BY AUTHORITY

ORDINANCE NO. 293

SERIES OF 1990

AS AMENDED 05-29-90

COUNCIL BILL NO. 282

COMMITTEE OF REFERENCE:

HEALTH HOUSING

HUMAN SERVICES

A B I L L

FOR AN ORDINANCE AMENDING THE DENVER REVISED MUNICIPAL CODE BY ADDING A NEW ARTICLE III TO CHAPTER 4 ENTITLED "STATIONARY SOURCES" TO PRESERVE AND IMPROVE AIR QUALITY IN THE CITY AND COUNTY OF DENVER.

WHEREAS, the geographic location and atmospheric conditions of the City and County of Denver are conducive to the formation and retention of air pollution from industrial sources, motor vehicle emissions, and solid fuel burning devices; and

WHEREAS, the 1987-88 Metro Denver Brown Cloud Study found that up to 50% of the cloud results from mobile sources and 24% is due to woodburning; and

WHEREAS, emissions from fireplaces contribute four times more carbon monoxide and three times more particulates than the Phase III solid fuel-fired heating device required by Denver for burning on high pollution days; and

WHEREAS, burning unclean and damp solid fuel or improper burning of appropriate solid fuel may result in excessive levels of visible emissions; and

WHEREAS, reducing emissions from solid fuel-fired heating devices will enhance air quality and protect sensitive populations from related health effects; and

WHEREAS, air pollution from industrial sources may have a cumulative impact on Denver residents, even though individual facilities may satisfy applicable emission standards; and

WHEREAS, the Council finds that reduction in emissions from industrial sources, and solid fuel burning devices will enhance the quality of life for those who live and work in Denver and will protect sensitive populations from harmful health effects of air pollution; and

(3) A new or existing industrial facility emits a hazardous air pollutant and a human health risk assessment has determined that the cumulative impact of existing sources of said pollutant, in the case of an existing industrial facility, or the cumulative impact of existing sources together with the projected incremental impact of the new source, in the case of a new facility, will result in an estimated risk of human cancer of at least one case per million population.

(b) The board shall promulgate regulations governing the nature and extent of the offsets that may be required and the methods by which they may be achieved; provided, however, that no offset will be required that exceeds 15% [illegible]

(f) The board may by regulation narrow the list of industrial categories included within the definition of industrial facility if it finds that industrial plants or facilities within a category do not adversely affect air quality.

(d) Fees.

(1) The board shall prescribe, by regulation,

(b) Permits For Existing Industrial Facilities. Owners or Operators of all existing industrial facilities shall obtain an air quality permit for each existing industrial facility. To obtain an

WHEREAS, the City has previously adopted ordinances to

this article, such right shall be specifically limited by the rights herein reserved to the city, and no subsequent legislative or administrative action or inaction by the city shall be deemed to constitute any impairment of contract or obligation, taking of property, or other impairment of such rights.

(2) Subsection (1) shall be deemed an integral part of this section 4-22(c), and in the event that any portion of shall be finally declared by a court of competent jurisdiction to be unconstitutional or otherwise unlawful, then it is the expressed intent of the council of the city that this entire Section 4-22(c) shall be declared void ab initio.

Sec. 4-23 Opacity (a) Emissions from stationary sources.
It shall be unlawful for any person to emit any air contaminants from stationary sources, including solid fuel-fired heating devices, which exceed twenty (20) per cent opacity, provided, however, that the provisions of this subsection shall not apply to:

(1) Gasoline- or diesel-powered engines for which standards are provided in Article IV of this Chapter, or

(2) Emissions from noncommercial barbecues, or

(3) Boiler emissions from soot blowing or fuel changing operations which do not exceed six (6) minutes in any sixty (60) consecutive minutes.

(b) Solid Fuel-Fired Heating Devices. It shall be unlawful for any person to emit any air contaminants from solid fuel-fired heating devices which exceed forty (40) percent opacity for ten (10) consecutive minutes.

Sec. 4-24. Combustion.

(a) Open Burning

(1) It shall be unlawful for any person to engage in or allow open burning within the city unless and until a written permit has been issued by the department,

provided however, that permits will not be required for fires used for noncommercial cooking of food for human beings nor for smokeless or safety flares used for the combustion of gases or used to indicate some danger to the public.

(2) When a person applies for an open burning permit, as required by subsection (a), the department will issue or deny the same based upon one or more of the following considerations: practical alternatives for the disposal of material to be burned; approval or disapproval of the fire department; the location of the proposed burning to buildings; the potential contribution of the proposed burning to the total air pollution in the area; the climatic conditions and the amount and characteristics of the air pollution existing on the date of burning; the probability that the applicant will comply with fire and safety standards and permit restrictions. Each open burning permit is issued upon the condition that it may be summarily revoked by the department.

(3) It shall be unlawful for any person to disregard or violate any requirement or restriction contained in an open burning permit or to engage in open burning after a permit has been revoked by the department.

(b) Incinerator burning.

It shall be unlawful for any person to burn any material in any incinerator within the city unless such incinerator is of the multiple chamber type or the domestic auxiliary fuel-fired type which has been approved by both the building department and the department of health and hospitals prior to its use and which meets the air pollution emission standards of this chapter.

(c) Solid fuel burning.

(1) High pollution prohibition. It shall be unlawful for any person to operate a solid fuel-fired heating

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device during a high pollution day unless an exemption has been granted pursuant to this section. It shall be the duty of all persons owning or operating a fuel-fired device to be aware of any declaration of a high pollution day by the Colorado Department of Health.

(2) Exemptions for sole source of heat. The manager shall grant an exemption from section 4-21(c)(1), of this chapter to any person who relies on a solid fuel-fired heating device as his or her sole source of heat. The board may formulate regulations regarding these exemptions.

a. A person applying for an exemption must document that a nonfireplace solid fuel-fired heating device is the only source of heat for at least twenty (20) percent of the gross floor area of his or her residence.

b. An exemption obtained under this section shall be effective for one year from the date it is granted.

(3) Exemption for defective heating system. The manager shall grant an exemption from section 4-21(c)(1), of this chapter to any person who submits proof from a licensed HVAC contractor that the heating system in his/her residence is defective. An exemption obtained under this subsection shall be effective for thirty (30) days from the date it is granted.

(4) Exemption for new technology stoves. The manager shall grant an exemption from section 4-21(c)(1), of this chapter to any person who has a PHASE III solid fuel-fired heating device.

(5) All new solid fuel-fired heating devices installed in Denver shall be Phase III solid fuel-fired heating devices. This provision shall apply to woodstoves installed on or after July 1, 1990, and to fireplaces installed on or after July 1, 1994.

(6) Only one (1) solid fuel-fired heating device may be installed in a single unit dwelling, as defined in Section 59-2(131) of the Revised Municipal Code, which is constructed or added to after the effective date of this section.

(7) Multiple unit dwellings, as defined in Section 59-2(88) of the Revised Municipal Code, constructed or added to after the effective date of this section shall be limited to one (1) solid fuel-fired heating device for every 7,000 square feet of lot area multiplied by the number of floors in the unit; e.g., a three (3) story multi-family residential unit located on a 7,000 square foot lot or parcel of land could have three (3) solid fuel-fired heating devices.

Sec. 4-24. Particulate emission.

(a) Stationary fuel-burning equipment. It shall be unlawful for any person to emit particulate matter from any stationary fuel-burning equipment which exceeds the following standards:

(1) Fuel-burning equipment having one million or less Btu total input per hour shall not emit particulate matter in excess of 0.5 pounds for each million Btu's per hour utilized;

(2) Fuel-burning equipment having between one million and five hundred million Btu total input per hour shall not emit particulate matter in excess of that amount calculated from the following formula:

$PE=K(FI)^x$

where PE equals the particulate emissions in pounds per million Btu's utilized;

K equals the constant 0.5;

FI equals the fuel input in million Btu's per hour;

x equals the power of minus 0.26.

(3) Fuel-burning equipment having more than five hundred million Btu total input per hour shall not emit

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particulate matter in excess of 0.1 pounds for each million Btu's per hour utilized.

(b) Solid waste burning equipment. It shall be unlawful for any person to emit particulate matter from any solid waste burning equipment which exceeds the following standards:

(1) Solid waste burning equipment having a rating of less than two hundred (200) pounds of solid wastes per hour shall not emit particulate matter in excess of 0.15 grains per cubic foot;

(2) Solid waste burning equipment having a rating of two hundred (200) or more pounds of solid wastes per hour shall not emit particulate matter in excess of 0.10 grains per cubic foot;

(3) Grains per cubic foot for purposes of this section shall be corrected to standard conditions and dry flue gas corrected to twelve (12) percent carbon dioxide (CO_2).

(c) Manufacturing unit process. It shall be unlawful for any person to emit particulate matter from any process unit of manufacturing which exceeds the amount of particulate emission as calculated in the following formula:

$PE=K(PW)^x$

where PE equals the particulate emissions in pounds per hour;

K equals a constant;

PW equals the process weight in tons per hour;

x equals a power as specified below.

(1) When the process weight (PW) of a manufacturing process is thirty (30) or less tons per hour, the formula expressed herein shall be used and the particulate emission, (PE) shall not exceed in pounds per hour, an amount greater than the constant (K) 3.59 times the process weight (PW) in tons per hours taken to the power of 0.62;

or, $PE=3.59(PW)^{0.62}$.

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(2) When the process weight (PW) of a manufacturing process is greater than thirty (30) tons per hour, the formula expressed herein shall be used and the particulate emission (PE) shall not exceed in pounds per hour, an amount greater than the constant (K) 17.31 times the process weight (PW) taken to the power of 0.16; or, PE=17.31(PW)0.16.

(d) Standard for particulate emissions measurement. For the purpose of this section, emission rates shall be measured according to the American Society of Mechanical Engineer's Power Test Code, (PTC)27, dated 1957, and entitled "Determining Dust Concentrations in a Gas Stream" or any equivalent method accepted by the department.

(e) Evaluation of units separately. For the purpose of this section, when two (2) or more fuel-burning units are connected to a single stack, each unit shall be evaluated separately and the maximum particulate emission allowed shall be based on the sum of the individual units. When more than one stack is used for one fuel-burning unit, the maximum particulate emissions from the combined total of all stacks shall not exceed the limitation as specified in this section.

Sec. 4-25. Sulfur dioxide emission.

(a) Stack emission concentration. It shall be unlawful for any person to emit from any single source, a concentration of sulfur dioxide in excess of five hundred (500) parts per million based on volume.

(b) Ground level concentrations. It shall be unlawful for any person to emit sulfur dioxide which causes a ground level concentration on any adjacent premise to exceed:

(1) 0.25 parts per million or more (by volume) for a period of five (5) or more continuous minutes;

(2) 0.1 part per million or more (by volume) for a period of sixty (60) or more continuous minutes;

(3) 0.05 parts per million or more (by volume) for a period of twenty-four (24) or more continuous hours.

(c) Method of measurement:

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(1) To determine the concentration of sulfur dioxide in stack emissions, measurements shall be made by one of the following methods:

a. "Rapid Microtitration of Sulfate," James S. Fritz and Stanley S. Yamamura, Analytical Chemistry, Vol. 27, No. 9, pages 1461-1464, September 1955;

b. "Determination of Sulfur Oxides in Stack Gases," Edwin B. Siedman, Analytical Chemistry, Vol. 30, No. 10, pages 1680-1682, October 1958;

c. Any equivalent method which has been approved by the department.

(2) To determine the ground level concentration of sulfur dioxide, measurements shall be made by one of the following methods:

a. "Tentative Method of Analysis for Sulfur Dioxide Content of the Atmosphere (Colorimetric)," 42401-01-69T Intersociety Committee for a Manual of Methods for Ambient Air Sampling and Analysis, Health Laboratory Science, Volume 7, (1) pages 4-12, (1970);

b. Any equivalent method which has been approved by the department.

(d) Oxidized forms. For purposes of this section, all oxidized forms of sulfur, including but not limited to, sulfur trioxide (SO_3), sulfuric acid mist (H_2SO_4) and thionyl chloride ($SOCl_2$) shall be considered as sulfur dioxide (SO_2).

Sec. 4-26. Storage of petroleum products.

It shall be unlawful for any person to place, store or hold in any stationary tank, reservoir or other container with more than forty thousand (40,000) gallons capacity, any gasoline or any petroleum distillate having a vapor pressure of one and five-tenths(1.5) pounds per square inch absolute or greater under actual storage conditions, unless such tank, reservoir or other container is a pressure tank maintaining working pressures sufficient

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at all times to prevent hydrocarbon vapor or gas loss to the atmosphere, or is designed and equipped with a vapor loss control device approved by the department which is properly installed and in good working order.

Sec. 4-27. Asbestos.

(a) Allowable limits. No person shall emit into the atmosphere any asbestos fibers from any stationary source, manufacturing process, demolition, renovation, or construction activity in excess of the standards for the type of asbestos specified in Table A. Special precautions and handling methods are also required to limit asbestos exposure to workers and the general public.

Table A.

Maximum Number of Asbestos Fibers

Allowable in the Atmosphere

Type of Asbestos	No. of fibers greater than 5 microns/cc*
Amosite.	0.5
Chrysolite	2.0
Crocidolite	0.2
Other forms	2.0*

*Maximum number of asbestos fibers longer than five (5) microns permitted or allowable per cubic centimeter of air.

(b) Demolition or renovation of buildings, etc., with asbestos-containing materials. Any person who intends to demolish any building, structure, facility, or renovate any such premise, whereby the heating or air conditioning system is removed or any insulation, fireproofing or acoustical material is dislodged, shall make a thorough inspection of the entire premises to determine if asbestos-containing materials have been used for insulation, fireproofing or acoustical purposes, etc., and shall notify the department of health and hospitals in writing of such findings prior to the demolition or renovation operation. Demolition or renovation of I and J occupancy structures as defined by the building code of

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the city and any new construction, renovation or remodeling operation whereby insulation, fireproofing or acoustical materials are not removed during or prior to construction shall be exempt from this section.

(c) Removal of asbestos materials. When asbestos is found at the premises, it shall be removed in accordance with an approved plan submitted prior to the demolition or renovation. If asbestos is found during demolition or renovation activities and if a plan for removal has not been submitted to and approved by the department, no further demolition or renovation shall continue until an approved plan is obtained. The plan shall contain the means for accomplishing the following precautions and handling methods:

(1) Asbestos shall be completely isolated by enclosure during the removal and clean-up operation.

(2) Materials containing asbestos shall be adequately wetted and shall remain wet during all stages of removal and handling. Surface-active agents shall be added to the water to improve the wetability.

(3) All persons involved in the handling and removal of asbestos and materials containing asbestos shall be provided with, and shall wear protective clothing and respiratory protective devices approved by the manager or his authorized representative.

(4) All asbestos-containing waste materials shall be collected and sealed in approved impermeable bags and shall be placed in a container suitable for transportation which is approved by the manager or his authorized representative. These containers shall be properly labeled, handled and stored at the demolition or renovation site.

(5) All asbestos-containing waste materials shall be transported in an approved manner and to a disposal site which has been approved by the manager or his authorized representative.

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(6) During the asbestos removal operation, air samples shall be collected to determine compliance with subsection (a) and Table a. The sampling locations and the type of sampling device utilized shall be approved by the manager or his authorized representative prior to sample collection.

(d) Emergency demolition waiver of section. Any building, structure, facility or installation which contains asbestos materials and has been declared by the building department to be structurally unsound, unsafe, and designated for emergency demolition, shall not be required to meet the provisions of subsections (a) through (c).

Sec. 4-28 through 4-40. RESERVED.

PASSED BY THE COUNCIL May 29 1990

Cathy Reynolds - PRESIDENT Pro Tem

APPROVED: Federico Peña - MAYOR May 30 1990

ATTEST: [illegible] - CLERK AND RECORDER, EX-OFFICIO CLERK OF THE CITY AND COUNTY OF DENVER

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SPONSORED BY COUNCIL MEMBER(S) _____

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