

Department of Licensing and Regulatory Affairs, Bureau of Fire Services, Storage Tank Division
P.O. Box 30033, Lansing, MI 48909

**APPLICATION FOR INSTALLATION (PLAN REVIEW) OF
COMPRESSED NATURAL GAS (CNG) FUELING FACILITIES**

This information is required under Act 207 of the Public Acts of 1941, as amended, being Section 29.5c of the Michigan Compiled Laws Annotated. Any owner who knowingly fails to notify or submits false information shall be subject to a misdemeanor and/or civil penalties not to exceed \$200 per violation

NOTE: This form is to be used as a guideline. It is not intended to list all of the requirements that may be applicable. Existing installations that were in compliance with previous Rules do not have to alter equipment under these Rules unless specifically required to do so. **A PLAN REVIEW FEE OF \$203, PER 18,500 SCF, MUST BE INCLUDED WITH THIS APPLICATION.** Please direct any questions to the BUREAU OF FIRE SERVICES, STORAGE TANK DIVISION, at 517-241-8847.

FACILITY NAME		NEW ASSIGNED TANK NUMBER(S)		FACILITY ID NUMBER	
FACILITY STREET ADDRESS (PO BOX NOT ACCEPTABLE)		CONTACT PERSON (AT LOCATION)		AREA CODE & TELEPHONE NUMBER ()	
CITY		STATE MI	COUNTY	ZIP CODE	
SUBMITTER'S NAME		STREET ADDRESS		AREA CODE & TELEPHONE NUMBER ()	
CITY		STATE		ZIP CODE	
Number of storage cylinders:			Total SCF capacity:		

Section I: To be completed for CNG portion of system. See Section II for additional requirements for LNG portion of system.
Section 7.3.13 of the Rules requires a complete review by this Department when system is modified.

ITEM	DESCRIPTION	MANUFACTURER & PART NO.	ITEM	DESCRIPTION	MANUFACTURER & PART NO.
1.	CONTAINER DESIGN: Section 5.4: Shall be permanently marked "CNG" by manufacturer. ASME Section VIII or X; DOT/TC; ANSI NGV2; CSA B51; or 49 CFR 571.304.		4.	MANUALLY OPERATED CONTAINER/SHUTOFF VALVE: Section 7.11.1: Shall be provided for each container or group of containers.	
2.	LOCATION of SYSTEM: OUTDOORS Section 7.4.2: Distances to buildings, property lines, etc.		5.	BACKFLOW CHECK VALVE Section 7.11.2: Fill line to storage container must be equipped with a backflow check valve located as close as practicable to the storage container.	
3.	INDOORS Section 7.4.3: NUMBER OF EXTERIOR WALLS Section 7.4.3.4.3: at least one wall must be exterior.		6.	POINT of TRANSFER Section 7.4.2.8: Located at least 3 ft from container and 10 ft from building, street or sidewalk. LNG PoT must be at least 25 ft from container.	
	ACCESS Section 7.4.3.4.5: Access shall be from exterior of primary structure. Section 7.4.3.11: Access doors must have Warning Signs.		7.	METHANE DETECTOR - LNG Section 10.3.7: LNG system must have a methane detector located at point of transfer.	
	VENTILATION Section 7.4.3.5: ventilation shall allow uniform air movement.		8.	FOUNDATION Section 7.4.1.2: System must be placed on a firm foundation and system anchored. Section 10.8.3: Protect system from cryogenic exposure.	
	PRESSURE RELIEF Section 7.4.3.10: Pressure relief must terminate outdoors, upward, in safe direction.		9.	CORROSION PROTECTION Section 7.5.2: Protect system from corrosion.	
	GAS DETECTION Section 7.4.3.12: Gas detection system must sound alarm and visually indicate warning at 1/5 LFL.		10.	CHECK VALVE Section 7.3.13: Minimize liquid carryover between compression and storage.	

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ITEM	DESCRIPTION	MANUFACTURER AND PART NUMBER	ITEM	DESCRIPTION	MANUFACTURER AND PART NUMBER
11.	PIPING Section 5.8: Fabricated and tested in accordance with ANSI/ASME B31.3. Indicate type of pipe to be used. No threaded pipe underground. Joint or connection must be in accessible location.		20.	LEVEL GAUGE - LNG Section 13.10.2: LNG container must have liquid level gauge.	
12.	TRANSFER PIPING – LNG Section 10.3.3.1: Transfer piping must have isolation valve at both ends of LNG transfer piping.		21.	PRESSURE GAUGES - LNG Section 13.11.1: Shall be located at a point above maximum liquid level and have a permanent mark indicating MAWP of container.	
13.	CORROSION PROTECTION Section 7.9.1.3: Indicate form of corrosion protection to be used for piping.		22.	SECONDARY CONTAINMENT-LNG Section 10.2.2.3: LNG systems shall have means to protect system from flammable/combustible encroachment.	
14.	VENT PIPE/STACK: Section 7.9.2: Natural gas shall be vented only to a safe point of discharge; shall have the open end protected to prevent entrance of rain, snow, and solid material. Vertical vent pipes and stacks shall have provision for drainage.		23.	CANOPY/WEATHER PROTECTION Section 7.4.2.2: Weather protection shall be of non-combustible construction and designed for gas dispersal.	
15.	PRESSURE RELIEF Section 5.5.2 and 7.6.2.1: Shall be listed or approved. Installed so any discharge will be in a vertical position and fitted with suitable raincaps. Section 7.10.2: Pressure relief must be tested at least every 3 years and record made available to Department upon request.		24.	LOCATION OF DISPENSING EQUIPMENT Sections 7.4.2 and 7.4.3: Dispensing equipment shall located in accordance with these Rules.	
16.	SELF-CLOSING VALVE: Section 7.11.1.1: Shall be listed or approved. Shall be provided on the inlet of the compressor that will shut down the gas supply.		25.	EMERGENCY SHUTDOWN DEVICES (ESD) Section 7.11.5: ESD shall be located 10 ft to 25 ft from dispensing. The ESD must shutoff power and supply to dispensing system. The ESD must be distinctly marked.	
17.	BUILDING SHUTOFF Section 7.11.4: Outdoor gas piping into a building must have a shutoff outside the building.		26.	QUARTER TURN SHUTOFF VALVE Section 7.11.8.2: A fast closing, "quarter turn" manual shutoff valve is required upstream of the breakaway device, unless the dispenser is equipped with a self-closing valve that closes each time the control arm is turned to the "OFF" position or ESD is activated.	
18.	LOW TEMPERATURE SWITCH – LNG Section 10.9.3: LNG system must have a low temperature switch on outlet of vaporizer.		27.	HOSE AND CONNECTIONS: Section 7.9.3: Shall be listed or approved for CNG/LNG use. Hose and metallic hose shall be distinctly marked by the manufacturer.	
19.	COMPRESSOR: Section 7.3.8: Designed for use with CNG, and have pressure relief.		28.	VEHICLE FUELIGN CONNECTION/DEVICE Section 5.11 and 10.4.9: A fueling connector and mating vehicle receptacle shall be used for reliable, safe, and secure transfer of LNG or gas vapor to or from the vehicle, with minimal leakage.	

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ITEM	DESCRIPTION	MANUFACTURER AND PART NUMBER	ITEM	DESCRIPTION	MANUFACTURER AND PART NUMBER
29.	BREAKAWAY PROTECTION Section 7.11.6: Breakaway protection must be installed at every dispensing point.		34.	EMERGENCY RESPONSE PLAN Section 12.2.1: Facility must have an emergency response plan.	
30.	FIRE EXTINGUISHER Section 7.15: At a minimum, a portable fire extinguisher having a rating of not less than 20 B:C shall be located in the dispensing area.		35.	MAINTENANCE Section 10.13.1: LNG facility must have written preventative maintenance program with regular schedule for testing and inspection of at least every 6 years.	
31.	TEMPERATURE-CORRECTED FILL: Section 7.14.3: CNG dispensing systems shall be equipped to automatically stop fuel flow when a fuel supply container reaches temperature-corrected fill pressure.		36.	PHYSICAL PROTECTION Section 7.3.2: System equipment shall be protected to minimize the possibilities of physical damage and vandalism.	
32.	WARNING SIGNS Section 7.14.12: Warning signs must be posted at the dispensing and compressor areas.		37.	INSTALLATION VALIDATION Section 4.4: Refueling and storage equipment must be validated in accordance with this section, and re-validated at least every 4 years.	
33.	BARRIER/WALL – LNG L/CNG Section 10.2.1.7: Saturated LNG must have a wall/barrier between equipment and fueling action; only fuel hose is in front of wall/barrier.		38.	TYPE OF STATION Indicate if this station is to be open to the public or used solely for private motor fueling.	

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A plan review must be completed on a dispensing station, or an addition or modification to a dispensing station, including a residential fueling facility or vehicle-fueling appliance with storage.

The Department of Licensing and Regulatory Affairs has adopted the 2013 Edition of National Fire Protection Association (NFPA) 52, *Vehicular Gaseous Fuel Systems Code*, with Michigan amendments.

A request for plan review must include information on BFS-3860 and a plot map showing the following information:

- 1) The location of buildings, public streets, highways, roads, sidewalks, railroad main tracks and electric power lines.
- 2) The proposed location of CNG equipment, vessels, emergency shutoff device, dispensers and fire extinguishers.
- 3) The location of property lines and description of what is located on adjacent property.
- 4) The location of existing aboveground and underground tanks storing flammable or combustible liquids.
- 5) The location of the protective bollards, K-rails, etc. Parking configuration, traffic patterns (use direction arrows).
- 6) The location of the point of transfer in relation to the container(s), buildings, public sidewalks, highways, streets, roads, main line railroad tracks, the line of adjoining property that can be built upon, aboveground and underground tanks storing flammable or combustible liquids.

A plan review fee of \$203 per 18,500 SCF of storage must be received with the BFS-3860 form and a plot map. A plan review will not be completed without the plan review fee.

Make checks payable to the "State of Michigan". Mail the completed application with the required attachments and fee to:

LARA Cashiers Office UST/AST P.O. Box 30033 Lansing, MI 48909	<u>Overnight Mail</u> LARA Cashiers Office UST/AST 525 W Allegan Lansing, MI 48909
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The facility cannot be operated without approval from the Bureau of Fire Services. Please direct any questions to the Bureau of Fire Services, Storage Tank Division, at 517-241-8847.