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**State of Wisconsin** \ Department of Commerce

# **RULES in FINAL DRAFT FORM**

**Rule No.:** Chapter Comm 40

**Relating to:** Gas Systems

**Clearinghouse Rule No.:** 04-054

COM-10535 (N.03/97)

The Department of Commerce proposes an order to repeal ss. Comm 40.41 and Comm 40.44 (2)(c); to renumber s. Comm 40.15; to renumber and amend s. Comm 40.49; to amend ss. Comm 40.01 (4), Comm 40.10 (1), (2)(a), (d) and (e), and (4) Note, Comm 40.11 (2), Comm 40.30 (2), Comm 40.43, Comm 40.51, Comm 40.52 and Comm 40.62; and to create ss. Comm 40.01 (1m), Comm 40.01 (5m) and (7), Comm 40.15 (2), Comm 40.19, Comm 40.30 (2)(d) and (e), Comm 40.44 (1) Note, and ch. Comm 40 subchs. VIII and IX, relating to gas systems.

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### **ANALYSIS OF PROPOSED RULES**

Statutory Authority: Sections 101.02 (15)(h) to (j), and 101.16, Stats.

Statutes Interpreted: Sections 101.02 (15)(h) to (j), and 101.16, Stats.

#### **General Summary**

Under section 101.02 (15) (h) to (j), Stats., the Department of Commerce has the authority for protecting the health, safety and welfare of the public by establishing reasonable and effective safety standards for the construction, repair and maintenance of public buildings and places of employment. Under section 101.16, Stats., the Department has the responsibility for developing rules specifically for the storage, handling and use of liquefied petroleum gas. Chapter Comm 40 currently contains minimum safety standards for the design, construction, installation, operation, inspection, repair and maintenance of liquefied petroleum gas systems, liquefied natural gas systems, and compressed natural gas systems. The proposed rules consist of an update of chapter Comm 40.

#### **Detailed Summary**

The following listing is a summary of the major changes in the proposed rules.

1. Adding gaseous hydrogen systems and liquefied hydrogen systems to the definition of gas systems. [SECTION 2]
2. Revising the requirements relating to the submittal information for plan examination. [SECTION 4]
3. Clarifying that 2 site inspections are included with the plan examination and inspection fees submitted in accordance with the fee schedule. [SECTION 7]
4. Adding a new rule for the reporting of accidents. [SECTION 8]
5. Updating the national standards currently incorporated by reference and deleting the standard for recreational vehicles. [SECTION 9]
6. Adding new National Fire Protection Association (NFPA) standards for gaseous hydrogen systems and liquefied hydrogen systems. [SECTION 10]

7. Applying the secondhand pressure vessel rules to all gas systems instead of only liquefied petroleum gas systems. [SECTION 15]

8. Requiring plan approval for liquefied natural gas installations where the aggregate water capacity will be 4000 gallons or larger. [SECTION 16]

9. Adding new subchapters for gaseous hydrogen facilities and liquefied hydrogen facilities. [SECTION 19]

## **Federal Comparison**

An Internet-based search of the *Code of Federal Regulations* (CFR) found the following existing federal regulations relating to liquefied petroleum gas, liquefied natural gas, compressed natural gas, gaseous hydrogen, and liquefied hydrogen as covered in the proposed update of chapter Comm 40.

- 29 CFR 1910.110 -- Storage and Handling of Liquefied Petroleum Gases. This regulation in the federal Department of Labor applies to the design, construction, location, installation and operation of liquefied petroleum gas systems.
- 33 CFR 127 Subpart B -- Waterfront Facilities Handling Liquefied Natural Gas. This regulation in the federal Department of Homeland Security applies to the marine transfer area of waterfront facilities handling liquefied natural gas.
- 29 CFR 1910.103 -- Hydrogen. This regulation in the federal Department of Labor applies to the installation of gaseous hydrogen systems and liquefied hydrogen systems on consumer premises.

These federal regulations appear to be very similar to the proposed rules. In addition to containing specific requirements for the various gas systems, the federal regulations incorporate by reference several national standards published by the NFPA, the American National Standards Institute, the Compressed Gas Association, and the American Society of Mechanical Engineers.

An Internet-based search of the 2003 and 2004 issues of the *Federal Register* did not find any proposed regulations relating to gas systems as covered in the proposed update of chapter Comm 40.

## **State Comparison**

An Internet-based search of adjacent states' rules found the following regulations that include requirements relating to liquefied petroleum gas, liquefied natural gas, compressed natural gas, gaseous hydrogen, and liquefied hydrogen.

- Minnesota incorporates by reference the 2000 edition of the International Fire Code (IFC) into the Minnesota State Fire Code. The IFC references NFPA standard numbers 50A, 50B, 52, 58 and 59A. These are the same NFPA standards that are included in the proposed rules.

- Michigan's Department of Environmental Quality administers rules relating to liquefied petroleum gas and liquefied natural gas. These rules adopt NFPA 58 and NFPA 59A. Michigan's Department of Consumer and Industry Services administers rules for compressed natural gas and hydrogen. These rules adopt NFPA 52 and federal Occupational Safety and Health Administration regulations 29 CFR 1910.103 for gaseous and liquefied hydrogen. These regulations cover the same gas systems as the proposed rules.
- Iowa's Division of the State Fire Marshal is responsible for the regulation of liquefied petroleum gas and liquefied natural gas in Iowa Administrative Code Chapter 51. That chapter adopts by reference NFPA standard numbers 54, 58 and 59A. The state of Iowa does not have rules for compressed natural gas or hydrogen.
- Illinois' Office of the State Fire Marshal has adopted rules relating to liquefied petroleum gas under Title 41, Chapter I Part 200. That part incorporates by reference NFPA standard numbers 54, 58, 59 and 501C, and API standard 2510. The state of Illinois does not have rules for liquefied natural gas, compressed natural gas or hydrogen.

**Advisory Council**

The proposed rules have been developed with the assistance of the Gas Systems Code Advisory Council. The members of that citizen advisory council are as follows:

<u>Name</u>	<u>Representing</u>
Ed Aldridge	Growmark, Inc.
Bruce Barganz	Wisconsin Fertilizer & Chemical Association
Tim Clay	Wisconsin Federation of Cooperatives
David A. Duey	ANGI International
Kingsley H. Forbes	National Propane Gas Association
Art Herschberger	Wisconsin Propane Gas Association
Gary Puljas	Wisconsin Fire Inspectors Association
Gene Reece	Wisconsin State Fire Chiefs Association
Timothy Temperly	City of Milwaukee
John Wehmeier	Wisconsin Utilities Association
Bob Willder	Wisconsin Agri-Service Association

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SECTION 1. Comm 40.01 (1m) is created to read:

**Comm 40.01 (1m)** “Certified inspector” means an individual who holds a valid credential issued by the department as a certified boiler-pressure vessel inspector.

SECTION 2. Comm 40.01 (4) is amended to read:

**Comm 40.01 (4)** “Gas systems” means liquefied petroleum gas systems, liquefied natural gas systems, ~~and~~ compressed natural gas systems, gaseous hydrogen systems and liquefied hydrogen systems.

SECTION 3. Comm 40.01 (5m) and (7) are created to read:

**Comm 40.01 (5m)** “Pressure vessel” means a container for the containment of pressure, either internal or external. This pressure may be obtained from an external source or by the application of heat from a direct or indirect source, or any combination thereof.

**(7)** “Secondhand pressure vessel” means a pressure vessel that has changed location subsequent to the original installation.

SECTION 4. Comm 40.10 (1), (2) (a), (d) and (e), and (4) Note are amended to read:

**Comm 40.10 Plan examination and approval. (1) DEPARTMENT APPROVAL.** Department plan approval shall be obtained before commencing construction of the gas system installations specified in ss. Comm 40.42, 40.51, ~~and~~ 40.61, 40.71 and 40.81.

**(2) (a)** At least 4 sets of plans, which are clear, legible and permanent copies; ~~one copy of 2~~ copies of applicable specifications; a completed application form; and the required fees.

**(d)** ~~The location, size~~ type of container heads; container diameter and length; and the location and capacity of each system and container.

**(e)** ~~The type of container supports;~~ foundation drawings with dimensions and clearances; ; pipng schematic indicating pipe materials, valves and fittings; surface area calculations of tank; type of venting and pressure relief used; pressure relief valve manufacturer, model number, set pressure and capacity; and combined capacity of all venting and relief valves on each container.

**(4) Note:** All forms referenced in this chapter are available at no charge from the department at the Safety and Buildings Division, P.O. Box 2509, Madison, WI 53701-2509, telephone 608/266-4848 ~~3151~~, or at the Safety and Buildings Web site at [www.commerce.wi.gov/SB/](http://www.commerce.wi.gov/SB/).

SECTION 5. Comm 40.11 (2) is amended to read:

**Comm 40.11 (2) ADDITIONS AND MODIFICATIONS.** Additions or modifications to gas systems after commencement of system operation shall be submitted for review and approval as a new installation. A modification shall include the replacement of parts or components only if they are not identical in function. Prior to start of fabrication, piping upgrades shall be inspected by the department.

SECTION 6. Comm 40.15 is renumbered Comm 40.15 (1).

SECTION 7. Comm 40.15 (2) is created to read:

**Comm 40.15 (2)** Plan examination and up to 2 site inspections are included with the plan examination and inspection fees specified in s. Comm 2.43. If more than 2 inspections are required, then the inspection fees shall be determined in accordance with s. Comm 2.04.

SECTION 8. Comm 40.19 is created to read:

**Comm 40.19 Reporting of accidents.** Whenever gas system equipment or system components fail and cause injury to any person, the owner or user shall report in writing on form SBD-10789 the facts involved to the department within the following 24 hours. The owner or user may not remove or disturb gas system equipment or any of its parts nor permit any such removal or disturbance prior to receiving authorization from the department, except for the purpose of saving human life or preventing further property damage. This section applies to those gas systems that are required to obtain department plan approval under s. Comm 40.10.

**Note:** Accidents are to be reported to the department at the Safety and Buildings Division, Inspection Support Unit, P.O. Box 7302, Madison, WI 53707-7302.

SECTION 9. Comm 40.30 (2) is amended to read:

**Comm 40.30 (2) STANDARDS.** The following standards are hereby incorporated by reference into this chapter, subject to the changes and additions specified in subchs. V to ~~VII~~ IX:

(a) *Liquefied petroleum gas standards.* 1. American Petroleum Institute, 1220 L Street Northwest, Washington D.C. 20005. Design and Construction of Liquefied Petroleum Gas Installations, API Standard 2510, ~~7<sup>th</sup>~~ 8<sup>th</sup> Edition, May ~~1995~~ 2001.

2. National Fire Protection Association, 11 Tracy Drive, Avon, MA 02322-9908. National Fuel Gas Code, NFPA No. 54-~~1996~~ 2002; Liquefied Petroleum Gas Code, NFPA No. 58-~~1998~~; 2004 ~~Recreational Vehicles, NFPA No. 501C 1996, Chapter 2 Fuel Systems and Equipment.~~

(b) *Liquefied natural gas standards.* National Fire Protection Association, 11 Tracy Drive, Avon, MA 02322-9908. Production, Storage and Handling of Liquefied Natural Gas (LNG), NFPA No. 59A-~~1996~~ 2001.

(c) *Compressed natural gas standards.* National Fire Protection Association, 11 Tracy Drive, Avon, MA 02322-9908. Compressed Natural Gas (CNG) Vehicular Fuel Systems, NFPA No. 52-~~1998~~ 2002.

SECTION 10. Comm 40.30 (2) (d) and (e) are created to read:

**Comm 40.30 (2) (d) *Gaseous hydrogen standards.*** National Fire Protection Association, 11 Tracy Drive, Avon, MA 02332-9908. Gaseous Hydrogen Systems at Consumer Sites, NFPA No. 50A-1999.

(e) *Liquefied hydrogen standards.* National Fire Protection Association, 11 Tracy Drive, Avon, MA 02332-9908. Liquefied Hydrogen Systems at Consumer Sites, NFPA No. 50B-1999.

SECTION 11. Comm 40.41 is repealed.

SECTION 12. Comm 40.43 is amended to read:

**Comm 40.43 Certificate of installation.** Every person, firm, association or corporation installing equipment using liquefied petroleum gas in containers of 125 gallons or larger water capacity shall complete a certificate of installation form SBD-9656. The certificate of installation form shall be completed at the time of installation, shall be kept at the liquefied petroleum gas installation and shall be available for review by an authorized representative of the department. For installations using containers of 2000 gallons or larger water capacity or having an aggregate water capacity of 4000 gallons or larger, a copy of the installation form shall also be submitted to the local fire department within 10 business days of the installation.

SECTION 13. Comm 40.44 (1) Note is created to read:

**Comm 40.44 (1) Note:** API standard 2510 covers the design, construction and location of liquefied petroleum gas installations at marine and pipeline terminals, natural gas processing plants, refineries, petrochemical plants, and tank farms.

SECTION 14. Comm 40.44 (2) (c) is repealed.

SECTION 15. Comm 40.49 is renumbered Comm 40.115 and Comm 40.115 (intro.) is amended to read:

**Comm 40.115 Secondhand pressure vessels.** (intro.) The use of secondhand pressure vessels, having a water capacity in excess of 2,000 gallons ~~and intended for liquefied petroleum gas service~~, shall be prohibited, unless all of the following conditions are satisfied:

SECTION 16. Comm 40.51 is amended to read:



**Comm 40.51 Approval of proposed installations.** Department plan approval shall be obtained before commencing construction on any liquefied natural gas installation using containers of 2000-gallon gallons or larger water capacity or where the aggregate water capacity will be 4000 gallons or larger on any liquefied natural gas installation. Plan examination information shall be submitted as specified in s. Comm 40.10.

SECTION 17. Comm 40.52 is amended to read:

**Comm 40.52 Certificate of installation.** Every person, firm, association or corporation installing liquefied natural gas equipment shall complete a certificate of installation form SBD-9656. The form shall be completed at the time of installation, kept at the installation site and available for review by an authorized representative of the department. A copy of the form shall be submitted to the local fire department within 10 business days of the installation.

SECTION 18. Comm 40.62 is amended to read:

**Comm 40.62 Certificate of installation.** Every person, firm, association or corporation installing compressed natural gas equipment shall complete a certificate of installation form SBD-9656. The form shall be completed at the time of installation, kept at the installation site and available for review by an authorized representative of the department. A copy of the form shall be submitted to the local fire department within 10 business days of the installation.

SECTION 19. Comm 40 Subchapters VIII and IX are created to read:

### **Subchapter VIII -- Gaseous Hydrogen Facilities**

**Comm 40.70 Scope. (1) APPLICATION.** This subchapter applies to the storage, handling and use of gaseous hydrogen in public buildings and places of employment.

**(2) EXEMPTIONS.** This subchapter does not apply to any of the following:

(a) Gaseous hydrogen facilities owned and operated by utilities when the facilities are part of the distribution system for the utility and are subject to the provisions of ch. PSC 135.

**Note:** Gaseous hydrogen facilities owned and operated for utility purposes by utilities are regulated by the Public Service Commission and are subject to ch. PSC 135, and the Natural Gas Pipeline Safety Act of 1968 (49 USC 1675, 49 CFR 192 - et. seq.).

(b) The transportation of gaseous hydrogen.

**Note:** The transportation of gaseous hydrogen is subject to the regulations of the federal Department of Transportation under Title 49 CFR Parts 171-179.

**Comm 40.71 Approval of proposed installations.** Department plan approval shall be obtained before commencing construction on a gaseous hydrogen facility installation, except department approval

is not required for vehicle fueling appliances used for outdoor fueling and having no storage capacity. Plan examination information shall be submitted as specified in s. Comm 40.10.

**Comm 40.72 Certificate of installation.** Every person, firm, association or corporation installing gaseous hydrogen equipment shall complete a certificate of installation form SBD-9656. The form shall be completed at the time of installation, kept at the installation site and available for review by an authorized representative of the department. A copy of the form shall be submitted to the local fire department within 10 business days of the installation.

**Comm 40.73 Design, construction, installation, operation and maintenance of gaseous hydrogen facilities.** Gaseous hydrogen facilities shall be designed, constructed, installed, operated and maintained as specified in the National Fire Protection Association standard NFPA No. 50A as incorporated by reference in s. Comm 40.30.

### **Subchapter IX -- Liquefied Hydrogen Facilities**

**Comm 40.80 Scope. (1) APPLICATION.** This subchapter applies to the storage, handling and use of liquefied hydrogen in public buildings and places of employment.

**(2) EXEMPTIONS.** This subchapter does not apply to any of the following:

(a) Liquefied hydrogen facilities owned and operated by utilities when the facilities are part of the distribution system for the utility and are subject to the provisions of ch. PSC 135.

**Note:** Liquefied hydrogen facilities owned and operated for utility purposes by utilities are regulated by the Public Service Commission and are subject to ch. PSC 135, and the Natural Gas Pipeline Safety Act of 1968 (49 USC 1675, 49 CFR 192 - et. seq.).

(b) The transportation of liquefied hydrogen.

**Note:** The transportation of liquefied hydrogen is subject to the regulations of the federal Department of Transportation under Title 49 CFR Parts 171-179.

**Comm 40.81 Approval of proposed installations.** Department plan approval shall be obtained before commencing construction on any liquefied hydrogen gas installation using containers of 2000 gallons or larger water capacity or where the aggregate water capacity will be 4000 gallons or larger. Plan examination information shall be submitted as specified in s. Comm 40.10.

**Comm 40.82 Certificate of installation.** Every person, firm, association or corporation installing liquefied hydrogen equipment shall complete a certificate of installation form SBD-9656. The form shall be completed at the time of installation, kept at the installation site and available for review by an authorized representative of the department. A copy of the form shall be submitted to the local fire department within 10 business days of the installation.

**Comm 40.83 Design, construction, installation, operation and maintenance of liquefied hydrogen facilities.** Liquefied hydrogen facilities shall be designed, constructed, installed, operated and maintained as specified in the National Fire Protection Association standard NFPA No. 50B as incorporated by reference in s. Comm 40.30.

(END)

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**EFFECTIVE DATE**

Pursuant to s. 227.22 (2)(intro.), Stats., these rules shall take effect on the first day of the month following publication in the Wisconsin Administrative Register.

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