

CHAPTER 13

FIRE REGULATIONS

ARTICLE I – LIQUEFIED PETROLEUM GAS

13-1-1 **DEFINITIONS.** The term “**liquefied petroleum gas**”, as used in this Code shall be construed to include any material composed predominantly of any of the following hydrocarbons or mixtures of them: propane, propylene, butane (normal butane or isobutane) and butylene.

“**Liquefied petroleum gas equipment**” shall mean all containers, apparatus, piping (not including utility distribution piping systems), and equipment pertinent to the storage and handling of liquefied petroleum gas. Gas-consuming appliances shall not be considered as being liquefied gas equipment.

13-1-2 **COMPLIANCE.** It shall be unlawful to produce, store or use liquefied petroleum gas, or to install or maintain any equipment for such production or use, unless such production, storage and utilization equipment is constructed and maintained in compliance with the provisions of this Code.

13-1-3 **INSPECTIONS.** It shall be the duty of the Building Inspector or such other officer or employee as may be designated by the Mayor to enforce the provisions of this Code and to make such inspections or tests as may be necessary in connection therewith. Wherever a test is necessary to determine whether any equipment or method complies with the standards prescribed, or referred to in this Code, the enforcing official may accept the results of a test conducted by or under the supervision of the Underwriters Laboratories, Inc.

13-1-4 **ODORIZING.** All liquefied petroleum gas used or stored in the Municipality shall be effectively odorized by an agent of such character as to indicate by a distinctive odor the presence of gas in the air down to a concentration of **one-fifth (1/5)** the lower limit of combustibility. The Building Inspector may make exceptions.

13-1-5 **CONTAINERS.** All containers used for liquefied petroleum gases shall be constructed according to the standards prescribed therefor in the “Standards of the National Board of Fire Underwriters for the Storage of Liquefied Petroleum Gases: as published in pamphlet form by the National Board of Fire Underwriters, hereinafter referred to as N.B.F.U. Pamphlet No. 58.

The maximum filling density (the percent ratio of the weight of gas in a container to the weight of water the container will hold at **sixty degrees Fahrenheit (60°F)**, shall be that prescribed in paragraph B. 11 (page 16) of N.B.F.U. Pamphlet No. 58.

No such container for use in connection with any building shall be located between the building and the street upon which the building abuts, nor within such building. The installation of such containers and location with reference to buildings shall be in accordance with the standards prescribed in N.B.F.U. Pamphlet No. 58.

13-1-6 EQUIPMENT. No equipment for the utilization of liquefied petroleum gas shall be installed in the Village unless a permit therefor shall have first been secured. When such installation is in a building being newly constructed or remodeled in accordance with a permit for such construction or remodeling, no extra fee for such permit shall be required. In other cases, applications for such permits shall be made to the Clerk and shall contain a description of the location, equipment and intended use of such equipment. The fee for such permits shall be **Fifteen Dollars (\$15.00).**

No such equipment shall be installed or used unless it complies with the standards therefor established in the N.B.F.U. Pamphlet No. 58.

13-1-7 LICENSE FOR PRODUCTION. It shall be unlawful to operate a plant for the production of liquefied petroleum gases, or for filling containers with such gases in the Village without first having secured a license therefor.

Applications for such licenses shall be made in writing to the Clerk, and shall conform to the general provisions of the ordinances relating to business licenses. The annual fee for such license shall be **Fifty Dollars (\$50.00).**

No such license shall be issued unless the premises and equipment thereon to be used in such activity are in full compliance with the standards prescribed in N.B.F.U. Pamphlet No. 58, and it shall be unlawful to conduct or operate such activity unless all buildings and equipment used in connection therewith comply with the standards prescribed in that bulletin.

13-1-8 LICENSE FOR STORAGE. It shall be unlawful to engage in the business of storing liquefied petroleum gases in the Municipality without first having secured a license therefor.

Applications for such license shall be made in writing to the Clerk and shall conform to the general provisions of the ordinances relating to business licenses. The annual fee for such license shall be **Fifty Dollars (\$50.00).**

No such license shall be issued unless the premises and equipment thereon to be used in such activity are in full compliance with the standards prescribed in N.B.F.U. Pamphlet No. 58, and it shall be unlawful to conduct or operate such activity unless all buildings and equipment used in connection therewith comply with the standards prescribed in that bulletin.

13-1-9 REGULATIONS ON STORAGE. No liquefied petroleum gases shall be stored in the Village except in compliance with the standards prescribed in N.B.F.U. Pamphlet No. 58. **[Copy available in Village Clerk's office.]**

13-1-10 COPIES OF N.B.F.U. PAMPHLETS. The Clerk shall keep on hand copies of the N.B.F.U. pamphlet herein referred to for inspection and distribution without charge, to any interested persons.

ARTICLE II – TRUCKS CARRYING EXPLOSIVES

13-2-1 **DEFINITIONS.** The following definitions shall apply in the interpretation of this Code, unless the context otherwise requires:

"Flammable Liquid" as used in this Article shall be construed to include gasoline, naphtha, benzene, kerosene, motor fuel oil or any other liquid having a flash point of **seventy degrees Fahrenheit (70°F)** or below, by the closed cup test method.

"Explosive" as used in this Article shall include any chemical compound and any mechanical mixture (including gases) containing any oxidizing and combustible units or other ingredients in such proportions, quantities or packing that an ignition by fire, friction, concussion, percussion or detonation of any part of the compound or mixture may cause sudden generation of highly heated gases so that the resultant gaseous pressures are capable of producing destructive effects; and the **"explosive"** shall include fixed ammunition, fireworks and other manufactured articles which contain explosives as defined above, but not fuses so constructed and packed as to render explosion impossible.

"Vehicle" shall include any vehicle, trailer, or semi-trailer propelled by mechanical, motor or muscular power, other than a railroad car on rails.

 (A) **Tank Truck.** Any motor vehicle used for the transportation of explosives, flammable liquids, or liquefied petroleum gases, which for such purpose is provided with a tank or tanks mounted on the frame or chassis of such vehicle.

 (B) **Tank Trailer.** Any vehicle without its own motive power but drawn by a motor vehicle, used for the transportation of explosives, flammable liquids, or liquefied petroleum gases, and which for such purpose is provided with a tank or tanks mounted thereon.

 (C) **Tank Semi-Trailer.** A vehicle of the trailer type having **one (1)** or more axles and **two (2)** or more wheels, so designed and used in conjunction with a motor vehicle that some parts of its own weight and that of its own load rests upon or is carried by another vehicle; used for the transportation of explosives and flammable liquids or liquefied petroleum gases and for which purpose is provided with a tank or tanks mounted thereon.

13-2-2 **RESTRICTED STREETS.** No person, firm or corporation shall drive, cause to be driven or otherwise bring any tank truck, tank trailer, tank semi-trailer, or other vehicle which transports as bulk cargo, explosives, flammable liquids or liquefied petroleum gases, excepting fuel oil, upon any of the streets or portions of the streets in the Village so designated by this Chapter.

13-2-3 **EXPLOSIVES.** It shall be unlawful to operate any vehicle containing explosives on any street in the Municipality except in compliance with the following rules:

 (A) No such vehicle shall be so operated unless it is marked, loaded and equipped in full compliance with all laws of the State of Illinois relating thereon.

 (B) No vehicle carrying explosives shall be parked or permitted to stand anywhere in the Municipality longer than is necessary to make a lawful delivery; provided that the standing of such vehicle made necessary by mechanical trouble, traffic conditions, accident or in obedience to the direction of a policeman or traffic signals shall not be considered a violation of this Section.

13-2-4 SLIPPERY PAVEMENTS. It shall be unlawful to operate any vehicle carrying explosives on any street in the Municipality that is so slippery because of ice, snow or from any other cause as to be unsafe for driving.

13-2-5 WARNING LIGHTS – SIGNS. Whenever a vehicle carrying explosives or flammable liquids is disabled in the Municipality, warning flags or lights shall be placed as required by statute; and it shall be unlawful to permit any vehicle carrying explosives to remain unattended at any such time.

No work involving danger of sparks, fire, friction or concussion, which might cause an explosion, shall be performed on any vehicle carrying explosives, and no such vehicle shall be brought into or kept in any garage in the Municipality; nor shall such vehicle carrying explosives be permitted to remain anywhere in the Municipality under any circumstances for a period of more than **five (5) hours**.

13-2-6 NITROGLYCERINE. It shall be unlawful to transport liquid nitroglycerine by vehicle (as defined in this Article) anywhere in the Municipality.

13-2-7 EXCEPTIONS. The provisions of this Article relating to explosives shall not apply to the transportation of nitroglycerine in capsule form, or in solution, in quantities not exceeding a total of **one (1) ounce** avoirdupois in weight; nor to the lawful transportation of properly packed ammunition in quantities not exceeding **twenty-five (25) pounds** in weight, nor to the transportation of ammunition by the armed forces of the United States of America or of the State, or by policemen or other conservators of the peace in the performance of their duties.

13-2-8 REGULATIONS CONCERNING TANK TRUCKS, TANK TRAILERS AND TANK SEMI-TRAILERS. Every tank truck, tank trailer and tank semi-trailer operated within the corporate limits of the Village shall be in good repair, clean and free from leaks.

Every tank truck, tank trailer, and tank semi-trailer operated within the corporate limits of the Village shall be equipped only with electric lights, and lighting circuits shall have suitable over-current protection with fuses and automatic circuit breakers, and the wiring shall have sufficient carrying capacity and mechanical strength and shall be suitably secured, insulated and protected against physical damage.

13-2-9 REGULATIONS CONCERNING DRIVERS. The driver, operator, attendant or helper of any tank truck, tank trailer or tank semi-trailer shall not leave the vehicle while it is being filled or while it is discharging through a delivery hose, and when so doing, such delivery hose shall be attached to the tank truck, tank trailer, or semi-trailer and shall be considered a part of the vehicle.

It shall be unlawful for the driver, operator, attendant or helper of any tank truck, tank trailer or tank semi-trailer to smoke or hold any lighted cigar, cigarette or pipe while such vehicle is being operated on the streets or alleys of the Village, or while such vehicle is being filled or is discharging or having repairs made thereto.

The ignition on the motor of any tank truck, tank trailer or tank semi-trailer shall be turned off during the making and breaking of hose connections, and likewise turned off if the filling or discharging is done without the use of a power pump on such vehicle.

13-2-10 PARKING. It shall be unlawful to park any tank truck, tank trailer or tank semi-trailer on the streets or alleys of the Village.

13-2-11 FIRE PREVENTION REGULATIONS. Every tank truck, tank trailer or tank semi-trailer and all equipment thereon shall meet the requirements of the National Fire Protection Association and the laws of the State, and the regulations of the department of public safety of the State, and shall be equipped with an approved fire extinguisher for extinguishing flammable liquid fires.

The driver of any tank truck, tank trailer or tank semi-trailer shall be responsible for such vehicle to be electrically connected to the fill pipe by a bond wire when filling or discharging, and for the drag chain on such vehicle which shall be long enough to reach the ground at all times.

13-2-12 RAILROAD CROSSINGS. No vehicle containing explosives or flammable liquids shall be driven or propelled across any railroad track unless it is first brought to a full stop within not less than **ten (10)** nor more than **fifty (50) feet** therefrom. **(See McQuillin Mun Corp 3rd)**

ARTICLE III – FLAMMABLE LIQUIDS

DIVISION I – GASOLINE AND OIL STORAGE PLANTS

13-3-1 **PERMIT REQUIRED.** It shall be unlawful for any person, firm or corporation to operate or maintain a bulk gasoline or oil storage plant without first securing a permit therefor. Applications for such permit shall state the name and address of the firm or corporation maintaining or operating such plant. The annual fee for such shall be **One Hundred Dollars (\$100.00)**.

13-3-2 **COMPLIANCE WITH CODE PROVISIONS.** It shall be unlawful to operate or maintain a bulk gasoline or oil storage plant without complying with all the applicable provisions of the Code relating to zoning and flammable liquids.

13-3-3 **INSPECTION.** The Building Inspector or some other official designated by the Mayor and Village Board shall inspect such plants as often as necessary to insure compliance with the provisions of this Code.

13-3-4 - 13-3-6 **RESERVED.**

DIVISION II – BULK GASOLINE PLANTS

13-3-7 **PERMIT REQUIRED – FEE.** It shall be unlawful for any person, firm or corporation to operate or maintain a bulk gasoline plant without first securing a permit therefor. Applications for such permit shall state the name and address of the firm or corporation maintaining or operating such plant. The annual fee for such permit shall be **Three Hundred Dollars (\$300.00)**.

13-3-8 **COMPLIANCE WITH ORDINANCE PROVISIONS.** It shall be unlawful to construct or operate or maintain a bulk gasoline plant without complying with the applicable provisions of the ordinances relating to zoning and other sections of this Chapter pertaining to flammable liquids.

13-3-9 **STORAGE.**

(A) **Flammable Liquids.** Storage of flammable liquids in bulk plants shall, in addition to complying with the provisions of this Section, comply with the pertinent provisions of the ordinances relating to flammable liquids.

(B) **Storage – Class I or II.** Class I and Class II flammable liquids shall be stored in closed containers, or in storage tanks above ground outside of buildings or underground.

(C) **Storage – Class III.** Class III flammable liquids shall be stored in containers, or in tanks within buildings, or above ground outside of buildings or underground.

(D) **Storage of Containers.** Containers of flammable liquids when piled one upon the other shall be separated by dunnage, sufficient to provide stability and to prevent excessive stress on container walls. The height of piles shall be consistent with stability and strength of containers.

13-3-10 **FILLING AND EMPTYING CONTAINERS.** Containers of Class I or Class II flammable liquids shall not be drawn from or filled within buildings unless provision is made to prevent the accumulation of flammable vapors in hazardous concentrations.

13-3-11 **VENTILATION.** Ventilation shall be provided for all rooms, buildings, or enclosures in which Class I or Class II flammable liquids are pumped or dispensed. Design of ventilation systems shall take into account the relatively high specific gravity of the vapors. Ventilation may be provided by adequate openings in outside walls at floor level unobstructed, except by louvers or course screens. Where natural ventilation is impracticable, mechanical ventilation shall be provided. Mechanical systems for removing flammable vapors shall be designed, installed and operated in accordance with nationally recognized good practice.

13-3-12 **BUILDINGS.**

(A) **General Construction.** Buildings shall be constructed so that rooms in which flammable liquids are handled or stored comply with the requirements of the Building

and Zoning Codes. Class I and Class II flammable liquids shall not be stored or handled within a building having a basement or pit into which flammable vapors may travel, unless such area is provided with ventilation designed to prevent the accumulation of flammable vapors therein.

(B) **Exits.** Rooms storing flammable liquids or in which flammable liquids are handled by pumps shall have exit facilities arranged to prevent occupants being trapped in the event of fire.

(C) **Heating.** Rooms in which Class I or Class II flammable liquids are stored or handled shall be heated only by means not constituting a source of ignition, such as steam or hot water. Rooms containing heating appliances involving sources of ignition shall be located and arranged to prevent entry of flammable vapors.

13-3-13 LOADING AND UNLOADING FACILITIES.

(A) Tank Vehicle Loading Racks.

(1) **Location.** Tank vehicle loading racks dispensing Class I or Class II flammable liquids shall be separated from tanks, warehouses, other plant buildings, and nearest line of property that may be built upon by a clear distance of not less than **twenty-five (25) feet**, measured from the nearest position of any fill-stem. Buildings for pumps or for shelter of loading personnel may be part of the loading rack.

(2) **Static Protection.** The following types of tank vehicle loading racks shall be equipped with protection against static sparks during truck filling; racks dispensing Class I or Class II flammable liquids into open domes of tank vehicles, and racks dispensing Class III flammable liquids into open domes of tank vehicles which may contain flammable vapors from previous cargoes of Class I or Class II flammable liquids.

Protection shall consist of a bare metallic bond wire permanently electrically connected to the fill-stem or some part of the fill-stem piping. The free end of such wire shall be provided with a clamp or similar device for convenient attachment to some metallic part of the cargo tank of the tank vehicle. The bond wire connection shall be made prior to the opening the dome covers. It shall be maintained in place during the entire filling operation and the dome covers shall be securely closed before the bond wire is disconnected from the cargo tank.

(3) **Drag Chains.** Drag chains or similar devices on tank vehicles shall not be deemed to meet the requirements of the preceding paragraph for static protection.

(B) **Tank Car Racks.** Class I and Class II flammable liquids shall not be discharged from or loaded into tank cars unless protection against stray currents has been provided and is used. Protection shall be designed and installed in accordance with nationally recognized good practice.

(C) **Container Filling Facilities.** Class I and Class II flammable liquids shall not be run into containers unless the nozzle and container are electrically interconnected. Where the metallic floor plate on which the container stands while filling is electrically

connected to the fill-stem or where the fill-stem is bonded to the container during filling operations by means of a bond wire, the provisions of this Section shall be deemed to have been complied with.

(D) **Drainage and Waste Disposal.** Provision shall be made to prevent flammable liquids which may be spilled at loading or unloading points from entering public sewers and drainage systems or natural waterways. Connections to such sewers, drains, or waterways by which flammable liquids might enter shall be provided with separator boxes or other approved means whereby such entry is precluded. Crankcase drainings and flammable liquids shall not be dumped into sewers, but shall be stored in tanks or tight drums outside of any building until removed from the premises.

13-3-14 ELECTRICAL EQUIPMENT. All wiring and electrical equipment, including motors and electrical switch gear for pumps handling Class I or Class II flammable liquids and located within the possible path of vapors travel shall be designed and installed so as not to create an ignition hazard. Electrical equipment designed and installed in accordance with the Standards of the National Board of Fire Underwriters known as the "National Electrical Code", shall be deemed to be prima facie evidence of compliance with this Section.

13-3-15 SOURCE OF IGNITION. Class I or Class II flammable liquids shall not be handled, drawn, or dispensed where flammable vapors may reach a source of ignition. Smoking shall be prohibited except in designated localities. "No Smoking" signs shall be conspicuously posted where hazard from flammable liquid vapors is normally present.

13-3-16 FIRE CONTROL. Fire-control equipment shall be required by the Bureau of Fire Prevention where a tank of more than **fifty thousand (50,000) gallons** individual capacity contains Class I or Class II flammable liquids and where an unusual exposure hazard exists from surrounding property. Such fire-control equipment shall be sufficient to extinguish a fire in the largest tank. The design and amount of such equipment shall be in accordance with this Chapter.

13-3-17 INSPECTION. The Fire Chief or some other officer designated by the Fire Prevention Bureau shall inspect such plants as often as necessary to insure compliance with the provisions of this Code.

13-3-18 - 13-3-20 RESERVED.

DIVISION III – BULK PETROLEUM STORAGE PLANTS

13-3-21 **PERMIT REQUIRED.** It shall be unlawful for any person, firm or corporation to construct, operate or maintain a wholesale bulk petroleum plant for crude petroleum without first securing a permit therefor.

13-3-22 **LOCATION.** No permit shall be issued for the construction of a refinery or plant storing or handling crude petroleum until approval has been given for the proposed location with respect to topography, nearness to places of assembly, residential or mercantile occupancies, and adequacy of water supply for fire control.

13-3-23 **APPLICATIONS.** Applications for such permit shall state the name and address of the person, firm or corporation applying for such permit.

13-3-24 **FEES.** The fee for such permit shall be **One Hundred Dollars (\$100.00)** annually.

13-3-25 **COMPLIANCE WITH REGULATIONS.** It shall be unlawful for any person, firm or corporation to operate or maintain such bulk plant without complying with all the applicable provisions of the zoning and flammable liquid regulations of the Village.

13-3-26 **MANNER OF STORAGE.**

(A) Crude petroleum shall be stored in tanks above ground or underground, in accordance with the provisions relating to flammable liquid provisions of the Fire Prevention Code of the National Board of Fire Underwriters.

(B) Other flammable liquids shall be stored in tanks above ground or underground or in containers, in accordance with the provisions of N.B.F.U. Fire Prevention Code.

13-3-27 **STORAGE TANKS.** Tanks for the storage of flammable liquids in tank farms and in locations other than process areas shall be located in accordance with provisions of this Chapter in regard to location with respect to property lines and spacing between tanks.

13-3-28 **UNFIRED PRESSURE VESSELS.** Unfired pressure vessels shall be constructed in accordance with nationally recognized good practice.

13-3-29 **LOCATION OF PROCESS UNITS.** Process units shall be located so that they are accessible from at least **one (1)** side for the purpose of fire control. Where

topographical conditions are such that flammable liquids may flow from a processing area so as to constitute a fire hazard to property of others, provision shall be made to divert or impound the flow by curbs, drains, or other suitable means.

13-3-30 **FIRE CONTROL.** Fire control chemicals and suitable application devices shall be available sufficient to extinguish a fire in any tank in the processing area, other than approved floating roof tanks.

13-3-31 **INSPECTIONS.** The Chief of the Fire Department or some other officer designated by the Fire Prevention Bureau shall inspect such plants as often as necessary to insure compliance with the provisions of this Code.

13-3-32 - 13-3-35 **RESERVED.**

DIVISION IV – GENERAL REGULATIONS

13-3-36 PROHIBITION. It shall be unlawful to store, handle or offer for sale any inflammable or volatile liquids in violation of any provision of this Code.

13-3-37 ENFORCEMENT. It shall be the duty of the Building Inspector with the cooperation of the Police Department, to see to the enforcement of the provisions of this Code.

13-3-38 CLASSIFICATION. For the purposes of this Code, flammable liquids are divided into **three (3) classes**, according to flash point as follows:

(A) Liquids with a flash point at or below **twenty-five degrees Fahrenheit (25°F) (minus four degrees Centigrade (-4°C))** closed cup tester.

(B) Liquids with a flash point above that for Class I and at or below **seventy degrees Fahrenheit (70°F) (twenty-one degrees Centigrade (21°C))** closed cup tester.

(C) Liquids with a flash point above that for Class II and at or below **two hundred degrees Fahrenheit (200°F) (ninety-three and one-half degrees Centigrade (93 1/2°C))** closed cup tester.

(D) The flash point shall be determined with the Elliot, Abel, Abel Pensky or the Tag Closed Cup Tester, but the Tag Closed Cup tester (standardized by the United States Bureau of Standards) shall be authoritative in case of dispute. All tests shall be made in accordance with the methods adopted by the American Society for Testing Materials.

(E) Representative examples of the classes of flammable liquids are:

<u>Class I</u>	<u>Class II</u>	<u>Class III</u>
Ether	Alcohol	Kerosene
Carbon Bisulphide	Amyl acetate	Amyl alcohol
Gasoline	Toluol	Turpentine
Benzol	Ethyl acetate	Fuel oil
Naphtha	Methyl alcohol	
Acetone		
Collodion		

13-3-39 SMALL STORAGE LIMITED. Storage of flammable liquids of Classes I, II and III shall be in accordance with the rules governing general storage and service stations except:

(A) Not to exceed **five (5) gallons** of crude petroleum, benzene, benzol, gasoline, naphtha, and their compounds may be kept on hand if stored in a proper safety container, remote from flame or open fire. Such storage must not be in any cellar, basement or pit and should be in a room with direct ventilation to the outside and preferably in an outbuilding or garage.

(B) **Ten (10) gallons** of kerosene may be stored above ground in a proper safety can be **sixty (60) gallons** may be stored for the retail trade within a building, provided storage is in an approved tank. Tank shall set in a metal pan extending at least **eight (8)**

inches beyond outside of tank at sides and rear and **eighteen (18) inches** in front. Tank should be located on the **first (1st) floor** where the influx of natural light is sufficient to light the room and reasonable ventilation must be provided.

13-3-40 **GASOLINE CONTAINERS MUST BE RED.** All receptacles used for the keeping or storing of gasoline, naphtha, benzene or benzol shall be painted red and no liquids other than gasoline, naphtha, benzene or benzol shall be placed in such containers.

13-3-41 **EMPTY DRUMS.** Drums or barrels in which liquids of Classes I, II and III have been stored shall have taps, plugs, or bungs replaced immediately after package has been emptied and shall be promptly removed from the premises.

13-3-42 **USE WITHIN BUILDINGS RESTRICTED.** The mixing, storing or handling of Classes I and II liquids in open containers is prohibited in any buildings, except in the compounding of medicine and prescriptions in drug stores.

13-3-43 **POURING INTO SEWERS PROHIBITED.** No liquids of Classes I, II and III or solutions containing such liquids, shall be poured into any sewer or any drain which connects with a sewer system.

13-3-44 **STORAGE IN PUBLIC BUILDINGS RESTRICTED.** No liquids of Class I or II shall be kept or stored in any schoolhouse, public hall or place of assembly, or in any public building except for demonstrative purposes or for industrial or mechanical uses, and then only under competent supervision.

13-3-45 **USE IN STARTING FIRES.** Flammable liquids shall not be used to start or kindle fires in stoves, furnaces or otherwise.

13-3-46 **FIRE TO BE KEPT AWAY FROM FLAMMABLE LIQUIDS.** Flammable liquids shall always be kept away from fire or open flame; fire or open flame shall always be kept away from flammable liquids.

13-3-47 **LOCATION OF TANKS – RESTRICTED CLASSES OF PROPERTY.** No storage tank shall be within **three hundred (300) feet** of any schoolhouse, church, hospital or public hall. The distance shall be measured from near the edge of tanks in all directions to near point of buildings.

A public hall is any place which is used at any time for public meetings or the assembling of people for amusement, instruction or religious worship.

13-3-48 **PROPERTY LINES AND BUILDINGS.** The minimum distance from individual tanks to line of adjoining property which is or may be built upon, shall not be less than the following:

(A) **For tanks of 50,000 gallons or less:**

<u>Tank Capacity (Gallons)</u>	<u>Minimum Distance (Feet)</u>
3,000 or less	20
21,000 or less	25
31,000 or less	30
45,000 or less	40
50,000 or less	50

In case of tanks for the storage of crude petroleum, the foregoing minimum clearances shall be doubled.

(B) For tanks of more than **fifty thousand (50,000) gallons** to be used only for the storage of refined petroleum products or other flammable liquids not subject to boil over.

Group A Tanks. If tank is equipped with (1) an approved permanently attached extinguishing system or (2) an approved floating roof, the distance shall be not less than the greatest dimension (diameter, length or height) of tank, but such distance need not exceed **one hundred twenty (120) feet.**

Group B Tanks. If tank is not equipped with either (1) an approved permanently attached extinguishing system or (2) an approved floating roof, the distance shall be not less than the **one and one-half (1 1/2) times** the greatest dimension (diameter, length or height) of tank, but such distance need not exceed **one hundred seventy-five (175) feet.**

(C) For tanks of more than **fifty thousand (50,000) gallons** to be used for the storage of crude petroleum or other flammable liquids not subject to boil over.

Group C Tanks. If tank is equipped with (1) an approved permanently attached extinguishing system or (2) an approved floating roof, the distance shall be not less than twice the greatest dimension (diameter, length or height) of the tank, but such distance need not exceed **one hundred seventy-five (175) feet.**

Group D Tanks. If tank is not equipped with either (1) an approved permanently attached extinguishing system or (2) an approved floating roof, the distance shall be not less **three (3) times** the greatest dimension (diameter, length or height) of the tank, but need not exceed **three hundred fifty (350) feet.**

(D) These distances shall apply also to other buildings on the property except those necessarily connected with the installation (such as oil warehouse, pump house and garage).

(E) In particular installations, these distances may be increased at the discretion of the Department of Public Safety, after consideration of such special features as topographical conditions, nature of occupancy and proximity of buildings on adjoining property, height and construction of such buildings, capacity and construction of proposed tanks and character of liquids to be stored, degree of private fire protection provided and facilities of fire departments to cope with oil fires.

(F) Locations of tanks with reference to railroad tracks over which passenger trains are moved shall conform to the regulations of the Bureau of Explosives of the Association of American Railroads (formerly American Railway Association), 30 Vesey Street, New York City.

(G) When general oil storage is maintained in connection with a filling station, the distance from general storage tanks to filling station buildings, tanks and equipment shall be the same as that required to property lines.

13-3-49 **DISTANCE BETWEEN TANKS.** The minimum distance from tanks to adjacent tanks shall be as follows:

Tank Capacity (Gallons)	Minimum Distance (Feet)
300 or less	3
500 or less	3
1,000 or less	3
8,000 or less	3
12,000 or less	3
18,000 or less	3
24,000 or less	5
30,000 or less	10
48,000 or less	10
75,000 or less	13
100,000 or less	15
Over 100,000	One Tank Diameter

If tanks are of different capacities, the capacity of the larger tank shall govern its distance to adjacent tanks.

13-3-50 **HIGH WATER.** Tanks shall be located so as to avoid possible danger from high water.

13-3-51 **STREAMS.** When tanks are located on a stream without tide they shall, where possible, be downstream from burnable property.

13-3-52 **TANK CONSTRUCTION, SPECIFICATIONS.** Factory assembled tanks shall bear the label of underwriters' laboratories or meet equivalent specifications. Field erected tanks shall meet the specifications of the National Fire Protection Association, or those of the American Petroleum Institute. No open tank shall be used.

(A) Tanks shall be covered with asphaltum or other non-rusting coating or paint.

(B) All pipe connections shall be made through flanges or reinforcements securely riveted, welded or bolted to the tank and shall be made tight.

(C) All openings shall be made liquid and vapor-tight, except breather vents. Gaskets used shall be such as are not affected by heat or the contents of tanks.

(D) Covers for manholes, handholes and gauge holes shall be made tight fitting and normally kept in place.

13-3-53 **NORMAL VENTS IN TANKS.** Each tank over **one hundred (100) gallons** in capacity shall have vent openings, except safety valves, provided with approved noncorrosible flame arresters, so attached as to completely cover the openings.

Vent openings shall be in no case less than **one-fourth (1/4) inch** in diameter, and where a power pump is used in filling tanks and tight connection is made to fill pipe, vent shall not be smaller than fill pipe.

13-3-54 **SPECIAL SAFETY OR EMERGENCY RELIEF VENTS IN TANKS.** Additional vent openings or safety valves adequate to relieve any excessive pressure due to external heat shall be provided, of a type which shall be self-closing when pressure is relieved.

The total area of vents shall not be less than **twenty-four (24) square inches** for tanks of **twenty-one thousand (21,000) gallons** capacity or less and not less than **eighteen (18) square inches** for tanks of more than **twenty-one thousand (21,000) gallons** capacity.

13-3-55 **SETTING OF TANKS.** Tanks more than **one (1) foot** above the ground shall have a firm foundation and supports of non-combustible materials, bases of which shall rest below the frost line.

Unprotected steel as support for tanks shall not be permitted.

No combustible materials shall be permitted under or within **ten (10) feet** of any storage tanks except stairways to and walks on top which shall be of iron and steel.

13-3-56 **GROUNDING TANKS.** All tanks shall be electrically grounded.

13-3-57 **PIPING MATERIALS.** Piping, valves and fittings for flammable liquids shall be designed for the working pressures and structural stresses to which they may be subjected. They may be of steel or other materials suitable for use with the liquid being handled. Pipe wall thicknesses determined in accordance with Section Three of the American Standard Code for Pressure Piping (A.S.A.B31.1-1951) shall be deemed to comply with this Section; except that carbon steel pipe shall not be thinner than standard wall thickness listed in the American Standard for Wrought-Steel and Wrought-Iron Pipe.

13-3-58 **PIPING RUNS.** Piping shall be run as directly as possible and proper allowance made for expansion and contraction.

13-3-59 **PIPING ABOVE GROUND.**

(A) Pipes shall not be surrounded or covered by cinders or other material of corrosive effect, but preferably should be laid in sand, and where carried in conduit, the openings of such conduit must be fully protected to prevent escape of liquid under dangerous conditions.

(B) Pipelines buried on railroad property shall be laid at a depth of not less than **three (3) feet**; where they pass under tracks they shall be laid at least **four (4) feet** below the bottom of the ties.

(C) Piping buried in Village streets or other area where other pipelines are carried shall be placed in conduit. Joints of conduit shall be sealed to prevent leakage and pitch shall be toward tank yard.

(D) Underground piping shall be coated with asphaltum or corrosion resisting material.

13-3-60 **JOINTS IN PIPES.** Joints may be welded or of the ordinary skrew type; if of the skrew type, they shall be made with litharge and glycerin, lamp black or shellac.

13-3-61 **TESTS OF PIPING.** Piping after installation shall be tested at a pressure of **fifty percent (50%)** in excess of the working pressure and shall be proven tight. Test shall continue **thirty (30) minutes.**

13-3-62 **NORMAL VALVES IN PIPES.** Each pipe attached to a tank shall be provided with a valve at the tank, with no branches or outlets between the tank and the valve.

In case **two (2)** or more tanks are cross-connected, there shall be a valve at each tank in each cross-connection. Tanks with different classes of liquids shall not be cross-connected.

13-3-63 **EMERGENCY INTERNAL CHECK VALVES.** In addition to any normal valves, there must be an extra valve at each pipeline connection to any tank below normal liquid level (regardless of when installed) which valve is effective inside the tank shell and is operated both manually and by an effective heat actuated device which, in case of fire, will automatically close the valve to prevent the flow of liquid from the tank even though the pipelines are broken from the tank. These extra valves are not required in crude oil tanks in oil fields, on tanks at refineries, or on tanks at terminals which are equipped with a swing line or where facilities are provided to transfer the contents of the tank to another tank in case of fire.

13-3-64 **DIKES REQUIRED.** Embankments or dikes are required:

(A) For each tank containing crude oil or other liquid which has a tendency to boil over.

(B) For each individual tank exceeding **fifty thousand (50,000) gallons (1,200 barrels)** in capacity.

(C) For individual tanks of less than **fifty thousand (50,000) gallons**, or groups of tanks with individual tank capacity of less than **fifty thousand (50,000) gallons**, when installed:

- (1) On the bank of a stream or other body of water, or on land permitting of rapid drainage thereto.
- (2) When, due to any other special condition, the Mayor and Village Board deems diking to be necessary for the protection of other property.

13-3-65 CAPACITY.

(A) Dikes for refined petroleum products not subject to boilover shall have a capacity of not less than the capacity of the tank or groups of tanks surrounded.

(B) Dikes surrounding tanks containing crude oil or other flammable liquid subject to boilover, shall have a capacity of not less than the capacity of the tank surrounded and in addition shall save a suitable coping or deflector pointing inward, so designed and constructed as to minimize the effect of the boilover wave. Dike shall be not less than **fifty (50) feet** from the shell of the tank surrounded.

13-3-66 MATERIAL AND CONSTRUCTION OF DIKES. Dikes shall be constructed of earth, clay, masonry or reinforced concrete not higher than **one-half (1/2)** the height of the tank or tanks enclosed, so constructed as to afford adequate protection.

Earthwork embankments shall be firmly and compactly built of good earth or clay, free from stones, vegetable matter and other foreign material. They shall have a flat section at the top of not less than **two and one-half (2 ½) feet** wide and a slope of at least **one (1) to one (1) (45 degrees)** on both sides.

Masonry or concrete dikes shall have footing below the frost line.

If a concrete floor covering is provided for the area enclosed by a concrete dike, a sump shall be provided at some convenient place, attached to which shall be a pump of approved design, so that any accumulation of water or oil may be removed immediately.

13-3-67 NO OPENINGS IN DIKES PERMITTED. Embankments or dikes shall be continuous, with no openings for piping or roadway.

13-3-68 BUILDINGS – GENERAL REQUIREMENTS. It shall be unlawful to store, or to sell, or offer for sale, any flammable or volatile liquids as defined in this Code in an amount in excess of **one (1) gallon** in any building of frame construction, or any building other than a building of fireproof construction as defined in ordinances of the Village; provided that this Section shall not be construed to prohibit the storage of such liquids in the fuel tanks of automobiles or in tanks for heating systems installed in compliance with the provisions of the Village ordinances.

13-3-69 PUMP HOUSES. Motor and pump or pumps shall be located in a separate, noncombustible building, not less than **ten (10) feet** from tanks, warehouses, garage or property lines.

Motor shall be of the polyphase, nonsparking or explosion proof type, and shall be grounded to permanently moist earth.

If pumphouse is electrically lighted, lights shall be of the vapor-proof type, wiring shall be in a sealed conduit, and the light switch shall be of the explosion-proof type, or shall be placed outside the building.

Motor starting switches shall be of the explosion-proof type or oil bath type.

Screened openings of not less than **sixty-four (64) square inches** shall be constructed in opposite corners at floor line to provide proper ventilation.

All doors of pumphouses shall open outward. Doors shall be left open at all times when pumps are in operation.

13-3-70 UNENCLOSED PUMPS AND MOTORS. If pumps and motors are located entirely in the open, with no enclosure whatever, they may be located at or under the loading dock. Motors and electrical equipment shall comply otherwise with the provisions of the preceding Section.

13-3-71 CONSTRUCTION OF WAREHOUSES. Warehouses shall have noncombustible walls and roofs and be so constructed so that refuse cannot accumulate under the floor.

(A) Storage of liquids of Class I shall not be permitted in building. Storage of liquids of Class II shall not be permitted except in original sealed containers and no transfer of liquids in such containers to other containers shall ever be made inside the warehouse.

(B) Warehouse shall be kept clean, neat and orderly, and free from accumulation of grease and oil spillings.

(C) **Electrical Installation.** The National Electrical Code as published in N.F.P.A. Pamphlet No. 70 by the National Fire Prevention Association shall govern the electrical installation.

13-3-72 GARAGE – CONSTRUCTION OF. Floor of garage shall be of concrete or other noncombustible material, laid directly on the ground or on a well-tamped and puddled fill.

(A) Adequate ventilation shall be provided to carry off any inflammable gases which may accumulate.

(B) No connection to any house drainage or to any sewer system shall be made from any garage waste basin, sink, floor drain or waste, unless an adequate grease trap is provided ahead of such connection. This does not apply to lavatories, toilets, or wash basins, used exclusively for toilet or personal use, nor to downspouts carrying surface water from the roof.

(C) **Electrical Installation.** The National Electrical Code as published in N.F.P.A. Pamphlet No. 70, by the National Fire Prevention Association shall govern the electrical installation.

13-3-73 LOCATION OF LOADING DOCK. Truck loading docks and platforms shall be located not less than **ten (10) feet** from storage tanks, plant buildings and property lines.

13-3-74 **LOCATION OF UNLOADING DOCK.** Location of unloading site with reference to railroad tracks over which passenger trains are moved shall be subject at all times to the regulations of the Bureau of Explosives of the Association of American Railroads (formerly American Railway Association), 30 Vesey Street, New York City.

13-3-75 **ELECTRICAL EQUIPMENT.** All electric lights at loading and unloading docks shall be of vapor-proof construction. Electric wiring shall be sealed conduit at docks and switches shall be of the explosion-proof type or placed at some point remote from the docks.

13-3-76 **PUMPS AND PIPELINES.**

(A) Gasoline and naphtha shall never be handled through the same pump and pipelines as kerosene and fuel oils.

(B) Pipelines shall have a definite color scheme for painting to indicate the product which is being carried by the respective lines. The color red shall be for gasoline and naphtha. Valves on lines in pumphouse shall be tagged to denote the product handled and controlled by such valve.

(C) Pumps delivering to or taking supply from tanks or tank cars shall be provided with valves on both suction and discharge pump.

13-3-77 **GROUNDING.** Before unloading operations are started and before any connection or contact is made with piping or other loading equipment, the tank car shall be electrically grounded in an effective manner. Permanent electrical connection of not less than **number zero (0) copper cable** shall be made between the rails on which tank cars stand and the piping system of the storage plant.

(NOTE: This connection may be accomplished in two ways; rails may be bonded by means of standard rail bonds and connected to the permanent piping system with **number zero (0) electric cable** connections at each end of the loading or unloading section; or a similar connection may be made between each rail on which cars stand and the permanent piping system.)

13-3-78 **NO UNLOADING BY GRAVITY.** The withdrawal of liquids from tank cars through bottom outlets shall not be permitted. Tank cars shall be unloaded through dome (manhole) only. Pumps required to accomplish this shall be of an adequate type and securely installed.

(A) Exception: Fuel oils may be unloaded by gravity.

(B) The use of compressed air to discharge contents of tank cars is prohibited, but this shall not be construed to prevent the use of a standard system employing an inert gas, such as carbon dioxide or nitrogen, as pressure generating medium for this purpose.

13-3-79 **UNLOADING TO PORTABLE CONTAINERS.** Unloading from tank cars to tank trucks or to any portable containers shall not be permitted.

13-3-80 **TANK TRUCKS AND WAGONS.** Compartment tanks shall be constructed with double bulkheads unless they always carry the same class of liquids in the respective compartments (Class I, II or III).

13-3-81 **DIFFERENT CLASSES OF LIQUIDS.** Compartments of tank trucks carrying different classes of liquids shall not be manifolded together. Separate pipeline and meter shall be provided for each class of liquid to eliminate hazard of mixing.

Each compartment or tank shall be numbered and the same number shall appear on pipeline at rear of truck or wagon connected with that compartment.

A serviceable metal tag shall be fastened securely to each faucet, designating the contents of the compartment it controls by lettering not less than **one-fourth (1/4) inch** high. Tags shall be painted according to the same color scheme as the pipeline, red always indicating gasoline or naphtha.

Faucets shall be of the self-closing type.

Heavy bumping shall be provided across rear, adequate to protect all faucets in case of a rear-end collision.

If buckets are used to deliver gasoline or naphtha, they shall be painted red and properly labeled. They shall be used for delivering gasoline or naphtha only and gasoline and naphtha shall not be delivered in any other buckets.

Cargo tanks and vehicle chassis shall be electrically bonded. Provision shall be made in the tank structure and vehicle for the bonding of the vehicle to the fill pipe during the truck loading operations.

During loading and unloading of tank trucks and tank wagons a competent person shall be present and in charge at all times.

No retail deliveries from tank trucks or tank wagons shall be permitted in any street or alley of the Village, except in extreme emergencies for relief purposes, and then only in quantities not to exceed **two (2) gallons.**

Each tank truck or tank wagon shall carry an approved fire extinguisher suitable for extinguishing gasoline and oil fires, such as carbon tetrachloride, carbon dioxide, foam or power.

13-3-82 **DOMES COVERS.** After unloading, pipe is inserted into dome of tank car and before any pumping is done, dome shall be tightly covered with set burlap or some other type of cover equally effective.

13-3-83 **OTHER RESTRICTIONS.**

(A) All connections between tank cars and pipelines shall be in good condition and not permit leakage;

(B) Tank cars shall not be left connected to pipelines except when loading or unloading is going on, and during all such times a competent man shall be present and in charge.

(C) The presence of flame lanterns, flame switch lights or other exposed flame lights or fires during the process of loading or unloading is prohibited.

(D) Siding used in connection with tank cars unloading operations shall not be common to other users, or they shall be provided with necessary details or with warning

signs in accordance with Section 4, Paragraph 697(B) of the Interstate Commerce Commission regulations on the transportation of explosives.

(E) The unloading of tank cars and all operations in connection therewith shall be in full accord with the rules and regulations of the Interstate Commerce Commission.

13-3-84 **GROUNDING.** Before loading operations begin, tank truck shall be electrically bonded to pipeline by means of a bonding device at loading dock.

13-3-85 **FENCING.** The area which embraces the tank gear, including dike and all above ground piping and pipelines, shall be properly fenced with a metal fence.

13-3-86 **PERMITS.** It shall be unlawful to construct, install or enlarge any tank, pump or piping equipment for the storage or handling of flammable or volatile liquids such as defined in this Code without having first obtained a permit therefor. Application for such permits shall be made to the Village Board and shall be accompanied by drawing to scale showing the following:

(A) Drawings shall show the plot of ground to be utilized and its immediate surroundings on all sides; the complete layout of tanks, loading and unloading docks, equipment and buildings; the capacity of each tank; kind of liquid to be stored; type of tank supports; type of construction of each building; and all clearances as provided above. In addition, the dimensions of any tank with a capacity of more than **fifty thousand (50,000) gallons** shall be given.

(B) Drawings shall show the name of the person, firm or company proposing the installation, the location with respect to city, village or town, and shall name adjacent railroads and streets.

(C) Drawings shall designate passenger, freight, passing and side tracks and shall show the clearances between tanks and closest passenger tracks, between tracks at point where tank car will be placed for unloading and nearest passenger tracks, and between unloading dock and closest passenger tracks.

13-3-87 **APPROVAL.** No such permit shall be issued until the Building Inspector has certified that the contemplated work fully complies with the ordinances of the Village.

13-3-88 **FEES.** The fees for such permits shall be:

For installation of fuel oil tanks having a capacity of more than two thousand (2,000) gallons and less than twenty thousand (20,000) gallons	\$25.00
For installation of tanks for storage of gasoline having a capacity of less than ten thousand (10,000) gallons	\$25.00
For installation of fuel oil tanks having a capacity of twenty thousand (20,000) gallons or more	\$25.00
For installation of gasoline storage tanks having a capacity of ten thousand (10,000) gallons or more	\$25.00
For installation of tanks or other flammable liquids	\$25.00