

Minnesota Attorney General: Administrative Rules Proceedings

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Version 3
August 20, 2018

Darla Hormann
Building Code Division

July 18, 1977

- SBC 6001 - 6006

Each provision of SBC 6001 through SBC 6013 is deleted in its entirety and the following is adopted in lieu thereof:

SBC 6001	Authorization
SBC 6002	Enforcement
SBC 6003	Purpose
SBC 6004	Scope
SBC 6005	Adoption by Reference
SBC 6006	Exemption Procedure
SBC 6007 through SBC 6013	Reserved for future use

DESIGN AND EVALUATION CRITERIA

for

ENERGY CONSERVATION IN NEW BUILDINGS,

ADDITIONS, REMODELED ELEMENTS OF BUILDINGS

and

STANDARDS FOR CERTAIN EXISTING PUBLIC BUILDINGS

SBC 6001

Authorization. These Rules are authorized by Mn. Stats. (1974) Sec. 116H.12, subd.4 and Mn. Stat. (1976) Sec. 116H.121 and established through the rulemaking procedures set forth in Mn. Stat. Sec. 15.0411 to 15.052 (Supp. 1975) in order to carry out the provisions of Sections 116H.12 (subd. 4) and 116H.121, regarding energy conservation standards for design, evaluation and construction of all new buildings and the remodeling or reconstruction undertaken after the effective date of these Rules. Additionally these Rules are intended as the energy conservation standards for the survey of certain public buildings, defined by Statute as "buildings owned by the State and the University of Minnesota." These Rules constitute amendments to the State Building Code. In the event that these Rules differ with the State Building Code, these Rules shall govern in all cases not affecting safety and health requirements. Additionally these Rules and the Standard are intended to be used in the required survey of buildings owned by cities, counties and school districts. Compliance with these Rules and the referenced standards shall not be mandatory for existing buildings owned by any city, county or school district.

SBC 6002

Enforcement

A. Building Officials, in the municipality for which they are appointed, shall enforce these Rules.

B. In all other areas of the State these Rules shall be enforced by the Commissioner of Administration or his designated representatives. The fees for such enforcement shall be based on the schedule established in Chapter 3 of the Uniform Building Code, as adopted by SBC 201.

SBC 6003

Purpose

The purpose of these Rules is to provide design requirements which will improve utilization of energy in new buildings, additions, remodeled elements of buildings and certain existing public buildings.

A. The requirements of these Rules are directed toward the design or modification of building envelopes to provide adequate thermal resistance and low air leakage and toward the design or redesign and selection of mechanical, electrical service, and illumination systems and equipment which will enable the effective use of energy in buildings.

B. It is intended that these Rules be flexible in order that designers be encouraged to use innovative approaches and techniques to achieve effective conservation of energy. More effective use of energy may be achieved by the use of alternate design solutions, which follow the specific requirements of Sections 10 and/or 11 of the Standard referenced in SBC 6005.

C. It is intended that these Rules, and the referenced standard, be used in the design of new buildings, additions, for remodeled elements of existing buildings as well as being applicable to certain existing public buildings as defined in SBC 6001.

Compliance with the requirements should be determinable and be economically justifiable in the preconstruction stage by evaluation and analysis of design specifications, drawings and calculations.

D. These Rules are not intended to abridge any safety or health requirements.

SBC 6004

Scope

A. These Rules and the referenced Standard set forth requirements for the design of new buildings as enumerated below, covering their exterior envelopes and selection of their HVAC, service water heating, electrical distribution and illuminating systems, and equipment, for effective use of energy.

1. These Rules and the referenced Standard apply to new buildings, additions, remodeled elements as well as certain existing public buildings.
2. Buildings or portions thereof whose peak design rate of energy usage is less than 1 w/ft^2 (3.4 Btu/h ft^2)(10.8 w/m^2) of floor area for all purposes are excluded from the scope of this Standard.
3. Certain other buildings or elements thereof may be exempt when design data are not available or not applicable. In these cases, the exemptions are specifically noted in the sections of the referenced Standard.

B. These Rules and the referenced Standard do not cover specific procedures for the operation, maintenance and use of buildings.

Adoption of ASHRAE Standard 90-75 by reference. Sections 3.0 through 11, attachments and appendices of the 1975 Edition of ASHRAE Standard 90-75, hereinafter referred to as Standard 90, as promulgated and published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., is incorporated by reference and hereby made part of the State Building Code and shall be subject to the following alterations and amendments.

Section 3 of Standard 90 is amended to read as follows:

A. Page 9, Definitions.

Heated space. Space, within a building, which is provided with a positive heat supply to maintain air temperature of 50F (10°C) or higher. This definition is not to be construed to require the insulation of floor assemblies above basements or crawl spaces in Type A buildings provided with a positive heat supply.

B. Page 10, Definitions.

~~manufactured-building.--Any-building-which-is-of-closed-construction-and-which is-made-or-assembled-in-manufacturing-facilities-on-or-off-the-building-site, or-any-building-of-open-construction-which-is-made-away-from-the-building-site for-installation-or-assembly-and-installation-on-the-building-site.~~

~~mobile-home.--A-factory-assembled,-movable-dwelling-designed-and-constructed to-be-towed-on-its-own-chassis,-comprised-of-frame-and-wheels,-usually-used without-a-permanent-foundation,-and-distinguishable-from-other-types-of-dwellings in-that-the-standards-to-which-it-is-built-include-provisions-for-its-mobility on-that-chassis-as-a-vehicle.~~

new building. As used hereafter shall mean new buildings, additions, remodeled elements of buildings, and certain existing public buildings.

C. Page 12, 4.2.1.1

In addition to the criteria set forth in this section, the proposed design ~~should~~ shall consider energy conservation in determining the orientation of the building on its site; the geometric shape of the building; the building aspect ratio (ratio of length to width); the number of stories for a given floor area requirement; the thermal mass of the building; the exterior surface color; shading or reflections from adjacent structures, surrounding surfaces or vegetation; opportunities for natural ventilation; and wind direction and speed. Calculation procedures and information contained in Chapters 17-22 of the 1972 ASHRAE HANDBOOK of FUNDAMENTALS[1-6] may be used as guidelines to evaluate the above factors.

D. Page 12, Exterior Envelope Requirements.

4.2.7 The design of buildings for energy conservation shall not create conditions of accelerated deterioration from moisture condensation. Vapor barriers are required to maintain the thermal performance of required building insulation against cold weather water vapor condensation in all Type A Buildings (Perm Rating 1.0 maximum).

E. Page 18.

4.3.2.4 Slab-on-Grade Floors. For slab-on-grade floors, the thermal resistance of the insulation around the perimeter of the floor shall be as shown in Fig. 2. The insulation shall extend downward from the top of the slab ~~for a minimum distance of 24 in. (0.6 m)~~ to the design frost line or downward to the bottom of the slab then horizontally beneath the slab for ~~a minimum total distance of 24 in. (0.6 m)~~ an equivalent distance.

F. Page 18.

4.4.2.4 Slab-on-Grade Floors. For slab-on-grade floors, the thermal resistance of insulation around the perimeter of the floor shall be as shown in Fig.2. The insulation shall extend downward from the top of the slab ~~for a minimum distance of 24 in. (0.6 m)~~ to the design frost line or downward to the bottom of the slab then horizontally beneath the slab for ~~a minimum total distance of 24 in. (0.6 m)~~ an equivalent distance.

G. Page 20.

5.2 Scope. This section covers determination of heating and cooling loads, design requirements, and control requirements for general comfort applications in new buildings ~~where-normally-clothed-people-are-engaged-in-sedentary-or-near-sedentary-activities~~. Criteria are established for insulating HVAC systems and for duct construction. EXCEPTIONS. Special applications, such as but not limited to hospitals, laboratories, thermally sensitive equipment, computer rooms and ~~supermarkets~~ areas with open refrigerated display cases, are exempt from the requirements of this section. Where these special applications are described in the 1974 ASHRAE Handbook and Product Directory, Applications Volume[1], the criteria described therein should be used.

H. Page 22, References - add Footnote 17.

17. "Monthly normals of temperature, precipitation and heating degree days 1941-70", U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Environmental Data Service, National Climatic Center, Asheville, North Carolina, August, 1973.

I. Page 22, Exceptions.

Special applications, such as but not limited to hospitals, laboratories, thermally sensitive equipment, computer rooms and supermarkets, are exempt from the requirements of this section. Where these special applications are described in the 1974 ASHRAE HANDBOOK & Product Directory, Applications Volume[1], the criteria described therein ~~should~~ shall be used.

J. Page 23

5.3.2.3 Ventilation. Ventilation air shall conform to ASHRAE Standard 62-73 "Natural and Mechanical Ventilation."[6]

Ventilation air quantities identified in SBC 7705 through SBC 7720 shall be used in lieu of those contained in Standard 62-73 whenever this will reduce ventilation air quantities.

K. Page 23

5.3.2.5 System Design Heating/Cooling Capacity. The rated capacity of the heating/cooling system at design conditions shall not be greater than 115% for heating, 100% for cooling at design output load calculated in accordance with Sec. 5.3, whenever appropriate equipment is available. Equipment designed for standby purposes is not included in this capacity limitation requirement. The cooling capacity of heat pumps are exempt from this limitation.

L. Page 23

5.4.3.1 One- and Two-Family Dwelling Units, Attached or Detached, ~~and Mobile-Homes~~.

M. Page 25, Exceptions.

d. The use of outdoor air cooling may affect the operation of other systems (such as return or exhaust air fans or ~~supermarket refrigeration~~ areas with open refrigerated display cases) so as to increase the overall energy consumption of the building.

N. Page 32.

7.3.1.1 is deleted in its entirety.

O. Page 33.

7.3.1.2 is deleted in its entirety.

P. Page 33.

7.3.2 Combination Service Water Heating/Space Heating Boilers. Service water heating equipment shall not be dependent on year-round operation of space heating boilers; that is, boilers that have as another function winter space heating. ~~Exeepted from this provision until January 1, 1977 are systems with service/space heating boilers having a stand-by loss in Btu/h(W) less than~~

$$\frac{25 \text{ pmd} + 250}{n} \qquad \frac{(7 \times 10^6 \text{ pmd} + 73)}{n}$$

~~where pmd is the probable maximum demand in gallons per hour (m^3/s) (determined as per Chapter 37 of the 1973 ASHRAE Handbook and Product Directory, Systems~~

~~Volume)-and-n-is-the-fraction-of-the-year-when-the-outdoor-daily-mean-temperature is-more-than-64.9F-(18°C).--EXCEPTION.--After-January-1,-1977-excepted-from-this provision-are-systems-with-service/space-heating-boilers-having-a-stand-by-loss Btu/h(W)-less-than~~

~~$\frac{13.3 \text{ pmd} + 400}{n}$ $\frac{(3.7 \times 10^6 \text{ pmd} + 117)}{n}$~~

~~The-stand-by-loss-is-to-be-determined-for-a-test-period-of-24-hour-duration while-maintaining-a-boiler-water-temperature-of-90F-(32°C)-above-ambient.~~

Q. Page 34.

7.8 Swimming Pools.

7.8.1 Heated swimming pools shall be equipped with controls to limit heating water temperatures to no more than ~~80F-(26.5°C).~~ 84F (28.9°C).

R. Page 34.

8.6 Electric Energy Determination. In any multi-tenant residential building, provisions shall be made to separately determine the energy consumed by each tenant. ~~Where-local-codes-and-regulatory-agencies-permit,-each-tenant-shall be-made-financially-responsible-for-the-energy-he-uses.~~

S. Page 38.

ATTACHMENT A TO SECTION 9 (9.3.4.1)

~~Attachment-A-is-not-a-part-of-this-Standard.~~

T. Page 41

ATTACHMENT B TO SECTION 9 (9.3.5)

~~Attachment-B-is-not-a-part-of-this-Standard.~~

U. Page 46

ATTACHMENT C TO SECTION 9

~~Attachment-C-is-not-a-part-of-this-Standard.~~

V. Page 51.

Appendix I

~~Appendix I is not part of this Standard.~~

W. Page 52.

Appendix II

~~Appendix II is not part of this Standard.~~

X. Page 53.

Sheet Metal and Air Conditioning Contractors
National Association, Inc. (SMACNA)
~~1611 North Kent Street, Suite 200~~
~~Arlington, VA 22209~~

8224 Old Courthouse Road
Vienna, VA 22108

Y. Page 53.

Appendix III is deleted in its entirety.

SBC 6006

Required Procedure for Exemption

A. Any person seeking exemption from the requirements of these Rules and the referenced Standard shall submit a request, supported by evaluation and documentation, to the Building Official of the municipality where the building permit is required.

B. In those areas of the State where the State Building Code does not apply, such request for exemption shall be submitted to the State Building Inspector, supported by same documentation as required by SBC 6006A.

SBC 6007 through SBC 6013 reserved for future use.

APPROVED AS TO FORM AND LEGALITY
JUL 14 1977
WARREN SPANNAUS, ATTORNEY GENERAL
BY /s/ Michael B. Miller
SPECIAL ASSISTANT ATTORNEY GENERAL

STATE OF MINNESOTA
DEPARTMENT OF STATE
FILED
JUL 14 1977
Joan Anderson Growe
Secretary of State

12:05 P.M.

ADMIN 1000A

STATE OF MINNESOTA

DEPARTMENT ADMINISTRATION

Office Memorandum

TO : Mike Miller
Special Assistant
Attorney General

DATE: June 24, 1977

FROM : DarlaMae Hormann
Building Code Division

SUBJECT: DOCUMENTATION OF MARCH 31, 1977 PUBLIC HEARING

Enclosed are the necessary documents for your reviewal and filing with the Secretary of State's Office regarding the March 31, 1977 hearing.

This is my first attempt at filing hearing documents under the present system, if I have omitted anything, please let me know. My telephone number is 296-4626.

d

STATEMENT OF COMPLIANCE WITH

MANUAL OF RULE MAKING PROCEDURES

I, Special Assistant Attorney General Joan Volz, do hereby declare that I have examined the proposed rules and all related documents and that, based on them and my personal familiarity with the applicable procedures, the Manual of Rule Making Procedures has been followed. Any exceptions are noted below.

JOAN VOLZ
Special Assistant
Attorney General

Date: 23 June 1977

STATE OF MINNESOTA
OFFICE OF HEARING EXAMINERS

FOR THE DEPARTMENT OF ADMINISTRATION
BUILDING CODE DIVISION

IN THE MATTER OF THE PROPOSED RULES AND REGULATIONS OF THE BUILDING CODE DIVISION TO CARRY OUT PROVISIONS OF SECTIONS 116H.12, SUBD. 4, AND 116H.121 TO PROVIDE ENERGY CONSERVATION STANDARDS FOR DESIGN, EVALUATION AND CONSTRUCTION OF ALL NEW BUILDINGS, REMODELING OR RECONSTRUCTION, AND SURVEY OF CERTAIN PUBLIC BUILDINGS. THESE RULES AND REGULATIONS, INVOLVING ADOPTION BY REFERENCE WITH AMENDMENTS OF ASHRAE STANDARD 90-75, CONSTITUTE AMENDMENTS TO THE STATE BUILDING CODE.	REPORT OF THE CHIEF HEARING EXAMINER

WHEREAS, a hearing was held on March 31, 1977, before Peter C. Erickson, a Hearing Examiner of the State Office of Hearing Examiners, on the above-entitled matter in compliance with Minn. Stat. §15.0412, Subd. 4; and

WHEREAS, the Report of Hearing Examiner made pursuant to Minn. Stat. §15.052, Subd. 3, was issued to the Building Code Division on May 12, 1977; and

WHEREAS, the Building Code Division has now determined to adopt rules pursuant to Minn. Stat. §15.0412, Subd. 4; and

WHEREAS, the Building Code Division has submitted said rules to the Chief Hearing Examiner for review pursuant to Minn. Stat. §15.052, Subd. 4, and Rule HE 107; and

WHEREAS, the Chief Hearing Examiner finds that the final proposed rules are not substantially different from those proposed at the public hearing and that the Building Code Division has met all requirements of Minn. Stat. §15.0412, Subd. 4.

NOW, THEREFORE, upon receipt of this Report, the Building Code Division has the responsibility of submitting the complete hearing record and the rules as adopted by the Division to the Attorney General and to publish in the State Register, all pursuant to Minn. Stat. §15.0412, Subd. 4.

Dated this 22nd day
of June, 1977.

Duane R. Harves

DUANE R. HARVES
Chief Hearing Examiner

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

IN THE MATTER OF PROPOSED ADOPTION OF RULES OF THE BUILDING CODE DIVISION GOVERNING ENERGY CONSERVATION STANDARDS FOR DESIGN, EVALUATION AND CONSTRUCTION OF ALL NEW BUILDINGS, REMODELING, OR RECONSTRUCTION, AND SURVEY OF CERTAIN PUBLIC BUILDINGS.

ORDER ADOPTING RULES

The above entitled matter came on for hearing before Peter Erickson, Hearing Examiner, sitting on behalf of the Commissioner of Administration of the State of Minnesota on the 31st day of March, 1977, at 9:00 A.M. in the Holiday Inn, 161 St. Anthony Avenue, St. Paul, Minnesota after proper notice required by Minn. Stat. 1974, Section 15.0412 was served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording interested persons an opportunity to present written and oral data, statements and arguments, having heard all of the testimony, having considered all of the evidence adduced and upon the records, files, and proceedings herein, and applicable statutory standards or criteria, and having confirmed the need for the above captioned rules and the reasonableness thereof.

NOW, THEREFORE, IT IS ORDERED that the Report of the Hearing Examiner including all recommended amendments is adopted in its entirety concerning the above rules identified as Building Code Division SBC 6001 thru 6007 providing energy conservation standards for design, evaluation and construction of all new buildings, remodeling or reconstruction, and survey of certain public buildings; involving adoption by reference with amendments of ASHRAE Standard 90-75, are hereby adopted this 20 day of June, 1977, pursuant to authority vested in me by Minn. Stat. 16.86, subds. 1 thru 7 (1976).

Richard L. Brubacher

Richard L. Brubacher
Commissioner

RECEIVED
JUN 17 1977
OFFICE OF HEARING
EXAMINERS

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

In the Matter of the Proposed Rules and Regulations of the Building Code Division to Carry Out Provisions of Sections 116H.12, Subd. 4, and 116H.121 to Provide Energy Conservation Standards for Design, Evaluation and Construction of all New Buildings, Remodeling or Reconstruction, and Survey of Certain Public Buildings. These Rules and Regulations, Involving Adoption by Reference with Amendments of ASHRAE Standard 90-75, Constitute Amendments to the State Building Code.

ORDER FOR HEARING

NOTICE IS HEREBY GIVEN that a public hearing in the above-entitled matter will be held in Room D, 5th Floor, Veteran's Service Building, 29 West 12th Street and Columbus Avenue, Saint Paul, Minnesota, 55155, on March 23, 1977 commencing at 9:00 a.m. and continuing until all persons have had an opportunity to be heard.

IT IS FURTHER ORDERED that a Notice of Hearing be mailed to all persons or representatives of associations or other interested groups who have registered their names with the Secretary of State for that purpose.

IT IS FURTHER ORDERED that the Notice of Hearing be published in the State Register.

Date: 1-26-77

Richard L. Brubacher

Richard L. Brubacher
Commissioner of Administration

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STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

IN THE MATTER OF THE PROPOSED RULES AND REGULATIONS OF THE BUILDING CODE DIVISION TO CARRY OUT PROVISIONS OF SECTIONS 116H.12, SUBD, 4, AND 116H.121 TO PROVIDE ENERGY CONSERVATION STANDARDS FOR DESIGN, EVALUATION AND CONSTRUCTION OF ALL NEW BUILDINGS, REMODELING OR RECONSTRUCTION, AND SURVEY OF CERTAIN PUBLIC BUILDINGS. THESE RULES AND REGULATIONS, INVOLVING ADOPTION BY REFERENCE WITH AMENDMENTS OF ASHRAE STANDARD 90-75, CONSTITUTE AMENDMENTS TO THE STATE BUILDING CODE.

NOTICE OF HEARING

NOTICE IS HEREBY GIVEN that a public hearing in the above-entitled matter will be held at the Holiday Inn, 161 St. Anthony Avenue, St. Paul, Minnesota, on March 31, 1977 commencing at 9:00 a.m. and continuing until all persons have had an opportunity to be heard. Statements may be made orally and written materials may be submitted at the hearing. In addition, written materials may be submitted by mail to Peter Erickson, State Hearing Examiners Office, Room 300, 1745 University Avenue, St. Paul, Minnesota, 55104, 612/296-8118, either before the hearing or within 20 days after the close of the hearing.

The proposed rules, if adopted, would supercede the existing requirements (SBC 6001 through SBC 6013) and would have the effect of making Minnesota requirements the same as other states adopting such national consensus standards. Copies of the proposed amendments to SBC 6001 through 6013 are available free of charge from the Building Code Division, 408 Metro Square Building, 7th and Robert Streets, St. Paul, Minnesota, 55101. Copies of ASHRAE 90-75 are available for review at that same address.

ASHRAE 90-75 may be purchased from the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., 345 East 47th Street, New York, New York, 10017, for $10.00 per copy, plus fifty cents postage per copy. ASHRAE 90-75 and the amendments proposed to it will also be available for review at the door on the date of the hearing. The agency's authority to promulgate the proposed rules is contained in Minn. Stat. 16.86 (1974). A "statement of need" explaining why the agency feels the proposed rules are necessary and a "statement of evidence" outlining the testimony they will be introducing will be filed with the Hearing Examiners Office at least 25 days prior to the hearing and will be available there for public inspection.

Please be advised that pursuant to Minn. Stat. 10A.01, Subd. 11 (1974) any individual engaged to pay or other consideration for the purpose of representing persons or associations attempting to influence administrative action, such as the promulgation of these rules, must register with the State Ethics Commission as a lobbyist within five days of the commencement of such activity by the individual.

Date: 1-26-77

Richard L. Brubacher
Commissioner of Administration

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EXAMINERS

State of Minnesota

Department of Administration

In the Matter of the Proposed Rules and Regulations of the Building Code Division to Carry Out Provisions of Sections 116H.12, subd. 4, and 116H.121 to Provide Energy Conservation Standards for Design, Evaluation and Construction of all New Buildings, Remodeling or Reconstruction, and Survey of Certain Public Buildings. These Rules and Regulations, Involving Adoption by Reference with Amendments of ASHRAE Standard 90-75, Constitute Amendments to the State Building Code.

STATEMENT OF NEED

The above captioned rules provide for amendments to the existing rules of the Building Code Division. The rules pertaining to the above captioned matter were previously adopted August 30, 1975 having the effect of law on January 30, 1976.

Minn. Stat. 116H.12, subd. 4 provides that the Commissioner of Administration and the Director of the Minnesota Energy Agency promulgate rules and regulations directed towards the design and construction standards consistent with the most effecient use of energy. Such standards for heat loss/gain control, illumination and climate control would apply to all new buildings, remodeling of existing buildings and the remodeled elements of buildings.

Minn. Stat. 116H.121 has established that additional energy conservation standards be promulgated for certain public buildings. Again the cooperative efforts of the Commissioner of Administration and the Director of the Minnesota Energy Agency must be exercised to amend the rules previously established to include standards for all existing buildings heated by oil, coal, gas and electric units, which are owned by the state, the University of Minnesota, any city, county, or school district. Compliance with standards adopted pursuant to this section shall not be mandatory for buildings owned by any city, county or school district.

When the present energy conservation requirements, identified as SBC 6001 through 6013, were promulgated, there was not a nationally recognized standard available for energy conservation in buildings. A proposed standard, identified as ASHRAE 90-P, developed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., was used as a model for the promulgation of the state's rules and regulations.

In an effort to update the standards and requirements for energy conservation in new buildings, remodeled buildings and the remodeled elements of buildings, as well as certain public buildings, and to be consistent with guidelines established by the Federal government, it is intended that the existing energy document be deleted in its entirety and the new language relating to the authorization, enforcement, purpose, scope and the adoption by reference of Chapters 3 through 11 and the attachments and appendices of the 1975 Edition of ASHRAE Standard 90-75, be the basis for the Minnesota energy conservation regulations.

There are eleven proposed amendments to ASHRAE 90-75 which will reflect changes that are deemed necessary to make the document more workable. The items of the proposed document are as follows:

SBC 6001 Authorization. This is the information contained in the Minnesota Statutes establishing the authority for the promulgation of such rules and regulations by the Department of Administration and the Director of the Minnesota Energy Agency. It includes new legislation stating the requirement for rules to be established for certain public buildings.

SBC 6002 Enforcement. This section is the same in intent as the existing document but provides for the establishment of fees for inspections to be performed under the direction of the Commissioner of Administration for structures in those areas of the state where the State Building Code is not in effect.

SBC 6003 Purpose. This section does not change the intent of the existing document but refines the language and application of the proposed rules.

SBC 6004 Scope. The intent of this section has not been changed from the existing energy conservation regulations.

SBC 6005. This section adopts sections 3.0 through 11 of ASHRAE Standard 90-75 by reference with certain proposed amendments. Some amendments are proposed for clarification purposes, such as those changes suggested in the Definitions portion of the Standard. Section 4 of the Standard regulates the construction of the building envelope with respect to heat loss/gain. Several amendments proposed would retain existing requirements where a study has determined that the Standard to be adopted seems to be deficient. In Section 5 of the Standard, several changes in language are proposed for clarification purposes. An additional footnote reference is proposed which identified a substantial number of areas on the state with heating degree days which will enable designers of buildings to more readily make necessary calculations when using the Standard. Amendments to Section 7 of the Standard are proposed with respect to water heaters. The deletion of some requirements is needed due to a lack of a broad range of complying heaters that are certified by independent testing laboratories to be in compliance with the Standard.

SBC 6006. This section contains a procedure to be followed when any person requests an exemption from any requirement of the Standard. Such exemptions must be considered under Minn. Stat. 116H.12, subd. 4 (1974) which deals with the economic feasibility of the application of energy conservation standards.

Generally, the provisions of ASHRAE Standard 90-75 are quite similar to those of the existing energy regulations. However, the proposed rules, if adopted, would have the effect of making Minnesota requirements the same as other states adopting such national consensus standards.

Date: March 8, 1977

Richard L. Brubacher

Richard L. Brubacher
Commissioner of Administration

RECEIVED
JUN 1 / 1977
OFFICE OF HEARING
EXAMINERS

State of Minnesota

Department of Administration

In the Matter of the Proposed Rules and Regulations of the Building Code Division to Carry Out Provisions of Sections 116H.12, subd. 4, and 116H.121 to Provide Energy Conservation Standards for Design, Evaluation and Construction of all New Buildings, Remodeling or Reconstruction, and Survey of Certain Public Buildings. These Rules and Regulations, Involving Adoption by Reference with Amendments of ASHRAE Standard 90-75, Constitute Amendments to the State Building Code.

STATEMENT OF EVIDENCE

Robert F. Rogers, Assistant Director of the Building Code Division, will appear on behalf of the Building Code Division at the hearing to be held on March 31, 1977. He will testify regarding the need for and reasonableness of the proposed rules. The substance of his testimony is set forth in the Statement of Need submitted herewith.

Date: March 8, 1977

Don Pates

Don Pates, Director
Building Code Division

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STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

In the Matter of the Proposed Rules and Regulations of the Building Code Division to Carry Out Provisions of Sections 116H.12, Subd. 4., and 116H.121 to Provide Energy Conservation Standards for Design, Evaluation and Construction of All New Buildings, Remodeling or Reconstruction, and survey of Certain Public Buildings. These Rules and Regulations, Involving Adoption by Reference with Amendments of ASHRAE Standard 90-75, Constitute Amendments to the State Building Code.

CERTIFICATE OF DELIVERY OF THE SECRETARY OF STATE LIST

I hereby certify that the attached 505 labels & 2 1/2 sheets constitute the complete list of persons, associations, and other interested groups who as of 11:00 o'clock a.m., this 18th day of February, 1977, have requested pursuant to M.S. 1974, Sec. 15.0412 that their names be placed on file with the Secretary of State for the purpose of receiving notice of public hearing on proposed rules on the subject captioned above.

SECRETARY OF STATE

Joan Anderson Growe

By Ceil Dieve

STATE OF MINNESOTA)
(ss.
COUNTY OF RAMSEY)

AFFIDAVIT OF SERVICE

Estella Farmer, being first duly sworn, deposes and says that on the 13th day of May 1977, at the City of St. Paul, County of Ramsey, State of Minnesota, she served the attached Report of Hearing Examiner File No. BCD-77-004-PE.

unstamped, by placing in the designated tray to be collected by messenger for delivery to the central mailing station as required by Minn. Stat., § 16.54 (1974), a true and correct copy thereof on all persons at the addresses shown on the attached mailing list.

Estella Farmer

Subscribed and sworn to before me
this 13th day of May, 1977.

Sandra A. Haven

SANDRA A. HAVEN
NOTARY PUBLIC-MINNESOTA
RAMSEY COUNTY
My Comm. Expires July 29, 1983

STATE OF MINNESOTA
OFFICE OF HEARING EXAMINERS

FOR THE DEPARTMENT OF ADMINISTRATION
BUILDING CODE DIVISION

In the Matter of the Proposed Rules and Regulations of the Building Code Division to Carry Out Provisions of Sections 116H.12, Subd. 4, and 116H.121 to Provide Energy Conservation Standards for Design, Evaluation and Construction of all New Buildings, Remodeling or Reconstruction, and Survey of Certain Public Buildings. These Rules and Regulations, Involving Adoption by Reference with Amendments of ASHRAE Standard 90-75, Constitute Amendments to the State Building Code.

REPORT OF HEARING EXAMINER

The above-entitled matter came on for hearing before Hearing Examiner Peter C. Erickson of the Minnesota Office of Hearing Examiners at 9:00 a.m. on Thursday, March 31, 1977 in the Holiday Inn, 161 St. Anthony Avenue, St. Paul, Minnesota.

Joan Volz, Special Assistant Attorney General, G 19 K, Administration Building, appeared as counsel for the Building Code Division. Robert F. Rogers, Assistant Director, Building Code Division, testified on behalf of the Division in support of the proposed rules. The hearing continued until all interested groups or persons had an opportunity to be heard concerning the adoption of the proposed rules.

Pursuant to Minn. Stat. § 15.0412, subd. 4 (1976), this Report shall be available for review to all affected individuals upon request for at least ten days.

The Building Code Division shall, if it proposes to adopt the rules as originally proposed or amended, submit the complete hearing record, including its Findings and Order, to the Chief Hearing Examiner no earlier than ten days subsequent to the receipt of this Report. This submission shall also clearly indicate any changes made to the rules as originally proposed, preferably in the format that will be submitted to the State Register for publication. The Chief Hearing Examiner shall complete his review and submit his report to the Building Code Division on the issues of substantial changes in the rule and compliance with Minn. Stat. § 15.0412 within ten calendar days. Thereafter, the Department shall be responsible for filing the rules with the Attorney General.

Based upon all the records and proceedings herein, the Examiner makes the following:

FINDINGS OF FACT

1. On January 24, 1977 the Building Code Division (BCD) filed the following documents with the Chief Hearing Examiner:

(a) A copy of the proposed rules;
(b) A proposed Order for Hearing;
(c) A proposed Notice of Hearing; and
(d) A Statement of the estimated length and number of people attending the hearing.

2. On February 22, 1977 a Notice of Hearing and a copy of the proposed rules were published at 1 State Register 1251.

3. On February 22, 1977 the BCD mailed the Notice of Hearing to all persons and associations who had registered their names with the Secretary of State for the purpose of receiving such notice.

4. On March 8, 1977 the BCD filed the following documents:

(a) The Order for Hearing;
(b) The Notice of Hearing as mailed;
(c) The Affidavit of Receipt of the Secretary of State's list;
(d) The Affidavit of Mailing;
(e) The Secretary of State's Certificate and list;
(f) The Statement of Need; and
(g) The Statement of Evidence, including the names of witnesses to be called;
(h) The names of BCD personnel who will represent the agency.

The documents were available for inspection at the Office of Hearing Examiners from the date of filing to the date of the hearing.

5. The record remained open through April 20, 1977 for the receipt of written comments and statements.

6. Statutory authority to promulgate the proposed rules is contained in Minn. Stat. §§ 16.86, 116H.12, subd. 4, and 116H.121 (1976).

7. Minn. Stat. 116H.12, subd. 4 provides that the Commissioner of Administration and the Director of the Minnesota Energy Agency promulgate rules and regulations directed towards the design and construction standards consistent with the most effecient use of energy. Such standards for heat loss/gain control, illumination and climate control would apply to all new buildings, remodeling of existing buildings and the remodeling elements of buildings.

Minn. Stat. 116H.121 has established that additional energy conservation standards be promulgated for certain public buildings. Again the cooperative efforts of the Commissioner of Administration and the Director of the Minnesota Energy Agency must be exercised to amend the rules previously established to include standards for all existing buildings heated by oil, coal, gas and electric units, which are owned by the state, the University of Minnesota, any city, county, or school district. Compliance with standards adopted pursuant to this section shall not be mandatory for buildings owned by any city, county or school district.

When the present energy conservation requirements, identified as SBC 6001 through 6013, were promulgated, there was not a nationally recognized standard available for energy conservation in buildings. A proposed standard, identified as ASHRAE 90-P, developed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., was used as a model for the promulgation of the state's rules and regulations.

In an effort to update the standards and requirements for energy conservation in new buildings, remodeled buildings and the remodeled elements of buildings, as well as certain public buildings, and to be consistent with guidelines established by the Federal government, it is intended that the existing energy rules be deleted in their entirety and the new language relating to the authorization, enforcement, purpose, scope and the adoption by reference of Chapters 3 through 11 and the attachments and appendices of the 1975 Edition of ASHRAE Standard 90-75, be the basis for the Minnesota energy conservation regulations.

8. Proposed SBC 6001, Authorization, sets out specifically the statutory basis for the rules and enumerates the scope of applicability of the rules.

Ken Turnham, Northfield Building Official, suggested that city, county or school district buildings not be exempted from compliance with the proposed rules as is stated in SBC 6001. Minn. Stat. § 116H.121 provides, however, that these buildings be exempt from mandatory compliance with rules adopted pursuant to that section.

9. Proposed SBC 6002, Enforcement, is merely a repeat of

current SBC 6002 except for a clarifying change in the reference to another section of the code.

10. Proposed SBC 6003, Purpose, basically states the same intent as present SBC 6003 but it ties in the national standard incorporated in SBC 6005.

11. Proposed SBC 6004, Scope, enumerates which kinds of buildings and building construction are covered by the proposed standard.

12. Proposed SBC 6005 adopts sections 3 through 11 of ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.) Standard 90-75 (hereafter Standard 90) by reference and makes several amendments to the Standard.

13. Section 3 of Standard 90 sets out a list of terms and definitions on which the Standard is based. SBC 6005 amends Section 3 as follows:

a. A clarifying sentence was added to the definition of "heated space."

b. The definition of "manufactured building" was deleted as the BCD has already promulgated rules dealing with manufactured buildings.

c. The definition of "mobile home" was deleted because all state construction requirements that pertain to mobile homes have been preempted by federal legislation.

14. After hearing, the BCD reconsidered its position regarding the deletion of the definition of "manufactured building" and proposed that the definition not be deleted. The BCD contends that inclusion of the definition will make it clear that energy conservation requirements contained in the Standard are applicable to such buildings. The Examiner concludes that this amendment does not constitute a substantial change and the rule as amended is both reasonable and necessary.

15. Section 4 of Standard 90 regulates the construction of the building envelope with respect to heat loss/gain. SBC 6005 amends Section 4 as follows:

a. A vapor barrier requirement was added to subsection 4.2.7 because the present rule does include that provision.

b. Subsection 4.3.2.4 and 4.4.2.4 were amended by adding language for frost line insulation requirements. That provision is also included in the present rule.

c. Adding footnote 17 to References used in Section 4 to include a more comprehensive document.

16. The BCD proposed to amend subsection 4.2.7 as follows:

> "Vapor barriers are required to maintain the thermal performance of required building insulation against cold weather water vapor condensation in all Type A Buildings (Perm Rating 1.0 maximum)."

This amendment clarifies the intent that the requirement applies to all Type A Buildings. The Examiner concludes that this amendment does not constitute a substantial change and the rule as amended is both reasonable and necessary.

17. Herbert W. Meyer proposed to amend subsections 4.1, 5.2 and 6.1 by deleting the word "new." He contends that the word "new" does not appropriately designate which kinds of building construction are covered by the rules. The BCD concurred with Mr. Meyer's position and suggested that the following new definition be added to remedy the problem:

> "New Building" as used hereafter shall mean new buildings, additions, remodeled elements of buildings, and certain existing public buildings.

The Examiner concludes that the alternative posed by the BCD is the most reasonable and does not constitute a substantial change.

18. Mr. Meyer proposed to amend subsection 4.2.1.1 and 5.2 by deleting the word "should" and substituting in place thereof the word shall. The Examiner concludes that this amendment does not constitute a substantial change and the rule as amended is both reasonable and necessary. The ambiguity of the word "should" has no place in a rule of this nature.

19. Mr. Jim Adams, Executive Director of the Insulation Contractors Association, proposed that subsection 4.3.2.2. be amended to reflect an R-value of 40 rather than 30 as is now set out. Adams contends that because of the energy crisis we are now facing, the higher value should be adopted. John Millhone, Director of the Minnesota Energy Agency, concurs with the concerns expressed by Adams. Millhone proposed that the R-value be increased to 38.

The BCD argues against the increase in the R-value as follows:

> "The complete Standard is viewed as a "minimum acceptable" series of requirements. Any person may, by choice, purchase, install, or cause to be installed at his discretion, additional insulation. The Section referred to (Sec. 4.3.2.2) relates to attic insulation. Should the inflation rate of fuel and/or fuel scarcity make it necessary and economically feasible to increase insulation to reduce thermal transmission, the attic area is always accessible for further insulation addition not only by the first, but subsequent owners."

Marlin D. Grant, Code Committee Chairman of the Minnesota State Builders Association, also opposes the increase. He contends that the total payback period for the extra insulation would be 75.8 years for a 1,400 square foot one story home. As such, the increase from 30 to 38 or 40 is economically unfeasible.

The Examiner concludes that the reasonableness of increasing the R-value from 30 to 38 or 40 has not been demonstrated. The rule as proposed was shown to be reasonable.

20. Jene T. Sigvertsen, Executive Director of Plant Planning and Maintenance for the St. Paul Public Schools, proposed to amend 4.2.5 and 4.5.4 by adding the following language, respectively:

> "Buildings that are occupied less than 35% of the time during the heating season which are equipped with a control that will automatically reset building temperature to a point at least 10°F below normal temperatures are exempt from the winter design temperature of 97.5% for the design of equipment."

> "Boiler breaching, incinerator stack and specialty flue vents shall have allowable clearance to accommodate for motion due to expansion."

The Examiner concludes that not enough evidence has been offered to support the reasonableness of these proposals, however, the BCD should consider these ideas for possible action in the future.

21. Section 5 of Standard 90 sets out the requirements for heating, ventilating and air-conditioning (HVAC) systems. SBC 6005 amends Section 5 as follows:

a. Ambiguous language is deleted from subsection 5.2 and the word "supermarkets" is replaced with more definitive language.

b. "Supermarket refrigeration" is replaced with <u>areas with open refrigerated display cases</u> in subsection 5.6, exceptions.

22. The BCD proposed to further amend Section 5 as follows:

a. Delete the reference to mobile homes in subsection 5.4.3.1.

b. Add the following language to subsection 5.3.2.3:

"Ventilation air quantities identified in SBC 7705 through SBC 7720 shall be used in lieu of those contained in Standard 62-73 whenever this will reduce ventilation air quantities."

This change is needed to resolve a conflict in the rules in favor of current regulations.

c. A new subsection, 5.3.2.5, (this provision is presently embodied in SBC 6007(c)(5) be added to read:

"5.3.2.5 System Design Heating/Cooling Capacity. The rated capacity of the heating/cooling system at design conditions shall not be greater than 115% for heating, 100% for cooling at design output load calculated in accordance with Sec. 5.3, whenever appropriate equipment is available. Equipment designed for standby purposes is not included in this capacity limitation requirement. The cooling capacity of heat pumps are exempt from this limitation."

The BCD contends that:

> "It is now universally understood by the design professions that the oversizing of heating/cooling equipment wastes energy. This fact is also recognized by the utilities, many of whom are presently experimenting with capacity reduction in home heating furnaces to reduce waste and improve seasonal performance efficiency. Surveys of buildings in Minnesota, as well as other states, by the utilities and others which indicate that substantial energy savings can be made by de-rating. It is highly desirable that new buildings not be equipped with oversized heating/cooling systems."

The Examiner concludes that these amendments do not constitute substantial changes and are both reasonable and necessary.

23. Section 6 of Standard 90 sets out the requirements for the equipment used in HVAC systems.

24. Robert Newton, district manager for the York Division of Borg Warner Corporation, proposed that Table 6.4 be amended to reflect higher standards than those set out. Mr. Newton testified that manufacturers have already met the proposed standards and can exceed them. This position was supported by John Millhone. Mr. Newton also proposed that the requirements set out in Table 6.6 be lessened for 1980 because of an inability of manufacturers to meet it.

The BCD opposes any change in the requirements of Tables 6.4 and 6.6 until more study can be done and other manufacturers have an opportunity for input.

The Examiner concludes that an increase in Standard 90 at this time would constitute a substantial change. More study should be done and input received on both of Mr. Newton's proposals for possible future action.

25. Section 7 of Standard 90 sets out the requirements for hot water units for swimming pools. SBC 6005 amends Section 7 as follows:

a. Subsections 7.3.1.1 and 7.3.1.2 are deleted because present regulations already cover this area and the test procedures used to derive Standard 90 requirements were not in concert with industry results.

b. Subsection 7.3.2 is amended by deleting the last two sentences which speak to combination units. The BCD has made the decision to not recognize the use of any combination units because they are so energy intensive.

26. Much testimony and several written comments were directed at subsection 7.8.1 which sets the maximum temperature for heated pools at 80°F (26.5°C). Most felt that for competitive swimming activities (meets and team practice) the 80 degree temperature was adequate. However, for instructional activities and recreational swimming, both of which would include more children and elderly persons, a maximum temperature of at least 84 degrees must be maintained to facilitate comfortable and willing participation.

The Examiner concludes that the BCD has not demonstrated the reasonableness of an 80 degree temperature for all types of swimming activities. The evidence strongly suggests that an 80 degree pool would greatly inhibit participation in swimming programs, especially for children and the elderly. Rather than try to distinguish the different types of swimming activities, an across-the-board maximum temperature of 84°F should be set. This higher temperature was shown to be reasonable and does not constitute a substantial change.

27. Section 8 of Standard 90 sets out the requirements for electrical distribution systems.

28. Herbert Meyer and the BCD both proposed that the second sentence of subsection 8.6 be deleted because of problems with statutory authority and statutory preemption. The Examiner concludes that this amendment does not constitute a substantial change and the rule as amended is both reasonable and necessary.

29. Section 9 of Standard 90 sets out illumination requirements and establishes a lighting power budget for a new building.

30. It was proposed that the language, "Attachment (A,B,C) is not a part of this Standard," be deleted from each attachment as the BCD intends that the attachments be a part of the proposed rule. Although Attachments A and B are in guideline form, the Examiner concludes that they are appropriate to be included as part of the proposed rules. The Examiner concludes that the amendment does not constitute a substantial change and the rule as amended is both reasonable and necessary.

31. Section 10 of Standard 90 provides for a structured flexibility whereby building designs may deviate from the criteria set out in Sections 4-9 if the net result is the same or less energy consumption than would be achieved by compliance.

32. Section 11 of Standard 90 is identifical to present SBC 6013.

33. The BCD proposed to amend Appendix II by changing the address of the SMACNA to 8224 Old Courthouse Road, Vienna, Va. 22108. Also, to delete the "is not a part of this Standard" language and delete Appendix III entirely. The Examiner concludes that these amendments do not constitute a substantial change and the rules as amended are both reasonable and necessary.

34. Proposed SBC 6006 sets out a procedure whereby persons may seek exemptions from the requirements of SBC 6001-6005.

Based upon the foregoing Findings of Fact, the Hearing Examiner makes the following:

CONCLUSIONS

1. Due, timely and adequate legal notice of the hearing was properly served and filed by the Building Code Division. All other

substantive and procedural requirements of statute or rule have been complied with.

2. Pursuant to Minn. Stat. § 15.052, subd. 3 (1976), it is the duty of the Hearing Examiner to: "...(4) make a report on each proposed agancy action ... taking notice of the degree to which the agency has (i) documented its statutory authority to take the proposed action, (ii) fulfilled all relevant, substantive and procedural requirements of law or rule, and (iii) demonstrated the need for and reasonableness of its proposed action with an affirmative presentation of facts."

3. The Examiner concludes that the BCD has documented its statutory authority to take the proposed action.

4. The Examiner concludes that the BCD has demonstrated the need for and reasonableness of the proposed rules, as amended in the Findings of Fact, by an affirmative presentation of facts.

5. The Examiner concludes that the amendments suggested in the Findings of Fact make the rules more reasonable and do not constitute a substantial change.

Based upon the foregoing Conclusions, the Examiner makes the following:

RECOMMENDATION

That the Building Code Division adopt the proposed rules as recommended to be amended in this report.

Dated: 12 day of May, 1977.

Peter C. Erickson

PETER C. ERICKSON
Hearing Examiner

State of Minnesota

Department of Administration

In the Matter of the Proposed Rules and Regulations of the Building Code Division to Carry Out Provisions of Sections 116H.12, subd. 4, and 116H.121 to Provide Energy Conservation Standards for Design, Evaluation and Construction of all New Buildings, Remodeling or Reconstruction, and Survey of Certain Public Buildings. These Rules and Regulations, Involving Adoption by Reference with Amendments of ASHRAE Standard 90-75, Constitute Amendments to the State Building Code.

AFFIDAVIT OF MAILING

Kathleen Durkee, being first duly sworn, deposes and says:

That on the 22nd day of February, 1977, at the City of St. Paul, County of Ramsey, State of Minnesota, she served the attached Notice of Hearing by depositing in the United States mail at said City of St. Paul, a true and correct copy thereof, properly enveloped, with postage prepaid, to all persons and associations at the addresses listed on the attached Certificate of the Secretary of State.

Subscribed and sworn to before me this
22nd day of February, 1977.

Cynthia L. Claason

CYNTHIA L. CLAASON
NOTARY PUBLIC - MINNESOTA
RAMSEY COUNTY
My Commission Expires Feb. 23, 1982

Kathleen Durkee

Kathleen Durkee
Building Code Division