

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

BUILDING CODES AND STANDARDS DIVISION

In the Matter of the Proposed
Adoption of Amendments to the
Minnesota Uniform Mechanical Code

STATEMENT OF NEED AND
REASONABLENESS

1. Introduction

The Commissioner of the Minnesota Department of Administration proposed to adopt amendments to chapter 1346 of the Minnesota State Building Code entitled the *Minnesota Uniform Mechanical Code*. In addition to substantive changes, reorganization and grammatical changes are proposed to improve clarity and to conform with current style requirements.

The present *Minnesota Uniform Mechanical Code* Rules, 1990 printing effective July 16, 1990, contains Minnesota Rules 1346.0050 to 1346.2226 including the adoption by reference of the 1988 edition of the *Uniform Mechanical Code* as promulgated by the International Conference of Building Officials in Whittier, California. The proposed rules contain certain amendments to the *Minnesota Uniform Mechanical Code* and includes adoption by reference of the 1991 edition of the *Uniform Mechanical Code*.

The Department began the present rule notification process on July 8, 1991 publishing a note in the State Register (16 S.R. 68) soliciting opinions and information from the public on the rules regarding the Minnesota State Building Code.

II. Statement of Agency's Statutory Authority

The commissioner's authority to adopt the rule amendments is set forth in Minnesota Statute 16B.61 subdivision 1, which states:

Subdivision 1. Adoption of code. Subject to sections 16B.59 to 16B.73, the commissioner shall by rule establish a code of standards for the construction, reconstruction, alternation, and repair of state-owned buildings, governing matters of structural materials, design and construction, fire protection, health, sanitation, and safety. The code must conform insofar as practicable to model building codes generally accepted and in use throughout the United States. In the preparation of the code, consideration must be given to the existing statewide specialty codes presently in use in the state. Model codes with necessary modifications and statewide specialty codes may be adopted by reference. The

code must be based on the application of scientific principles, approved tests, and professional judgement. To the extent possible, the code must be adopted in terms of desired results instead of the means of achieving those results, avoiding wherever possible the incorporation of specifications of particular methods or materials. To that end the code must encourage the use of new methods and new materials. Except as otherwise provided in sections 16B.59 to 16B.73, the commissioner shall administer and enforce the provisions of those sections.

III. Statement of Need

It is necessary to adopt the 1991 edition of the *Uniform Mechanical Code* in order to remain in keeping with the legislative intent of Minnesota Statute 16B.61 Subdivision 1 to "...conform insofar as practicable to model building codes generally accepted and in use throughout the United States." The 1991 edition incorporates revisions to the 1988 edition that are needed to address changes in technology, materials, and methods of construction.

Various elements of the proposed rules are to be repealed, revised, or contain an entirely new rewrite or section. Since the initial adoption of the *Uniform Mechanical Code* in 1990, the division has discovered that this model code does not sufficiently regulate the range of mechanical systems being used in the State of Minnesota. These proposed changes in the rule are needed to produce a current mechanical code that best governs the safe and efficient design and use of mechanical systems for buildings being constructed and remodeled in Minnesota. The need and reasonableness of each rule will be discussed in part IV.

IV. Statement of Reasonableness

Minnesota Statutes Chapter 14 requires the agency to make an affirmative presentation of facts establishing the reasonableness of the proposed rules. This means that the agency must set forth the reasons for its proposal, and the reasons must not be arbitrary or capricious. However, to the extent that need and reasonableness are separate, need has come to mean that a problem exists which requires administrative attention, and reasonableness means that the solution proposed by the department is appropriate. The reasonableness of the proposed rules is discussed below.

A. Reasonableness of the Rules as a Whole

The proposed rules are reasonable because they adopt by reference the 1991 *Uniform Mechanical Code (UMC)*, a "model code" that is widely used throughout parts of the mid and western United States. This fulfills the legislative directive of Minnesota Statute 16B.61 subdivision 1 referenced in the Statement of Need in Part III.

The proposed amendments to the *1991 Uniform Mechanical Code* are reasonable because they incorporate changes that are needed to regulate the safe use of current mechanical systems technology.

B. Reasonableness of Individual Rules

Part 1346.0050 Title: Incorporation By Reference

This change is needed to identify the 1991 edition of the new model mechanical code being proposed and the revised title of this chapter.

Part 1346.0108, Section 108 Balancing

This requirement is needed to assure that installed systems operate properly, safely, efficiently and to demonstrate conformance of the system with requirements of the code. Such a requirement is already in place for pressurized stairways in *Uniform Building Code* section 3310 and for piping equipment in UMC section 305(c). This requirement existed in part 1345.1350 of the State Mechanical Code prior to July 16, 1990. A similar requirement was recently added to part 7670.0610 of the Minnesota Energy Code.

Part 1346.0201; Section 201

This item is being repealed because the intent of the provision is now located in the 1991 UMC.

Part 1346.0403; Section 403

This is being repealed because the definitions are included in the 1991 UMC.

Part 1346.0406; Section 406

The amended definition of direct gas fired make up air heater is being deleted in lieu of the model code language.

Part 1346.0411; Section 411

The amended definition of "Inaccessible Installation" is being deleted in lieu of the new language in the model code.

Part 1346.0424; Section 424

This definition is needed because the word is used frequently throughout the code. It is reasonable because it is identical to the definition already incorporated by chapter 7670

in both the *Model Energy Code* and *ASHRAE Standard 62-89*.

Part 1346.0706; Section 706

This item is being repealed because it has been relocated to part 1346.1002. Subpart (d) remains in the 1991 UMC.

Part 1346.0707; Section 707

This requirement is needed to prohibit installations that would result in a potentially life threatening environment in the habitable area. Supply ducts connecting habitable areas with garages provide a passageway for toxic automobile exhaust and other gases from the garage to transfer to the habitable area through the duct system when the furnace fan is not in operation.

Part 1346.0808; Section 808

This change is made to reference the most current available edition of the standard.

Part 1346.0809; Section 809

This change is made to reference the most current available edition of the standard.

Part 1346.0906; Section 906

This item is being repealed in lieu of the language in the 1991 UMC.

Part 1346.0913; Section 913

This change is needed to clarify that a liner must not be installed in a masonry chimney when it serves a gas log appliance because gas log appliances are only tested and listed to be installed within a masonry fireplace and chimney.

Part 1346.1002

Section 1002(a). This change is needed and reasonable because exhaust ducts operating under negative pressure, such as central restroom exhaust or general ventilation exhaust ducts with roof-mounted exhaust fans, pose no threat or problem to the environmental air handled by a return-air plenum ceiling or return shaft. The current language would exclude such an installation and require a separate horizontal and vertical enclosure for this type of installation. Since this practice is already recognized by most jurisdictions, it is commonly permitted despite the fact that it is clearly in violation of the code text.

Section 1002(g). This provision is reasonable because it is existing language relocated from part 1346.0706(d). It will now be easier to find if it is located in the section of the code pertaining to ductwork. It's present location seems to imply that dampers are needed in warm air systems only.

Section 1002(h). This provision is reasonable because the *Uniform Mechanical Code* does not currently address elbows, transitions and obstructions. To minimize pressure losses and reduce energy consumption, duct systems must be designed to promote the unrestricted flow of air. The proposed language is consistent with methods illustrated in *SMACNA HVAC Duct Construction Standards*, 1985 edition and is, therefore, reasonable.

Part 1346.1004; Section 1004(a), (d) and (e)

Subsections (a) and (e) are needed because of the resurgence of water problems experienced by new homeowners with underslab ductwork. This is reasonable because these provisions were in the previous editions of Minnesota's Mechanical Code. They have now been renumbered and reformatted for the Minnesota Uniform Mechanical Code.

Subsection (d) is needed because duct walls, joints and supports are designed for the dynamics of the duct system only and materials fastened to ducts could cause leakage and potential failure of the support system. This is reasonable because neither the Mechanical Code or the Building Code currently address this situation.

Part 1346.1005; Section 1005(a) and (b)

The proposed standards for insulating and sealing up ducts are needed because Minnesota Statutes Section 216C.195, subpart 2 (1) requires that the State Building Code incorporate HVAC standards at least as stringent as *ASHRAE Standard 90.1*. The standards proposed are derived from *ASHRAE Standard 90.1*. The need for insulating underground ducts is further demonstrated in a 1986 Minnesota research project. The "Energy Efficient House Research Project" showed for a large number of houses, a statistically significant increase of energy use for houses with (uninsulated) below slab warm air distribution systems. The specific requirements for insulation material that is utilized for insulation of underground ducts is needed to assure that the insulation will not deteriorate and lose effectiveness. This requirement is reasonable because it had been in the previous State Mechanical Code through July 1, 1990 and is based on the model standard, *ASHRAE 90.1*.

Part 1346.1104; Section 1104

The need and reasonableness for this item is as stated for part 1346.1002, section 1002(a).

Part 1346.1107; Section 1107 (b) and (c)

These sections are taken directly from the model code except that the reference to "Schedule 40" PVC has been deleted. This is needed because nearly all PVC piping used in central vacuum-cleaning systems is manufactured in Schedule 30. This rule is reasonable as Schedule 30 is all but universally accepted in this application with no apparent problems. In addition, the *1994 Uniform Mechanical Code* has also deleted the reference to "Schedule 40" for the same reasons. When the State of Minnesota proposes adoption of the 1994 UMC, this rule will be repealed.

Part 1346.1207; Section 1207

The need and reasonableness for this item is as stated for part 1346.0707.

Part 1346.1503; Section 1503

This change is needed as these new refrigerants are currently being used as a result of EPA regulations. The provision is reasonable as it permits the user of the code to properly classify the refrigerants and refer to the applicable requirements governing their safe use. In addition, this provision is taken directly from the *1994 Uniform Mechanical Code*.

Part 1346.1505; Section 1505

This change adding compressors to the types of equipment which are required to be contained in a Group I refrigeration room is necessary to provide an equivalent level of safety for similar equipment types.

Part 1346.1520; Table No. 15-D

This change in the refrigerant classification is both needed and reasonable for the same reasons given in part 1346.1503.

Part 1346.1521; Section 1521

This change is made to reference the most current available edition of the standard.

Part 1346.1906; Section 1906

This requirement is needed in order to prohibit water heaters from being installed in potentially hazardous locations. The provision is reasonable because it is in line with the "*National Fuel Gas Code*" and the "*Uniform Plumbing Code*."

Part 1346.2002; Section 2002

The term "penetration" is added to this provision of the model code because it is needed to reduce the risk of a grease fire outside of the hood or duct system when caused by a leak through an oversized hole for sprinkler pipe. The provision is reasonable as the method of protection is the same as that currently required for the joints and seams.

Part 1346.2003; Section 2003

The words "such as pizza ovens" needs to be deleted after the model code language "under a Type II hood", because some pizza ovens are grease producing and require the construction of a Type I hood. This is reasonable as the rule would eliminate the current confusion over this issue by directing the designer, installer, or inspector to consider the appropriate hood design based on the potential grease generation of a particular pizza oven.

Part 1346.2104; UMC Appendix B

The first three definitions are being deleted because they are now included in the body of the model code. The boiler definitions shown are being deleted from the model code because part 1346.0404 already defines the applicable boiler pressure designations.

Part 1346.2107; Section 2107

The reference to 50 psig in subsection (c) is being changed to 30 psig in order to align with the current threshold between low and high pressure identified in part 1346.0404 and 1346.0410. This change should have occurred with the adoption of the current *Minnesota Uniform Mechanical Code*.

Part 1346.2133; Table No. 21-C

The change in footnote 10 is made to reference the most current available edition of the standard.

Part 1346.2212; Section 2212

This section has been completely reformatted to a structure similar to the Uniform Mechanical Code in order to improve its ease of use. Provisions to permit plastic pipe, tubing and fittings in certain applications, have been added while the remaining material is a reorganization of existing provisions. Plastic pipe has been proven to be a safe and reliable material for gas systems. This change is necessary to permit it to be used in a manner similar to that in nationally recognized codes including the National Fuel Gas Code.

Part 1346.2213; Section 2213

(a) This has been changed to clarify that screwed and welded joints apply to metallic piping only. Provision for the safe joining of non-metallic piping as permitted in Section 2212(a) 4 has been added.

(d) This addresses the additional depth of bury for plastic gas piping and the necessary means of protection when rising above grade. These provisions for the safe installation of plastic gas piping are very similar to those in the National Fuel Gas Code.

(h) This change is necessary to prohibit the use of potentially dangerous fittings in concealed gas lines. The proposed amendment is reasonable because it prohibits the use of fittings which were prohibited in the previous State Mechanical Code and are currently prohibited in the *National Fuel Gas Code ANSI Z233.1-1988*.

Part 1346.2500; Section 2502

These changes are being made to reference the most current available editions of the standards.

Part 1346.2600; Section 2605

This change is made to reference the most current available edition of the standard.

V. Small Business Considerations

Minnesota Statute 14.115, subdivision 2 (1988) requires the department, when proposing rules which may affect small businesses, to consider the following methods for reducing the impact on small businesses:

- (a) the establishment of less stringent compliance or reporting requirements for small businesses;
- (b) the establishment of less stringent schedules or deadlines for compliance or reporting requirements for small businesses;
- (c) the consolidation or simplification of compliance or reporting requirements for small businesses;
- (d) the establishment of performance standards for small businesses to replace design or operational standards required in the rule; and
- (e) the exemption of small businesses from any or all requirements of the rule.

The division has evaluated the effect of the proposed rules on small businesses and has considered each of the methods listed above for reducing the impact of the rules on small businesses. The adoption of these rule amendments may have some affect on small businesses in Minnesota.

Since Chapter 1346 contains no scheduling, deadline or reporting requirements, items (a), (b) and (c) are not applicable.

Chapter 1346 is performance based for all uses, not just for small businesses identified in item (d).

Item (e) is not applicable as Minnesota Statute 16B.59 requires the commissioner of administration to administer a state code of building construction which will provide basic and uniform performance standards for all residents of the state.


VI. Fiscal Impact

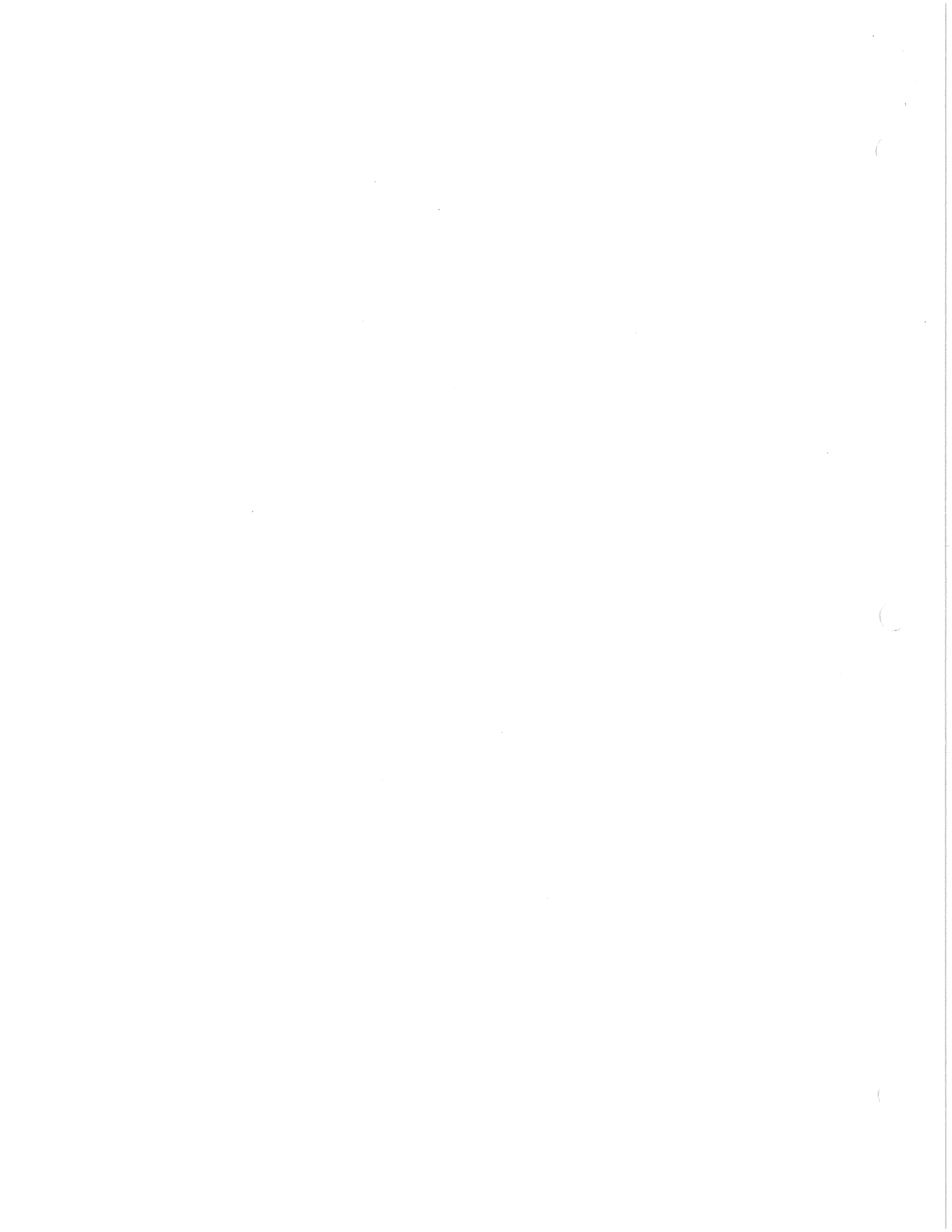
Minnesota Statutes, section 14.11, subdivision 1, does not apply because adoption of these rules will not result in additional spending by local public bodies in excess of \$100,000 per year for the first two years following adoption of the rules.

VII Conclusion

Based on the foregoing the proposed amendments to Minnesota Rules Chapter 1346 are both needed and reasonable.

Dated: June 24, 1994


DebraRae Anderson, Commissioner
Department of Administration



STATE OF MINNESOTA
DEPARTMENT OF ADMINISTRATION
BUILDING CODES AND STANDARDS DIVISION

In the Matter of the Proposed Adoption
of Amendments to the Minnesota
Uniform Mechanical Code

DUAL NOTICE;

NOTICE OF INTENT TO ADOPT A RULE WITHOUT A PUBLIC HEARING UNLESS 25
OR MORE PERSONS REQUEST A HEARING, AND

NOTICE OF HEARING IF 25 OR MORE REQUESTS FOR HEARING ARE RECEIVED

Introduction. The Department of Administration, Building Codes and Standards Division intends to adopt a permanent rule without a public hearing following the procedures set forth in the Administrative Procedure Act, Minnesota Statutes, sections 14.22 to 14.28. If, however 25 or more persons submit a written request for a hearing on the rules within 30 days or by August 17, 1994, a public hearing will be held on August 29, 1994. To find out whether the rule will be adopted without a hearing or if the hearing will be held, you should contact the agency contact person after August 17, 1994 and before August 29, 1994.

Agency Contact Person. Comments or questions on the rule and written requests for a public hearing on the rule must be submitted to:

Peggi White
Building Codes and Standards Division
408 Metro Square Building
7th and Robert Streets
St. Paul, Minnesota 55101
612-296-4626
TTY/TDD: Twin Cities 612-297-5353 or;
Greater Minnesota 800-657-3529 and ask for voice number.

Subject of Rule and Statutory Authority. The proposed rule is about Chapter 1346, Minnesota Uniform Mechanical Code. The proposed rules primarily relate to the adoption by reference of the *1991 Uniform Mechanical Code* as published by the International Conference of Building Officials in Whittier, California. The statutory authority to adopt the rule is Minnesota Statute 16B.61 subdivision 1. A copy of the proposed rule is published in the State Register and attached to this notice as mailed.

Comments. You have until 4:00 p.m. on August 17, 1994, to submit written comment in support of or in opposition to the proposed rule or any part or subpart of the rule. Your comment must be in writing and received by the agency contact person by the due date. Comment is encouraged. Your comments should identify the portion of the proposed rule addressed, the reason for the comment, and any change proposed. A free copy of the rule is available upon request from Peggi White.

Request for a Hearing. In addition to submitting comments, you may also request that a hearing be held on the rule. Your request for a public hearing must be in writing and must be received by the agency contact person by 4:00 p.m. on August 17, 1994. Your written request for a public hearing must include your name, address and telephone number. You are encouraged to identify the portion of the proposed rule which caused your request, the reason for the request, and any changes you want made to the proposed rule. If 25 or more persons submit a written request for a hearing, a public hearing will be held unless a sufficient number withdraw their requests in writing.

Modifications. The proposed rule may be modified, either as a result of public comment or as a result of the rule hearing process. Modifications must not result in a substantial change in the proposed rule as attached and as printed in the State Register and must be supported by data and views submitted to the agency or presented at the hearing. If the proposed rule affects you in any way, you are encouraged to participate in the rulemaking process.

Cancellation of Hearing. The hearing scheduled for August 29, 1994, will be cancelled if the agency does not receive requests from 25 or more persons that a hearing be held on the rule. If you requested a public hearing, the agency will notify you before the scheduled hearing whether or not the hearing will be held. You may also call Peggi White at 612-296-4626 Voice or TTY/TDD Twin Cities 612-297-5353 or Greater Minnesota 800-657-3529 and ask for voice number, after August 17, 1994 to find out whether the hearing will be held.

Notice of Hearing. If 25 or more persons submit written requests for a public hearing on the rule, a hearing will be held following the procedures in Minnesota Statutes, sections 14.14 to 14.20. The hearing will be held on August 29, 1994, in the Building Codes and Standard Division Conference Room, 408 Metro Square Building, 7th & Robert Streets, St. Paul, Minnesota, beginning at 9:00 a.m., and will continue until interested persons have been heard. The hearing will continue, if necessary, at additional times and places as determined during the hearing by the administrative law judge. The administrative law judge assigned to conduct the hearing is Judge Jon Lunde. Judge Lunde can be reached at the Office of Administrative Hearings, 100 Washington Avenue South, Suite 1700, Minneapolis, Minnesota 55401-2138, 612-341-7645.

Hearing Procedure. If a hearing is held, you and all interested or affected persons including representatives of associations or other interested groups, will have an opportunity to participate. You may present your views either orally at the hearing or in writing at any time prior to the close of the hearing record. All evidence presented should relate to the proposed rule. You may also mail written material to the administrative law judge to be recorded in the

hearing record for five working days after the public hearing ends. This five-day comment period may be extended for a longer period not to exceed 20 calendar days if ordered by the administrative law judge at the hearing. Comments received during this period will be available for review at the Office of Administrative Hearings. You and the agency may respond in writing within five business days after the comment period ends to any new information submitted. All written materials and responses submitted to the administrative law judge must be received at the Office of Administrative Hearings no later than 4:30 p.m. on the due date. No additional evidence may be submitted during the five-day response period. This rule hearing procedure is governed by Minnesota Rules, parts 1400.0200 to 1400.1200 and Minnesota Statutes, sections 14.14. to 14.20. Questions about procedure may be directed to the administrative law judge.

Statement of Need and Reasonableness. A statement of need and reasonableness is now available from the agency contact person. This statement describes the need for and reasonableness of each provision of the proposed rule. It also includes a summary of all the evidence and argument which the agency anticipates presenting at the hearing, if one is held. The statement may also be reviewed and copies obtained at the cost of reproduction from the Office of Administrative Hearings.

Small Business Considerations. In preparing these rules, the Building Codes and Standards Division has considered the requirements of Minnesota Statutes, section 14.155, in regard to the impact of the proposed rules on small businesses. The proposed rules favorably affect small businesses in that none of the reporting requirements, schedules, or deadlines identified in items (a), (b), or (c) are applicable to chapter 1346.

Expenditure of Public Money by Local Public Bodies. Pursuant to Minnesota Statutes section 14.11, subd. 1, the expenditure of public money will not exceed \$100,000 in either of the two years following the adoption of these rules.

Impact on Agriculture Lands. Pursuant to Minnesota Statutes, section 14.11, subd. 2, the adoption of these rules will not have any impact on agricultural land.

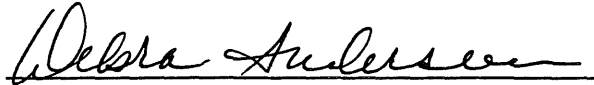
Lobbyist Registration. Minnesota Statutes, chapter 10A requires each lobbyist to register with the Ethical Practices Board. Questions regarding this requirement may be directed to the Ethical Practices Board at First Floor Centennial Office Building, 658 Cedar Street, St. Paul, Minnesota 55155, 612-296-5148.

Adoption Procedure if No Hearing. If no hearing is required, after the end of the comment period the agency may adopt the rule. The rule and supporting documents will then be submitted to the attorney general for review as to legality and form to the extent form relates to legality. You may request to be notified of the date the rule is submitted to the attorney general or to be notified of the attorney general's decision on the rule. If you want to be so notified, or wish to receive a copy of the adopted rule, submit your request to Peggi White listed above.

Adoption Procedure After the Hearing. If a hearing is held, after the close of the hearing record, the administrative law judge will issue a report on the proposed rule. You may

after which date the agency may not take any final action on the rule for a period of five working days. If you want to be notified about the report, you may so indicate at the hearing. After the hearing, you may request notification by sending a written request to the administrative law judge. You may also request notification of the date on which the rule is adopted and filed with the Secretary of State. The agency's notice of adoption must be mailed on the same day that the rule is filed. If you want to be notified of the adoption, you may so indicate at the hearing or send a request in writing to the agency contact person at any time prior to the filing of the rule with the Secretary of State.

Date: June 24, 1994


Debra Rae Anderson
Commissioner