### **REGULATION NO. 4**

Concerning the Sale and Installation of of New Woodstoves Wood-Burning Appliances and the Use of Certain Woodburning Wood-Burning Appliances During High Pollution Days

### I. DEFINITIONS

- A. Unless otherwise required by the context, as used in this Regulation:
  - 1. "Accredited Laboratory" means an independent testing laboratory whichthat has obtained accreditation pursuant to the Federal Regulations 40 CFR Part 60 Subpart AAA (2004).
  - "Approved Masonry Heater" means a wood burning appliancemasonry heater as defined in Section I.A.12 whichthat has complied with all requirements of Section IV.
  - 3. "Approved Pellet Stove" means a woodburning appliancepellet stove as defined in Section I.A.(16).

    which I.A.18, that has complied with all the requirements of Section III.
  - 3.5. "Approved wood-burning fireplace" means a wood-burning fireplace approved pursuant to Section IV.
  - 4. "Boiler" means a domestic solid fuel burningwood-burning appliance used primarily for heating space where the appliance is located, by the distribution through pipes of a gas or fluid heated in the appliance. This appliance must be tested and listed as a boiler under accepted U.S. or Canadian safety testing codes.
  - 5. "Burn down"Burn-down time" shall mean that period of time not to exceed three hours following the declaration of a high pollution day required for the cessation of combustion within any wood burningwood-burning stove, pellet stove, masonry heater or wood-burning fireplace pursuant to this Regulation.

- "Certified wood stove" means a woodstove which is a unit of 6. a wood stove model, or which contains a configuration of appliance, for which certification has been granted.REPEALED.
- "Cookstove" means a domestic wood-firedwood-burning 7. appliance that is designed primarily for cooking food and that has the following characteristics:
  - An oven, with a volume of 1 cubic foot or greater, and a. an oven rack:
  - A device for measuring oven temperatures; b.

- c. A flame path that is routed around the oven;
- d. A shaker grate;
- e. An ash pan;
- f. An ash clean-out door below the oven; and
- g. The absence of a fan or heat channels to dissipate heat from the appliance.
- 8. "Dealer" means a person who sells wood-burning stoves, pellet stoves, wood-burning fireplaces or masonry heaters on a regular basis.
- 8.5 "EXEMPT DEVICE" MEANS A WOOD-BURNING DEVICE THAT DOES NOT MEET THE DEFINITION OF A WOOD-BURNING STOVE BY EPA STANDARDS (AS CONTAINED IN 40 CFR PART 60 SUBPART AAA) AND IS NOT A FIREPLACE, MASONRY HEATER, NOR PELLET STOVE AS DEFINED IN THIS REGULATION.
- 9. "Furnace" means a domestic solid fuel burningwood-burning appliance that is designed to be located outside of ordinary living areas and is used for heating spaces other than the space where the appliance is located by the distribution through ducts of air heated in the appliance. The appliance must be tested and listed as a furnace under accepted U.S. or Canadian safety testing codes.
- 10. "High pollution day" means those periods of time declared by Colorado Department of **Public** Health **and Environment** as provided for in Section 25–7–106.3(1), C.R.S.
- 11. "Manufacturer" means a person who constructs a wood burningwood-burning stove or pellet stove or is engaged in the business of designing and constructing masonry heaters.heaters or wood-burning fireplaces.

- 12. "Masonry Heater" means an appliance designed for or capable or burning wood, capable of and intended for domestic space heating or domestic water heating, whichthat meets the following criteria:
  - a. a factory-built or site-built wood burningwood-burning appliance whose core iswith a core constructed primarily of manufacturer-built, supplied or specified masonry materials (i.e., stone, cemented aggregate, clay, tile, or other non-combustible non-metallic solid materials) whichthat weighs at least 800 kg;
  - b. The firebox effluent of the masonry heater travels horizontally and/or downward through one or more heat absorbing masonry duct(s) for a distance at least the length of the largest single internal firebox dimension before leaving the masonry heater; For the purposes of this subparagraph:
    - i. Horizontal or downward travel distance is defined as the net horizontal and/or downward internal duct length, measured from the top of the uppermost firebox door opening(s) to the exit of the masonry heater as travelled by any effluent on a single pathway through duct channel(s) within the heater (or average of net internal duct lengths for multiple pathways of different lengths, if applicable). Net internal duct length is measured from center of the internal side or top surface of a duct, horizontally or vertically to the center of the opposite side or the bottom surface of the same duct, and summed for multiple ducts or directions on a single pathway, if applicable. For duct channel(s) traversing horizontal angles of less than ninety degrees from vertical, only the net actual horizontal distance travelled is included in the total duct length.

- ii. The largest single internal firebox dimension is defined as the longest of either the length or the width of the firebox hearth and the height of the firebox, measured from the hearth to the top of the uppermost firebox door opening(s).
- c. The appliance has one or more air-controlling door(s) for fuel-loading whichthat are designed to be closed during the combustion of fuel loads, and whichthat control the entry of combustion air (beyond simple spark arresting screen(s)) to one or more inlet(s) as prescribed by the masonry heater manufacturer;
- d. The appliance is assembled in conformance with the underwriters' laboratories-listed and/or manufacturer's specifications for its assembly and, if the core is constructed with a substantial proportion of materials not supplied by the manufacturer, is certified by a representative of the manufacturer to be substantially in conformance with those specifications.
- f. The appliance has a label permanently affixed to the appliance identifying its manufacturer and model.
- 13. "Method 5G/5H" is a test method(s) for determination of particulate emissions from woodheaters from dilution tunnel sampling and stack locations as described in 40 CFR, Part 60, Subpart AAA, Appendix A
- 14. "Method 28" is a test method designed to establish certification test conditions and the particulate matter weighted emission values, as described in 40 CFR Part 60 Subpart AAA, Appendix A
- 15. "Method 28A" is a test method to measure air to fuel ratios and minimum achievable burn rates as described in 40 CFR, Part 60 Subpart AAA, Appendix A (2004).
- 16. "Model" means a group of wood stoves, pellet stoves or masonry heaters which are identical to one another regarding design, emissions, and heating performance.

- 17. "New wood stove" means any wood stove other than one which was sold to an individual for his personal use prior to January 1, 1987.
- 18. "Pellet Stove" means a heater which meets the following criteria: (1) the manufacturer makes no reference to burning cordwood in advertising or other literature, (2) the unit is safety listed for pellet fuel only, (3) the unit's operating and instruction manual must state the use of cordwood is prohibited by federal law, and (4) the unit must be manufactured and sold including a hopper and auger combination as integral parts.
- 19. "Phase III Certified wood stove" means a wood burning stove which meets the emission standards set forth in Section II.A.1.
- 20. "Primary source of heat" shall mean one or more residential wood burning stoves, pellet stoves, masonry heaters or fireplaces which provide more than half the annual heating demands for the residence.
- 21. "Standard method" means the applicable testing procedures and criteria set forth in the Federal Regulations 40 CFR Part 60 Subpart AAA, Appendix A.
- 22. "Wood burning fireplace" means an appliance designed for or capable of burning wood which does not meet the definition of a wood burning stove or is not exempt under the provisions of section II. C.
- 23. "Wood burning stove" means an appliance designed for or capable of burning wood, including a fireplace insert, capable of and intended for domestic space heating or domestic water heating that meets all of the following criteria:
  - a. An air-to-fuel ratio in the combustion chamber averaging less than 35-to-1 as determined by EPA method 28A as set forth in the Federal Regulations 40

CFR Part 60 Subpart AAA, Appendix A.e. The appliance has a label permanently affixed to the appliance identifying its manufacturer and model.

- 13. "Method 5G" and "Method 5H" are test methods for determination of particulate emissions from wood-burning heaters from dilution tunnel sampling and stack locations as described in 40 CFR, Part 60, Subpart AAA, Appendix A (2004).
- 14. "Method 28" is a test method designed to establish certification test conditions and the particulate matter weighted emission values, as described in 40 CFR Part 60 Subpart AAA, Appendix A (2004).
- 15. "Method 28A" is a test method to measure air to fuel ratios and minimum achievable burn rates as described in 40 CFR, Part 60 Subpart AAA, Appendix A (2004).
- 16. "Model" means a group of wood-burning stoves, pellet stoves, wood-burning fireplaces or masonry heaters that are identical to one another regarding design, emissions, and heating performance.
- 17. Repealed.
- 18. "Pellet Stove" means a heater that meets the following criteria: (1) the manufacturer makes no reference to burning cordwood in advertising or other literature, (2) the unit is safety listed for pellet fuel only, (3) the unit's operating and instruction manual must state the use of cordwood is prohibited by federal law, and (4) the unit must be manufactured and sold including a hopper and auger combination as integral parts.
- 19. "Phase II certified wood-burning stove" means a woodburning stove that meets the emission standards set forth in Section II.A.
- 20. "Primary source of heat" shall mean one or more residential wood-burning stoves, pellet stoves, masonry heaters or

- wood-burning fireplaces that provide more than half the annual heating demands for the residence.
- 21. "Wood-burning appliance" means any stove, fireplace, heater, furnace, fire pit, fixture or device used, or intended for use, to burn wood.
- 22. "Wood-burning fireplace" means an appliance with an open hearth (i.e. devoid of wood-burning inserts, gas logs, or electric devices), is not a masonry heater, may or may not be equipped with air-controlling doors, is primarily constructed of masonry materials (brick, stone or ceramic) and is installed in a dwelling or building for the purpose of burning wood.
- 23. "Wood-burning stove" means an appliance, primarily constructed of metal, designed for or capable of burning wood, including a fireplace insert, capable of and intended for domestic space heating or domestic water heating that meets all of the following criteria:
  - a. An air-to-fuel ratio in the combustion chamber averaging less than 35-to-1 as determined by Method 28A.
  - b. A useable firebox volume of less than 20 cubic feet.
  - c. A minimum burn rate of less than 5 Kilograms per hour.
  - d. A maximum weight of 800 kilograms.
- II. REQUIREMENTS FORLIMITATIONS ON THE SALE AND INSTALLATION OF WOOD STOVESWOOD-BURNING STOVES.
  - A. On or after July 1, 1991, noNo person shall advertise to sell, offer to sell, or sell a new wood stovesell, or install a wood-burning stove in Colorado unless it has been tested, certified, and labeled for emission performance in accordance with criteria and procedures specified in the Federal Regulations 40 CFR Part 60,

Subpart AAA (2004) and meets the emission standards set forth in Subsection 60.532(b)(1) or (2).

- B. The certification requirement shall apply to:
  - 1. Advertisements for sale and offers for sale communicated by any means to any person in Colorado, including, but not limited to, offers to sell or advertisements for sale whichthat are mailed to any person in Colorado.
  - 2. Any sale occurring in Colorado, including, but not limited to, sales in which a new wood-burning stove is shipped, delivered, or transported to any person in Colorado by a person located either inside or outside Colorado and to both the initial sale and any subsequent resale of a new wood-burning stove.

## C. Exemptions

- 1. Exempt Devices Wood-fired appliances that are not suitable for heating equipment in or used in connection with residences. For example, portable camping stoves. Such appliances must be exempted by the Division on a case by case basis.
- 2. Boilers
- 3. Furnaces
- 4. Cookstoves
- D. On and after January 1, 1993, no person shall sell or install a used wood-burning device within those portions of the counties of Adams, Arapahoe, Boulder, Denver, Douglas, and Jefferson which are located in the AIR program area, as such area is defined in Section 42-4-307(8), C.R.S., unless it meets the requirements set forth in Section II.A.

## III. APPROVAL PROCEDURE FOR PELLET STOVES

- A. No person shall advertise to sell, offer to sell or sell sell, or install a pellet stove unless it has been designated as an approved pellet stove in accordance with this Section III.
- B. On or after August 1, 1992, a manufacturer of a pellet stove who wishes to have a particular model line designated as an approved pellet stove, shall submit to the Division for their review, the following information:
  - 1. test results showing an air to fuel ratio of 35:1 or greater, using EPA test method, Method 28A.
  - 2. test results using EPA test method 5G or 5H and Method 5H, or Method 5G corrected to 5H which Method 5H, that have been conducted under minimum burn conditions, (category 1), using EPA test method Method 28.
  - 3. a one page letter signed by the laboratory president, verifying the information required in III. A.1. III.B.1. and 2.
- C. All tests conducted under III. A.II.B shall be performed by an EPA accredited laboratory.
- D. Within twenty (20) working days after receipt of an application for approval, the Division shall notify the applicant if the application is complete. Within thirty (30) working days after receipt of a complete application, the Division shall notify the applicant whether the application satisfies all requirements for approval.
- E. If the Division denies approval, the Division shall notify the applicant in writing of the opportunity for a hearing before the Commission pursuant to Section 24-4-104 (9), C.R.S.-
- F. The Division shall grant approval if all information required by Section III B.A is submitted and the test results in Section III.A.2. do not exceed 4.1.G/HR.III.B.2 do not exceed 4.1 grams per hour.
- IV. APPROVAL PROCEDURES FOR MASONRY HEATERSLIMITATIONS ON THE INSTALLATION AND SALE OF MASONRY HEATERS AND WOOD-BURNING FIREPLACES; APPROVAL PROCEDURES

- A. No person shall advertise to sell, offer to sell, sell, or install a masonry heater in Colorado unless it has been designated as an approved masonry heater in accordance with this Section IV.
- B. No person shall advertise to sell, offer to sell, sell, or install a wood-burning fireplace within those portions of the counties of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, and Jefferson that are located in the AIR program area, as such area is defined in Section 42-4-304(20)(a) C.R.S., unless it has been designated as an approved wood-burning fireplace in accordance with this Section IV.
- B. On or after the effective date of this regulation, aC. A manufacturer or builder of a masonry heater or wood-burning fireplace who wishes to have a model or design designated as an approved masonry heater, shall submit to the Division for its review the following information:

heater or wood-burning fireplace shall submit an application and test results that comply with the

- 1. Manufacturer and model identification and specifications and drawings of the firebox and duct system.
- 2. Field test results which have been conducted by an EPA-accredited laboratory, showing "in-home" field test particulate emission levels for that model or design of masonry heater of less than 6.0 grams per kilogram.requirements of Appendix A.
- 3. A

  D. Tests performed on masonry heaters and wood-burning fireplaces shall comply with the protocol set out in Appendix A and shall be performed by an accredited laboratory. The application shall include a letter signed by the laboratory president verifying: (1) the information required in Section IV.A.1;Appendix A, and (2) that the methods used were conducted according to procedures contained in Appendix A. audited by the EPA; and (3) that the masonry heater model or design meets the specifications of the masonry heater definition of this regulation.
  - **E.E.** Within twenty (20) working days after receipt of an application for approval, the Division shall notify the applicant if the application is complete. Within thirty (30) working days after receipt of a

- complete application, the Division shall notify the applicant whether the application satisfies all requirements for approval.
- D.F. If the Division denies approval, the Division shall notify the applicant in writing of the opportunity for a hearing before the Commission pursuant to Section 24-4-104 (9) C.R.S.
- E.G. The Division shall grant approval if all information required by Section IV and Appendix A is submitted, and the tested appliance:
  - the masonry heater model is 1. is a masonry heater within the definition of this regulation and test results pursuant to section IV.B.2 do not exceed 6.0 grams per kilogram.of particulate emissions per kilogram of fuel, or
  - 2. is a wood-burning fireplace and test results do not exceed 1.2 grams of particulate emissions per kilogram of fuel.
- F.H. The Division may grant approval for a masonry heater model whichor wood-burning fireplace model that has not been testedpursuant to Section IV.B.2 upon submission of the following information by the applicant:
  - 1. Manufacturer and model identification and specifications and drawings of the firebox and duct system.
  - 2. Documentation from the president of an EPA-accredited laboratory that the model is a masonry heater within the definition of this regulation, if the untested model has substantially the same core construction as a model alreadyan approved model, and is substantially similar to the approved model in firebox and duct design, combustion function and probable emissions performance.

performance. The applicant must demonstrate that the untested model complies with the criteria and parameters set out in Appendix A for evaluating such similarity. The

# application must include all information required by Appendix A.

I. Approved masonry heaters and wood-burning fireplaces shall be labeled and equipped as provided in Appendix A.

#### ٧. **ENFORCEMENT**

- Α. The Division may enter and inspect the property or premises of any manufacturer, or dealer, for the purpose of investigating any actual, suspected, or potential violation of this regulation; and may, at reasonable times, have access to and copy any document, inspect any wood-burning stove, wood-burning stove component, pellet stove, masonry heater, wood-burning fireplace or testing equipment, or test the emissions of any wood-burning stove, wood-burning fireplace, pellet stove or masonry heater possessed by any manufacturer, or dealer, for the purpose of ascertaining compliance or noncompliance with this regulation.
- B. The Division shall also enforce the provisions of this regulation through all means authorized by Part 1 of Title 25, C.R.S.

### VI<del>I</del>. LIST OF APPROVED SOLID FUELWOOD-BURNING APPLIANCES

The Division shall request each dealer to make available to consumers a list of Phase II certified wood stoves, wood-burning stoves, approved wood-burning fireplaces, exempt devices, approved pellet stoves and approved masonry heaters to be compiled by the Division.

#### HIGH POLLUTION DAYS VIII.

#### Α. **Applicability**

Limitations on the use of wood burning stoves, pellet stoves, masonry heaters and fireplaceswood-burning appliances shall be applicable only in those portions of the counties of Adams, Arapahoe, Boulder, Denver, Douglas and Jerfferson which Broomfield, Denver, Douglas, and Jefferson that are located in the AIR program area, as such area is defined in Section 42-4

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307(8), 42-4-304(20)(a), C.R.S. but not including those areas above seven thousand feet elevation.

- B. Provisions of this section may be enforced by the appropriate local agency. Local agencies are encouraged to develop suitable enforcement programs and enter into an agreement with the State to promote more effective enforcement of this regulation. Approval of a wood-burning stove, wood-burning fireplace, pellet stove or masonry heater model pursuant to this regulation does not constitute authorization not to comply with requirements of any local ordinance or resolution relating to the installation or use of any wood-burning appliance.
- C. This section shall not apply within any municipality whichthat had an ordinance mandating restricted use of wood burningwood-burning stoves, pellet stoves, masonry heaters and wood-burning fireplaces on high pollution days in effect on January 1, 1990.
  - 1. All such exempt areas shall be required to submit a yearly report to the commission no later than June 30, which providesproviding information concerning the enforcement actions pursuant to their ordinance for the previous heating season.

## D. Prohibitions of use

No person shall operate a wood burning stove, pellet stove, masonry heater or fireplacewood-burning appliance during a high pollution day. day unless the appliance is exempt pursuant to section VII.E. A burn-down time shall be allowed for the burn-down of existing fires prior to the initiation of enforcement action.

## E. Exemptions

1. Persons utilizing their wood burningwood-burning stove, pellet stove, masonry heater or wood-burning fireplace as a primary source of heat.

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- Persons operating a Phase III certified wood burningwoodburning stove OR EPA PHASE II WOOD-BURNING FIREPLACE INSERT.
- 3. Persons operating an approved pellet stove **OR APPROVED**PELLET-BURNING FIREPLACE INSERT.
- 4. Persons operating an approved masonry heater.

## VIII. REQUIREMENTS FOR INSTALLATION OF FIREPLACES

- A. On and after the effective date of this regulation no person shall install any fireplace in any dwelling in the area defined in Section VIII.A. unless it is one of the following:
  - 1. a gas appliance.
  - 2. an electric device.
  - 3. a fireplace insert that meets the requirements set forth in Section II.A.
  - 4. an approved pellet burning fireplace insert.
  - 5. an approved masonry heater.
  - 6. any other clean burning device approved by the Commission which meets the emission standard set forth in Section II.A.
- B. This section shall not apply to any municipality or a county which has a provision in effect on January 1, 1993 which is substantially equivalent of this section as determined by the Commission.

## **X.VIII.** IMPLEMENTATION OF LOCAL CONTROL STRATEGIES

The local jurisdictions listed below shall implement and enforce the indicated ordinances and resolutions, as they exist on January 1, 1993. This ordinance limits wood-burning on high pollution days as determined by the Colorado Department of Public Health and Health.Environment. In addition, each shall implement and enforce any ordinance adopted in accordance with this regulation. The indicated ordinances or resolutions may be amended in the sole discretion of the respective governing body, provided that they shall be submitted immediately to the Colorado Air Quality Control Commission and the United States Environmental Protection Agency as revisions to the State Implementation Plan. The listed ordinances and resolutions shall remain in full force and effect until such time as the jurisdiction obtains full approval of a State Implementation Plan revision.

Community	HPD Ordinance Number	Date Enacted	Construc- tion Ordinance	Date Enacted
Arvada	2451	11/87		
Aurora	87-118	4/86	92/47	5/92
Boulder	5007	10/86	5445	4/92
Broomfield	794	11/88		
Denver	Chapter 4.24	10/86	Chapter 4.24	5/90
<b>Douglas County</b>			R-991-128	11/91
Englewood	31	9/92	39	10/92
Federal Heights	565	1/88		
Glendale	2	1/88	15	10/92
Greenwood Village	17	6/88	9	3/92
Jefferson County	R-CC89-873	12/89	R-CC90-617	1/91
Lafayette	24	11/88		7/93
Lakewood	113	12/86	61	10/92
Littleton	17	12/88	26	8/92
Longmont	1	1/89		
Mountain View	5	1/91		
Sheridan	22	11/88	1	1/93
Thornton	2120	10/91	2194	10/92
Westminster	6/14	11/87	20	12/92

# **XIIX.** REFERENCES

Written statements of the basis and purpose of this regulation and revisions as well as all other material referenced in this Regulation is

hereby incorporated by reference by the Air Quality Control Commission and made a part of the Colorado Air Quality Control Commission Regulations. Materials incorporated by reference are those in existence as of the date of this regulationreferenced and do not include later amendments. The material incorporated by reference is available for public inspection during regular business hours at the Office of the Commission, located at 4300 Cherry Creek Drive South, Denver, Colorado 80222, or may be examined at any state publications depository library. Parties wishing to inspect these materials should contact the Technical Secretary of the Commission, located at the Office of the Commission.

# **REGULATION NO. 4**

Concerning the Sale and Installation of

of New Woodstoves Wood-Burning Appliances and the Use of Certain

Woodburning Wood-Burning Appliances During High Pollution Days

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Revised and readopted: 2/16/95 Effective: 4/30/95

### REGULATION No. 4 - ADOPTION CHRONOLOGY

To set a standard test methodology, an emission standard developed, establish a certification fee, and develop an emission label –

Adopted: June 27, 1985 Effective: July 30, 1985

Revised to raise the certification fee-

Adopted: September 18, 1986 Effective: October 30, 1986

Revised to establish a definition for new woodstoves and exemptions from the woodstove certification program –

Adopted: May 19, 1988 Effective: June 30, 1988

Revised to establish a woodstove certification program -

Adopted: May 17, 1990 Effective: June 30, 1990

Revised to make locally adopted ordinances state enforceable – Adopted: June 24, 1993 Effective: August 30, 1993

Revised to include provisions for pellet stoves –

Adopted: August 20, 1992 Effective: September 30, 1992

Revised to include provisions for masonry heaters -

Adopted: April 21, 1994 Effective: June 30, 1994

Revised Section X to meet requirements for incorporation by reference –

Adopted: February 16, 1995 Effective: April 30, 1995