards installed on heat-producing equipment to prevent the accidental ignition of combustible materials.
- The name or job title of employees responsible for maintaining equipment to prevent or control sources of ignition or fires.
- The name or job title of employees responsible for the control of fuel source hazards.

An employer must inform employees upon initial assignment to a job of the fire hazards to which they are exposed. An employer must also review with each employee those parts of the fire prevention plan necessary for self-protection.

Regulation References:

- ***29 C.F.R. 1910 Subpart L*** – Fire Protection

Additional Resource(s):

- ***Emergency Preparedness and Response:*** A website by OSHA to provide information on general preparedness as well as response to specific natural disasters. Additional information on related OSHA regulations and training for employees.

FIRST AID AND MEDICAL SERVICES

The Occupational Safety and Health Administration (OSHA) sets requirements for the supplies and administering of first aid and other medical services. The regulations include minimum supplies that must be available as well as an appendix detailing non-mandatory first aid kits.

Regulation References:

- ***29 C.F.R. 1910 Subpart K*** – Medical and First Aid

Additional Resource(s):

- ***Medical and First Aid:*** A website by OSHA to provide information on the regulatory requirements as well as additional resources and guides for first aid programs and supplies.

PART 3: PROPANE AND HAZARDOUS MATERIALS REGULATIONS

STORAGE AND HANDLING OF LPG

The Occupational Safety and Health Administration (OSHA) prescribes regulations on the storage and handling of liquefied petroleum gas (LPG or propane), which overlaps with regulations by the U.S. Department of Transportation as well as state regulations and codes, like NFPA 58. The OSHA regulations cover odorization, equipment and systems, container construction, testing, and placement inside as well as outside buildings, piping, valves, hosing systems, and safety devices. The OSHA regulations also cover fire protection and protocols for propane bulk storage locations.

Regulation References:

- ***29 C.F.R. 1910.110*** – Storage and handling of liquefied petroleum gases

STORAGE AND HANDLING OF COMPRESSED GASES

The Occupational Safety and Health Administration (OSHA) regulates the storage and handling of all hazardous materials, which overlaps with regulations by the U.S. Department of Transportation as well as state regulations and codes, like NFPA 58.

The OSHA regulations include general requirements for all compressed gases, including gases used to purge propane containers and gases utilized in metal cutting, welding, and construction of containers.

The regulations set requirements for inspection and use of compressed gases. The regulations also detail requirements for employee safety and training site and a method for accounting for all employees after the evacuation.

Regulation References:

- ***29 C.F.R. 1910 Subpart H*** – Hazardous Materials

Additional Resource(s):

- ***Chemical Hazards and Toxic Substances:*** A website by OSHA to provide an overview of hazardous materials and pertinent regulations as well as additional resources to assist with compliance.
- ***Hazardous Waste Operations and Emergency Response:*** A fact sheet by OSHA to provide an overview of the regulations on hazardous waste disposal and response plans, which may apply to operations that produce hazardous waste as a byproduct of purging operations or container manufacturing. ***Hazardous Waste Operations and Emergency Response Overview.***

HAZARD COMMUNICATION STANDARD (HAZCOM)

To ensure chemical safety in the workplace, information about the identities and hazards of the chemicals must be available and understandable to all workers.

OSHA's Hazard Communication Standard (HCS) requires the development and dissemination of such information:

- Chemical manufacturers and importers are required to evaluate the hazards of the chemicals they produce or import and prepare labels and safety data sheets to convey the hazard information to their downstream customers.
- All employers with hazardous chemicals in their workplaces must have labels and safety data sheets for their exposed workers, and train them to handle the chemicals appropriately.

The Occupational Safety and Health Administration (OSHA) sets minimum standards for communication with commercial operations and employees on hazards present in materials and products.

The Hazardous Communication Standard covers employee communication plans and training as well as labels and markings with specific font, color, sizing, and symbol requirements. It is routinely updated to align with international shipping and labeling standards.

The regulations prescribe separate but similar communication requirements according to company operation, such as chemical manufacturer, distributor, etc. The requirements cover all substances that present a health, safety, or environmental hazard.

The regulations detail specific training requirements for employees handling hazards as well as employees who may work near hazards located at the workplace.

Regulation References:

- ***29 C.F.R. 1910.1200*** – Hazardous Communication

Additional Resource(s):

- ***Hazard Communication Standard:*** A website by OSHA to provide an overview of the requirements of the hazard communication regulation as well as frequently asked questions, guidance, labeling diagrams, and Safety Data Sheets. The website also lists join guidance by OSHA and other regulatory agencies, like the U.S. Department of Transportation, and foreign agencies, such as Health Canada.

SECTION 4: UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

INTRODUCTION TO EPA

The Environmental Protection Agency (EPA) was established in December 1970 by the executive order of President Richard Nixon. EPA is an agency of the United States federal government whose mission is to protect human and environmental health. Headquartered in Washington, D.C., the EPA is responsible for creating standards and laws promoting the health of individuals and the environment.

EPA works to ensure that:

- Americans have clean air, land, and water.
- National efforts to reduce environmental risks are based on the best available scientific information.
- Federal laws protecting human health and the environment are administered and enforced fairly and effectively.

The EPA develops and enforces regulations on emissions, chemicals, and environmental impacts. EPA regulations are primarily divided among specific programs, of which some have thresholds on the volume of a chemical that must be present to trigger the requirement to comply with the program. Some EPA regulations require communication with local authorities. In general, EPA regulations preempt state, territorial, and local regulatory requirements to the extent that there is a conflict. However, states may apply for a waiver from the EPA to establish a more stringent or alternative regulatory program.

The Regulatory Summaries included here serve to provide a brief overview of the EPA regulations that may be applicable to the storage of propane. The Regulatory Summaries are not exhaustive, however, and it is recommended that readers familiarize him/herself with the regulations directly. The Regulatory Summaries do not include state-specific information; however, a link is provided, if available, so you can determine your state requirements.

There are four topics that will be covered in this handbook. They are:

Part 1: Emergency Planning and Community Right-to-Know Reporting

Part 2: Risk Management Program

Part 3: Alternative Fuel Engine Conversion

Part 4: Hazardous Waste Generator Program

PART 1: EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW

The Emergency Planning and Community Right-to-Know Act (EPCRA) was passed in 1986 in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals. These concerns were triggered by the 1984 disaster in Bhopal, India, caused by an accidental release of methylisocyanate. The release killed or severely injured more than 2,000 people.

To reduce the likelihood of such a disaster in the United States, Congress imposed requirements for federal, state, and local governments, tribes, and industry. These requirements covered emergency planning and "Community Right-to-Know" reporting on hazardous and toxic chemicals. The Community Right-to-Know provisions help increase the public's knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. States and communities, working with facilities, can use the information to improve chemical safety and protect public health and the environment.

COMMUNITY RIGHT TO KNOW — SERCS, TERCS, AND LEPCS

The Governor of each state designated a State Emergency Response Commission (SERC). The SERCs, in turn, designated about 3,500 local emergency planning districts and appointed Local Emergency Planning Committees (LEPC) for each district.

The SERC supervises and coordinates the activities of the LEPC, establishes procedures for receiving and processing public requests for information collected under EPCRA, and reviews local emergency response plans.

The Chief Executive Office of the Tribe appoints the Tribal Emergency Response Commissions (TERC). TERCs have the same responsibilities as the SERCs.

The LEPC membership must include, at a minimum, local officials including police, fire, civil defense, public health, transportation, and environmental professionals, as well as representatives of facilities subject to the emergency planning requirements, community groups, and the media. The LEPCs must develop an emergency response plan, review it at least annually, and provide information about chemicals in the community to citizens.

HAZARDOUS CHEMICAL REPORTING

Section 312(a) of the Emergency Planning and Community Right-to-Know Act (EPCRA) requires the owner or operator of facilities subject to Section 311 of EPCRA to **submit an emergency and hazardous chemical inventory form by March 1 of each calendar year** to the SERC, the LEPC, and the local fire department.

What chemicals are included in reporting?

You must report the required information on the Tier II inventory form for each hazardous chemical as defined under 29 CFR 1910.1200(c) (HazCom) present at your facility in the previous calendar year in quantities equal to or greater than established threshold amounts (discussed below), unless the chemicals are excluded under Section 311(e) of EPCRA as specified above. Hazardous chemical means any hazardous chemical as defined under 29 CFR 1910.1200(c) except that such term does not include substances excluded from section 311(e), as described above.

What this means is for all chemicals not considered an Extremely Hazardous Substance (EHS), if the chemical is included on your hazardous chemical list in your Hazard Communication Program, you must submit if you store at or above the threshold quantity.

Extremely hazardous substance or "EHS" shall mean any chemical which may, as a result of short-term exposures because of releases to the air, cause death, injury, or property damage due to its toxicity, reactivity, flammability, volatility, or corrosivity.

If you are storing gasoline or diesel, for gasoline, the RQ is 75,000 gallons, for diesel it's 100,000 gallons. ***For all other hazardous chemicals, including propane, for which facilities are required to have or prepare a Safety Data Sheet, the minimum reporting threshold is 10,000 pounds.***

FEDERAL TIER II REPORTING

Owners or operators of facilities that have hazardous chemicals present at the facility at any one time in quantities equal to or greater than set threshold levels must submit either a Tier I or Tier II form by March 1 annually regarding information on hazardous chemicals present at the facility in the previous calendar year.

STATE TIER II REPORTING

All states currently require facilities to submit the federal Tier II inventory form, or the state developed Tier II inventory form in hard copy or the electronic format including online reporting and certification. Facilities should contact their state for the specific requirements for that state. The following link will take you to the state reporting requirements.

www.epa.gov/epcra/state-tier-ii-reporting-requirements-and-procedures

WHERE TO SUBMIT

Send a completed Tier II form to each of the following organizations:

- Your State Emergency Response Commission (SERC); The state reporting website will give you transmitting instructions, by mail or electronically; Fees may apply to submit at the state level.
- Your Local Emergency Planning Committee (LEPC); The city or county LEPC information can be found online.
- The fire department with jurisdiction over your facility.

Regulation References:

40 C.F.R. Part 370 – Hazardous Chemical Reporting: Community Right-to-Know

Additional Resource(s):

- ***Emergency Planning and Community Right-to-Know Act:*** A website by EPA that provides an overview of the applicable legislation as well as emergency planning and release guidance for facilities that store hazardous chemicals. ***www.epa.gov/epcra***
- ***Tier II Forms and Instructions:*** An online database by EPA of information, forms, and additional guidance for the completion of Tier II requirements. ***www.epa.gov/epcra/tier-ii-forms-and-instructions***
- ***State Tier II Reporting Requirements and Procedures:*** An online listing by EPA of state requirements for similar Tier II reporting. ***www.epa.gov/epcra/state-tier-ii-reporting-requirements-and-procedures***

PART 2: RISK MANAGEMENT PROGRAM AND PLAN

RMP RULE

The Environmental Protection Agency (EPA) requires facilities that store above a threshold of specified hazardous substances to develop a Risk Management Plan (RMP).

The threshold quantity for propane is 10,000 pounds. The regulations provide an exemption from the RMP requirements for facilities that store 10,000 pounds or more of propane:

- If the propane serves as fuel for the facility; or
- If the propane is held for sale at a retail facility.
  - A retail facility is a location where more than half of the income is direct sales to end-users, or more than half of the propane sold, by volume, is through a cylinder exchange program.

The EPA regulations specify deadlines for the initial and recurring submission of RMPs.

Section 112(r) of the Clean Air Act Amendments requires EPA to publish regulations and guidance for chemical accident prevention at facilities that use certain hazardous substances. These regulations and guidance are contained in the Risk Management Plan (RMP) rule.

The RMP rule requires facilities that use extremely hazardous substances to develop a Risk Management Plan which:

- Identifies the potential effects of a chemical accident,
- Identifies steps the facility is taking to prevent an accident, and
- Spells out emergency response procedures should an accident occur.

These plans provide valuable information to local fire, police, and emergency response personnel to prepare for and respond to chemical emergencies in their community. Making RMPs available to the public also fosters communication and awareness to improve accident prevention and emergency response practices at the local level.

The RMP rule was built upon existing industry codes and standards. It requires facilities that use listed regulated Toxic or Flammable Substances for Accidental Release Prevention to develop an RMP and submit that plan to EPA.

Facilities holding more than a threshold quantity of a regulated substance in a process are required to comply with EPA's Risk Management Program regulations. The regulations require owners or operators of covered facilities to implement a risk management program and to submit an RMP to EPA.

The Risk Management Plan Rule Overview can be accessed at the following link: www.epa.gov/rmp/risk-management-plan-rmp-rule-overview

Each facility's program should address three areas:

- Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases.
- Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and
- Emergency response program that spells out emergency health care, employee training measures, and procedures for informing the public and response agencies, such as the fire department, should an accident occur.

The plans are revised and resubmitted to EPA every five years.

The rule includes a List of Regulated Substances under section 112(r) of the Clean Air Act, including their synonyms and threshold quantities (in pounds) to help assess if a process is subject to the RMP rule.

The list can be accessed here: www.epa.gov/rmp/list-regulated-substances-under-risk-management-plan-rmp-program

These regulated substances are also subject to the requirements of the general duty clause. Where the Clean Air Act Section 112(r) program has been delegated to a state, that state may have additional requirements for the federally listed chemicals, and/or additional listed chemicals.

Propane is listed with a Reporting Quantity threshold of 10,000 pounds.

The EPA has a manual specifically as RMP Guidance for Propane Storage Facilities that can be accessed at the following link: www.epa.gov/rmp/rmp-guidance-propane-storage-facilities-main-text

PROPANE EXEMPTION

If you have more than 10,000 pounds of propane, you are subject to part 68 unless one of the following applies to you:

- The propane is stored for use as a fuel at your facility.
- The propane is held for sale, and the facility is a retail facility. A retail facility is one at which more than half of the income is obtained from direct sales to end users or at which more than half the fuel sold, by volume, is sold through a cylinder exchange program.

For more information, access the following website:
www.epa.gov/rmp

Regulation References:

- ***40 C.F.R. Part 68*** – Chemical Accident Prevention Provisions

Additional Resource(s):

- ***Risk Management Plan (RMP) Rule:*** A website by EPA that provides an overview of the RMP requirements as well as guidance and policy fact sheets.
- ***RMP Guidance for Propane Storage Facilities:*** A guidance document by EPA specifically for propane facilities that are subject to the RMP.

PART 3: ALTERNATIVE FUEL ENGINE CONVERSION

The Environmental Protection Agency (EPA) regulates aftermarket conversions of vehicle engines. Multiple EPA regulations apply to the aftermarket conversion process to permit what otherwise would constitute tampering as well as to ensure the aftermarket engine conversion satisfies standards for emissions and air pollutants. Manufacturers that create aftermarket conversions must also satisfy engine-testing procedures. The EPA regulations also apply to aftermarket conversions of nonroad spark-ignition engines. In addition to regulations applicable to manufacturers of aftermarket conversions, EPA also regulates the installation of aftermarket conversions, which includes procedures, proper labeling, recordkeeping, etc. Beyond EPA regulations, some state governments apply additional regulations applicable for aftermarket conversions installed within the state, which coordinate with the standards on emissions and air pollutants in the state.

Regulation References:

- ***40 C.F.R. Part 80*** – Regulation of Fuels and Fuel Additive
- ***40 C.F.R. Part 85*** – Control of Air Pollution from Mobile Sources
  - ***Subpart F*** – Exemption of Clean Alternative Fuel Conversions from Tampering Prohibition
  - ***Subpart V*** – Emissions Control System Performance Warranty Regulations and Voluntary Aftermarket Part Certification Program
- ***40 C.F.R. Part 86*** – Control of Emissions from New and In-use Highway Vehicles and Engines
- ***40 C.F.R. Part 88*** – Clean-Fuel Vehicles
  - ***Subpart A*** – Emission Standards for Clean-Fuel Vehicles
  - ***Subpart C*** – Clean-Fuel Fleet Program
- ***40 C.F.R. Part 600*** – Fuel Economy and Greenhouse Gas Exhaust Emissions of Motor Vehicles
- ***40 C.F.R. Part 610*** – Fuel Economy Retrofit Devices
- ***40 C.F.R. Subpart U*** – Air Pollution Controls
- ***40 C.F.R. Part 1065*** – Engine-Testing Procedures
- ***40 C.F.R. Part 1068*** – General Compliance Provisions for Highway, Stationary, and Nonroad Programs
- ***40 C.F.R. Part 90*** – Control of Emissions from Nonroad Spark-Ignition Engines at or below 19 Kilowatts
- ***40 C.F.R. Part 1048*** – Control of Emissions from New, Large Nonroad Spark-Ignition Engines
- ***40 C.F.R. Part 1051*** – Control of Emissions from Recreational Engines and Vehicles

Additional Resource(s):

- ***Vehicle and Engine Alternative Fuel Conversions:*** A website by EPA that provides an overview of applicable regulations, guidance, and procedures for compliance with aftermarket conversions of engines for alternative fuels.
- ***Lists of EPA-Compliant Alternative Fuel Conversion Systems:*** An online database by EPA to identify EPA-approved aftermarket conversion engines and systems, which is updated periodically but not automatically.

PART 4: HAZARDOUS WASTE GENERATOR PROGRAM

The Environmental Protection Agency (EPA) regulates the treatment, storage, and disposal of hazardous waste. Some secondary functions performed by propane operations may yield a small amount of hazardous waste. EPA regulations specify the storage and disposal procedures as well as recordkeeping requirements applicable to small quantities of hazardous waste. In addition, some states may regulate the storage and disposal of hazardous waste with variations according to volume. The Pipeline and Hazardous Materials Safety Administration (PHMSA) also specifies recordkeeping requirements for the storage and disposal of hazardous waste, which may be applicable to some propane operations.

Regulation References:

- ***40 C.F.R. Part 260, Subpart B*** – Hazardous Waste Management System: General; Definitions
- ***40 C.F.R. Part 262*** – Standards Applicable to Generators of Hazardous Waste
- ***49 C.F.R. Part 171, Subpart A*** – Applicability, General Requirements, and North American Shipments; Hazardous Waste
- ***49 C.F.R. Part 172, Subpart C*** – Shipping Papers, Hazardous Waste Manifest

Additional Resource(s):

- ***Hazardous Waste Generator Regulatory Summary:*** A website by EPA that provides an overview of applicable requirements for the treatment, storage, and disposal of hazardous waste.
- ***Categories of Hazardous Waste Generators:*** An online summary by EPA to assist in the identification of very small quantity, small quantity, and large quantity of hazardous waste generators.

SECTION 5: UNITED STATES DEPARTMENT OF HOMELAND SECURITY (DHS)

CHEMICAL FACILITY ANTI-TERRORISM STANDARDS (CFATS)

CFATS is the nation's first regulatory program focused specifically on security at high-risk chemical facilities. Managed by the Cybersecurity and Infrastructure Security Agency (CISA), the CFATS program identifies and regulates high-risk facilities to ensure they have security measures in place to reduce the risk that certain hazardous chemicals are weaponized by terrorists.

The Chemical Facility Anti-Terrorism Standards, codified at 6 C.F.R. part 27, are a set of United States federal government security regulations for certain high-risk chemical facilities that possess particular chemicals, called chemicals of interest at particular concentrations. Propane is listed as a "Chemical of Interest".

SCOPE AND APPLICABILITY

Under CFATS, a chemical facility is any establishment or individual that possesses or plans to possess any of the more than 300 chemicals of interest (COI) at or above the listed screening threshold quantity (STQ) for that specific chemical. These facilities must report their chemicals to CISA via an online survey, known as a Top-Screen. CISA uses the Top-Screen information a facility submits to determine if the facility is considered high-risk and must develop a security plan.

The CFATS regulation applies to facilities across many industries, including the propane industry.

Chemical security is not a temporary issue. As threats evolve, the Agency is committed to working with stakeholders to protect the nation's highest-risk chemical infrastructure.

HOW TO COMPLY

Access the following link to the CFATS website, www.cisa.gov/chemical-facility-anti-terrorism-standards

On the left side menu, click on Appendix A: Chemicals of Interest. Read the Appendix A CFATS Chemicals of Interest (COI) list.

If your facility possesses or plans to possess any chemical(s) listed at or above the threshold quantity in column 5, you must complete the top screen form and submit to CISA.

Notice that the Reportable Quantity (RQ) for butane and propylene are 10,000 pounds, but propane is 60,000 pounds.

PROCESS STEPS

CHEMICAL-TERRORISM VULNERABILITY INFORMATION (CVI)

Only CVI-certified individuals can access the CFATS-related applications. You must complete the CVI Training to become certified.

CVI ensures that information provided to CISA will be protected from public disclosure or misuse. Accordingly, CISA requires individuals in possession of CVI to safeguard it with equal care.

REGISTER YOUR FACILITY FOR CSAT ACCESS

The Chemical Security Assessment Tool (CSAT) is a secure, online portal that helps facilities maneuver through the CFATS process. The portal houses the CFATS-related applications.

Register your facility for access to CSAT. After registering your facility, CISA will email you a user identification and password to access CSAT.

- ***www.cisa.gov/cfats-process***
- ***https://csat-registration.dhs.gov/apex/,DanaInfo=.arfizigFj0j36L1521Qy7D+f?p=2200:1::::::***

SUBMIT A TOP-SCREEN AND RECEIVE A RISK DETERMINATION

The ***Top-Screen*** is a survey that starts the reporting process. All facilities have 60 days from the time they come into possession of COI to submit a Top-Screen. CISA reviews your Top-Screen using a ***risk-based methodology*** to determine if your facility is "high-risk." If you are deemed "high-risk", you will also receive a Tier of 1, 2, 3, or 4, with Tier 1 being the highest risk. Information to submit a ***Top-Screen*** is available at the website.

Once the top screen is filed, DHS will notify you what Tier you reside in and whether you must comply with the following steps.

COMPLETE AN ASSESSMENT AND SUBMIT A SECURITY PLAN

Tiered facilities must submit a ***Security Vulnerability Assessment (SVA) and a Site Security Plan (SSP) or an Alternative Security Plan (ASP)*** that meet the ***CFATS Risk-Based Performance Standards (RBPS)***. Tier 3 and 4 facilities also have the option to submit an ***Expedited Approval Program (EAP) SSP*** in lieu of an SSP or ASP.

The ***CSAT SVA/SSP Instructions*** provide a question-by-question walk through of the SVA and SSP/ASP surveys.

The ***CFATS RBPS Guidance*** assists high-risk chemical facilities in selecting security measures and activities—perimeter security, access control, personnel security, cyber security, and more—that are tailored to the tier level and unique considerations of the facility.

- ***Log in to CSAT*** to submit an SVA and an SSP/ASP.

AUTHORIZATION AND AUTHORIZATION INSPECTION (AI)

Upon receipt of an SSP or ASP from your facility (but not an EAP SSP), the Agency will review the documentation and make an initial determination as to whether it satisfies the requirements of the CFATS regulation. If the Agency finds that the requirements are satisfied, your facility will receive a Letter of Authorization.

A CISA Inspector will then be in contact to schedule an ***Authorization Inspection (AI)***. The AI will verify the content listed in the security plan is accurate and that existing and planned measures satisfy the RBPS requirements.

Note: If the SSP/ASP does not meet RBPS requirements, your facility must address the deficiencies and resubmit the SSP/ASP by the specified date.

SSP/ASP APPROVAL

If the Agency approves the SSP/ASP, your facility will receive a Letter of Approval and enter into the compliance cycle.

EAP SSP ACCEPTANCE

Tier 3 and 4 facilities also have the option of submitting an ***EAP SSP*** in lieu of an SSP or ASP. Your submission will be accepted if it is not found to be facially deficient. If accepted, your facility will not undergo the authorization process. Instead, you your facility will immediately enter into the compliance cycle.

COMPLIANCE INSPECTIONS

CISA Inspectors may conduct reoccurring ***Compliance Inspections (CI)*** to ensure your facility continues to fully implement the approved security measures.

For more information about the CFATS program, please email CFATS@hq.dhs.gov.

For technical assistance, call the Chemical Security Assessment Tool (CSAT) Help Desk at 1-866-323-2957 from Monday through Friday from 8:30 a.m. to 5 p.m. (ET).

SECTION 6: NATIONAL FIRE PROTECTION ASSOCIATION

INTRODUCTION TO NFPA AND NFPA CODES

WHO IS NFPA?

The National Fire Protection Association (NFPA) is a global self-funded nonprofit organization established in 1896 devoted to eliminating death, injury, property, and economic loss due to fire, electrical, and related hazards.

NFPA is widely known as a codes and standards organization. NFPA sees it as its mission to provide information and knowledge to fire safety professionals to keep updated with today's ever-changing environment. Over 300 codes and standards have been designed by NFPA to minimize the risk and effects of fire by establishing criteria for building, processing, design, service, and installation around the world. Its more than 200 technical code- and standard-development committees comprise more than 6,000 volunteers who vote on proposals and revisions in a process that is accredited by the American National Standards Institute. NFPA provides free read-only online access to its codes and standards.

For more information about NFPA, the following is a link to their website: www.nfpa.org

USING NFPA CODES

The NFPA codes are the most widely used set of codes in the United States. But, before you start to utilize NFPA 58, or any of the NFPA codes, you should start with chapter 1. Chapter 1 addresses important information about the particular code including the scope of the code, such as:

- The application of the code.
- Non-applicability, meaning what the code does not apply to.
- Retroactivity, a statement regarding whether something within the code shall be held retroactive to the current edition; and
- Equivalency, a statement about some other equipment or method used that can be deemed equivalent to the provisions of the code.

Each NFPA code will include a chapter on Referenced Publications. This is sometimes a lengthy list of reference material and standards used to create the code itself. References are made in this publication to some of them.

Finally, before you get into the details of the code document, there is always a listing of approved definitions. Keep one thing in mind, just because a definition you are looking for isn't there, doesn't mean it doesn't appear in another code. Remember the list of referenced documents.

Each code document includes a table of contents and an index to allow you to find appropriate language within the code that you are looking for.

The Annex – while not considered code, the Annex is included for informational purposes only. It is helpful explanatory material and is numbered to correspond with the applicable text paragraphs within the code.

NFPA codes can be viewed for free at the NFPA website www.nfpa.org

WHAT IS NFPA ROLE IN THE PROPANE INDUSTRY?

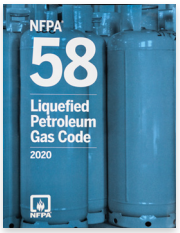
Model codes form the basis of law and may be adopted in whole or in part, with modifications, by various state and local governments. Today, the two primary model-code-making organizations are the NFPA and the International Code Council (ICC). ICC is addressed in Section 7.

WHAT ARE THE NFPA CODES APPLICABLE TO THE PROPANE INDUSTRY?

There are 373 code documents in the NFPA library and depending on what task is being performed any one of an undetermined number of those codes may apply to the industry. It is generally the responsibility of the Authority Having Jurisdiction to determine what codes apply to what activity.

We are going to address some of the more visible codes in use in the industry today.

NFPA 58 LP-GAS CODE



SCOPE AND APPLICATION

As stated previously, every NFPA code document will start out with scope and application in chapter 1. It is important to know and understand each code scope and application. Often, codes have been enforced or misinterpreted that were not under the jurisdiction of a particular code.

The scope of NFPA 58 applies to the storage, handling, transportation, and use of liquefied petroleum gas (LP-Gas).

Application of the code applies to operation of all LP-Gas systems including:

- Containers, piping, and associated equipment, when delivering LP-Gas to a building for use as a fuel gas.
- Highway transportation of LP-Gas.
- The design, construction, installation, and operation of marine terminals whose primary purpose is the receipt of LP-Gas for delivery to transporters, distributors, or users, except for marine terminals associated with refineries, petrochemicals, gas plants, and marine terminals whose purpose is the delivery of LP-Gas to marine vessels.
- The design, construction, installation, and operation of pipeline terminals that receive LP-Gas from pipelines under the jurisdiction of the U.S. Department of Transportation (DOT) whose primary purpose is the receipt of LP-Gas for delivery to transporters, distributors, or users. Coverage begins downstream of the last pipeline valve or tank manifold inlet.

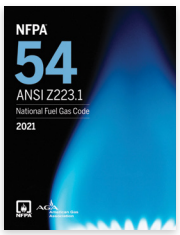
USING NFPA 58

NFPA 58, together with NFPA 54, the National Fuel Gas Code, are the two most used code books for making propane installations in the industry.

Like many other documents, there is a table of contents and an index making it easier to find the information you need. The following are topics that generate some of the most common frequently asked questions:

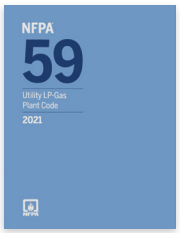
- Fire Safety Analysis (FSA) requires a written FSA for installations over 4,000 gallons water capacity.
- Operation and Maintenance Plan (O&M) requires bulk and industrial plant operators to develop a written Operation and Maintenance plan for the facility.
- Emergency planning for the response to inadvertent release of LP-Gas, fire, or security breach.
- Attendance when transferring fuel, loading, and unloading.
- Provisions for loading and unloading
  - Bobtail
  - Transport
  - Railcar
  - Containers
- Training Requirements: requires persons to be provided training that is consistent with the scope of their job activities including proper handling and emergency response procedures.
- Cylinder Inspection prior to filling, including face seal inspection.
- Container Evacuation by only trained and qualified individuals.
- Requirements for Cathodic Protection for underground steel containers and piping and including requirements for testing.

NFPA 54 ANSI Z223.1 NATIONAL FUEL GAS CODE



NFPA 54 is a safety code that applies to the installation of fuel gas piping systems and testing requirements, appliances, equipment, and related accessories. Coverage and applicability of the code is defined in Chapter 1 – Administration.

NFPA 59 UTILITY GAS PLANT CODE



NFPA 59, applies to the design, construction, location, installation, operation, and maintenance of refrigerated and non-refrigerated utility gas plants including LP-Gas containers, piping, and associated process equipment and controls and fire protection.

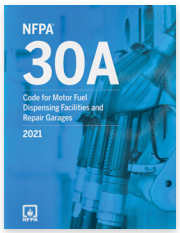
The purpose of the NFPA 59 standard is to provide direction for minimum fire protection, safety, and related requirements for the location, design, construction, security, operation, and maintenance of facilities that meet the definition of Utility Gas Plants.

If you are faced with operation in or around a Utility Gas Plant or a Jurisdictional System as defined in DOT Regulations, keep in mind that there can be overlaps and separations between the regulations and codes contained in NFPA 58, NFPA 59, and 49 CFR Part 192.

Also, keep in mind that there are overlaps and differences between NFPA 58 and 59 where the installation and operation of the facility is concerned.

Currently, NFPA 59 code section is only 38 pages. If you are involved with a utility plant, know the subtle differences and how they apply to you.

NFPA 30A CODE FOR MOTOR FUEL DISPENSING FACILITIES AND REPAIR GARAGES



NFPA 30A, applies to motor fuel dispensing facilities, motor fuel dispensing at farms and isolated construction sites, and on-demand mobile fueling. It also applies to motor vehicle repair garages.

The purpose of NFPA 30A is to provide reasonable safeguards for dispensing liquid and gaseous motor fuels into fuel tanks of automotive vehicles and marine craft.

This code applies where there are multiple fuels being dispensed, meaning it does not apply where LP-Gas is the only fuel being dispensed. In that case, NFPA 58 is the code document.

There is some overlap between NFPA 30A and NFPA 58. There are two activities being addressed in NFPA 30A. Those are dispensing where multiple fuels are on site and the separation distances between fuel dispensers.

The second is the activity of repair of the vehicle in the repair garage. NFPA 30A defines large repair garage and small repair garage. Obviously, the definitions are different and likewise, the activities and configuration of things like ventilation and lighting are different.

If you are involved with an autogas installation or a repair garage, it is advisable to become familiar with NFPA 30A.

NFPA 10 STANDARD FOR PORTABLE FIRE EXTINGUISHERS

NFPA 10 applies to the selection, installation, inspection, maintenance, recharging, and testing of portable fire extinguishers and Class D extinguishing agents. The code does not apply to permanently installed installations for fire extinguishment.

How does NFPA 10 apply to the propane industry?

While we all know that NFPA 58 has provisions for having a fire extinguisher on a delivery vehicle, at the bulk or industrial plant, at cylinder storage over 740 pounds aggregate, minimum 18 pounds A.B.C dry chemical, NFPA 10 is where the requirements come from for:

- Selection of different fire extinguishers for different classes of fire.
- Mounting not less than four inches nor more than five feet above floor or ground level.
- Placement in a path of egress.
- Placement of signs indicating presence of the extinguisher.
- Monthly Inspection and Annual Maintenance.

Keep in mind, there are overlaps between some codes. Fire extinguishers is a perfect example. NFPA 58 has some provisions for fire extinguishers. NFPA 10 is specific to portable fire extinguishers as mentioned above. Title 29 Code of Federal Regulations (OSHA) has provisions for fire extinguishers in the workplace as does Title 49 Code of Federal Regulations (Transportation) where transportation of hazardous materials in commerce is concerned.

Where the selection of fire extinguishers for delivery vehicles and at the bulk plant are concerned, NFPA 58 is more stringent than the other codes. NFPA 10 has it covered for the placement, mounting, inspection and maintenance. For other requirements within the workplace, 29 CFR would apply.

NFPA 704 STANDARD SYSTEM FOR THE IDENTIFICATION OF THE HAZARDS OF MATERIALS FOR EMERGENCY RESPONSE

NFPA 704 provides a system to address the health, flammability, instability, and related hazards that are presented by short term, acute exposure to material under the conditions of fire, spill, or similar emergencies. The standard is intended to provide a simple, readily recognized and easily understood system of markings that provides a general idea of the hazards of a material and the severity of these hazards as they relate to emergency response.

The system is intended to provide basic information to firefighters, emergency and other personnel, enabling them to easily decide whether to evacuate the area or to start emergency control procedures.

How does NFPA 704 apply to the propane industry?

Depending on your jurisdiction, an NFPA 704 placard may be required on the container in commercial and industrial installations.

SECTION 7: INTERNATIONAL CODE COUNCIL (ICC)

The International Code Council (ICC), established in 1994 and headquartered in Whittier, Calif., is a U.S. based membership association. It is dedicated to developing model codes and standards used in the design, build, and compliance process to construct safe, sustainable, affordable, and resilient structures in the built environment.

Historically, prior to 1994, model codes were prepared by code bodies such as Building Officials Code Administrators International, Inc. (BOCA) – the National Building Code (NBC); Southern Building Code Congress International (SBCCI) – the Southern Building Code (SBC); and the International Conference of Building Officials (ICBO) – the Uniform Building Code (UBC).

ICC members are building safety professionals concerned with health, safety, and welfare in the built environment. Members include building, fire, plumbing, mechanical, and energy officials representing federal, state, county, and municipal governments. ICC members also are architects, engineers, designers, builders, labor groups, contractors, elected officials, manufacturers, and other representatives of the construction industry.

THE ROLE OF ICC IN THE PROPANE INDUSTRY

Model codes form the basis of law and may be adopted in whole or in part, with modifications, by various state and local governments. Today, the two-primary model-code-making organizations are the National Fire Protection Association (NFPA) and the ICC.

The ICC publishes a family of codes referred to as the "I-codes". There are 15 of these, but some of the primary codes that may relate to the propane industry are:

- International Fire Code (IFC)
  - Chapter 61 applies to Propane
- International Fuel Gas Code (IFGC)
- International Building Code (IBC)

As a business operator, it is your responsibility to know what codes are applicable in the jurisdiction you reside in.

For more information about ICC, the following is a link to their website: www.iccsafe.org

SECTION 8: STANDARDS

INTRODUCTION TO INDUSTRY STANDARDS

A standard is a document that provides requirements, specifications, guidelines, or characteristics that can be used consistently to ensure that materials, products, processes, and services are fit for their purpose.

INTERNATIONAL STANDARDS ORGANIZATION (*ISO*).

Standards allow technology to work seamlessly and establish trust so that markets can operate smoothly:

- Provide a common language to measure and evaluate performance,
- Make interoperability of components made by different companies possible, and
- Protect consumers by ensuring safety, durability, and market equity.

Standards provide people and organizations with a basis for mutual understanding, and are used as tools to facilitate communication, measurement, commerce, and manufacturing. Standards are everywhere and play an important role in the economy, by facilitating business interaction.

Many of the standards from the organizations discussed in this handbook are incorporated into the codes we comply with today.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

The American Society of Mechanical Engineers (ASME), founded in 1880, is an American professional association that, in its own words, "promotes the art, science, and practice of multidisciplinary engineering and allied sciences around the globe" via "continuing education, training and professional development, codes and standards, research, conferences and publications, government relations, and other forms of outreach."

ASME is thus an engineering society, a standards organization, a research and development organization, an advocacy organization, a provider of training and education, and a nonprofit organization. Founded as an engineering society focused on mechanical engineering in North America, ASME is today multidisciplinary and global organization that maintains nearly 600 codes and standards in a wide range of disciplines. ASME has over 110,000 members in more than 150 countries worldwide.

Some of the ASME codes you might recognize that are referenced in and drive NFPA 58 are:

- ASME Section VIII (8) of the code is dedicated to pressure vessels. It gives detailed requirements for the design, fabrication, testing, inspection, and certification of both fired and unfired pressure vessels. Those companies that do anything in terms of those things listed above must comply with Section VIII.
- ASME Section IX (9) of the code relates to the qualification of welders, welding and brazing operators, and the procedures that they employ in welding and brazing; if you're an individual intending to weld or braze on gas piping, you must first certify in compliance with Section IX.
- ASME B31.3 Code for Pressure Piping contains requirements for piping typically found in petroleum refineries; chemical, pharmaceutical, textile, paper, semiconductor, and cryogenic plants; and related processing plants and terminals.
- ASME B16.5 Standard for Pipes and Fittings covers pressure-temperature ratings, materials, dimensions, tolerances, marking, testing, and methods of designating openings for pipe flanges and flanged fittings.

ASME has plenty more codes and standards where they came from, we have included a few that are commonly used in the propane industry. Take a few moments and review NFPA 58 referenced publications to get a feel for the various ASME codes you may have to comply with when asked to make an installation.

For more information about ASME, the following is a link to their website: www.asme.org

ASME BOILER AND PRESSURE VESSEL CODE

The largest ASME standard, both in size and in the number of volunteers involved in its preparation, is the ASME Boiler and Pressure Vessel Code (BPVC). The BPVC provides rules for the design, fabrication, installation, inspection, care, and use of boilers, pressure vessels, and nuclear components. The code also includes standards on materials, welding and brazing procedures and qualifications, nondestructive examination, and nuclear in-service inspection.

You may recognize that many of the propane containers used throughout the industry are manufactured to ASME standards.

For more information about BPVC, the following is a link to their website: www.asme.org/codes-standards/find-codes-standards/bpvc-complete-code-boiler-pressure-vessel-code-complete-set

NATIONAL BOARD OF BOILER AND PRESSURE VESSEL INSPECTORS

The National Board of Boiler and Pressure Vessel Inspectors (NBBI) was created in 1919 to promote greater safety to life and property through uniformity in the construction, installation, repair, maintenance, and inspection of pressure equipment.

The National Board membership oversees adherence to laws, rules, and regulations relating to boilers and pressure vessels. NBBI is composed of chief boiler and pressure vessel inspectors representing states, cities, and provinces enforcing pressure equipment laws and regulations.

NBBI publishes the National Boards Inspection Code, or NBIC. NBIC is a four-volume set applicable to ASME containers used in the propane industry.

Another document you may encounter with respect to those ASME containers are the forms generated when they are manufactured. The original is called a U-1A form. While it is not required for a manufacturer to register a container with the National Board, many do and have done so for many years.

If you do not have the U-1A for your container, and a NB# shows on the data plate, you can order the form from the National Board at the link below. There may be other forms associated with any given container, especially if it has been altered or repaired.

www.nationalboard.org/Index.aspx?pageID=113

There are several other forms promulgated under the NBIC, 13 in all, some of them applicable under varying conditions, such as if an ASME container is repaired or modified.

For more information about NBBI, the following is a link to their website: www.nationalboard.org

NATIONAL BOARD INSPECTION CODE

The National Board Inspection Code (NBIC) was first published in 1946 as a guide for chief inspectors. It has become an internationally recognized standard, adopted by most U.S. and Canadian jurisdictions. The NBIC provides standards for the installation, inspection, and repair and/or alteration of boilers, pressure vessels, and pressure relief devices.

The NBIC is organized into four parts to coincide with specific post-construction activities involving pressure-retaining items.

- **Part 1, Installation** – This part provides requirements and guidance to ensure all types of pressure-retaining items are installed and function properly. Installation includes meeting specific safety criteria for construction, materials, design, supports, safety devices, operation, testing, and maintenance.
- **Part 2, Inspection** – This part provides information and guidance needed to perform and document inspections for all types of pressure-retaining items. This part includes information on personnel safety, non-destructive examination, tests, failure mechanisms, types of pressure equipment, fitness for service, risk-based assessments, and performance-based standards.
- **Part 3, Repairs and Alterations** – This part provides information and guidance to perform, verify, and document acceptable repairs or alterations to pressure-retaining items regardless of code of construction. Alternative methods for examination, testing, heat treatment, etc., are provided when the original code of construction requirements cannot be met. Specific acceptable and proven repair methods are also provided.
- **Part 4, Pressure Relief Devices** – This part provides information and guidance to perform, verify, and document the installation, inspection, and repair of Pressure Relief Devices, including a supplemental section that contains specialized information, such as pressure margins, recommended repair practices, and test stand design details.

The NBIC is developed and maintained by a consensus committee composed of industry experts.

For more information about the NBIC, the following is a link to their website: www.nationalboard.org

AMERICAN NATIONAL STANDARDS INSTITUTE

The American National Standards Institute (ANSI) is a private non-profit organization that oversees the development of voluntary consensus standards for products, services, processes, systems, and personnel in the United States.

Among safety product standards, ANSI is the most familiar name. But while it's the most familiar, ANSI's role is often misunderstood. ANSI is a federation formed by standards writers and users, that manages the voluntary standards system in the United States.

ANSI is the sole U.S. representative member of the International Organization for Standardization (ISO). As a founding member of ISO, ANSI also plays an active role in its governance.

You may recognize ANSI standards within the propane industry. As a couple examples, NFPA 54 is an accredited ANSI standard (Z223.1) and most every piece of Personal Protective Equipment used in the industry conforms to an applicable ANSI standard.

For more information about ANSI, the following is a link to their website: www.ansi.org

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM International is one of the largest voluntary standards developing organizations in the world. A not-for-profit organization, ASTM provides a forum for the development and publication of international voluntary consensus standards for materials, products, systems, and services.

There are over 12,000 ASTM standards used all over the world to improve product quality, enhance health and safety, strengthen market access and trade, and to let customers know they can count on products. ASTM serves many industries, such as metals, construction, petroleum, consumer products, and more.

forms promulgated under the NBIC, 13 in all, some of them applicable under varying conditions, such as if an ASME container is repaired or modified.

For more information about ASTM, the following is a link to their website: www.astm.org

COMPRESSED GAS ASSOCIATION

Founded in 1913, the Compressed Gas Association (CGA) is dedicated to the development and promotion of safety standards in the industrial, medical, and food gases industries.

CGA maintains a library of over 300 publications, safety alerts, safety bulletins, technical bulletins, technical reports, training materials, and our Handbook of Compressed Gases. CGA's positions address safety and technical information related to the manufacture, transportation, storage, transfilling, and disposal of gases and the containers and valve which hold compressed gases. These publications are developed and maintained by CGA committees.

A couple of the CGA publications you may recognize are the CGA C-6 and CGA C-6.3, criteria used extensively in cylinder requalification.

For more information about the Compressed Gas Association, the following is a link to their website: www.cganet.com

SECTION 9: LISTING AGENCIES

INTRODUCTION

Whether private or public, independent standards or testing organizations, such as Underwriters' Laboratories, evaluate goods and materials according to specific criteria and allows its mark, called a listing mark to be carried on those goods and materials qualifying as a stamp of approval.

There are currently 19 Nationally Recognized Testing Laboratories (NRTL's) operating today that are recognized by OSHA. Underwriters Laboratories, CSA Group, and Factory Mutual are three that you might recognize the most.

UNDERWRITERS LABORATORIES

Underwriters Laboratories (UL), headquartered in Northbrook, Ill, is the largest and best known independent, not-for-profit testing laboratory in the world. UL conducts safety and quality tests on a broad range of products used in everyday life, including much of the equipment used in the propane industry. For example, take a few minutes and look for the UL stamp on the valves used in a propane container.

For more information about Underwriters Laboratories, the following is a link to the UL website: *ul.org*

CSA GROUP

CSA Group, formerly known as the Canadian Standards Association, was created by a merger with the American Gas Association. CSA Group is a global organization, headquartered in Toronto, Canada, dedicated to safety, social good, and sustainability. CSA is considered a leader in Standards Development and in Testing, Inspection, and Certification around the world including Canada, the U.S., Europe, and Asia.

The CSA Group develops standards in 57 areas. CSA publishes standards in print and electronic form and provides training and advisory services. CSA is composed of representatives from industry, government, and consumer groups.

For more information about CSA Group, the following is a link to their website: *www.csagroup.org*

FACTORY MUTUAL

FM Global is an American mutual insurance company based in Johnston, RI, with offices worldwide, that specializes in loss prevention services primarily to large corporations throughout the world in the highly protected risk property insurance market sector.

FM Approvals is the independent testing arm of international insurance carrier, FM Global. FM Approvals uses scientific research and testing to make sure products conform to the highest standards for safety and property loss prevention. Products that pass get the "FM APPROVED" mark.

For more information about Factory Mutual, the following is a link to their website: *www.fmglobal.com* or *www.fmapprovals.com*

WHAT IS THE ROLE OF LISTING AGENCIES IN THE PROPANE INDUSTRY?

There may be many reasons, but we'll explore two that go hand in hand. The first is standardization as stated in Section 8, Standards. Think about what would happen if every pipe and fitting supplier used a different thread design. Working hand in hand with ANSI and ASTM, by standardizing thread design, all pipe and fittings manufactured by any company will be interchangeable. This concept goes for a great many things we use in this business. Can you think of others?

The second is testing. A piece of equipment that has been listed by a particular agency will have gone through rigorous testing to ensure it operated safely, with integrity and as intended by the manufacturer. Although NFPA 54 includes provisions for listed and unlisted appliances, many AHJ's require listed equipment and appliances being installed within their jurisdictions.

ACRONYMS 101

- **AHJ** – Authority Having Jurisdiction
- **ANPRM** – Advanced Notice of Proposed Rule Making
- **ANSI** – American National Standards Institute
- **ASME** – American Society of Mechanical Engineers
- **ASP** – Alternative Security Plan
- **ASTM** – American Society for Testing and Materials
- **BOE** – Bureau of Explosives
- **BPVC** – Boiler and Pressure Vessel Code
- **CFATS** – Chemical Facility Anti-Terrorism Standards
- **CFR** – Code of Federal Regulations
- **CGA** – Compressed Gas Association
- **CISA** - Cyber Security and Infrastructure Security Agency
- **COI** – Chemical of Interest
- **CSA** – CSA Group
- **CSAT** – Chemical Security Assessment Tool
- **CVI** – Chemical Terrorism Vulnerability Information
- **DHS** – U.S. Department of Homeland Security
- **DOT** – Short Acronym for the U. S. Department of Transportation
- **EAP** – Emergency Action Plan
- **EAP** – Expedited Approval Program (CFATS)
- **EPA** – U.S. Environmental Protection Agency
- **EPCRA** – Emergency Planning and Community Right to Know Act
- **FM** – Factory Mutual
- **FMCSR** – Federal Motor Carrier Safety Regulations
- **FRA** – Federal Railroad Administration
- **FSA** – Fire Safety Analysis
- **GVWR** – Gross Vehicle Weight Rating
- **HazCom** – Hazard Communication
- **HMR** – Hazardous Materials Regulations
- **ICAO** – International Civil Aviation Organization
- **ICC** – International Code Council
- **IMDG** – International Maritime Dangerous Goods Code
- **ISO** – International Organization for Standardization
- **LEP**C – Local Emergency Planning Committee
- **LP, LPG, LP-Gas** – Liquefied Petroleum Gas
- **NB** – Short term for National Board
- **NBBI** – National Board of Boiler and Pressure Vessel Inspectors
- **NBIC** – National Board Inspection Code
- **NFPA** - National Fire Protection Association
- **NPG**A – National Propane Gas Association
- **NPRM** – Notice of Proposed Rule Making
- **O&M** – Operation and Maintenance
- **OSHA** – U.S. Occupational Safety and Health Administration
- **PERC** – Propane Education & Research Council
- **PHMSA** – Pipeline and Hazardous Materials Safety Administration
- **RMP** – Risk Management Plan
- **RQ** – Reportable Quantity
- **SAFER** – Security and Fitness Electronic Records System
- **SERC** – State Emergency Response Commission
- **SSP** – Site Security Plan
- **STQ** – Screening Threshold Quantity
- **SVA** – Security Vulnerability Assessment
- **TERC** – Tribe Emergency Planning Committee
- **UL** – Underwriters Laboratories
- **USDOT** – U.S. Department of Transportation