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2ND READING AND FINAL PASSAGE: 3-29-96

96-021
18e

AN ORDINANCE of the CITY OF MINNEAPOLIS

Biernat presents the following ordinance:

Amending Title 5, Chapter 105 of the Minneapolis Code of Ordinances relating to Building Code: Heating, Air Conditioning and Refrigeration.

The City Council of The City of Minneapolis do ordain as follows:

Section 1. That Section 105.10 of the above-entitled ordinance be amended to read as follows:

105.10. Article designated heating code. This article shall constitute and shall be known and cited as the heating code. The provisions of the heating code shall be construed so as to secure the beneficial purposes intended. **SCOPE.** THE PROVISIONS OF THIS CHAPTER SHALL GOVERN THE MANNER OF CONSTRUCTION, INSTALLATION, ALTERATION, MAINTENANCE AND REPAIR OF ALL HEATING, VENTILATING, AIR CONDITIONING AND REFRIGERATION PLANTS AND EQUIPMENT IN OR FOR ALL BUILDINGS WITHIN THE CITY.

Section 2. That Section 105.20 of the above-entitled ordinance be amended to read as follows:

105.20. Purpose. The provisions of the heating code shall govern the manner of construction, installation, alteration, maintenance and repair of all heating, ventilating, air conditioning and refrigeration plants and equipment in or for all buildings within the city. The inclusion of specific requirements relative to the manner of installation of any such plant or equipment in any one or more parts of said codes shall not limit this procedure to any particular type of installer, nor provide a basis upon which determination of the right to perform such procedures shall be made. The authority for such a determination will be found in the various licensing ordinances for each type of installer who performs work under said code.

PERMITS. (a) NO PERSON SHALL CONSTRUCT OR INSTALL ANY HEATING, VENTILATING, AIR CONDITIONING OR REFRIGERATION PLANT OR EQUIPMENT SUCH AS IS SUBJECT TO REGULATION BY THIS CHAPTER, IN OR FOR ANY BUILDING, OR ALTER OR REPAIR ANY SUCH EXISTING HEATING, VENTILATING, AIR CONDITIONING OR REFRIGERATION PLANT OR EQUIPMENT, WITHOUT FIRST MAKING WRITTEN APPLICATION TO AND SECURING A PERMIT FROM THE DIRECTOR OF INSPECTIONS. HOWEVER, A PERMIT WILL NOT BE REQUIRED FOR SERVICE WORK, REPAIRS OR REPLACEMENT OF COMPONENTS OR CONTROLS OF ANY EXISTING HEATING, VENTILATING, AIR CONDITIONING OR REFRIGERATION SYSTEM IF ALL THE FOLLOWING REQUIREMENTS ARE MET:

- (1) THE TOTAL COST OF SERVICE AND LABOR CHARGES IS LESS THAN TWO HUNDRED AND FIFTY DOLLARS (\$250.00).
- (2) THERE IS NO CHANGE IN THE TYPE OR METHOD OF CONTROL.
- (3) THERE IS NO INCREASE IN THE REQUIRED CAPACITY, RATING OR BTU INPUT OF THE SYSTEM OR EQUIPMENT.

(b) NO PERSON SHALL ENGAGE IN THE BUSINESS OF CLEANING COMMERCIAL OR INDUSTRIAL AIR CONDITIONING SYSTEMS AND/OR VENTILATION SYSTEMS WITHOUT FIRST HAVING SECURED A PERMIT TO DO SO.

(c) NO PERSON SHALL MAKE OR CAUSE TO BE MADE ANY CHANGE IN THE WORK REGULATED BY THIS CHAPTER FOR WHICH A PERMIT HAS BEEN GRANTED, OR TO THE PLANS SUBMITTED FOR SUCH A PERMIT WITHOUT FIRST HAVING OBTAINED THE APPROVAL OF THE DIRECTOR OF INSPECTIONS.

Section 3. That Section 105.30 of the above-entitled ordinance be amended to read as follows:

105.30. Continuing violations. ~~The continued violation of any provision of the heating code shall be and constitute a separate offense for each and every day such violation shall continue.~~ **WORK SITE NOTICE.** NO PERSON REQUIRED TO BE LICENSED PRIOR TO OBTAINING A PERMIT BY THE PROVISIONS OF THIS CHAPTER SHALL COMMENCE WITH OR PERFORM OR ENTER UPON THE CONSTRUCTION, INSTALLATION, ALTERATION OR CHANGE OF ANY HEATING, VENTILATING, AIR CONDITIONING OR REFRIGERATION WORK WITHIN THE CITY FOR WHICH A PERMIT IS REQUIRED UNLESS THERE SHALL BE CONSPICUOUSLY POSTED AT THE WORK SITE A WORK SITE NOTICE. THE WORK SITE NOTICE SHALL BE NOT LESS THAN EIGHT (8) BY TEN (10) INCHES IN SIZE AND SHALL STATE THE NAME OF THE LICENSED MECHANICAL CONTRACTOR AND SAID CONTRACTOR'S BUSINESS ADDRESS OR BUSINESS PHONE NUMBER. THE WORK SITE NOTICE REQUIRED BY THIS SECTION MAY, UPON APPROVAL BY THE DIRECTOR OF INSPECTIONS, BE SATISFIED BY A CONSPICUOUSLY MARKED VEHICLE WHEN SUCH VEHICLE IS LOCATED ON OR ADJACENT TO THE PROPERTY WHERE THE MECHANICAL WORK IS BEING DONE, BUT THE VEHICLE IS NOT TO BE CONCEALED WITHIN A BUILDING OR STRUCTURE. A CONSPICUOUSLY MARKED VEHICLE SHALL BE READILY IDENTIFIABLE BY COMPANY LOGO OR NAME AND MAY INCLUDE THE BUSINESS ADDRESS AND/OR PHONE NUMBER. IN THE EVENT THAT THE WORK SITE NOTICE REQUIRED BY THIS SECTION IS NOT PROPERLY POSTED, THE DIRECTOR OF INSPECTIONS OR THE DIRECTOR'S DULY AUTHORIZED ASSISTANTS MAY STOP ALL MECHANICAL WORK AT THE JOB SITE UNTIL THERE HAS BEEN COMPLIANCE WITH THIS SECTION.

Section 4. That Section 105.40 of the above-entitled ordinance be amended to read as follows:

105.40. Provisions declared minimum. ~~The provisions of the heating code shall be held to be minimum requirements adopted for the protection of the health, welfare and safety of the community.~~ **STATE STANDARDS TO BE APPLIED.** THE PROVISIONS OF THE MINNESOTA BUILDING CODE, FILED WITH THE SECRETARY OF STATE AND THE COMMISSIONER OF ADMINISTRATION, THAT APPLY TO HEATING, AIR CONDITIONING AND REFRIGERATION PLANTS SHALL BE THE APPLICABLE STANDARDS FOR THE CONSTRUCTION, MAINTENANCE, OPERATION AND REPAIR OF SUCH SYSTEMS.

Section 5. That Section 105.50 of the above-entitled ordinance be amended to read as follows:

105.50. Supervision and enforcement. ~~(a) All construction, installation, alteration and repair of heating, ventilating, air conditioning or refrigeration plants and equipment subject to regulation by the heating code, in or for buildings of all classes, shall be done under the supervision and subject to the approval of the department of inspections.~~

(b) The director of inspections and the director's regularly authorized assistants assigned to such work shall enforce and cause to be enforced the heating code, and shall supervise all necessary tests and make all necessary inspections of heating, ventilating, air conditioning or refrigeration plants and equipment installed thereunder. ~~Said director and~~

assistants are hereby given full authority to pass upon and either approve or disapprove any construction, material or device not specifically provided for in the heating code proposed to be used in any heating, ventilating, air conditioning or refrigeration installation for which a permit is required; to require such tests to be made as may be necessary to determine the tightness of any steam or hot water heating installation or of any portion thereof or of any sheet metal ducts or pipes connected therewith; and to require the immediate removal of any material or construction found to have been so installed as to conceal or cover up, before its inspection and approval by the department of inspections, any newly installed portion of any heating, ventilating, air conditioning or refrigeration system or plant.

Section 6. That Section 105.55 of the above-entitled ordinance be and is hereby repealed.

105.55. Work site notice. No person required to be licensed prior to obtaining a permit by the provisions of this chapter shall commence with or perform or enter upon the construction, installation, alteration or change of any heating, ventilating, air conditioning or refrigeration work within the city for which a permit is required unless there shall be conspicuously posted at the work site a work site notice. The work site notice shall be not less than eight (8) by ten (10) inches in size and shall state the name of the licensed mechanical contractor and, said contractor's business address or business phone number. The work site notice required by this section may, upon approval by the director of inspections, be satisfied by a conspicuously marked vehicle when such vehicle is located on or adjacent to the property where the mechanical work is being done, but the vehicle is not to be concealed within a building or structure. A conspicuously marked vehicle shall be readily identifiable by company logo or name and may include the business address and/or phone number. In the event that the work site notice required by this section is not properly posted, the director of inspections or the director's duly authorized assistants may stop all mechanical work at the job site until this section has been complied with.

Section 7. That Section 105.60 of the above-entitled ordinance be and is hereby repealed.

105.60. Permits and approval of plans. (a) No person shall construct or install any heating, ventilating, air conditioning or refrigeration plant or equipment, such as is subject to regulation by the heating code, in or for any building, or alter or repair any such existing heating, ventilating, air conditioning or refrigeration plant or equipment, without first making written application to and securing a permit from the director of inspections therefor. No person shall fail or neglect to comply with the provisions of said code and of the permit so issued thereunder. Any person, when applying for any such permit, upon demand of said inspector, shall furnish the inspector with all necessary plans in duplicate, for such proposed construction, installation, alteration or repair and with all proper and sufficient information relating thereto, and shall secure the inspector's approval of said plans before such permit shall be issued. All such plans and specifications, except for single family or two family dwellings or for heating, ventilating or air conditioning installations wherein the space to be heated, ventilated or air conditioned does not exceed one hundred thousand (100,000) cubic feet, shall be prepared and signed by a "registered professional engineer" duly qualified by registration as required by Minnesota Statutes, Chapter 326, and by no other person or persons.

(b) However, a permit will not be required for service work, repairs or replacement of components or controls of any existing heating, ventilating, air conditioning or refrigeration system if all the following requirements are met:

- (1) The total cost of service and labor charges is less than two hundred and fifty dollars (\$250.00);
- (2) There is no change in the type or method of control; and

- (3) ~~There is no increase in the required capacity, rating or Btu input of the system or equipment.~~

~~However, no person shall engage in the business of cleaning commercial or industrial air conditioning systems and/or ventilation systems without first having secured a permit to do so.~~

~~(c) No person shall make or cause to be made any change in the work regulated by the heating code for which a permit has been granted, or to the plans submitted for such a permit without first having obtained the approval of the director of inspections.~~

Section 8. That Section 105.90 of the above-entitled ordinance is amended to read as follows:

105.90. Duty to furnish information about devices. Before a permit shall be issued by the director of inspections, as herein provided, for the installation of any steam or hot water boiler, warm air furnace or of any device performing some specific service in connection with any heating, ventilating, air conditioning or refrigeration system or plant, the capacity of which device might affect, in whole or in part, the efficiency of the system or plant, the contractor installing such boiler, furnace or device, or the manufacturer of same, shall furnish said director with such test data, measurements, ratings, capacities or other information as may be required by said director for the purpose of determining ratings of capacities of such boilers, furnaces or devices in accordance with the provisions of the heating code. **APPROVAL OF MATERIALS AND APPLIANCES REQUIRED.** (a) NO PERSON SHALL INSTALL ANY MATERIAL OR APPLIANCE, OR CONNECT SAME TO ANY HEATING, VENTILATING OR AIR CONDITIONING SYSTEM, WHICH MATERIAL OR APPLIANCE HAS NOT BEEN APPROVED BY THE DEPARTMENT OF INSPECTIONS DIVISION.

(b) NO PERSON SHALL KNOWINGLY REPRESENT THAT ANY APPLIANCE OR MATERIAL HAS BEEN APPROVED BY THE DEPARTMENT OF INSPECTIONS FOR INSTALLATION WHEN SUCH IS NOT A FACT.

(c) THE INSPECTIONS DIVISION SHALL ACCEPT FOR INSTALLATION ANY APPLIANCE OR MATERIAL WHICH HAS BEEN LISTED BY A RECOGNIZED NATIONAL TESTING LABORATORY, UNTIL SUCH TIME AS EXPERIENCE IN THE FIELD OF ACTUAL SERVICE DEVELOPS UNFORESEEN FACTORS WARRANTING WITHDRAWAL OF ACCEPTANCE.

Section 9. That Sections 105.100 through 105.470 of the above-entitled ordinance be and are hereby repealed.

105.100. Affidavits required. All such test data, measurements, ratings or capacities so submitted to the director of inspections as above provided, shall be accompanied by proper affidavits as to the correctness of the same. Such affidavit shall be made by the manufacturer of the boiler, furnace or device for which the test data, measurements, ratings or capacities referred to therein were submitted.

105.110. Certificate as to gas utility capacity required. (a) No permit shall be issued by the director of inspections for the installation of gas space heating equipment, commercial or industrial gas burning equipment unless the application for such permit is accompanied by a certificate from the Minneapolis Gas Company, its successors or assigns, stating that the Minneapolis Gas Company has the capacity and facilities to serve such installation. However, the director of inspections may issue permits for the purpose of replacing old equipment previously installed for which a permit has theretofore been issued with new equipment of no greater capacity than that being replaced.

(b) Notwithstanding the above provisions, the director of inspections may issue permits without the said certificate for the installation of any gas burning space heating equipment in a

one or two family dwelling or for commercial or industrial gas burning equipment which is rated by the manufacturer at less than one hundred one (101) cubic feet per hour.

105.120. Secondhand equipment. The department of inspections shall determine the rating or capacity for any secondhand boiler, furnace or device which is no longer manufactured, which is to be used in connection with any heating, ventilating, air conditioning or refrigeration system or plant and for which the above required test data, measurements, ratings or capacities are not available in the manner set forth in state law.

105.130. Notification for inspection. The heating, ventilating, air conditioning or refrigeration contractor shall immediately notify the department of inspections, upon the completion of the installation, that the work for which a permit had been issued, as required by the heating code, is ready for inspection and test, in the case of a steam, hot water or ventilating, air conditioning or refrigeration installation, or for inspection in the case of a warm air installation, by registering the number of the permit and the location of the work in the inspection order register book kept for that purpose in the office of the director of inspections.

105.140. Work to be unconcealed. In any new building and in any new addition to an older building, those portions of the installation which are thereafter to be concealed or covered up, in any heating, ventilating, air conditioning or refrigeration installation for which a permit has been issued as required by the heating code, the heating, ventilating, air conditioning or refrigeration contractor shall notify the department of inspections, in the manner above provided, that said portions of the installation are ready for inspection and test, if it be a steam or hot water, ventilating, air conditioning or refrigeration installation, or for inspection, if warm air. Said contractor shall also, at said time, post in a conspicuous position on such portion of the installation a notice. Said notice shall be in substantially the following form: "Warning: This piping has not been inspected and approved by the department of inspections and must not be covered up or concealed until so inspected and approved." No person other than the inspector from said department shall thereafter remove said notice, nor shall said inspector until the inspector shall have attached to said piping a notice stating that the same has been inspected and approved. Any unauthorized person who shall remove any such notice or cause the same to be so removed, and any person having charge of the construction of such new building or addition, or any other person who covers or conceals or causes to be so covered or concealed, any of such portions of such heating, ventilating, air conditioning or refrigeration installation before the same shall have been approved by the department of inspections shall violate this Code.

105.150. Tests of air conditioning, warm air furnace fan installations. After notifying the department of inspections as hereinbefore provided that any newly installed air conditioning or warm air furnace fan system, or portion thereof, is ready for inspection and test, the contractor installing same shall, in each such case, make such test, in the presence of and under the supervision of the inspector from said department, as may be necessary to demonstrate the delivery of the required amounts of air to the various parts of such system. No such system shall be approved by said department until found, under such tests, to be fulfilling all requirements of the heating code pertaining to such system.

105.160. Tests of steam, hot water installations. After notifying the department of inspections, as hereinbefore provided, that any newly installed steam or hot water heating system, or portion thereof, is ready for inspection and test, the heating contractor shall make such test in the presence and under the supervision of the inspector from said department, subjecting such installation or portions thereof to a hydrostatic pressure to be determined in such case by said department, depending upon the nature of the installation. In no case shall such hydrostatic pressure be less than twenty five (25) pounds per square inch for a steam or forty (40) pounds for a hot water installation. No such installation shall be approved by said department until found, under such test, to be tight throughout.

105.170. Tests of refrigeration installations. After notifying the department of inspections, as hereinbefore provided, that any newly installed refrigeration system, or portion thereof, is ready for inspection and test, the contractor installing same shall, in each such case, make such tests, in the presence of and under the supervision of the inspector from said

department, as may be necessary to demonstrate the tightness of such system. Such tests shall be conducted as are set forth in state law. (Code 1960, As Amend., § 100.150)

105.180. Reinspection. Whenever the director of inspections, for any of the reasons set forth in the heating code, refuses his approval in any case where such approval is required, corrections shall be made to meet the objections of the director of inspections. When such corrections have been completed, the contractor or the licensee shall so notify the department of inspections, whereupon the director of inspections shall make an inspection thereof to all purposes the same as in the first instance required under the heating code.

105.190. Replacements. (a) Any steam or hot water boiler, warm air furnace, fan, blower, air conditioning, ventilating or refrigeration equipment or any appurtenance connected with any of the above, installed to replace any existing equipment of like nature in any existing plant or system, shall be of such capacity as would be required under the heating code where such boiler, furnace, fan, blower, air conditioning, ventilating or refrigeration equipment or appurtenance to be installed for use in connection with a new plant or system designed, as would be required by said code, to meet the heating, ventilating, air conditioning or refrigeration requirements for said building.

(b) However, in buildings other than single and two family dwellings where, in the opinion of the director of inspections, it would be impractical or would work an unnecessary hardship to require a complete compliance with the foregoing requirements, a steam or hot water boiler, warm air furnace, fan, blower, air conditioning, ventilating or refrigeration equipment or appurtenance, based as to capacity on the connected load, may be installed to replace any existing equipment of like nature.

105.200. Alterations. Any alteration made to an existing heating, ventilating, air conditioning or refrigeration system or plant, in or for any building, shall be made in conformity with the requirements of the heating code insofar as may be practical, in the judgment of the department of inspections, without impairing the efficient operation of the system as a whole, or of any portion thereof.

105.210. Additions. Wherever the heating, ventilating, air conditioning or refrigeration requirements, as determined by the heating code, of any existing building provided with a heating, ventilating, air conditioning or refrigeration system or plant are increased, either by the construction of an addition or additions to said building or by an increase in the portion of said building to be heated, ventilated, air conditioned or refrigerated, or in any other manner, the capacity of the heating, ventilating, air conditioning or refrigeration system or plant serving same shall be increased to that capacity which would be required by the heating code for a new installation designed to meet equal heating, ventilating, air conditioning or refrigeration requirements.

105.220. Repairs. Repairs to any heating, ventilating, air conditioning or refrigeration equipment shall be made in such manner as to restore such equipment, as near as is practical, to its original sound condition. Such repaired equipment shall be subjected to such test as may be required, in the opinion of the director of inspections, to satisfactorily demonstrate its ability to meet the service requirements to which it may normally be subjected.

105.270. Leak detecting agents. Systems requiring a permit and containing any refrigerant which is harmful to health and the vapors of which are not readily apparent through odor or irritating effect shall have added to such refrigerant a suitable leak detecting agent which will give warning before dangerous concentrations are reached. This restriction shall not apply to systems employing carbon dioxide.

105.280. Systems with over one hundred pounds of refrigerant. Except in plants used exclusively for ice making, refrigeration or cold storage, no system containing over one hundred (100) pounds of irritant or flammable refrigerant shall be installed unless it conforms to the following provisions:

- (a) ~~Refrigeration shall be by the indirect method, except that direct refrigeration will be permitted in rooms, vaults or other spaces for storage only, or in connection with a manufacturing process located on the ground floor only and with adequate exit facilities. No brine circulating system employing a brine having a flash point below one hundred (100) degrees Fahrenheit shall be permitted in any location in which an indirect system only is permissible.~~
- (b) ~~Each compressor shall be in a special machinery room with suitable exit to the outside. Adequate means for ventilation shall be provided by a door or window opening to the outside, or a mechanical system of ventilation shall be provided.~~
- (c) ~~Remote control shall be provided so that all machinery can be shut down without entering the machinery room.~~
- (d) ~~Suitable gas masks shall be provided, which shall be kept in operative condition in an easily accessible case or cabinet immediately outside the machinery room.~~
- (e) ~~All doorways between the machinery room and other parts of the building shall be normally closed and shall be tight fitting. No other openings between the machinery room and other parts of the building shall be permitted.~~
- (f) ~~No open flame or spark producing device shall be permitted in any refrigerating machinery room with a system containing a flammable refrigerant.~~

105.290. Systems restricted in fire limits. ~~No system containing over one thousand (1,000) pounds of refrigerant having a flash point below twenty-five (25) degrees Fahrenheit shall be permitted within the city.~~

105.300. Low pressure steam requirement. ~~No system of the intermittent absorption type containing over one thousand (1,000) pounds of refrigerant shall be permitted and no system of the intermittent absorption type containing over one hundred (100) pounds of refrigerant shall be permitted unless the heating medium is low pressure steam.~~

105.310. Design. (a) ~~All refrigerant piping, tubing and fittings shall be of a material suitable for the refrigerant employed. Standard wall thickness pipe may be used where a test pressure of three hundred (300) pounds or less is required. Where the test pressure is in excess of three hundred (300) pounds extra heavy pipe shall be used. If flanged fittings are used they shall be of the recessed gasket type. Piping shall be rigidly secured in place. Approved seamless metal tubing of copper or other material suitable for the refrigerant may be used for refrigerant lines in systems containing not over one hundred (100) pounds of refrigerant. Elevator, dumbwaiter or other shafts containing moving objects shall not be used for outlet or junction boxes, nor for tubing or piping, carrying refrigerant.~~

(b) ~~Systems of more than twenty (20) pounds capacity, or systems supplying two (2) or more evaporators, and using seamless metal tubing for refrigerant lines, shall have all such tubing, except between the compressor and the nearest riser box or manifold, installed in iron pipe or other metal enclosure, with suitable metal outlet boxes for manifolds and for all valves except those at the evaporators. Flexible metal enclosures may be used at bends or at terminals if not exceeding six (6) feet in length and rigidly fastened to connecting pipe or valve boxes. Each run of pipe shall be sealed or plugged at each junction box inlet with a material not affected by moisture or the temperature of the line. All joints shall be accessible and shall be of sweated types, except that flared joints may be used for tubing not more than five eighths inch in diameter and where the required test pressure does not exceed one hundred eighty (180) pounds. Enclosures shall be rigidly secured to the wall or other supports. Tubing shall be independently supported in such a manner as to prevent excessive vibration and strains at~~

~~joints and connections. Valves, service connections and joints in tubing shall be rigidly secured in suitable metal boxes at accessible points.~~

105.320. Testing. No system shall be placed in operation until the complete installation has been tested by the installer and has been approved by the chief engineer of the fire department. Tests shall include a vacuum test of the complete piping system, preferably with the evaporators installed, but valves thereon may be closed to prevent withdrawal of the refrigerant. Under this test, a vacuum of twenty (20) inches of mercury shall be placed upon the system and shall be held for a period of twenty (20) minutes, with no detectable drop, after the pump has been stopped. After the vacuum test, the system of piping shall be tested by application of the pressure indicated in the table in section 1345.2130 of the state building code (Minnesota Rules, Section 1345.2130).

105.330. Compressor location. In systems exceeding twenty (20) pounds capacity, the compressor, if not located in a machinery room, shall not be located under stairways or near dumbwaiter or elevator shafts; shall be located as nearly beneath the riser as practicable; shall preferably not be in a room containing storage of combustible material; shall in any case be located at least ten (10) feet from such storage; shall be located in an accessible part of the building with adequate lighting facilities provided; and shall be protected against mechanical injury by a noncombustible partition or by heavy metal netting secured to two-inch by four-inch wooden studding or to metal posts.

105.340. Shutoff valves. Shutoff valves shall be installed at each service outlet in pressure and return lines, and in each riser or manifold connection at or near the compressor. These valves shall be fitted with a hand wheel or other means of ready operation as an integral part thereof. Valves in service connections shall be located outside of the refrigerating unit and at such distance above the floor as will provide ready accessibility. Evaporators which may be removed as a unit shall have valves permitting the removal of the evaporator with valves attached.

105.350. Service connections. Not more than a single tenant shall be supplied from an outlet box on a main riser. Such outlet box shall be located within the premises of the tenant served and so arranged as to be accessible at all times. No outlet or junction box shall be permitted in any hallway, stairway or vertical shaft not cut off at each story. Every refrigerator shall be rigidly secured in place.

105.360. Pressure limiting devices. Every system containing over twenty (20) pounds of refrigerant which operates above atmospheric pressure, and every water cooled system containing over twelve (12) pounds of refrigerant and capable of producing a pressure in excess of the test pressure shall be provided with a pressure limiting device.

105.370. Relief valves. Each system containing over one hundred (100) pounds of refrigerant shall have the compressor or generator protected by a pressure relief valve connected into the high pressure side between the main stop valve and the compressor or generator to relieve excessive pressure into the low pressure side of the system or to the atmosphere. Where discharge is to the low pressure side, a relief valve shall be provided on the low pressure side of the system.

105.380. Stop valves. No stop valve shall be located between a pressure relief device or pressure limiting device and the part of the system protected thereby, unless two (2) pressure relief devices of required size are used, and so arranged that only one pressure relief device can be cut off for repair purposes at any one time.

105.390. Other relief devices. Systems exceeding twenty (20) pounds capacity shall have a pressure relief device on shell type apparatus, such as liquid separators, liquid receivers, condensers, evaporators and absorbers, which can be shut off by stop valves.

105.400. Hand-operated valves. Every system containing more than one hundred (100) pounds of refrigerant shall be provided with a hand operated relief [valve] for discharging the refrigerant in case of fire, either to the atmosphere or to a suitable body of water. For systems containing irritant or flammable refrigerants, the discharge to the atmosphere shall be through a proper diffuser above the roof of buildings within fifty (50) feet. The hand-operated relief valve shall be located outside the machinery room, or shall be capable of operation from the outside.

105.410. Rupture members. A rupture member may be substituted for the relief valve in carbon dioxide systems or systems operating below atmospheric pressure.

105.420. Information to be posted. In all refrigerating machinery rooms with systems exceeding twenty (20) pounds capacity, there shall be permanently and conspicuously posted the following information:

The names and addresses of the engineers or operators in charge.

The location of the nearest fire alarm box.

The name and address of a physician to be called in case of emergency.

Instructions for shutting down the plant in case of emergency.

105.430. Refrigerant to be posted. All systems containing more than one hundred (100) pounds capacity shall have the name of the refrigerant used painted or affixed in a permanent manner to the main parts and piping. The letter or card furnished by the seller designating the quantity of refrigerant required for the system shall be conspicuously posted in the refrigerating machinery room.

105.440. Storage. Refrigerant not contained in the refrigerating system shall be stored in cylinders conforming to the regulations prescribed by the Interstate Commerce Commission for the transportation of such refrigerant or containers of equal strength. When the refrigerant is withdrawn from a system, it shall be discharged only into a suitable absorbent or storage container. No refrigerant should be permitted to escape into the refrigerating machinery room.

105.450. Container handling. Containers shall not be connected to the system except during period of charging or withdrawing the refrigerant. No receiver, container or cylinder shall contain a greater portion of liquid than is allowed in shipping containers.

105.460. Maintenance restrictions. Tightening of bolts or flanged joints when under pressure should be avoided.

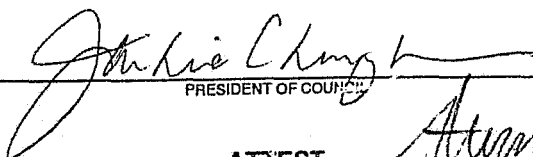
105.470. Exception from article. This article shall not apply in any case where air is used as a refrigerant in a noncondensing refrigerating system.

RECORD OF COUNCIL VOTE (X INDICATES VOTE)													
COUNCIL MEMBER	AYE	NAY	NOT VOTING	ABSENT	VOTE TO OVERRIDE	VOTE TO SUSTAIN	COUNCIL MEMBER	AYE	NAY	NOT VOTING	ABSENT	VOTE TO OVERRIDE	VOTE TO SUSTAIN
Dziedzic	X						Thurber	X					
Campbell	X						McDonald	X					
Biernat	X						Mead	X					
Rainville	X						Schulstad	X					
Niland	X						Minn	X					
Scott	X						President	X					
Herron	X						Cherryhomes	X					

PASSED MAR 29 1996
DATE

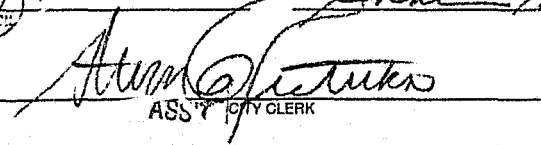
APPROVED — NOT APPROVED — VETOED

APR 4 1996
DATE


PRESIDENT OF COUNCIL


MAYOR

ATTEST


ASS'T CITY CLERK