CHAPTER 30

MECHANICAL CODE

Article

30-01	General Provisions, §§ 30-0101 to 30-0106.
30-02	Heating and Air-conditioning Plants, §§ 30-0201 to 30-0202--Repealed.
30-03	Combustion Units, §§ 30-0301 to 30-0305.
30-04	Chimneys and Flues--Repealed.
30-05	Gasoline Stoves, §§ 30-0501 to 30-0506.
30-06	Certificate of Authority, §§ 30-0601 to 30-0612.
30-07	Fees, §§ 30-0701, 30-0702.
30-08	Miscellaneous, §§ 30-0801, 30-0802.

ARTICLE 30-01

GENERAL PROVISIONS

Section

30-0101	Definitions.
30-0102	Scope of chapter.
30-0103	Minimum requirements.
30-0104	Emergency repairs.
30-0105	Certificate of authority required.
30-0106	Standards adopted.

30-0101. Definitions.--The following words, terms, and phrases, when used in this chapter, shall have the meanings ascribed to them in this section except where the context clearly indicates a different meaning:

1. "Person" includes any individual, firm, partnership, joint adventure, association, corporation, estate, receiver, or any other group or combination acting as a unit, and their agents, employees, and representatives and includes the plural as well as the singular number.

2. "Building inspector" means the building inspector of the city of Fargo and his authorized assistants.

3. "Heating and air-conditioning plant" includes any heating or air-conditioning plant or system and the component parts thereof (except combustion units as defined in paragraph (D) of this section) including but not limited to steam boilers, hot-water boilers and warm-air furnaces.

4. "Combustion unit" includes any stoker, oil burner, oil-burning equipment, gas burner, gas-burning equipment, conversion burner, or incinerator and their component parts.

Source: 1952 Rev. Ord. 968 (1956), 1087 (1960).

30-0102. Scope of chapter.--This chapter shall govern the construction, installation, alteration, maintenance, and repair of all heating and air-conditioning plants, chimney flues, combustion units, gas burners, gas-burner equipment and appliances, and gasoline stoves installed in or for all buildings within the city except that the owner-occupant of any single-family dwelling

may, with the assistance of members of his family and household, personally perform any work governed by this chapter, but before doing the same, he shall obtain a permit therefor from the building inspector and pass inspection as hereinafter provided.

Source: 1952 Rev. Ord. 968 (1956), 1087 (1960).

30-0103. Minimum requirements.--The provisions of this chapter shall be held to be minimum requirements adopted for the protection of the health, welfare, and safety of the community.

Source: 1952 Rev. Ord. 968 (1956), 1087 (1960).

30-0104. Emergency repairs.--In case of emergency, repair work may be proceeded with without first obtaining the permit hereinafter required. Application for such permit shall be made within 24 hours after repairs are commenced, Sundays and holidays excepted. This section shall not be construed to limit the right of Northern States Power Company and its authorized employees to render necessary services.

Source: 1952 Rev. Ord. 968 (1956), 1087 (1960).

30-0105. Certificate of authority required.--Except as is otherwise provided in § 30-0102 and § 30-0104 of article 30-01, no person shall engage in or carry on the construction, installation, alteration, maintenance, and repair of heating and air conditioning plants, combustion units, gas burners and gas burner equipment and appliances within the city, or advertise, hold out or otherwise represent himself as being qualified to perform such work without first securing and continuing in force a "certificate of authority" as hereinafter prescribed in this chapter.

Source: 1965 Rev. Ord. 30-0105, 1575 (1974).

30-0106. Standards adopted.--The following standards are hereby adopted for all heating, air conditioning and other gas, oil, or coal consuming appliances:

A. All heating, air conditioning, or other gas, oil, or coal consuming appliances for either domestic or commercial use installed in the city of Fargo shall bear a seal of approval from the American Gas Association, American Standards Association, Underwriters Laboratories, or other nationally recognized testing laboratory.

B. The International Mechanical Code, sponsored by the International Conference of Building Officials, 2006 edition, is hereby adopted as the mechanical code for the city of Fargo, with the following amendments:

Section 101.1 is hereby amended to read as follows:

Section 101.1 – Title. These regulations shall be known as the Mechanical Code of Fargo, hereinafter referred to as "this code."

Section 201.3 is hereby amended to read as follows:

201.3 – Terms defined in other codes. Wherever reference is made in this code to the International Plumbing Code it shall mean the North Dakota State Plumbing Code. Wherever in this code reference is made to the ICC Electrical Code it shall mean the National Electrical Code together with the North Dakota State Wiring

Standards. Where terms are not defined in this code and are defined in the *International Building Code, ICC Electrical Code, International Fire Code, International Fuel Gas Code* or the *International Plumbing code,* Such terms shall have meanings ascribed to them as in those codes.

Section 305.4 is hereby amended by adding a new sentence to the end of the first paragraph to read as follows:

In addition to the requirements of Table 305.4, piping and tubing shall be supported within 2 feet (610 mm) of every bend or angle.

Table 401.5 is hereby amended to read as follows:

TABLE 401.5
OPENING SIZES IN LOUVERS, GRILLES AND SCREENS PROTECTING OUTDOOR EXHAUST AND AIR INTAKE OPENINGS

OUTDOOR OPENING TYPE	**MINIMUM AND MAXIMUM OPENING SIZES IN LOUVERS, GRILLES AND SCREENS MEASURED IN ANY DIRECTION**
Exhaust openings	Not < ¼ inch and not > ½ inch
Intake openings in residential occupancies	Not < ¼ inch and not > ½ inch
Intake openings in other than Residential occupancies	> ¼ inch and not > ½ inch

Section 404.2 is hereby amended to read as follows:

404.2 Minimum ventilation. Automatic operation of the system shall not reduce the ventilation rate below 0.05 cfm per square foot (0.00025 $m^3s \cdot m^2$) of the floor area and the system shall be capable of producing a ventilation rate of 0.75 cfm per square foot (0.0038m^3s) of floor area.

Section 504.6.1 is hereby amended to read as follows:

Section 504.6.1 – Maximum length. The maximum length of a clothes dryer exhaust duct shall not exceed 25 feet (7620 mm) from the dryer location including two 90-degree elbows to the outlet terminal. The maximum length of the duct shall be reduced 2.5 feet (762 mm) for each additional 45-degree (0.79 rad) bend and 5 feet (1524 mm) for each additional 90-degree (1.6 rad) bend. The maximum length of the exhaust duct does not include the transition duct.

Section 508.2 is hereby amended to read as follows and to add new Section 508.2.1 to read as shown below:

Section 508.2. Compensating hoods. Manufacturers of compensating hood shall provide a label indicating minimum exhaust flow and/or maximum makeup airflow that provides capture and containment of the exhaust effluent. Short-circuit compensating hoods are prohibited.

Section 508.2.1 – Compensating Hood Make-up Air. Compensating hoods shall extract at least 40% of the required exhaust air flow from the kitchen area.

Section 701.4 is hereby amended to read as follows:

Section 701.4 – Crawl space. For the purposes of this chapter, an opening to a naturally ventilated crawl space shall be considered equivalent to an opening to the outdoors.

Section 701.4.2 is hereby deleted in its entirety.

Section 1001.1 is hereby amended to add paragraph 7 to read as follows:

7. Any boiler or pressure vessel subject to inspection by federal or state inspectors. Refer to North Dakota Law Rules and Regulations.

Section 1104.2 is hereby amended to add the following new third exception:

3. If an existing refrigerating system is replaced or if an existing refrigeration plant is increased by not more than 50% of its original capacity, but not more than 100 tons per system using a non-flammable class A1 or B1 refrigerant and the refrigeration machinery room was not provided in the original installation prior to 1994, a refrigeration machinery room shall not be required. If the existing refrigeration is not located in a general machinery room separated from occupied spaces, a refrigeration machinery room shall be provided. The space containing the refrigeration machinery shall meet the requirements of Section 1104.3.4, protection from refrigerant decomposition, and Section 1105.3, requiring refrigerant detection. If the requirements of 1104.3.4 and 1105.3 cannot be met, a refrigeration machinery room shall be provided.

Source: 1572 (1974), 1800 (1977), 1997 (1980), 2083 (1983), 2253 (1986), 2347 (1987), 2451 (1989), 2617 (1992), 2679 (1994), 2758 (1995), 2797 (1996), 2868 (1998), 2996 (1999), 4185 (2001), 4405 (2004), 4432 (2004), 4598 (2007), 4697 (2009).

ARTICLE 30-02

HEATING AND AIR-CONDITIONING PLANTS

Note: Article 2 of chapter 30 of the Fargo Municipal Code has been repealed by Ord. No. 2758 (1995) and 2795 (1996).

ARTICLE 30-03

COMBUSTION UNITS

Section

30-0301 Definitions.
30-0302 Duties and powers of building inspector--Repealed.
30-0303 Stoker installation.
30-0304 Oil burner installation.
30-0305 Gas burner installation.

30-0301. Definitions.--The following words, terms, and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

1. "Stoker" means a mechanical device, for feeding solid fuel into the combustion chamber of a boiler or furnace used in connection with a heating plant whether automatically or manually controlled.

2. "Oil burner" shall mean any device designed to burn fuel oil having a flash point of 100° Fahrenheit or higher, as determined by the Tag Closed Test in accordance with the method of test adopted by the American Society for Testing Materials (ASTM Designation D 56-36), and having a fuel tank or container with a capacity of more than 10 gallons connected thereto.

3. "Oil-burning equipment" shall include oil burners and all tanks, piping, pumps, control devices, and accessories, including blowers for the distribution of warmed air, connected to the burners.

4. "Gas burner" means a device for the final conveyance of the gas, or a mixture of gas and air, to the combustion zone of a boiler, furnace, device, or appliance used in connection with a heating system and shall include conversion burners and gas-designed appliances as hereinafter defined.

5. "Gas burner equipment" shall include gas burners, is above-defined, and all piping, shut-off valves, fans, blowers, control devices, and accessories connected to the burners.

6. "Conversion burner" means a gas-burning appliance designed to supply gaseous fuel to and properly burn the same within the combustion chamber of a boiler, furnace, or other device originally designed to burn another fuel.

7. "Gas-designed appliance" means all gas-burning space heating appliances designed for the exclusive use of gaseous fuels either natural or manufactured.

Source: 1952 Rev. Ord. 968 (1956), 1087 (1960).

30-0302. Duties and powers of building inspector.--Repealed by Ord. No. 2796 (1996).

30-0303. Stoker installation.--The construction, arrangement, equipment, and manner of installation of all stokers hereafter installed for use in connection with heating plants in or for buildings in the city, and the alteration hereafter of all such stoker installations shall conform to the following provisions:

A. Nonautomatic stokers not allowed--Exceptions--When. Stokers which are not equipped with automatic means of preventing excessive pressure or temperatures of the heating medium shall not be installed or operated in any location where a competent attendant will not be constantly on duty on the premises while the stoker is in operation.

B. Automatic controls. Each mechanical stoker shall be equipped with at least one high-limit control so connected as to shut off power from stoker drive in the event of excessive pressure in a steam boiler or excessive temperature in a hot-water boiler or warm-air furnace casing. Each steam boiler or hot-water boiler shall be equipped with a low-water cutoff.

Where there may be an overrun of heat due to sustained period of operation for the stoker, a reverse action control or equivalent control shall be installed in hot-water or steam systems so as to relieve this condition.

On all installations where operation of stokers is controlled by an aquastat, pressurestat or furnacestat, a second control, either aquastat, pressurestat or furnacestat, shall be installed in the 110-volt line ahead of all controls as a high-limit or safety control.

C. Stoker capacity, setting heights and combustion space. The capacity of a stoker for any given installation shall be in accordance with load-carrying capacity set forth by the Stoker Manufacturers' Association. In any event, the stoker installed shall have a capacity or feed rate not to exceed 50% greater than that required in said table of Stoker Manufacturers' Association.

The distance from retort to crown sheet and the space for combustion, within any boiler or furnace, shall be such as to secure efficient smokeless combustion and shall be in accordance with the table set forth by the Stoker Manufacturers' Association. Where stokers are installed in old boilers and strict compliance with the foregoing requirements cannot be met, minor modifications may be made subject to the approval of the building inspector.

D. Alterations to combustion chambers. Where stokers are installed in downdraft boilers, the upper grates shall be removed and baffling changed where necessary to secure an unrestricted combustion space.

E. Used stokers--Reconditioned. It shall be hereafter unlawful for any person to install any used stoker, or for the building inspector to issue any permit authorizing such installation, until such person shall have first submitted, with his application for such permit to install, a copy of the purchase order stating that a used, repaired, or reconditioned stoker is to be installed and bearing a statement by the installer that said stoker has been properly reconditioned and will comply in every way with the requirements of this chapter for new equipment as to operation and adjustment.

F. Approved stokers required. It shall be unlawful for any person to install

within the city any stoker not approved by the Stoker Manufacturers' Association.

G. Stoker equipment installation permit required. Any person may install an approved stoker and its associated equipment in accordance with the provisions of this chapter, but no stoker equipment shall be installed in the city unless and until the building inspector shall have issued a permit for the specific installation.

H. Application. Application for the installation permit herein required shall be made in writing signed by the dealer or installer, stating the location of the property or building in which the installation is intended, the name, type, and model of the stoker, type and model of controls, stoker capacity, setting heights and combustion space, accompanied by a sketch, if deemed necessary by the building inspector, showing the layout of controls for the purpose of installation.

I. Granting permits. Within 48 hours after filing of the application and sketch, the building inspector shall issue such permit or in writing notify the applicant of changes required before a permit will be issued or the reason why the application is denied. Upon the required changes being made in the application or sketch, a permit shall be issued. No stoker equipment of a different kind than that specified in the application and no other changes shall be made, nor shall the installation be made in any other manner than as described in such application or shown in the sketch submitted therewith.

J. Inspection of installations. All installations of stokers installed within the city shall be inspected by the building inspector. An approval of installation shall be given the installer before any stoker is turned on for use. Installers of stokers shall give at least 24 hours' notice that a stoker installation is ready for inspection.

Source: 1952 Rev. Ord. 968 (1956), 1087 (1960).

30-0304. Oil burner installation.--The construction, arrangement and manner of installation of all oil burners and oil-burning equipment hereafter installed for use in connection with heating plants in or for buildings in the city, and the alteration or repair hereafter of such installations shall conform to the following provisions:

A. Exception. This chapter does not apply to oil heaters and oil lamps equipped with a wick or a mechanical device, the movement of which is essential to flame adjustment, or to such portable apparatus as blowtorches, soldering pots, etc., but does include all types, classes, and sizes of oil-burning water heaters and space heaters, regardless of their oil container or tank capacity.

B. Approved oil burners required. It shall be unlawful for any person to install within the city any oil burner not approved by the Underwriters Laboratories or other nationally recognized testing laboratory.

C. Inspection. The building inspector shall automatically approve any oil burners listed by the Underwriters Laboratory or any other nationally recognized inspection board or laboratory. Oil burners not listed by the Underwriters Laboratory or any other nationally recognized board or laboratory shall not be approved.

D. Oil-heating equipment--Installation permit. Any qualified person may install

approved oil-burning equipment in connection with an approved oil burner in accordance with the provisions of this chapter but no oil-burning equipment shall be installed in the city unless and until the building inspector shall have issued a permit for the specific installation.

E. Definition of permit. A permit is the written authority of the building inspector issued pursuant to this charter for the installation of an oil burner and its associated equipment covered by this chapter or any material entering into the composition thereof.

F. Application for installation permit. Application for an installation permit shall be made in writing signed by the dealer or installer stating the location of the property in which the installation is intended, the name, type and model of the burner, type and model of controls, and the number and capacity of tanks for storage of fuel, accompanied by a sketch, if deemed necessary by the building inspector, showing the layout of the proposed installation.

G. Granting permits. Within 48 hours after filing of an application and sketch in accordance with this chapter, the building inspector shall issue such permit or in writing notify the applicant of changes required before a permit will be issued or the reasons why the application is denied. Upon the required changes being made in the application or sketch, a permit shall be issued. No oil burner or equipment of a different kind than that specified in the application and no tanks of different sizes, kind, or quality shall be installed, nor shall the installation be made in any manner other than as described in such application or shown in the sketch submitted therewith.

H. Inspection of installation. All installations of oil burners or equipment within the city shall be inspected by the building inspector. An approval of installation shall be given the installer before any oil burner is turned on for use. The installer shall give at least eight hours' notice that the installation is ready for inspection.

I. Installation of used oil Burners--Procedure to be required. No person shall install a used oil burner or use in connection with a heating plant until he shall have furnished the building inspector with a statement that said oil burner has been put in first-class operating condition and with a letter from the purchaser acknowledging that said purchaser is buying a used oil burner.

J. Fuel oil. The grade of fuel oil used with any oil burner shall be one which tests and experience have shown to be suitable for use with that burner. The oil shall have a flash point not less than 100° Fahrenheit, determined as specified in paragraph (B) of § 30-0301 of this article, and shall be free from acid, grit, and fibrous or other foreign matter likely to clog or injure the burner or valves.

K. Commercial standard. The commercial standards (Grades 1, 2, 3, 5, and 6) for domestic and industrial fuel oils, set up by the U.S. Department of Commerce, Bureau of Standards Bulletin CS 12-40 (effective June 5, 1940) shall constitute standard grades for fuel oil sold or delivered to oil burners within the city, and it is hereby declared a violation of this chapter for any person to deliver for use as fuel in an oil burner or burners, or put into the storage tank of any oil burner or burners a grade of oil heavier than that

which has been approved by the building inspector for use in such burner or burners.

L. Secondary controls--Thermostats. All domestic types of oil-burner installations in the city shall be equipped with a modern type of thermostat for the secondary control of the oil burner.

M. Electrical installations. Electrical installations used in connection with oil-burning equipment shall be installed in accordance with the electrical code of the city.

N. Combustion chamber dimensions. It shall be unlawful for any person to install any oil burner into a combustion chamber if the chamber is of a design, size, or type other than that which has been specified by the manufacturer as being the correct design, size, or type for the size of nozzle and angle of atomization with which the oil burner being installed is equipped.

0. Flue gas analysis tests. Before any final approval shall be given by the building inspector on any installation of any type of oil burner covered by the provisions of this chapter, the person installing the same shall make a test, or tests, commonly known as a flue gas analysis test in the presence of the inspecting officer if deemed necessary by the building inspector. The findings of such analysis shall be recorded upon the inspection approval form.

Source: 1952 Rev. Ord. 968 (1956), 1087 (1960).

30-0305. Gas burner installation.--

A-1. No apparatus or equipment to be used with gas supplied from the general gas distribution system of Xcel Energy within the city shall be installed or connected for use without a permit having been secured therefor from the building inspector.

A-2. Repealed by Ord. No. 2568 (1991).

A-3. Xcel Energy shall refuse gas service to the premises wherein any gas-fired installation or connection is made contrary to the terms of this chapter, upon discovery of same, until the same has been remedied or disconnected and removed.

A-4. All installations of mains, regulator stations, services, and meter installations shall conform to the gas construction standards on file in the office of the city engineer. Such standards shall not be effective until approved by the board of city commissioners and any changes in such standards shall not be effective unless approved by the building inspector. However, regardless of such standards, every high or medium pressure service shall have an outside shutoff valve and all low pressure services installed after January 1, 1962, shall have outside shutoff valves.

B-1. Scope. The construction arrangement, manner of installation, alteration and repair of all gas burners, gas-burner equipment and appliances as herein defined having an input capacity of 400,000 BTU per hour or less shall conform to provisions of this chapter.

B-2. Definitions. For the purpose of this section the following definitions shall apply:

A. Gas burners and gas-burner equipment. The term “gas burner” shall mean a

device for the final conveyance of gas or a mixture of gas and air to the combustion zone of a steam or hot-water boiler, furnace, or any device or appliance used in connection with a space-heating system, and shall include conversion burners, gas-designed heating appliances, power gas burners and atmospheric gas burners. The term "gas-burner equipment" shall include gas burners as above defined, together with all fans, blowers, control devices, accessories connected to the burners, and piping involved in supplying the burner.

B. Conversion burner. The term "conversion burner" shall mean a gas-burning device designed to supply gaseous fuel to and properly burn this fuel in the combustion space of equipment, originally designed to burn another fuel.

C. Gas-designed heating appliance. The term "gas-designed heating appliance" shall mean any space-heating appliance designed for the exclusive use of gaseous fuel, excepting such auxiliary heaters as gas logs, radiant heaters, etc.

D. Power Gas Burner. A "power gas burner" is one in which either gas or air or both are supplied at pressures exceeding, for gas, the normal line pressure at the burner and for air, atmospheric pressure, the added pressure being applied at the burner.

E. Atmospheric burner. An "atmospheric burner" is a device (other than a gas range or a gas water heater) in which air at atmospheric pressure is injected into the burner by a jet of gas under pressure not more than the house line pressure and whose input exceeds 50,000 BTU per hour.

B-3. Approval of gas burners. It shall be unlawful for any person, firm, corporation, or agent to install any gas burner, as defined within this chapter, until such gas burner has been approved by the building inspector. The building inspector may approve all gas burners meeting the minimum requirements for approval or listing by the American Standards Association, sponsored by the American Gas Association, or other nationally recognized testing laboratory and in compliance with requirements of this chapter.

B-4. Installation of used gas burners. It shall be unlawful to install any used gas burner, and no permit shall be issued authorizing such installation, until the licensed installer shall have first submitted with his application for permit a copy of the purchase order stating that a used burner is to be installed and bearing an acknowledgment by the purchaser that such is the case together with a statement by the licensed installer that said burner has been reconditioned and will comply in every way with ordinance requirements for new equipment as to operation, safety standards, and adjustments. No used gas burner shall be installed unless it is of a type, make, and model currently approved for installation in the city.

B-5. Type of gas. The requirements of this chapter shall apply to gas burners supplied with natural gas from the general distribution system within the city. Burners and their installation where supplied with other types of gas, such as bottled or liquefied petroleum gas, shall conform to the requirements of this chapter where applicable together with the requirements of the American Gas Association and the National Board of Fire Underwriters pertaining to the type of gas to be used.

B-6. Ventilation. Gas burners and gas-burning appliances as hereinbefore defined shall not be installed for operation in a room where the normal facilities for ventilation do not permit proper combustion of the gas, unless special provision is made for supplying sufficient air for complete combustion.

Gas burners, gas-burner appliances and space heaters will not be permitted in bedrooms, rooms used for sleeping purposes, bathrooms, or any confined space or area unless proper provisions are made for the supply of primary and secondary air for combustion from outside the building. Provisions shall also be made for proper venting to the outside.

Regulations for the method of securing air for combustion and the proper venting of the appliances shall be secured from the building inspector before work is started on any specific installation.

B-7. General. The installation of conversion burners shall be made in conformance with the American Standards Association requirements as sponsored by the American Gas Association and with requirements herein set forth.

B-8. Preparation of boilers and furnaces. Before a gas burner is installed in any existing boiler or furnace, all flues, fire pots, combustion chambers, and connecting joints through which flue gases are conducted shall be thoroughly cleaned, examined for leaks and draft conditions, and made gas-tight as shown by a smoke-bomb test or its equivalent.

B-9. Flues and flue pipes. The chimney flue and flue pipe shall be examined and reconditioned if necessary so that they will freely conduct the flue gases to the outer air. Where flue pipes are rusted or burned out, they shall be replaced by new pipe.

B-10. Removal of oil burners. Where a gas burner is installed and an oil burner removed, it shall be mandatory that the vent and fill pipes to the storage tank be removed and all openings to the storage tank plugged.

B-11. Draft hoods. Each gas-burning appliance shall be equipped with a draft hood or its equivalent designed to:

A. Insure the ready escape of the products of combustion in the event of no draft, back draft, or stoppage beyond the appliance.
B. Prevent a back draft from entering the appliance.
C. Neutralize the effect of stack action of the flue upon the operation of the appliance.

The draft hood shall be placed in and made a part of the flue pipe from the appliance or shall be in the appliance itself. Such device shall have a free area equal to or greater than the cross-sectional area of the flue pipe connected thereto subject to the approval of the building inspector.

The draft hood shall be located at a point not lower than the top of the highest flue passage in the appliance.

Appliances of the revertible flue type shall have the draft hood located at least one foot higher than the top of the highest flue passage. Proper provision shall be made, subject to the approval of the building inspector, to prevent the accumulation of gas in any part thereof. Revertible

flue-type furnaces shall have as a minimum a two-inch bleeder cut through if trapped more than 12 inches.

B-12. Flue pipes. The internal cross-sectional area of the flue pipe between the appliance and the chimney liner shall be such as to provide not less than one square inch of flue area per 7,500 hourly BTU input. In no case shall this flue pipe be less than five inches in diameter for central-heating gas appliances nor less than four inches in diameter for space-heating appliances and it shall not be larger than the next integral inch diameter above the sizes given in the following table:

MINIMUM PERMISSIBLE FLUE SIZES
FOR GAS BURNER INSTALLATIONS*

Input Rating BTU per hour	Area of Flue Outlet--Sq. inch.	Diameter Flue Pipe--Inches
95,500	12.6	4
147,000	19.6	5
212,250	28.3	6
288,750	38.5	7
377,250	50.3	8
477,000	63.6	9

Based on 1 square inch flue area per 7,500 BTU per hour input.

*NOTE: If flue pipe exceeds 10 feet in length or contains more than two elbows, use next size larger pipe and draft hood.

In cases where the outlet from the appliance is larger than the above-indicated size, an orifice plate may be inserted, or a section of the flue pipe restricted to the size indicated between the appliance outlet and the draft diverter. In special cases with high chimneys or flues, the above schedule of areas may be modified subject to specific approval of the building inspector.

The draft hood should ordinarily be located adjacent to the appliance. In cases where it appears desirable to place the draft hood at a distance from the appliance, the size of the restricted section may be modified according to the length and rise of the flue pipe.

The proportioned section at the flue outlet of the appliance eliminates the necessity of using an adjustable damper in the flue pipe and such damper will not be permitted.

Where dampers are an integral part of the boiler or furnace, they shall be removed or permanently secured in the wide-open position, except such dampers the function of which is to alter the passage of the flue gases through the appliance, which shall be locked in such a position as not to interfere with the normal operation of the burners.

B-13. Material used for flue pipe shall be such as to resist the corrosive action of flue gases.

Flue pipe of existing systems shall be relocated where necessary and new flue pipe installations shall be so made as to avoid sharp turns or other constructional features which could create excessive resistance to the flow of flue gases. Flue pipe shall slope upward to chimney.

Flue pipe shall be tightly connected to the chimney liner, so as to prevent infiltration of cold air.

No baffles shall be applied which will interfere with the proper combustion of gas.

Flue pipe shall be well supported to prevent sagging and shall not be installed closer than six inches to any combustible building materials unless flue pipe is covered with incombustible insulation such as will permit the surface temperature of the exterior surface thereof to attain a temperature of not higher than 125° Fahrenheit when the appliance is under continuous operation.

All space-heating equipment shall be of the vented type and properly vented to an effective flue. Heaters of a sealed-unit type vented through a wall to the atmosphere will be accepted if approved by the American Gas Association.

B-14. Radiant heaters or other unvented heaters may be installed in fireplaces providing the chimney has a positive draft with the damper closed.

B-15. Gas burners. Gas burners of all types shall consist of assembled and tested units and shall be accompanied by complete and comprehensive installation and operation instructions. The burner or burners shall be located according to the manufacturers' instruction and shall be so secured that they will not twist, slide, or drop out of position.

B-16. The burners shall be so installed as to be readily accessible for cleaning and inspection. The burner or burners shall be so installed that no part of the flames impinge on the heating surface so as to cause incomplete combustion. Air shutters shall be adjusted to produce a proper flame at the prevailing gas pressure.

On all installations where the combustion air pressure can exceed the house line pressure, an approved check valve or other approved device shall be installed in the gas supply line to prevent air from backing into the gas line.

B-17. Air intake. Where secondary air is necessary, secondary air opening or openings shall be provided of sufficient area to supply an adequate amount of air for complete combustion under the specified draft conditions and at the maximum rate of firing.

Where an automatic secondary air control is provided, the construction shall be such that, in case the control fails in any way, either the gas will be shut off or the secondary air door will remain open.

The air intake of power burners shall be so located as to prevent the possibility of accidental closure. The gas and air supply shall be equipped with controls coordinated to prevent opening of the gas supply until the air supply is adequate for proper combustion and to shut off the gas supply in the event of failure of the air supply.

B-18. Pilots. Each gas burner shall be equipped with a safety device arranged to prevent the flow of gas through the main burner unless the pilot flame is burning. The device shall consist of a thermostatic pilot or other approved type of safety device. The operation of this device shall not depend upon the closing of an electric circuit to shut off the main gas supply. Gas burners installed under subsection B-14 are exempt from this provision.

Pilot burners shall be rigidly supported in such a manner that their position relative to the main burner or burners will be fixed.

Pilot burner or burners shall be so placed that they can be safely lighted and they shall be readily accessible or removable for cleaning.

The gas supply line to the pilot or pilots shall be connected to vertical main gas supply lines or to the side or top of horizontal lines ahead of the main burner governor and appliance shutoff valve and shall be provided with a separate cock. Provided, however, that where complete

shutoff-type automatic pilot is provided with approved flow interrupter, the pilot line shall be connected to this control and such control shall be located ahead of the main burner governor and after the appliance shutoff valve.

Room heaters, floor furnaces and recessed wall heaters shall be equipped with complete shutoff type of automatic pilot.

Thermostatic safety pilots shall be so adjusted that under continuous operating conditions the main gas supply will be shut off within three minutes after pilot flame has been extinguished.

Copper or iron tubing shall not be used for supply piping within the burner heat zone to pilot burners.

B-19. Main shutoff valve or cock. A manually operated, approved shutoff valve or cock shall be installed at each appliance to shut off the entire gas supply to appliance.

Such valve or cock shall be so located that it is readily accessible at about five feet above the floor, and shall clearly indicate the "on" and "off" positions, or direction of rotation to open or close. Where a cock is provided, the opening handle shall be securely attached to the plug in such manner that it may not be readily removed.

B-20. Automatic control. Electric control valves shall be installed according to the instructions furnished by the manufacturer. All heating equipment shall be automatically controlled by thermostat except heaters installed in fireplaces as provided in subsection B-14.

B-21. Electric wiring. All electrical connections shall be made in accordance with the provisions of all building and electrical codes relating to the installation of electric wiring in the city of Fargo.

B-22. Gas pressure regulators. An approved gas pressure regulator shall be installed on the downstream side of the pilot supply on all gas burners, and a pressure regulator and pilot filter shall be installed in all pilot lines, downstream from the pilot shutoff cock, on all burners. Pressure regulators and pilot filters shall be of a type listed for approval by the American Gas Association and shall be approved by the building inspector.

B-23. Limiting devices. The boiler or furnace shall be equipped with safety devices arranged to limit high steam pressures or water temperatures, as well as high air temperature in warm-air furnaces, and all such devices shall be subject to the approval of the building inspector.

Each gas-fired steam boiler shall be equipped with a low-water cutoff approved by the building inspector.

Safety devices operated electrically shall not depend upon the closing of a circuit to shut off the main gas supply. This requirement shall not be construed as prohibiting the use of electrical regulating devices, providing the required safety devices are also installed. Controls shall be so connected that maximum inherent safety provided by such controls will be attained.

Safety shutoff valves, if used, shall be tested to assure gas-tightness of the seat when in the closed position; the valve assembly shall be gas-tight in all positions. Packing glands shall be designed so that the valve will not be made inoperative by excessive tightening of the packing nut.

Either the valve shall incorporate means for requiring a manual operation for reopening of the valve after it has closed or the electrical circuit shall be so arranged as to require a manual operation to reopen the valve after it has been closed. In no case shall valves be able to be opened

manually until safety pilots are lighted and circuit completed or low-water cutoff circuit has been completed.

B-24. Piping. Gas piping installed for serving conversion burners or gas-designed heater appliances shall be sized for a total pressure drop not exceeding 0.5 inches water gauge from the meter to the burner for the total connected load. A separate pipe from the meter is to be preferred and in no case shall the service pipe be smaller than the size of equipment connection. All gas piping shall be installed in conformance with the provisions of this chapter and in conformance with American Standard Association□s requirements.

Subsection B-25 is deleted in its entirety and the remaining subsections of section 30-0305 shall be renumbered accordingly.

* * *

B-28. Burner operation. . . .

NOTE: In making the test under subsection B-28, care shall be exercised to prevent the accumulation of unburned gas in the appliance or flues which might result in explosion or fire.

* * *

B-30. Instructions to the owner and/or occupant. The owner and/or occupant shall be thoroughly instructed by the installer as to the proper and safe operation of the appliance before it is placed in service, such instructions to include actual demonstration to the customer or his authorized agent of the processes of lighting and turning off the gas burner. A printed set of instructions enclosed in an envelope labeled “Instructions to Customer” shall be securely attached to the gas valve.

* * *

C-10. Venting of controls. Pressure regulators, slow-opening gas valves, and other gas equipment requiring venting shall be vented to a safe point outside of the building.

* * *

C-13. Inspection and tests. All installations shall be carefully tested for the proper operation of all controls and electrical circuits.

Piping shall be carefully tested for leaks.

* * *

Source: 1952 Rev. Ord. 968 (1956), 1087 (1960), 2467 (1989), 2796 (1996), 4599 (2007).

ARTICLE 30-04

CHIMNEYS AND FLUES

Note: Article 4 of chapter 30 (sections 30-0401 to 30-0404) of the Fargo Municipal Code

has been repealed by Ord. No. 2758 (1995).

Source: Revised Ordinances of 1952 (added by Ord. No. 968, 1956), 1087 (1960), repealed by Ord. 2758 (1995).

ARTICLE 30-05

Article 30-05 repealed in its entirety by Ord. No. 4600 (2007).

ARTICLE 30-06

CERTIFICATE OF AUTHORITY

Note: Article 30-06 of chapter 30 of the Revised Ordinances of 1965 (sections 30-0601 to 30-0615), relating to the board of examiners, was repealed by Ord. No. 1571 (1974), which enacted new article 30-06 (sections 30-0601 to 30-0612); additional source: 1952 Rev. Ord. as added by Ord. No. 968; amended by Ord. No. 1087 (1690).

Section

30-0601 Definitions.
30-0602 Applications.
30-0603 Subject of examination.
30-0604 Rules and procedures.
30-0605 Time of examination.
30-0606 Passing grade.
30-0607 Issuance of certificate of authority.
30-0608 Suspension or revocation of certificates.
30-0609 Records.
30-0610 Master heating contractor and master gas installer--Bond required--Repealed.
30-0611 Liability insurance.
30-0612 Liability.

30-0601. Definitions.--The following words, terms and phrases when used in this chapter shall have the meanings ascribed to them in this section, except when the context clearly indicates a different meaning:

1. "Master heating contractor" shall mean a person, firm, or corporation duly authorized by a master's certificate of authority to conduct the business of constructing, installing, altering, maintaining, and repairing heating and air conditioning plants and combustion units and fuel consuming appliances within the city of Fargo.

2. "Journeyman heating mechanic" shall mean a person duly authorized by a journeyman's certificate of authority to construct, install, alter, maintain, and repair heating and air conditioning plants and combustion units and all fuel consuming appliances while under the supervision of or in the employment of a master heating contractor.

3. "Master gas installer" shall mean a person, firm, or corporation duly authorized by a master's certificate of authority to conduct the business of installing, maintaining and repairing gas

consuming appliances within the city.

4. "Journeyman gas fitter" shall mean a person duly authorized by a journeyman's certificate of authority to install, maintain and repair gas consuming appliances while under the supervision of or in the employment of a master gas installer.

Source: 1965 Rev. Ord. 30-0601, 1571 (1974).

30-0602. Applications.--Any applicant for a certificate of authority shall apply for said certificate with the building official, and shall state in the application whether it is for a master's or journeyman's certificate. The application shall show the full name, place of business, name of employer, and proof of at least three years of experience or trade school or combination of both.

Source: 1965 Rev. Ord. 30-0602, 1571 (1974), 4091 (2000).

30-0603. Subject of examination.--The building inspector shall examine all applicants for a master's or journeyman's certificate of authority as to their ability and skill to construct, install, alter, maintain, service and repair heating and air conditioning plants, gas burners, gas burner equipment , refrigeration equipment, and appliances and combustion units in the city of Fargo. The building official shall have complete control over such examinations. The subject of such examination shall be confined to the provisions, requirements and application of this ordinance and the regulatory standards therein adopted. The building official may enter into and recognize agreements with another jurisdiction for the purpose of licensing under the regulatory standards contained herein; and, such reciprocal licensing shall be recognized as if testing occurred as specified in this article. The effect of reciprocity licensing shall not be to lessen any other requirements of this article including specifically those requirements contained in 30-0608, 30-0611, and 30-0612.

Source: 1965 Rev. Ord. 30-0603, 1571 (1974), 4091 (2000).

30-0604. Rules and procedures.--The building official shall make such rules and regulations and prescribe such procedure as may be necessary to carry out his duties under this article.

Source: 1965 Rev. Ord. 30-0604, 1571 (1974), 4091 (2000).

30-0605. Time of examination.--Regular examinations of applicants shall be conducted in June and December of each year at such time and place as the building official may designate. Special examinations, where deemed necessary by the building official, may be held at other times.

Source: 1965 Rev. Ord. 30-0605, 1571 (1974), 4091 (2000).

30-0606. Passing grade.--A passing grade shall be 75% of a possible 100%. Any applicant who shall fail to receive a passing grade shall be eligible to take a subsequent examination at the discretion of the building official.

Source: 1965 Rev. Ord. 30-0606, 1571 (1974), 4091 (2000).

30-0607. Issuance of certificate of authority.--The building official shall certify to the board of city commissioners the names of all successful applicants, which shall constitute a recommendation that the board of city commissioners issue to said applicants a master's or a journeyman's certificate of authority, as the case may be, upon payment of the fee as established in accordance with article 30-07. Such certificate of authority shall not authorize the doing of any work which is subject to the provisions of the Electrical Code and Plumbing Code of the city of Fargo.

Source: 1965 Rev. Ord. 30-0607, 1571 (1974), 4091 (2000).

30-0608. Suspension or revocation of certificates.--The board of city commissioners of the city of Fargo shall have the authority to suspend, or revoke, any certificate of authority granted under the provisions of this chapter for violations thereof after first giving notice to the holder thereof of such claimed violation and an opportunity to be heard and present evidence in his own behalf.

Source: 1965 Rev. Ord. 30-0608, 1571 (1974).

30-0609. Records.--The building official shall keep accurate records of all applications or examinations, the examinations given, and the results thereof. Such records shall be kept in the office of the building inspector and shall be open to public inspection during business hours.

Source: 1965 Rev. Ord. 30-0609, 1571 (1974), 4091 (2000).

30-0610. Master heating contractor and master gas installer--Bond required.--Repealed by Ord. No. 2396, effective February 22, 1988.

30-0611. Liability insurance.--Public liability insurance shall be carried by each master heating contractor and master gas installer. The amount of coverage for one act of negligence shall be not less than $100,000 for personal injuries to, or death of, one person and, subject to said limit for one person, an amount not less than $300,000 for injuries to or death of more than one person, and for damage to property of any person an amount not less than $100,000. A copy of such insurance policy shall be filed with the city auditor and shall cover the full term of each license.

Source: 1965 Rev. Ord. 30-0611, 1571 (1974).

30-0612. Liability.--This chapter shall not be construed to relieve or lessen the responsibility or liability of any party or his employees engaged in the business of constructing, installing, altering, maintaining, and repairing heating and air conditioning plants, gas burners, gas burning equipment, refrigeration equipment, and combustion units within the city for damage to any person or property caused by any act of neglect or inadequate or defective work, nor shall the city of Fargo be held to have assumed any such liability by reason of the issuance of any certificates of authority, certificates of approval, inspections of installations, permits, or other acts of said city or its employees as authorized or provided for by this chapter.

Source: 1965 Rev. Ord. 30-0612, 1571 (1974), 4091 (2000).

ARTICLE 30-07

FEES

Section

30-0701 Permits.
30-0702 Masters and journeymen.

30-0701. Permits.--The fees for permits shall be as established by resolution of the board of city commissioners.

All permits issued pursuant to this section shall be posted and kept on the premises concerned until the work has been completed and approval given by the building inspector.

Source: 1965 Rev. Ord. 30-0701, 1518 (1973).

30-0702. Masters and journeymen.--Master heating contractors and master gas installers and journeyman heating mechanics and journeyman gas installers shall pay the required license fees which shall be established by resolution of the board of city commissioners.

Source: 1965 Rev. Ord. 30-0702, 1518 (1973).

ARTICLE 30-08

MISCELLANEOUS

Section

30-0801 Separability clause.
30-0802 Penalties for violation of chapter.

30-0801. Separability clause.--If any section, subsection, sentence, clause, or phrase of this chapter is, for any reason, held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of any other section, subsection, sentence, clause, phrase, or portion thereof. The board of city commissioners hereby declares that it would have passed this chapter and each section, subsection, sentence, clause, or phrase thereof irrespective of the fact that any one or more other sections, subsections, sentences, clauses, or phrases may be declared invalid or unconstitutional.

Source: 1952 Rev. Ord. 968 (1956), 1087 (1960).

30-0802. Penalties for violation of chapter.--Any person violating any of the provisions of this chapter or failing to comply therewith, or who shall violate or fail to comply with any code, standard or requirement therein adopted by reference, or who shall construct or install any heating or air-conditioning plant, gas burner, gas-burner equipment or appliance or combustion unit in violation of any plans, specifications, or sketches upon which the same was submitted and approved or any permit issued thereunder shall be guilty of a misdemeanor and upon conviction thereof shall be punished for each and every such violation and noncompliance by a fine of not less than $10 or more than $100 or by imprisonment for not to exceed 90 days, or by both such fine and imprisonment, in the discretion of the court; the court to have power to suspend such sentence and to revoke the suspension thereof. The imposition of one penalty for any violation of or noncompliance with this chapter shall not excuse or permit the same to continue; and all such persons shall he required to correct or remedy such violations or noncompliances within a reasonable time; and when not otherwise specified, each 10 days that prohibited conditions are maintained shall constitute a separate offense. The application of the above penalty shall not be held to prevent the enforced correction or removal of prohibited conditions.

Source: 1952 Rev. Ord. 968 (1956), 1087 (1960).