

MINUTES OF THE HOUSE COMMITTEE ON UTILITIES.

The meeting was called to order by Chairperson Don Myers at 9:00 a.m. on February 11, 1997 in Room 514-S of the Capitol.

All members were present.

Committee staff present: Lynne Holt, Legislative Research Department
Mary Ann Torrence, Revisor of Statutes
Mary Shaw, Committee Secretary

Conferees appearing before the committee: Larry Holloway, Chief, Elec. Rates and Service, KCC
Carolyn Hall, Homeowner & Consumer Advocate
Bob Dixon, President, Performance Materials Supply
Charles Benjamin, KS Natural Resource Council & Sierra Club
Jim DeHoff, Executive Secretary-Treasurer, Kansas AFL-CIO
Tom Young, American Association of Retired Persons (AARP)
David Schlosser, North American Insulation Mfgs. Assn.

Others attending: See attached list

Chairperson Myers reminded the Committee that Friday, February 14, 1997, was the deadline for individual and non-exempt committee bills to be given to the House Clerk. The Chair reported that Committee minutes were distributed today and the Committee will discuss them at a future meeting.

The Chair mentioned that today the Committee would hear opponent testimony on **HB 2140** - concerning building energy efficiency standards.

Hearing for Opponents on HB 2140: An act concerning building energy efficiency standards; amending K.S.A. 66-131A and repealing the existing section

The Chair acknowledged Larry Holloway, Chief, Electric Rates and Service, Kansas Corporation Commission, who spoke neither as a proponent or opponent. Mr. Holloway mentioned that the Commission does not support or oppose the bill. He mentioned that attached to his written testimony, there were copies of mark-up sections of the Energy Policy Act, the KCC order on energy efficiency building codes, as well as the compliance and disclosure forms (Attachment #1).

The Chair recognized Carolyn Hall, a consumer representative on the Kansas Task Force on Regulation of Residential Building Contractors and she spoke in opposition to **HB 2140**. (Attachment #2)

The Chair recognized Bob Dixon, President of Performance Material Supply and he spoke in opposition to **HB 2140**. (Attachment #3)

Written testimony was received and distributed from Paula Schulman, consumer advocate (Attachment #4), and Maxine Taylor consumer advocate (Attachment #5), opponents of **HB 2140**.

The Chair recognized Charles Benjamin, Kansas Natural Resource Council and Kansas Sierra Club who spoke in opposition to **HB 2140**. (Attachment #6)

The Chair recognized Jim DeHoff, Executive Secretary-Treasurer for Kansas AFL-CIO, who spoke in opposition to **HB 2140**. (Attachment #7)

The Chair recognized Tom Young, AARP (American Association of Retired Persons), who spoke in opposition to **HB 2140**. (Attachment #8)

The Chair recognized David Schlosser, Pete McGill and Associates, representing North American Insulation Manufacturers in Kansas. Included with his testimony were copies from the Alliance to Save Energy detailing mathematical errors, testimony of Russell Rudy before the Senate Energy & Natural Resources Committee, Richard Hayter before the Senate Committee on Transportation and Utilities and Frank Purvis of Habitat for Humanity International (Attachment #9). Mr. Schlosser spoke in opposition to **HB 2140**.

Questions and discussion followed. The meeting adjourned at 9:50 a.m. The next meeting is scheduled for February 12, 1997.

HOUSE UTILITIES COMMITTEE GUEST LIST

DATE: February 11, 1997

| NAME | REPRESENTING |
|-------------------|--|
| Brady Cottrell | CWRB (Citizens Utility Regulatory Board) |
| DAVID B SCHLOSSER | PETE MCGILL & ASSOC. |
| Charles Benjamin | KNRC/Sierra Club-KS |
| Bob Austin | Performance Materials Supply |
| Creola Hill | (Kalamazoo) |
| Martha Jean Smith | KDHA |
| Tom Bruno | Allen & Assoc. |
| JANET STUBBS | Ks. BLDG. IND. ASSN. |
| Diane Bremer | Ks Coop Council |
| JASON FITZGERALD | BRAND SMITH |
| Rudolph Cron | American Institute of Architects |
| Wendy Harms | Kansas Aggregate Producers Assoc. |
| J.C. Long | UtiliCorp United, Inc. |
| Jon & Miles | Kansas Electric Cooperatives |
| Heath Keiser | Kansas Environmental Construction |
| Shari Jackson | Society of the Plastics Indust. |
| Tom Young | AARP |
| JOE DICK | KCKBPU |
| | |

BEFORE THE HOUSE UTILITIES COMMITTEE

**PRESENTATION OF THE
KANSAS CORPORATION COMMISSION ON
HB 2140**

The Commission does not support or oppose this bill. Currently the State Corporation Commission implements building efficiency standards for new residential and commercial buildings through its jurisdictional electric and natural gas utilities. This proposal appears to affect the Commission's current jurisdictional authority to enforce these building standards as follows:

- 1) Rural Electric Cooperatives that have deregulated under the provisions of K.S.A. 66-104d would be returned to the KCC's jurisdictional authority for building standards.
- 2) The Commission could not require utilities to enforce building codes in a city or county that has adopted energy efficiency standards for commercial structures that meet the minimum standards for such structures under the federal energy policy act of 1992.
- 3) The Commission would no longer have authority to adopt energy efficiency standards for any residential structure.

This testimony will discuss the history of the Commission's orders affecting energy efficiency standards in new residential and commercial buildings, requirements under the energy policy act of 1992, recent Commission action, and changes in responsibilities if this legislation is enacted.

History of Thermal Treatment Standards¹

The following is a brief summary of the legislative and Kansas Corporation Commission actions taken since 1975 to address energy efficiency in building construction.
1975 Special Committee on Energy and Natural Resources adopts proposal No. 62.

This proposal established statewide minimum building codes affecting new construction and any remodeling or reconstruction in excess of 25% of the gross area of the existing building. An architect or an engineer had to certify the energy compliance of each design prior to receiving a building permit in any locale. It would have set a maximum annual BTU /gross square foot of floor area energy use for residences and schools, offices and commercial buildings, hospitals, and assembly and mercantile buildings (the actual number for each category would be determined by

¹ From a brief review of the minutes of the House and Senate and Special Committee on Energy and Natural Resources' minutes for the years 1975 through 1978, as well as the transcripts for the KCC docket 110,766-U.

ASHRAE Standard 90P). The director of state architectural services would be authorized and directed to promulgate and adopt rules and regulations to enforce and insure compliance with the provisions of the act. Provisions would be provided to allow exemptions of up to 20% over the maximum usage on a case by case basis.

HB 2669 (formerly Proposal #62) 1976 legislative session

The proposal was changed to adopt ASHRAE Standard 90-75, lower the exemption allowance to 10%, and to apply to any new addition or reconstruction of outside roof, walls and floor. In addition several exemptions were provided including any residential building outside city limits, any farm building, any remodeling or repair costing less than \$30,000, or buildings constructed by the owners or by builders for their own use. This bill was defeated in committee.

HB 2435 1977 legislative session

This bill was a weakened version of the previous session's HB 2669. It adopted insulation standards only in communities that already had building codes and building inspectors. In addition it was not mandatory, but instead allowed anyone who didn't wish to comply to pay a charge on excess energy used by not complying. After some consideration this bill was tabled by the sponsor based on the KCC opening a docket to consider heat loss standards.

Docket # 110,766-U - KCC hearings in April, 1977

This was a show cause order concerning all electric and natural gas utilities in reference to changes in tariffs to restrict connections in new residential dwellings and new commercial buildings to those meeting insulation requirements. The existing order was issued and placed in effect beginning November 1, 1977. At this time the KCC had no jurisdiction over municipal electric and gas utilities for the purposes of establishing these requirements.

HB 2698 1978 legislative session

This bill adopted KSA 66-131a. This statute gave the KCC jurisdiction over municipal owned and operated electric and gas utilities for the purposes of restricting connections to their systems with respect to heat loss standards.

SB 435 1992 legislative session

This bill adopted KSA 66-104d. This statute allowed certain electric cooperatives the option of becoming exempt from regulation of the state corporation commission except for matters of certified territory and the wire stringing rules. This in affect removes deregulated electric cooperatives from KCC jurisdiction in respect to heat loss standards.

The Energy Policy Act of 1992 (EPACT)

This legislation contains numerous energy efficiency requirements. From the standpoint of building codes, each state is required to:

- 1) Adopt a commercial energy efficient building code that meets or exceeds the ASHRAE/IES² Standard 90.1.
- 2) Consider, after public hearing, adoption of a residential energy efficient building code that meets or exceeds CABO MEC92³.
- 3) Administrators of agencies that control federally backed mortgages such as FHA, FmHA, VA and HUD are also required to adopt CABO MEC 92 or any subsequent energy efficient building code within 1 year of DOE's adoption.
- 4) Each state had 2 years to comply or could request an extension. EPACT provided no details of any federal action that would be taken against any state that did not comply.
- 5) The secretary of the Department of Energy is required to consider new revisions of either code and require the states to adopt (or in the case of residential codes, consider adopting) the new code revision if it is determined that the new revision will result in significant energy savings.
 - Each state then has 2 years to adopt the new code revision. As initially, the commercial building requirements are mandatory and the residential requirements must be considered following a public hearing. Federal mortgage requirements must adopt the new revision within 1 year.

Subsequent DOE action

In July, 1994 the secretary of DOE issued a finding that adopted the latest revision of the model energy code, CABO MEC 93 and the codified version of ASHRAE 90.1.

² American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE); Illuminating Engineering Society of North America (IES)

³ Council of American Building Officials (CABO); 1992 Model Energy Code (MEC92).

Docket 190,381-U KCC April 11, 1994

This docket opened a general investigation of the Residential and Commercial Building Code Energy efficiency standards as required by Title 1 of the EPACK. The following action has been taken to date:

- September 29, 1994 - KCC staff issued a draft memo for comment on the adoption of CABO MEC 93 and ASHRAE Standard 90.1 (and the codified version). This memo was sent to all Kansas electric and gas utilities, as well as representatives of the building industry and other parties that had expressed an interest, and requested comments on the staff's proposed position.
- October 24, 1994 - KCC staff requested a one year extension from DOE to comply with the building code requirements - DOE granted request.
- December 1994 - KCC staff received final comments from respondents. To address comments regarding increased costs of applying such a code discussions began to obtain funding to provide an independent third party investigation.
- March 1995 - KCC energy office applied for a DOE grant to fund investigation of increased building costs due to adoption of residential code.
- May 1995 - DOE denied KCC request. KCC consultant efforts refocused on providing expert evaluation of existing codes and methods of compliance.
- September 18, 1995 - KCC staff issues letter to DOE requesting another one year extension - DOE granted extension to October 24, 1996.
- December 12, 1995 - Technical and public hearing.
- January 23, 1996 - Commission issued order.

Elements of Commission order

- Adoption of ASHRAE/IES 90.1-89 Standard or Code for new commercial buildings
 - Natural gas or electric utility required to receive certification prior to providing permanent service.
- Adoption of CABO MEC 93 disclosure for new residential buildings
 - Natural gas or electric utility required to receive either 1) certification, or 2) signed

owner disclosure prior to providing permanent service.⁴

- Utilities in cities or counties that have adopted codes that equal or exceed energy efficiency standards adopted by the Commission are allowed to turn code enforcement obligations over to local code authorities.

Effects of Proposed Legislation

Several aspects of this legislation do not affect the current Commission order. The order already allows utilities to turn code enforcement over to local code authorities. In addition, the Commission order has already adopted the commercial building codes mandated by the Energy Policy Act of 1992 (EPACT). Furthermore, this legislation would expand the Commission's authority to adopt these required commercial building codes to include all electric and natural gas utilities, by returning jurisdiction over rural electric cooperatives that have deregulated under the provisions of K.S.A. 66-104d.

However, one point that needs to be addressed is that this legislation would remove the Commission's ability to adopt residential energy efficiency building codes. It is important to point out that under the Energy Policy Act the Secretary of DOE, in the future may adopt later revisions to the CABO Model Energy Code and require the State of Kansas to hold public hearings to consider adopting these revisions. With passage of this legislation, future code revisions would then need to be considered either by the legislature or another designated state agency. The Commission has procedures in place to conduct public hearings as a routine part of their decision making process, while this process may be more difficult to implement for some other agencies.

Issues to Consider

The Commission's order does not require new homes to meet CABO MEC93. What it does require is the builder to tell his customer whether or not the home meets the code. The Commission's order requires homeowners to be informed if they are purchasing a home that may not qualify for certain federal loans and that may experience high utility bills. A customer may still choose to purchase a new home that does not meet these energy efficiency requirements, however they will be informed of the possible consequences of that choice.

⁴ The order allows multiple avenues for the builder to certify code compliance, however the builder may also inform the owner that the home does not comply to CABO MEC93. In this case the owner reads and signs a disclosure statement informing the owner that the house does not qualify for certain mortgages and that it may use more energy than a house that met the code. In this case the owner provides the signed disclosure statement to the utility and receives permanent service.

The Commission's order allows 6 different ways to verify compliance. The intent is to make code verification as simple as possible for the builder. The new homeowner, the mortgage lender and everyone who will inhabit the home for the next 80 to 100 years, depend on the level of builder knowledge and expertise that was assumed in developing these verification options.

The Commission's order fulfilled the State's obligation under the federal Energy Policy Act. The Commission Staff spent hundreds of manhours researching the issues, soliciting opinions and preparing testimony. The Commission spent over \$26,000 in obtaining and utilizing the opinions and analysis of expert consultants.

The Commission's authority and responsibility in regulating electric and natural gas utilities clearly includes the environmental and economic benefits of efficient energy usage. The Commission's consideration of energy efficiency requirements for the construction of new residential and commercial buildings has been thoughtful, public, fair and unbiased. However, a primary responsibility of the Commission is the regulation of public utilities, not the building industry. Historically, the Commission has been asked, by the legislature, to adopt and enforce energy efficient building codes. You must decide if this responsibility and authority should be removed or transferred to another agency. However, we urge you not to eliminate these standards regardless of which agency oversees them.

Alternatives

The Commission would fully support either of the following alternatives:

- 1) Amending HB 2140 to remove section 131a.(b)(2). With this revision the bill would restore the Commission's authority to adopt energy efficiency standards for deregulated electric cooperatives, an obvious oversight of the 1992 rural electric cooperative deregulation legislation.
- 2) Amending HB 2140 to remove all Commission authority to adopt energy efficient building standards. [This may require additional legislation to assign the responsibility to establish the mandatory energy efficient building standards for commercial buildings to either another agency or to the legislature itself. The same responsible entity would review future residential building codes revisions, hold public hearings, adopt or not adopt the revised code, and then notify the Department of Energy.⁵]

⁵ If HB 2140 is adopted in its present form, the Energy Policy Act of 1992 will still require Kansas to hold public hearings to consider each future residential building code revision adopted by the Department of Energy, and then notify DOE of their decision.

TITLE XXIX—ADDITIONAL NUCLEAR ENERGY PROVISIONS

- Sec. 2901. State authority to regulate radiation below level of NRC regulatory concern.
- Sec. 2902. Employee protection for nuclear whistleblowers.
- Sec. 2903. Exemption of certain research and educational licensees from annual charges.
- Sec. 2904. Study and implementation plan on safety of shipments of plutonium by sea.

TITLE XXX—MISCELLANEOUS

Subtitle A—General Provisions

- Sec. 3001. Research, development, demonstration, and commercial application activities.
- Sec. 3002. Cost sharing.

Subtitle B—Other Miscellaneous Provisions

- Sec. 3011. Powerplant and Industrial Fuel Use Act of 1978 repeal.
- Sec. 3012. Alaska Natural Gas Transportation Act of 1976 repeal.
- Sec. 3013. Geothermal heat pumps.
- Sec. 3014. Use of energy futures for fuel purchases.
- Sec. 3015. Energy subsidy study.
- Sec. 3016. Tar sands.
- Sec. 3017. Amendments to title 11 of the United States Code.
- Sec. 3018. Radiation exposure compensation.
- Sec. 3019. Strategic diversification.
- Sec. 3020. Consultative Commission on Western Hemisphere Energy and Environment.
- Sec. 3021. Disadvantaged business enterprises.

SEC. 2. DEFINITION.

For purposes of this Act, the term "Secretary" means the Secretary of Energy.

TITLE I—ENERGY EFFICIENCY

Subtitle A—Buildings

SEC. 101. BUILDING ENERGY EFFICIENCY STANDARDS.

(a) IN GENERAL.—Title III of the Energy Conservation and Production Act (42 U.S.C. 6831 et seq.) is amended—

(1) in section 303—

(A) by striking paragraph (9);

(B) by redesignating paragraphs (10), (11), (12), and (13) as paragraphs (9), (10), (11), and (12), respectively; and

(C) by adding at the end the following new paragraphs—

"(13) The term 'Federal building energy standards' means energy consumption objectives to be met without specification of the methods, materials, or equipment to be employed in achieving those objectives, but including statements of the requirements, criteria, and evaluation methods to be used, and any necessary commentary.

"(14) The term 'voluntary building energy code' means a building energy code developed and updated through a consensus process among interested persons, such as that used by the Council of American Building Officials; the American Society

of Heating, Refrigerating, and Air-Conditioning Engineers; or other appropriate organizations.

"(15) The term 'CABO' means the Council of American Building Officials.

"(16) The term 'ASHRAE' means the American Society of Heating, Refrigerating, and Air-Conditioning Engineers."; and

(2) by striking sections 304, 306, 308, 309, 310, and 311 and inserting the following:

"SEC. 304. UPDATING STATE BUILDING ENERGY EFFICIENCY CODES.

"(a) CONSIDERATION AND DETERMINATION RESPECTING RESIDENTIAL BUILDING ENERGY CODES.—(1) Not later than 2 years after the date of the enactment of the Energy Policy Act of 1992, each State shall certify to the Secretary that it has reviewed the provisions of its residential building code regarding energy efficiency and made a determination as to whether it is appropriate for such State to revise such residential building code provisions to meet or exceed CABO Model Energy Code, 1992.

"(2) The determination referred to in paragraph (1) shall be—

"(A) made after public notice and hearing;

"(B) in writing;

"(C) based upon findings included in such determination and upon the evidence presented at the hearing; and

"(D) available to the public.

"(3) Each State may, to the extent consistent with otherwise applicable State law, revise the provisions of its residential building code regarding energy efficiency to meet or exceed CABO Model Energy Code, 1992, or may decline to make such revisions.

"(4) If a State makes a determination under paragraph (1) that it is not appropriate for such State to revise its residential building code, such State shall submit to the Secretary, in writing, the reasons for such determination, and such statement shall be available to the public.

"(5)(A) Whenever CABO Model Energy Code, 1992, (or any successor of such code) is revised, the Secretary shall, not later than 12 months after such revision, determine whether such revision would improve energy efficiency in residential buildings. The Secretary shall publish notice of such determination in the Federal Register.

"(B) If the Secretary makes an affirmative determination under subparagraph (A), each State shall, not later than 2 years after the date of the publication of such determination, certify that it has reviewed the provisions of its residential building code regarding energy efficiency and made a determination as to whether it is appropriate for such State to revise such residential building code provisions to meet or exceed the revised code for which the Secretary made such determination.

"(C) Paragraphs (2), (3), and (4) shall apply to any determination made under subparagraph (B).

"(b) CERTIFICATION OF COMMERCIAL BUILDING ENERGY CODE UPDATES.—(1) Not later than 2 years after the date of the enactment of the Energy Policy Act of 1992, each State shall certify to the Secretary that it has reviewed and updated the provisions of its commercial building code regarding energy efficiency. Such certification

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shall include a demonstration that such State's code provisions meet or exceed the requirements of ASHRAE Standard 90.1-1989.

"(2)(A) Whenever the provisions of ASHRAE Standard 90.1-1989 (or any successor standard) regarding energy efficiency in commercial buildings are revised, the Secretary shall, not later than 12 months after the date of such revision, determine whether such revision will improve energy efficiency in commercial buildings. The Secretary shall publish a notice of such determination in the Federal Register.

"(B)(i) If the Secretary makes an affirmative determination under subparagraph (A), each State shall, not later than 2 years after the date of the publication of such determination, certify that it has reviewed and updated the provisions of its commercial building code regarding energy efficiency in accordance with the revised standard for which such determination was made. Such certification shall include a demonstration that the provisions of such State's commercial building code regarding energy efficiency meet or exceed such revised standard.

"(ii) If the Secretary makes a determination under subparagraph (A) that such revised standard will not improve energy efficiency in commercial buildings, State commercial building code provisions regarding energy efficiency shall meet or exceed ASHRAE Standard 90.1-1989, or if such standard has been revised, the last revised standard for which the Secretary has made an affirmative determination under subparagraph (A).

"(c) EXTENSIONS.—The Secretary shall permit extensions of the deadlines for the certification requirements under subsections (a) and (b) if a State can demonstrate that it has made a good faith effort to comply with such requirements and that it has made significant progress in doing so.

"(d) TECHNICAL ASSISTANCE.—The Secretary shall provide technical assistance to States to implement the requirements of this section, and to improve and implement State residential and commercial building energy efficiency codes or to otherwise promote the design and construction of energy efficient buildings.

"(e) AVAILABILITY OF INCENTIVE FUNDING.—(1) The Secretary shall provide incentive funding to States to implement the requirements of this section, and to improve and implement State residential and commercial building energy efficiency codes. In determining whether, and in what amount, to provide incentive funding under this subsection, the Secretary shall consider the actions proposed by the State to implement the requirements of this section, to improve and implement residential and commercial building energy efficiency codes, and to promote building energy efficiency through the use of such codes.

"(2) There are authorized to be appropriated such sums as may be necessary to carry out this subsection.

"SEC. 305. FEDERAL BUILDING ENERGY EFFICIENCY STANDARDS.

"(a)(1) IN GENERAL.—Not later than 2 years after the date of the enactment of the Energy Policy Act of 1992, the Secretary, after consulting with appropriate Federal agencies, CABO, ASHRAE, the National Association of Home Builders, the Illuminating Engineering Society, the American Institute of Architects, the National Co-

ference of the States on Building Codes and Standards, and other appropriate persons, shall establish, by rule, Federal building energy standards that require in new Federal buildings those energy efficiency measures that are technologically feasible and economically justified. Such standards shall become effective no later than 1 year after such rule is issued.

"(2) The standards established under paragraph (1) shall—

"(A) contain energy saving and renewable energy specifications that meet or exceed the energy saving and renewable energy specifications of CABO Model Energy Code, 1992 (in the case of residential buildings) or ASHRAE Standard 90.1-1989 (in the case of commercial buildings);

"(B) to the extent practicable, use the same format as the appropriate voluntary building energy code; and

"(C) consider, in consultation with the Environmental Protection Agency and other Federal agencies, and where appropriate contain, measures with regard to radon and other indoor air pollutants.

"(b) **REPORT ON COMPARATIVE STANDARDS.**—The Secretary shall identify and describe, in the report required under section 308, the basis for any substantive difference between the Federal building energy standards established under this section (including differences in treatment of energy efficiency and renewable energy) and the appropriate voluntary building energy code.

"(c) **PERIODIC REVIEW.**—The Secretary shall periodically, but not less than once every 5 years, review the Federal building energy standards established under this section and shall, if significant energy savings would result, upgrade such standards to include all new energy efficiency and renewable energy measures that are technologically feasible and economically justified.

"(d) **INTERIM STANDARDS.**—Interim energy performance standards for new Federal buildings issued by the Secretary under this title as it existed before the date of the enactment of the Energy Policy Act of 1992 shall remain in effect until the standards established under subsection (a) become effective.

"SEC. 306. FEDERAL COMPLIANCE.

"(a) **PROCEDURES.**—(1) The head of each Federal agency shall adopt procedures necessary to assure that new Federal buildings meet or exceed the Federal building energy standards established under section 305.

"(2) The Federal building energy standards established under section 305 shall apply to new buildings under the jurisdiction of the Architect of the Capitol. The Architect shall adopt procedures necessary to assure that such buildings meet or exceed such standards.

"(b) **CONSTRUCTION OF NEW BUILDINGS.**—The head of a Federal agency may expend Federal funds for the construction of a new Federal building only if the building meets or exceeds the appropriate Federal building energy standards established under section 305.

"SEC. 307. SUPPORT FOR VOLUNTARY BUILDING ENERGY CODES.

"(a) **IN GENERAL.**—Not later than 1 year after the date of the enactment of the Energy Policy Act of 1992, the Secretary, after consulting with the Secretary of Housing and Urban Development, the

Secretary of Veterans Affairs, other appropriate Federal agencies, CABO, ASHRAE, the National Conference of States on Building Codes and Standards, and any other appropriate building codes and standards organization, shall support the upgrading of voluntary building energy codes for new residential and commercial buildings. Such support shall include—

“(1) a compilation of data and other information regarding building energy efficiency standards and codes in the possession of the Federal Government, State and local governments, and industry organizations;

“(2) assistance in improving the technical basis for such standards and codes;

“(3) assistance in determining the cost-effectiveness and the technical feasibility of the energy efficiency measures included in such standards and codes; and

“(4) assistance in identifying appropriate measures with regard to radon and other indoor air pollutants.

“(b) REVIEW.—The Secretary shall periodically review the technical and economic basis of voluntary building energy codes and, based upon ongoing research activities—

“(1) recommend amendments to such codes including measures with regard to radon and other indoor air pollutants;

“(2) seek adoption of all technologically feasible and economically justified energy efficiency measures; and

“(3) otherwise participate in any industry process for review and modification of such codes.

“SEC. 308. REPORTS.

“The Secretary, in consultation with the Secretary of Housing and Urban Development, the Secretary of Veterans Affairs, and other appropriate Federal agencies, shall report annually to the Congress on activities conducted pursuant to this title. Such report shall include—

“(1) recommendations made under section 307(b) regarding the prevailing voluntary building energy codes;

“(2) a State-by-State summary of actions taken under this title; and

“(3) recommendations to the Congress with respect to opportunities to further promote building energy efficiency and otherwise carry out the purposes of this title.”

(b) CONFORMING AMENDMENT.—The table of contents of such Act is amended by striking the items relating to sections 304, 306, 308, 309, 310 and 311, and inserting in lieu thereof the following—

“Sec. 304. Updating State building energy efficiency codes.

“Sec. 305. Federal building energy efficiency standards.

“Sec. 306. Federal compliance.

“Sec. 307. Support for voluntary building energy codes.

“Sec. 308. Reports.”

(c) FEDERAL MORTGAGE REQUIREMENTS.—

(1) AMENDMENT TO CRANSTON-GONZALEZ NATIONAL AFFORDABLE HOUSING ACT.—Section 109 of the Cranston-Gonzalez National Affordable Housing Act (42 U.S.C. 12709) is amended to read as follows:

“SEC. 109. ENERGY EFFICIENCY STANDARDS.

“(a) ESTABLISHMENT.—

"(1) IN GENERAL.—The Secretary of Housing and Urban Development and the Secretary of Agriculture shall, not later than 1 year after the date of the enactment of the Energy Policy Act of 1992, jointly establish, by rule, energy efficiency standards for—

"(A) new construction of public and assisted housing and single family and multifamily residential housing (other than manufactured homes) subject to mortgages insured under the National Housing Act; and

"(B) new construction of single family housing (other than manufactured homes) subject to mortgages insured, guaranteed, or made by the Secretary of Agriculture under title V of the Housing Act of 1949.

"(2) CONTENTS.—Such standards shall meet or exceed the requirements of the Council of American Building Officials Model Energy Code, 1992 (hereafter in this section referred to as 'CABO Model Energy Code, 1992'), or, in the case of multifamily high rises, the requirements of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers Standard 90.1-1989 (hereafter in this section referred to as 'ASHRAE Standard 90.1-1989'), and shall be cost-effective with respect to construction and operating costs on a life-cycle cost basis. In developing such standards, the Secretaries shall consult with an advisory task force composed of homebuilders, national, State, and local housing agencies (including public housing agencies), energy agencies, building code organizations and agencies, energy efficiency organizations, utility organizations, low-income housing organizations, and other parties designated by the Secretaries.

"(b) MODEL ENERGY CODE.—If the Secretaries have not, within 1 year after the date of the enactment of the Energy Policy Act of 1992, established energy efficiency standards under subsection (a), all new construction of housing specified in such subsection shall meet the requirements of CABO Model Energy Code, 1992, or, in the case of multifamily high rises, the requirements of ASHRAE Standard 90.1-1989.

"(c) REVISIONS OF MODEL ENERGY CODE.—If the requirements of CABO Model Energy Code, 1992, or, in the case of multifamily high rises, ASHRAE Standard 90.1-1989, are revised at any time, the Secretaries shall, not later than 1 year after such revision, amend the standards established under subsection (a) to meet or exceed the requirements of such revised code or standard unless the Secretaries determine that compliance with such revised code or standard would not result in a significant increase in energy efficiency or would not be technologically feasible or economically justified."

(2) AMENDMENT TO TITLE 38, UNITED STATES CODE.—Section 3704 of title 38, United States Code, is amended by adding at the end thereof the following new subsection:

"(g) A loan for the purchase or construction of new residential property, the construction of which began after the energy efficiency standards under section 109 of the Cranston-Gonzalez National Affordable Housing Act (42 U.S.C. 12709), as amended by section 101(c) of the Energy Policy Act of 1992, take effect, may not be financed

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through the assistance of this chapter unless the new residential property is constructed in compliance with such standards." } 3

SEC. 102. RESIDENTIAL ENERGY EFFICIENCY RATINGS.

(a) RATINGS.—Title II of the National Energy Conservation Policy Act (42 U.S.C. 8211 et seq.) is amended by adding at the end the following new part:

**“PART 6—RESIDENTIAL ENERGY EFFICIENCY
RATING GUIDELINES**

“SEC. 271. VOLUNTARY RATING GUIDELINES.

“(a) IN GENERAL.—Not later than 18 months after the date of the enactment of the Energy Policy Act of 1992, the Secretary, in consultation with the Secretary of Housing and Urban Development, the Secretary of Veterans Affairs, representatives of existing home energy rating programs, and other appropriate persons, shall, by rule, issue voluntary guidelines that may be used by State and local governments, utilities, builders, real estate agents, lenders, agencies in mortgage markets, and others, to enable and encourage the assignment of energy efficiency ratings to residential buildings.

“(b) CONTENTS OF GUIDELINES.—The voluntary guidelines issued under subsection (a) shall—

“(1) encourage uniformity with regard to systems for rating the annual energy efficiency of residential buildings;

“(2) establish protocols and procedures for—

“(A) certification of the technical accuracy of building energy analysis tools used to determine energy efficiency ratings;

“(B) training of personnel conducting energy efficiency ratings;

“(C) data collection and reporting;

“(D) quality control; and

“(E) monitoring and evaluation;

“(3) encourage consistency with, and support for, the uniform plan for Federal energy efficient mortgages, including that developed under section 946 of the Cranston-Gonzalez National Affordable Housing Act (42 U.S.C. 12712 note) and pursuant to sections 105 and 106 of the Energy Policy Act of 1992;

“(4) provide that rating systems take into account local climate conditions and construction practices, solar energy collected on-site, and the benefits of peak load shifting construction practices, and not discriminate among fuel types; and

“(5) establish procedures to ensure that residential buildings can receive an energy efficiency rating at the time of sale and that such rating is communicated to potential buyers.

“SEC. 272. TECHNICAL ASSISTANCE.

“Not later than 2 years after the date of the enactment of the Energy Policy Act of 1992, the Secretary shall establish a program to provide technical assistance to State and local organizations to encourage the adoption of and use of residential energy efficiency rating systems consistent with the voluntary guidelines issued under section 271.

THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

Before Commissioners: Susan M. Seltsam, Chair
F.S. Jack Alexander
Timothy E. McKee

In the Matter of the GENERAL)
INVESTIGATION OF ENERGY EFFICIENCY) Docket No. 190,381-U
BUILDING CODES as required by THE ENERGY)
POLICY ACT OF 1992.)

ORDER

COMES NOW, the above captioned matter for consideration and determination by the State Corporation Commission of the State of Kansas, (hereinafter referred to as "Commission"). Having examined its files and being fully advised in the premises, the Commission finds and concludes as follows:

BACKGROUND

1. On April 11, 1994, the Commission opened the docket in this matter to conduct a General Investigation into Thermal Efficiency Building Codes in response to the Energy Policy Act of 1992 (EPACT). EPACT Title I, Subtitle A, Section 304(a)(1) through (a)(3) requires each state to review residential building codes and hold a public hearing to consider adoption of the Council of American Building Officials 1992 Model Energy Code (CABO MEC 92). EPACT further requires each state to verify that each commercial building code meets or exceeds the energy efficiency standards adopted by the American Society of Heating and Air Conditioning Engineers/Illuminating Engineering Society of North America 1989 90-1 Standard (ASHRAE / IES 90.1-89). (EPACT 1992, Section 304, (b)(1).

2. The Commission Staff (Staff) issued a draft position paper on September 24, 1994, and solicited comments from 250 affected electric and natural gas utilities as well as trade associations and the building industry. On December 12, 1995, both technical and public hearings were held.

3. Testimony was filed by Staff, Western Resources Inc., and the Kansas Natural Resources Council in the technical hearing. The testimony filed by Staff recommended adoption of CABO MEC 93 for residential buildings and ASHRAE/IES 90.1-89 for commercial buildings. Incorporated in the proposal was several options for achieving compliance in residential construction, and provisions which would shift enforcement liability from the utility to local code officials if local codes satisfy the CABO MEC 93 standard.

Western Resources Inc. testimony generally supported the Staff position, while advocating a notice/disclaimer of non-compliance for commercial buildings similar to the residential proposal, enforcement for all jurisdictional utilities and flexibility in documentation and retention of records.

The Kansas Natural Resources Council concurred with the Staff position for the most part, while supporting use of the Home Energy Rating System as an alternative to CABO MEC 93.

4. Public hearing testimony and comments were submitted by Bob Fincham of the American Institute of Architects and Robert R. Hogue of the Kansas Building Industry Association.

The American Association of Architects, generally supported Staff's residential code proposals, and indicated favor for local code adoption and enforcement. Mr Fincham also noted the complexity of the ASHRAE/IES 90.1-89 code.

Mr Hogue's testimony primarily addressed concerns regarding residential construction and the impact that adoption of the CABO MEC 93 standard in terms of additional cost to new home buyers. Mr Hogue stated that the increased costs would be a particular hardship to first-time home buyers, and that the cost incurred would be greater than the benefit in terms of increased energy efficiency. Mr. Hogue also emphasized that adoption of state codes was not required by EPACT as in the case of commercial buildings.

FINDINGS AND CONCLUSIONS

The Commission finds and concludes the following:

5. The Energy Policy Act of 1992 requires that each state certify that its Energy Building Code for commercial buildings meets or exceeds ASHRAE/IES 90.1-89. EPACT further requires that consideration be given to adoption of the CABO MEC 92 Code for residential construction. As authorized by EPACT, the secretary of the Department of Energy, on July 14, 1994, determined that the ASHRAE/IES 90.1-89 Code was equivalent to the ASHRAE/IES 90.1-89 Standard and that adoption of the 93 version of CABO MEC provided a significant increase in energy efficiency and was technologically feasible and economically justified. This action allowed each state to certify the ASHRAE/IES 90.1-89 code for commercial buildings and

required each state to hold public hearings to consider adoption of CABO MEC 93 for residential construction.

6. The docket and general investigation created by the Commission for the purpose of complying with the State of Kansas' EPACT obligation was opened in 1994. The investigation, research and fact finding was culminated by hearings held on December 12, 1995. Throughout the investigation comment and participation was solicited from all interested parties who chose to respond.

IT IS THEREFORE, BY THE COMMISSION ORDERED THAT:

1. The American Society of Heating and Air Conditioning Engineers/Illuminating Society of North America 1989 90-1 Standard or Code, (ASHRAE/IES 90.1-89) shall be adopted as the applicable thermal efficiency standard for commercial buildings.

2. The Code of American Building Officials 1993 Model Energy Code (CABO MEC 93) shall be adopted as the applicable thermal efficiency standard for new residential construction.

3. Compliance with the respective codes shall be verified by the jurisdictional electric and natural gas utility prior to commencement of permanent service at the building site. The utility may provide permanent service to a non-complying residential building only if the residence owner provides the utility with written verification of non-compliance.

4. Verification of compliance or non-compliance shall be made on forms approved by the Commission.

5. The following shall also be acceptable alternatives to the CABO MEC 93 standard for residential buildings:

(A) Prescriptive requirements for each building component consisting of three (3) clearly stated and distinct sets for each of the five (5) Kansas climate zones. This alternative would allow extensive compliance options by way of trade-offs of thermal efficiency variations among various components. Further development of this option for all climate zones is required and is being compiled by the Commission.

(B) An extensive list of alternate compliance options for three (3) climate zones, allowing the builder to trade off different building components. Further development of this option is required and is being compiled by the Commission.

(C) Utilization of the MEC check computer software developed by Pacific Northwest Laboratory for the U.S. Department of Energy.

(D) A satisfactory rating by an approved Home Energy Rating System (HERS), equivalent to CABO MEC 93 compliance. The HERS method of evaluation is based upon the thermal efficiency performance of the completed structure, rather than efficiency through prescriptive code compliance and design.

(E) Detailed systems analysis for complex and or innovative building design, to allow innovative design methods development. This method is currently allowed by the CABO MEC 93 for buildings that utilize renewable energy resources. Residences utilizing conventional non-renewable energy sources could also achieve compliance by this means if the non-renewable consumption is

comparable to a conventional residence of the same size meeting the requirements of the code.

(6) Certification of both residential and commercial structures shall be made on forms approved by the Commission. The utility responsible for enforcement shall in each case retain certification and non-compliance forms with the accompanying documentation for three (3) years.

(7) Jurisdictional utilities may request that the Commission release them from their enforcement obligation in areas where local building code authorities have in effect energy codes that meet or exceed the thermal efficiency standards and enforcement provisions adopted by the Commission.

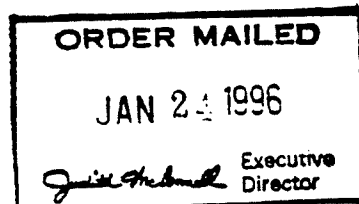
(8) Jurisdictional utilities shall begin implementation of these energy codes no sooner than 6 months, and no later than 12 months from the issuance of this order.

The parties have fifteen (15) days, plus three days if service of this Order and Certificate is by mail, from the date of this Order and Certificate in which to request rehearing on any matter decided herein.

BY THE COMMISSION IT IS SO ORDERED.

Seltsam, Chr.; Alexander, Com.; McKee, Com.

Dated: JAN 23 1996



Judith McConnell
Executive Director



State of Kansas
Commercial Building Energy Efficiency Compliance Certification Form

(To be completed by builder)

Builder: _____

Building Address: _____

City: _____

The above builder certifies that the new commercial building constructed at the above address either (check the appropriate block):

1) **Complies with the ASHRAE 90.1-89 Standard** _____

Attach supporting documentation from architect or engineer

- or -

2) **Complies with the ASHRAE 90.1-89 Code** _____

Attach supporting documentation from architect or engineer

Builder's Signature/Date _____ / _____

Return this form to your local utility



**State of Kansas
Residential Building Energy Efficiency Compliance Certification Form**

(To be completed by builder)

Builder: _____

Building Address: _____

City: _____

The above builder certifies that the new residential building constructed at the above address either (check the appropriate block):

1) Does not meet the energy efficiency requirements of CABO MEC93 _____

Attach builders disclosure form with owners signature.

- or -

2) Does meet the energy efficiency requirements of CABO MEC93 _____

Verify compliance method below:

a) Building is designed and constructed to CABO MEC93 (attach documentation such as NAHB consolidated worksheet) _____

b) Building is designed and constructed using prescriptive requirements table for the applicable climate zone (attach table and circle selected building components) _____

c) Building is designed and constructed using one of the trade off compliance options (attach compliance option sheet and circle selected option) _____

d) Building is designed and constructed using MECcheck software (attach printout of MECcheck evaluation sheet) _____

e) Building energy performance is verified by a qualified HERS rating equivalent to CABO MEC93 (attach HERS documentation) _____

f) Building complies to energy efficiency of CABO MEC93 by detailed system analysis method, per CABO MEC93 chapter 4 regardless of the use of renewable energy sources (attach documentation) _____

Builder's Signature/Date _____ / _____

Return this form to your local utility



State of Kansas
Residential Building Energy Efficiency Compliance Certification Form

Declaration of Self-Exemption and Non-Compliance

Date: _____

_____, builder of record of the residential dwelling unit known as _____ hereby exercises his or her right to exempt said residential building from all requirements of the Kansas Corporation Commission's residential building energy efficiency standards, as set forth in the Commission's order in docket number 190,381-U.

Said builder hereby acknowledges that such home may not qualify for certain current and future federal mortgage programs, including those promoted by the Veterans Administration, Federal Housing Authority and Farmers Home Administration, and Housing and Urban Development agencies. Builder also acknowledges that such home may use more energy, and may therefore experience higher electric and/or natural gas utility bills, than a home constructed to meet the Commission's adopted energy efficiency standards.

Said builder also certifies that a signed copy of this form will be provided to the buyer or any agent offering said house for sale for first time occupancy, and that all such agents shall be instructed to provide a copy of this form to all prospective home buyers prior to acceptance of any offer to purchase said dwelling unit. Said builder further certifies that a copy of said form shall be attached to and made a part of the recorded Deed for said property at the time of sale.

Builder

Date

Owner

Date

Return this form to your local utility

February 11, 1997

Testimony regarding HB 2140

Carolyn Hall, Consumer Representative to Kansas Task Force
on the Regulation of Residential Building Contractors
26260 W 67th Street
Shawnee, Ks 66226
(913) 441-4386

Were you happy with your energy bill this month? I sure wasn't. Most consumers don't like their utility bills and want the most energy efficient home they can buy.

How can a consumer determine what they're buying? After serving on the Kansas Task Force, suffering the tragedy of a house from hell, and now enduring a long expensive legal battle over our house from hell, I'm sure of one thing about building a home in Kansas: "BUYER BEWARE, you are buying a pig in a poke!"

There is no way to adequately check out a builder in this state; and there certainly is no accountability. A builder can advertise and promise energy efficiency in glowing terms, but when the homeowner tries to hold them to their ads or even contract promises, the consumer hears, "that was only innocent puffery!" or "there are no clear definitions, no performance standards", except for the Model Energy Codes. Isn't it a coincidence that those same builders now want those standards repealed? They can puff all they want in their ads, but they don't want to put their name on the dotted line and commit when it counts.

Overland Park, Kansas just had their own task force and have concluded that the homebuyers need to check out their builders and be familiar with code requirements. I also heard over and over again from the building industry representatives and technical expert on the Kansas Task Force that it was the homebuyers' own fault if they had problems for not being more careful and doing their homework. Yet here comes the building industry and works to repeal one of the few areas a consumer has standards they can check out.

Homeowners do not have the technical expertise and therefore rely on the builders to provide them with an energy efficient house. I would think that competent, honest builders would step up and endorse the energy standards. I am very suspect of an industry that shies away from accountability. This makes all their ads and hype for energy efficient homes merely puffery. I have never seen an industry work so hard at trying to lower their standards. Anyone in this state can be a builder--you just need a telephone; it takes no technical expertise to manage the

House Utilities
2-11-97
Attachment 2

single most important investment a consumer makes.

The energy efficiency of your home effects you everyday and you look at that total monthly. We all hear the ads for help for those who can't pay their utility bills and the need to help low income people make their homes more energy efficient. Are we going to be asked to help people who would be victims of this proposed legislation pay their utility bills or insulate their homes in the coming years? YUO BET WE WILL!

My Grandfather was a builder/carpenter and built the home I grew up in. He was a man of vision. He knew that if you lived in Kansas you needed to be protected from the elements. He built a hand-quarried limestone house in central Kansas with walls 3 foot thick to keep us warm in winter and cool in summer. I can't believe that almost 100 years later we're needing to have this discussion!

The building industry would have us believe that we should rely on their integrity and promises. Well, complaints against their industry are now in the top 3 consumer complaints nation wide and thanks to the shoddy construction this country has experienced, the ISO will be visiting Kansas soon and evaluating the effectiveness of our building codes and enforcement procedures. We may all get a little surprise from our insurance companies when they pass out the insurance ratings based on Kansas's track record.

So when the builders say "Trust me to build an energy efficient home", I say, if you say you can do it, put it in writing by signing the Model Energy Standards Form!

News from Insurance Services Office, Inc.**RELEASE:**

IMMEDIATE

CONTACT:Christopher Guidette
(212) 898-6609**ISO'S NEW BUILDING CODE ENFORCEMENT GRADING SCHEDULE CAN BRING MORE ACCURATE INSURANCE PRICING AND SAFER BUILDINGS**

NEW YORK -- Insurance Services Office, Inc. is developing a system that will grade the effectiveness of communities' building-code enforcement to make insurance pricing more accurate and encourage safer homes and commercial buildings.

The Building Code Effectiveness Grading Schedule is a response by the insurance industry to 1992's Hurricane Andrew, which caused a record \$15.5 billion in insured losses. Industry experts determined that at least one-fourth of those losses were because of construction that failed to meet Dade County, Florida's Code.

The basic premise of the code-grading system is that municipalities with effective codes that are well enforced should demonstrate better loss experience and should, therefore, receive favorable underwriting recognition.

The prospect of lessening catastrophe-related damage and ultimately lowering insurance costs will provide financial encouragement for citizens to press their local governments to enforce codes more rigorously.

Through its subsidiary, Commercial Risk Services, ISO already provides similar grading of municipal fire protection and flood-mitigation efforts. Many insurers reflect the grades in their insurance rates for individual properties.

ISO expects to phase in the grading program state-by-state beginning in 1995 and to grade every municipality in the country by decade's end. After that, each locality would be regraded every five years.

ISO initially will target states that have suffered catastrophes or that are prone to natural hazards.

This project demonstrates ISO's commitment to significantly reduce the economic consequences of natural disaster. The system may also help reduce human suffering and save lives by encouraging communities to adopt proper codes and to strictly enforce them.

The grading concept has received widespread support from code officials, government representatives, community officials and the insurance industry.

Adequate testing is essential to the successful development of this service. ISO has completed a 150 municipality pilot test in four states: Florida, North Carolina, South Carolina and Georgia.

The Building Code Grading Enforcement System will parallel the design of ISO's Fire Suppression Rating Schedule and the Flood Community Rating System, which use a relative rating scale of one to ten, with one representing the best protection and ten indicating no recognized protection.

In developing the new code grading system, ISO has worked closely with the Insurance Institute for Property Loss Reduction and a number of other interested groups, including insurers, local and state government officials, model building code officials and scholars.

The Building Code Effectiveness Grading Schedule measures resources and support available to building-code enforcement efforts. The grading program examines how well those resources are applied to mitigating common natural hazards -- particularly hurricanes and earthquakes.

The grading process includes interviews with municipal officials, examination of supporting documents, a careful look at training requirements and work schedules, staffing levels and certification of officials who enforce building codes.

The schedule assesses each municipality's support for code enforcement, plan-review functions and field inspection quality.

Running a Building Department Like a Business

By the year 2000, the insurance industry plans to complete evaluations of building department operations and code enforcement effectiveness in some 54,000 communities across the United States. The evaluations are being conducted by the industry's Insurance Services Office (ISO).

ISO is using a variety of measures to grade a given community's code enforcement effectiveness. Is a current model code adopted and being enforced? Is the building department adequately staffed, and are personnel adequately trained and certified? What is the quality of the department's plan review and field inspection processes?

ISO is grading a community's code enforcement effectiveness on a one-to-ten scale, with one being the best and ten representing virtually no codes or enforcement. The compiled ratings will be available as reference information for use by individual insurance companies in setting their property insurance rates for a given community.

The insurance industry's energetic interest in establishing the grading system, as well as taking other measures to promote effective code enforcement, came after it was stung by all-time-high record losses in Hurricane Andrew's 1992 destruction. The industry asserts that its losses due to Andrew were greatly increased by shoddy residential construction and lax code enforcement in the south Florida area.

For decades, ISO has maintained a rating system for individual communities' fire protection and fire service effectiveness, and individual insurance companies have referred to this information in establishing their fire insurance rates for localities. The natural disaster losses resulting from Hurricane Andrew prompted the industry to undertake rating building department effectiveness as well.

A Boost for Code Professionals

These developments are good news to the professional code practitioner, who now benefits from the support of a powerful and influential insurance industry ally. Local elected officials are much more likely to be motivated to come across with the resources necessary to provide effective code enforcement when they realize that their constituents' — i.e., the voters — property insurance rates could be favorably influenced. Voter realization and awareness of the building department rating system creates an opportunity to increase the political and resource support that a code professional needs to do the job.

But a rating system is a rating system. Obviously, some building departments will fare better in their evaluations than

others. Those that fare less well will feel pressure and have incentive to expand and improve their code enforcement operations — increased staff, staff training, pursuit of certification, etc.

Such measures will require resources, i.e., funding. And while less-than-highly-rated departments can likely expect some political support from the community for increasing code enforcement funding and effectiveness, there's an alternative approach to running and funding code enforcement agencies which merits attention.

Enterprise Funds

Beginning on Page 42 of this issue, there appears an article on building department enterprise funds authored by Vancouver, British Columbia, building official Gordon Murdoch, P.E., P.Eng., C.B.O. Under the enterprise fund approach, a building department's revenues are based on fees generated by code enforcement activity and not drawn from the local government's general (tax revenue) fund. The enterprise fund is based on the established premise that those using building department services — builders — should pay for those services. To do otherwise is asking all citizens to subsidize the for-profit activities of a particular group.

While Mr. Murdoch discusses in detail the pros and cons of establishing and maintaining an enterprise fund, his central point is that this approach entails running a building department like a business. Services provided by the department and their costs must be examined. Fees must be founded on the quality of service provided to the customer. With its independent funding base, the building department with an enterprise fund is spared the political burden of competing with fire, police, etc. for tax dollars from the jurisdiction's general fund.

Mr. Murdoch also provides detailed information from a survey recently conducted among 14 local government jurisdictions which operate building departments with enterprise funds. He reports that the building officials who have these funds say resources are easier to obtain and that they are much more "in control of their own destiny." He further reports that none of the building officials surveyed would, by choice, go back to a general fund system.

We urge our readers' attention to this article. For building departments needing to expand/upgrade in the wake of the ISO evaluations, an enterprise fund approach may provide a useful frame of organizational reference. Even well-evaluated departments presently supported from a local government general fund would benefit from examining the enterprise fund approach on its merits.


Introducing BOCA Analysis: Is Your Building Department Ready?

ATTENTION! ...Code officials in Arkansas, Connecticut, Delaware, Illinois, Kentucky, Maine, Maryland, Massachusetts, Missouri, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Tennessee, Vermont and Virginia! By the year 2000, the code enforcement practices of more than 54,000 communities across the country will be evaluated by the Insurance Services Office (ISO). *Within the next 24 months, your department will be evaluated* and your commitment to active code enforcement will be put to the test. ISO's building code enforcement rating system will be used by insurance companies to establish their property insurance rates for individual localities. Will you be ready?

Due to the serious nature of this grad-


ing, BOCA has responded by offering a new service to its members called BOCA Analysis. BOCA Analysis is a process to help your building department prepare for the ISO evaluation. With a BOCA Analysis audit, we can tell you where your department meets the grade and where it doesn't, so you can get back on track *before* your ISO evaluation. BOCA Analysis will evaluate adoption of model codes, plan review, inspection and enforcement activities, training and certification practices, staffing levels and numerous other areas of building department activities. At a cost of \$395, BOCA Analysis is an affordable and reliable tool for a jurisdiction to identify where it does or does not meet the highest levels of performance in the delivery of

code enforcement services to the community. A BOCA Analysis brochure and reservation card is being mailed to BOCA's governmental members. Audits will be handled on a first-come, first-served basis. Once you have registered, you will be contacted to arrange an audit date at your office with your BOCA service representative. A preparation checklist and confirmation letter will be sent to you. It is important to collect the information requested on the checklist prior to the audit. The audit typically takes about two hours to complete and is followed up by a report within two weeks. Jurisdictions that react promptly will be in the best position to make the necessary changes prior to the ISO evaluation, so don't delay.



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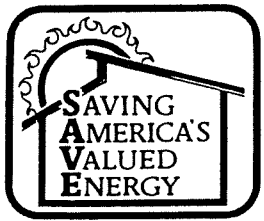
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The SAVE Builder has met the following requirements, plus additional steps to meet the

SILVER LEVEL

of the SAVE Program
325 points



SAVE® HOME SILVER LEVEL

AIR INFILTRATION & VAPOR MEASURES

Air infiltration is the major source of heat loss in most homes.

- A) Sill sealer installed under sill plate
- B) Double course sheathing and siding construction on exterior walls and/or whole house moisture permeable air infiltration exterior wall wrap
- C) Vapor/air infiltration barrier installed on exterior walls
- D) All exhaust fans have positive closing dampers
- E) All window and door openings are chinked and caulked
- G) All wall penetrations are caulked
- H) All doors and openings to unconditioned spaces are weatherstripped

INSULATION R-VALUES

Insulation is what is thought of the most when people think of energy-efficiency. The higher the R-value (resistance to heat flow), the greater the insulating power.

NOTE: ALL R-VALUES ARE FIGURED IN THE R-VALUE OF THE INSULATING MATERIAL ONLY

- A) If living space is on a slab, the slab is insulated to R-4.5
- B) All floors located over unconditioned spaces are insulated to R-19
- C) All exterior walls and rim joists are insulated to R-16.5

- D) All walls exposed to unconditioned spaces are sheathed or backed and insulated to R-16.5
- E) Flat ceilings are insulated to R-30
- F) If vaulted ceilings exist above living space they are insulated to R-30
- G) All attic access doors are insulated to R-7.2
- H) All ducts in unconditioned spaces are insulated to R-9

WINDOWS AND DOORS

When considering heat loss through windows and doors, look first at their air infiltration rates, in addition to their insulating properties.

- A) All windows are double glazed with a maximum air infiltration rate of .25 CFM/ lin. ft.
- B) All metal windows and doors have a thermal break
- C) All skylights are double glazed, and if metal have a thermal break
- D) All exterior doors have a maximum air infiltration rate of .35 CFM/ lin. ft. or have storm doors installed

HEATING, VENTILATING AND AIR CONDITIONING

The choice of heating, air conditioning and related equipment plays a major role in determining the cost to heat and cool the home.

- A) Air way baffles to soffits are installed in the attic

- B) Inlet attic vents (1 sq. ft. per 300 sq. ft. of attic) are installed
- C) Outlet attic vents (1 sq. ft. per 300 sq. ft. of attic) are installed
- D) If a gas furnace is installed
 - 1) the furnace AFUE is a minimum of 78%
 - 2) the central air conditioner SEER is a minimum of 8.5
- E) If a heat pump is installed
 - 1) the central heat pump seasonal C.O.P. is a minimum of 2.0
 - 2) the central air conditioner SEER is a minimum of 7.8

ADDITIONAL AREAS OF CONSIDERATION

There are three other areas that the builder might be dealing with to make this home energy efficient.

- A) Water Systems
- B) Lighting and appliances
- C) Earth contact design
- D) Passive solar design

The HBA does not inspect SAVE homes or review the performance of SAVE homes is not responsible for the accuracy of information supplied by SAVE builders.





SAVE PROGRAM CHECKLIST
June 1, 1990



BUILDER: _____

REQUIREMENTS FOR ALL LEVELS

- | | | |
|--|--|--|
| 1A. SILL SEALER UNDER SILL PLATE ALL WINDOWS AND DOORS CHINKED AND CAULKED | WHOLE HOUSE MOISTURE PERMEABLE AIR INFILTRATION EXTERIOR WALL WRAP | 3C. SKYLIGHTS & WINDOWS DOUBLE GLAZED OR BE STORMED |
| 1G. WEATHERSTRIPPING ON DOORS AND ALL OPENINGS TO UNCONDITIONED SPACES | 2H. FLAT CEILINGS R-30 | 4G. AIRWAY BAFFLES TO SOFFITS IN ATTIC |
| 2D. DOUBLE COURSE SHEATHING & SIDING EXTERIOR WALL CONSTRUCTION AND/OR | 3A. EXTERIOR DOORS AIR INFILTRATION RATE .35 CFM/LIN FT. | 4G. INLET & OUTLET VENTS IN ATTIC |
| | 3A.C. METAL WINDOWS & DOORS MUST HAVE A THERMAL BREAK | 4H. ALL EXHAUST FANS TO HAVE POSITIVE CLOSING DAMPERS |
| | | 5A. WATER HEATER TANK INSULATION R-8.3 (BLANKET CAN BE USED) |

ADDITIONAL REQUIREMENTS FOR THE BRONZE LEVEL
175 POINTS NECESSARY TO ENTER

- | | | |
|--|--|---|
| 2A. SLAB ON GRADE INSULATE R-4.5 | 2G. WALLS EXPOSED TO UNCONDITIONED SPACE R-13 SHEATHED OR BACKED | 2K. INSULATE DUCTS IN UNCONDITIONED SPACE R-6.7 |
| 2D. R-13 EXTERIOR WALL AND RIM JOISTS | 2I. VAULTED CEILINGS R-19 | 3C. WINDOW AIR INFILTRATION RATE .35 CFM/FT. |
| 2F. INSULATE FLOORS OVER UNCONDITIONED SPACES R-19 | 2J. ATTIC ACCESS DOORS INSULATED R-4.5 | 4A.C. CENTRAL A-C 8.0 SEER OR 7.5 SEER WITH CENTRAL HEAT PUMP |

ADDITIONAL REQUIREMENTS FOR THE SILVER LEVEL
325 POINTS NECESSARY TO ENTER

- | | | |
|--|--|---|
| 1B. VAPOR/AIR INFILTRATION BARRIER ON EXTERIOR WALLS | 2F. INSULATE FLOORS OVER UNCONDITIONED SPACES R-19 | 2K. INSULATE DUCTS IN UNCONDITIONED SPACE R-9 |
| 1C. CAULK ALL WALL PENETRATIONS | 2G. WALLS EXPOSED TO UNCONDITIONED SPACE R-16.5 SHEATHED OR BACKED | 3C. WINDOW AIR INFILTRATION RATE .35 CFM/FT. |
| 2A. SLAB ON GRADE INSULATE R-4.5 | 2I. VAULTED CEILINGS R-30 | 4A.C. CENTRAL A-C 8.5 SEER OR 7.8 SEER WITH CENTRAL HEAT PUMP |
| 2D. R-16.5 EXTERIOR WALL AND RIM JOISTS | 2J. ATTIC ACCESS DOORS INSULATED R-7.2 | 4B.D. GAS FURNACE AFUE 78 OR CENTRAL HEAT PUMP S.C.O.P. 2.0 |

ADDITIONAL REQUIREMENTS FOR THE GOLD LEVEL
500 POINTS NECESSARY TO ENTER

- | | | |
|--|--|--|
| 1B. VAPOR/AIR INFILTRATION BARRIER ON EXTERIOR WALLS | 2G. WALLS EXPOSED TO UNCONDITIONED SPACE R-18 SHEATHED OR BACKED | 4A.C. CENTRAL A-C 9.0 SEER OR 8.0 SEER WITH CENTRAL HEAT PUMP |
| 1C. CAULK ALL WALL PENETRATIONS | 2I. VAULTED CEILINGS R-30 | 4B.D. GAS FURNACE AFUE 82 OR CENTRAL HEAT PUMP S.C.O.P. 2.1 |
| 1G. GARAGE DOOR WEATHERSTRIPPED 4 SIDES | 2J. ATTIC ACCESS DOORS INSULATED R-7.2 | 4F. FIREPLACE GLASS DOOR |
| 2A. SLAB ON GRADE INSULATE R-7.2 | 2K. INSULATE DUCTS IN UNCONDITIONED SPACE R-12 | 4F. FIREPLACE OUTSIDE COMBUSTION AIR |
| 2B. CRAWLSPACE WALL INSULATION R-7.2 | 3C. WINDOW AIR INFILTRATION RATE .15 CFM FT | 4H. INSULATED COVER FOR WHOLE HOUSE FAN, IF INSTALLED |
| 2C. BASEMENT WALL INSULATION R 5 | 4. CALCULATE HEATING & COOLING LOAD | 5. NO RECESSED LIGHTS INTO UNCONDITIONED SPACES (UNLESS APPROVED ZERO CLEARANCE) |
| 2D. R-18 EXTERIOR WALL & RIM JOISTS | | |
| 2F. INSULATE FLOORS OVER UNCONDITIONED SPACES R-30 | | |

TOTAL POINTS FROM ATTACHED WORKSHEETS

- | | |
|--|--------------------------------|
| 1. AIR INFILTRATION & VAPOR MEASURES _____ | 5. WATER SYSTEMS _____ |
| 2. INSULATION R-VALUES _____ | 6. LIGHTING & APPLIANCES _____ |
| 3. WINDOWS AND DOORS _____ | 7. EARTH CONTACT DESIGN _____ |
| 4. HEATING, VENTILATING AND A C _____ | 8. SOLAR SUPPLEMENT _____ |

TOTAL POINTS THIS HOME _____

ADDRESS: _____
THIS HOME QUALIFIES FOR THE BRONZE SILVER GOLD LEVEL OF THE SAVE PROGRAM
CIRCLE ONE:

DATE _____

BUILDER SIGNATURE _____

1. AIR INFILTRATION & VAPOR MEASURES
AIR INFILTRATION IS THE MAJOR SOURCE OF HEAT LOSS IN MOST HOMES.

A. EXTERIOR OF WALLS

- 5) ETHA FOAM SILL SEALER
- 10) CAULK ALL JOINTS BETWEEN SILL PLATE & RIM JOIST, BETWEEN RIM JOIST & DECKING, AND BETWEEN BOTTOM PLATE OF WALL & DECKING, OR WRAP POLY OVER RIM JOIST AREA PER SAVE MANUAL
- 5) SEAL ALL EXTERIOR SHEATHING JOINTS WITH CAULK OR TAPE
- 5) SEAL ALL EXTERIOR SHEATHING JOINTS AT RIM OR FOUNDATION
- 5) SEAL ALL WINDOWS AT THE EXTERIOR WITH CAULK OR TAPE
- 10) IF ALL 5 ABOVE ARE DONE ADD 10 PTS.

B. POLY — SEALING OF WALLS

- 1) 6 MIL POLY OR EQUIVALENT ON EXTERIOR WALLS
- 8) SEAL ELECTRICAL OUTLETS WITH CAULK & TAPE TO POLY
- 8) SEAL POLY TO PLATES OF EXTERIOR WALLS AND TO PARTITIONS AND SEAL ALL SEAMS OF POLY
- 8) SEAL POLY TO WINDOW & DOOR EXTENSIONS OR SEAL POLY TO ROUGH OPENING & FOAM THE CAVITY

C. FOAM WINDOWS & DOORS

- 10) FOAM THE CAVITIES BETWEEN ROUGH OPENINGS AND ALL WINDOWS
- 8) FOAM THE CAVITIES BETWEEN ROUGH OPENINGS AND ALL DOORS

D. FOAM WALL PENETRATIONS

- 1) 8) FOAM/CAULK AND SEAL AROUND ALL PENETRATIONS TO THE ATTIC AND OUTSIDE (INTERIOR & EXTERIOR WALLS & CHASE)

E. BONUS SECTION

- 14) IF ALL OF B & D ARE DONE ADD 14 PTS.
- 14) IF ALL OF C & D ARE DONE ADD 14 PTS.

NOTE: IF ALL OF B, C & D ARE DONE, YOU CAN TAKE BOTH SETS OF POINTS ABOVE

F. CEILING

- 1) 8) 5 MIL POLY VAPOR BARRIER ON CEILING OR EQUIVALENT
- 5) SEAL POLY ON CEILINGS TO POLY ON WALLS & SEAL ALL JOINTS OF POLY OR OVERLAP TWO JOISTS OR RAFTERS
- 1) 5) SEAL ALL PENETRATIONS THROUGH THE CEILING

As a result of installing 6 mil poly vapor barrier on the ceiling the home's humidity levels may be affected. See SAVE manual for details.

G. MISC. SEALING

- 2) NON-ETHA FOAM SILL SEALER
- 1) DUAL WEATHERSTRIPPING EXTERIOR DOORS (2 PTS. DOOR)
- 4) DOORS TO UNCONDITIONED SPACES WEATHERSTRIPPED
- 1) ADJUSTABLE THRESHOLD (3 PTS. EXTERIOR DOOR)
- 2) GARAGE DOORS WEATHERSTRIPPED 4 SIDES
- 2) CHINK AROUND ALL DOORS
- 2) CHINK AROUND ALL WINDOWS

H. ADDITIONAL POSSIBILITIES

- 15) DOUBLE FRAMING WITH INTEGRAL AIR/VAPOR BARRIER (i.e. 2x2 STRAPPING OR DOUBLE 2x4 WALLS)
- 1) BUFFER ZONES — NORTH SIDE (1 PT. ZONE, MAX. 5 PTS.)
- 5) GARAGE — N.W. OR S.W. CORNER
- 5) SINGLE STORY NORTH EXPOSURE
- 5) NORTH WIND BREAK — EARTH BERM LANDSCAPING

TOTAL POINTS THIS SECTION _____

2. INSULATION R-VALUES

ALL R-VALUES ARE FIGURED BASED ON THE R-VALUE OF THE INSULATION PRODUCT ONLY.

A. SLAB PERIMETER R-

- 5) R-4.5
- 6) R-7.2
- 8) R-10

B. CRAWL SPACE WALL R-

- 8) R-4.5
- 9) R-7.2
- 10) R-10.0

C. BASEMENT WALL R-

- 16) R-5
- 1) ADD 2 PTS EACH ADDITIONAL R (MAX. R-15)

D. EXTERIOR WALLS & RIMS R-

- 7) R-13 DOUBLE COARSE SHEATHING & SIDING
- 1) ADD 1 PT FOR EACH ADDITIONAL R (MAX R-30)
- 5) SPECIAL T-WALL & CORNER CONSTRUCTION

E. RIM JOISTS R-

- 2) R-13
- 3) R-16.5
- 4) R-20
- 5) R-23

F. FLOORS OVER UNCONDITIONED SPACES R-

- 5) NO LIVING AREAS OVER UNCONDITIONED SPACES
- 5) R-19
- 5) R-22
- 10) R-30

G. INTERIOR WALLS SHEATHED OR BACKED R-

- 1) 5) WALLS EXPOSED TO UNCONDITIONED SPACES R-14
- 1) ADD 1 PT. FOR EACH ADDITIONAL R (MAX. R-30)

H. FLAT CEILINGS R-

- 14) R-30
- 17) R-38

I. VAULTED CEILINGS R-

- 10) R-19
- 18) R-30
- 23) R-38

J. ATTIC ACCESS DOORS INSULATION R-

- 1) 2) R-4.5
- 4) R-7.2
- 5) R-9
- 9) ALL OPENINGS TO ATTIC LOCATED IN GARAGE

K. INSULATE DUCTS IN UNCONDITIONED SPACE R-

- 5) R-6.7
- 2) R-9
- 13) R-12
- 15) R-13

TOTAL POINTS THIS SECTION _____

8-2

3. WINDOWS AND DOORS

WHEN CONSIDERING HEAT LOSS THROUGH WINDOWS AND DOORS. LOOK FIRST AT INFILTRATION RATES.

A. EXTERIOR DOORS AIR INFILTRATION RATE (METAL DOORS MUST HAVE A THERMAL BREAK)

- 1) AIR INFILTRATION 35 CFM LIN. FT. OR STORMED
- 5) CHINKED AND CAULKED
- 2) INSULATED GARAGE DOOR

B. VESTIBULE ENTRANCE (AIR-LOCK SYSTEM)

- 20) FRONT DOOR
- 10) BACK DOOR

C. WINDOW GLAZING / AIR INFILTRATION RATE (METAL WINDOWS MUST HAVE THERMAL BREAK)

DOUBLE GLAZING WITH:

- 15) .35 CFM FT AIR INFIL
- 17) 25 CFM FT AIR INFIL
- 20) .15 CFM FT AIR INFIL
- 25) TRIPLE GLAZING OR HIGH PERFORMANCE GLASS
- 8) BASEMENT WINDOW DOUBLE GLAZED
- 8) SKYLIGHT DOUBLE GLAZED
- 10) SKYLIGHT TRIPLE GLAZED OR HIGH PERFORMANCE GLASS
- 10) CASEMENT WINDOWS (ALL)

4. HEATING, VENTILATING AND AIR CONDITIONING

- 20) CALCULATE HEATING AND COOLING LOADS

A. CENTRAL A/C

- 5) 8.0 SEER
- 10) 8.5 SEER
- 15) 9.0 SEER
- 1 PT. EACH ADDL 0.1 SEER

B. GAS A/C

- (5)

C. GAS FURNACE

- 15) AFUE 78
- 1 PT. EACH ADDL 1.0 AFUE

D. CENTRAL HEAT PUMP — COOLING

- 5) 7.5 SEER
- 10) 7.8 SEER
- 12) 8.0 SEER
- 1 PT. EACH ADDL 0.1 SEER

E. CENTRAL HEAT PUMP — HEATING

- 15) SEASONAL C.O.P. 1.9
- 3 PTS. EACH ADDL 0.1 C.O.P.

F. ZONED HEATING/COOLING

- 5 PTS. EACH HEATING ZONE (MAX. 35 PTS.)
- AUXILIARY HEAT IN BATH (2 PTS. BATH)
- 5 PTS. EACH COOLING ZONE (MAX. 35 PTS.)

A. HOT WATER HEATER R-

- 5) R-8.3 TANK INSULATION
- ADD 1 PT. FOR EACH ADDITIONAL R-4
- 1) HEAT LOOP TRAP OR EQUIV
- 15) HOT GAS HEAT EXCHANGER HEAT PUMP
- 10) HOT GAS HEAT EXCHANGER AIR COND.
- 10) INSTANT DEMAND WHOLE HOUSE GAS HOT WATER HEATER

6. LIGHTING & APPLIANCES

- FLUORESCENT LIGHTS (1 PT. ROOM)
- DIMMER (1 PT. DIMMER)
- 2) NO RECESSED LIGHTS INTO UNCONDITIONED SPACE (UNLESS APPROVED ZERO CLEARANCE)
- 3) ENERGY CONSERVING DISHWASHER

D. OTHER

- DECIDUOUS TREES ON EAST, S.E., WEST & S.W.: 3 PTS. FOR DIRECTION (MAX. 12 PTS.)
- 3) OVERHANG — 75% OF SOUTH WINDOW AREA SHADED FROM DIRECT SUN (JULY 21)
- 15) WINDOW SHADES — 75% OF SOUTH, EAST & WEST WINDOWS PROTECTED BY EXTERNAL VERTICAL SHADES
- 3) SUMMER SHADING OF SKYLIGHTS
- 15) MOVABLE INSULATION ON 75% OF NON-SOUTH WINDOW AREA

ED. GLASS AREA LIMITATION (IF POINTS APPLIED, SEE SOLAR SUPPLEMENT)

- 15) NON-SOUTH FACING GLASS AREA — NOT TO EXCEED 8% OF FLOOR SPACE
- 20) NON-SOUTH FACING GLASS AREA — NOT TO EXCEED 5% OF FLOOR AREA

TOTAL POINTS THIS SECTION _____

G. FIREPLACE

- 10) OUTSIDE COMBUSTION AIR
- 6) GLASS DOOR
- 12) RECIRCULATING SYSTEM
- 10) INTERIOR LOCATION (NO EXTERIOR EXPOSURE)
- 12) WOOD-BURNING STOVES

H. IN THE ATTIC

- 5) AIRWAY BAFFLES TO SOFFITS
- 7) INLET ATTIC VENTS (1 SQ. FT. NET FREE OPENING: 300 SQ. FT. ATTIC SPACE)
- 8) OUTLET ATTIC VENTS (1 SQ. FT. NET FREE OPENING: 300 SQ. FT. ATTIC SPACE)

I. OTHER

- 7) RESIDENTIAL ECONOMIZER
- 10) AIR-TO-AIR HEAT EXCHANGER
- 8) AUTOMATIC SETBACK THERMOSTAT
- 10) NO HEAT SUPPLY IN GARAGE
- 10) WHOLE HOUSE FAN
- 8) INSULATED WHOLE HOUSE FAN COVER
- 3) CEILING FAN (3 PTS. FAN)
- 2) ALL EXHAUST FANS TO HAVE POSITIVE CLOSING DAMPERS

TOTAL POINTS THIS SECTION _____

5. WATER SYSTEMS

B. WATER CONSERVATION

- 2) GALLONS SHOWER HEADS (2 PTS. PER HEAD)
- 1) WATER CONSERVING TOILETS — MAX. 4 GAL. FLUSH (2 PTS. PER TOILET)

TOTAL POINTS THIS SECTION _____

- 5) ENERGY CONSERVING REFRIGERATOR
- 10) MICROWAVE OVEN
- 2) SELF-CLEANING OVEN

TOTAL POINTS THIS SECTION _____

7. EARTH CONTACT DESIGN

A. EARTH CONTACT DESIGN MINIMUM CRITERIA:

- 1) LIVING SPACE ONLY
- 2) R-10 TO FROST LINE, R-5 TO FOOTING
- 1) BASE DIVIDER=TOTAL SQ. FT. OF NON-SOUTHERNMOST SIDE WALLS OF HOUSE
- 2) SQ. FT. COVERED WITH EARTH
 - a. WALLS SQ. FT.
 - b. ROOF SQ. FT.

— () SUM OF (#2) DIVIDED BY BASE DIVIDER (#1) WITH A MAX. OF 50 PTS. POSSIBLE

TOTAL POINTS THIS SECTION _____

8. PASSIVE SOLAR SUPPLEMENT

PASSIVE SOLAR HEATING NOTE: CHOOSE SUN TEMPERED DESIGN OR PASSIVE SOLAR DESIGN

SUN TEMPERED DESIGN (44 PTS. MAX.)

- () DIRECT GAIN: 3 PTS. FOR EACH 1% OF SOUTH GLASS TO TOTAL FLOOR AREA (24 PTS. MAX.)

- MINIMUM CRITERIA:
- a. ORIENTATION: = 30° TRUE SOUTH
 - b. SOUTH GLASS AREA AT LEAST 5% OF TOTAL FLOOR AREA (8% IS RECOMMENDED)
 - c. NON-SOUTH GLASS: LESS THAN 8% OF TOTAL FLOOR AREA
 - d. 75% OF SOUTH GLASS SHADED ON JULY 21

- () INDIRECT GAIN, ISOLATED GAIN OR SUN SPACE (12 PTS. MAX.)

- MINIMUM CRITERIA:
- a. ORIENTATION: = 30° TRUE SOUTH
 - b. SOUTH GLASS AREA AT LEAST 4% OF TOTAL FLOOR AREA
 - c. NON-SOUTH GLASS LESS THAN 8% OF TOTAL FLOOR AREA
 - d. 75% OF SOUTH GLASS SHADED OR ADEQUATELY VENTED ON JULY 21
 - e. SUNSPACE TOTALLY UNCONDITIONED

B. WINDOW TREATMENTS

- 1a. 1 PT. FOR EACH 20% OF SOUTH GLASS THAT IS TRIPLE GLAZED OR EQUIV.
- OR
- 1b. 1 PT. FOR EACH 10% OF SOUTH GLASS WITH MOVABLE INSULATION (R-3 MIN.)
- 2. 1 PT. FOR EACH 10% OF SOUTH GLASS SHADED BY EXTERNAL SHADING

TOTAL POINTS SUN TEMPERED DESIGN _____

PASSIVE SOLAR DESIGN (100 PTS. MAX.)

- () DIRECT GAIN: 4 PTS. FOR EACH 1% OF SOUTH GLASS TO TOTAL FLOOR AREA (60 PTS. MAX.)

- MINIMUM CRITERIA:
- a. ORIENTATION = 20° SOUTH
 - b. SOUTH GLASS AT LEAST 8% OF TOTAL FLOOR AREA
 - c. NON-SOUTH GLASS LESS THAN 6% OF TOTAL FLOOR AREA
 - d. 90% OF SOUTH GLASS SHADED ON JULY 21
 - e. MASS OR HEAT STORAGE REQUIREMENTS: 3 SQ. FT. DIRECT SUNLIT MASS OR 9 SQ. FT. THERMALLY COUPLED MASS SURFACE (2" THICK MIN.) FOR EACH SQ. FT. OF SOUTH GLASS ABOVE 3% OF FLOOR AREA

— () INDIRECT GAIN, ISOLATED GAIN OR SUN SPACE. 2 PTS. PER 1% OF SOUTH GLASS TO TOTAL FLOOR AREA (60 PTS. MAX.)

- MINIMUM CRITERIA:
- a. ORIENTATION = 30° SOUTH
 - b. SOUTH GLASS AT LEAST 8% OF TOTAL FLOOR AREA
 - c. NON-SOUTH GLASS LESS THAN 6% OF TOTAL FLOOR AREA
 - d. 75% OF SOUTH GLASS SHADED OR ADEQUATELY VENTED ON JULY 21
 - e. MASS OR HEAT STORAGE. FOR EACH SQ. FT. OF SOUTH GLASS THERE IS ONE OF THE FOLLOWING:
 - 1) SQ. FT. SOLID MASS WALL (8" MIN. THICK) BETWEEN SUN SPACE AND UNCONDITIONED AREA
 - 1) SQ. FT. MASS SURFACE AREA (FLOOR OR VENEER WALL 2" MIN. THICK IN SUN SPACE AREA)
 - 5) SQ. FT. THERMALLY COUPLED SECONDARY MASS
 - f. SUN SPACE TOTALLY UNCONDITIONED

- B. WINDOW TREATMENTS
- 1a. 1 PT. FOR EACH 10% OF SOUTH GLASS THAT IS TRIPLE GLAZED OR EQUIV.
 - OR
 - 1b. 1 PT. FOR EACH 5% OF SOUTH GLASS WITH MOVABLE INSULATION (R-3 MIN.)
 - 2. 1 PT. FOR EACH 5% OF SOUTH GLASS SHADED BY EXTERNAL VERTICAL SHADING

TOTAL POINTS PASSIVE SOLAR DESIGN _____

- PASSIVE SOLAR COOLING
- 10) WHOLE HOUSE FAN. THERMAL MASS MUST HAVE SURFACE AREA GREATER THAN 25% OF TOTAL FLOOR AREA
 - 10) BASEMENT MASS COUPLING SYSTEM WITH FAN ASSIST TO DESTRATIFY (WINTER) OR COOL (SUMMER)
 - 10) EARTH TUBE COOLING
 - 10) HIGH-LOW CHIMNEY EFFECT

TOTAL POINTS PASSIVE COOLING _____

TOTAL POINTS PASSIVE SOLAR DESIGN _____

TOTAL POINTS SUN TEMPERED DESIGN _____

TOTAL POINTS PASSIVE SOLAR DESIGN _____

TOTAL POINTS PASSIVE COOLING _____

TOTAL POINTS PASSIVE SOLAR DESIGN _____

TOTAL POINTS PASSIVE SOLAR DESIGN _____

TOTAL POINTS THIS SUPPLEMENT _____

Mr. Chairman and honorable members, my name is Bob Dixon. I am a 17 year resident of Leawood, Kansas and the president of Performance Materials Supply, a Kansas corporation that distributes building materials. I have been associated with the sale and marketing of construction products that reduce energy costs for the past 25 years.

Please let me address you today as a knowledgeable consumer of energy efficient homes and commercial buildings.

Forty states have already recognized the importance of adopting the MEC to this country, their states and future generations of citizens. These state legislatures that have gone before you have already given this code considerable scrutiny and come to the conclusion that is very good for the people of their states.

This bill has national security interests. Presently we import approximately 50% of our petroleum energy resources. We should not loose sight of the dependence we currently have on foreign governments for these resources. To the extent that we can minimize this dependence we should. Many of you can probably remember the long gas lines and high foreign energy costs and shortages of the 1970's when OPEC held us hostage. More recently we experienced the uneasiness of other governments interfering with a stable oil market when Saddam Hussein was trying to pirate his oil rich neighbors.

This bill has environmental considerations. We all appreciate and want clean air. Did you know that the second largest air polluter in this country is home gas furnaces? Having more energy efficient homes will contribute to improved air quality. Denver, Colorado, recognized this several years ago when they adopted higher energy efficient standards to reduce their smog levels. A recent study completed by Energy Conservation Management determined that meeting the MEC nationally would avoid an additional 249.2 billion lbs. of carbon dioxide emissions annually.

This is an issue about our concern for future generations of Kansans. Presently we are enjoying relatively inexpensive energy costs. But we are consuming non-renewable resources. Does anybody believe they are going to go down in future years? Don't we have a moral obligation to pass on as much of these resources as we can? Don't future generations deserve the opportunity to have a high standard of living with moderate utility costs too?

Financially the MEC makes logical sense. To meet the MEC standards today for a typical 2000s.f. house costs less than \$1300.00. This has a financial payback of 5 years or less. If this \$1300.00 is added to the price of a house at a current mortgage rate of 8%, it costs the home owner \$9.54/month. That's less than a family of four can eat at McDonalds one time. In addition, there have been energy conservation mortgage programs sponsored by Fannie Mae and Freddie Mac as well as others that recognize that the lower utility costs associated with an energy home allows the home owner to qualify for a larger monthly

House Utilities
2-11-97
Attachment 3

mortgage payment. A typical program according to Mike Boles of Capital Federal Savings allows two additional percentage points of gross monthly income to count towards the monthly payment. For example, a family with a gross monthly income of \$3000.00/month would typically qualify for a monthly payment of \$700.00. With an energy efficient home that would increase to \$750.00/month. This pays 5 times over the additional \$9.54/month the improvements costs.

Most of you probably recognize that house construction is a major engine driver of the economy. With the more liberal energy efficient mortgage criteria, there are going to be more qualified home buyers at all income levels. This means more home buyers for the realtors and home builders, not less.

Because most consumers only purchase a few homes, we tend to generally be uneducated about the components of an energy efficient home. Today, home buyers are assuming that they are buying energy efficient homes. That simply isn't the case. For example in Johnson county today, you have to get into the \$200,000.00 and up house price range on a new home before you can typically get a double insulated wall home. This was a standard in virtually all price ranges in the '70's and the '80's. However, in recent years there has been a steady return to single wall construction because it is not seen in the finished product. The sad commentary on this is most home buyers don't even realize what has happened. The rude awakening occurs when they get their first \$300.00 utility bill and they realize that their beautiful home is not energy efficient.

In summary, the MEC should be just the beginning of state efforts to put Kansas at the front of being a responsible energy efficient state. The most cost effective time to do this is when the home or commercial building is being built. Unless there is another energy crisis or responsible legislation to enforce energy efficiency, the marketing forces will drive the home and commercial building offering to the lowest initial costs which discounts the long term impact. I urge you to look at the long term favorable impact of the MEC and defeat this legislation now.

Thank you for the opportunity to present by testimony. I would be glad to answer any of your questions at the appropriate time.

Wesley R. (Bob) Dixon
12016 Cherokee Lane
Leawood, Kansas 66209

Home Phone 913-491-3822
Business Phone 816-471-3111

January 28, 1997

Regarding Senate Bill #74
House Energy and Natural Resource Committee

Contrary to everything that is written today about saving energy, it is hard for me to believe that I am here to see that the contractors do not get there way to repeal the energy codes.

The contractors do not want any regulation; every time something comes up about anything to do with the building industry the contractors fight it. Yet when they are put on the stand about their accountability they don't even show up. They have been working in an industry that has been under-regulated for so long they are not welcoming any changes. And do not follow current regulations because they are not policed.

As a consumer and resident in the State of Kansas I ask the committee to let the citizens of this state vote to see if they want lower energy standards. This should not be a vote that only the building industry gets to decide. Houses are not being built like they used to be, 90% are being mass produced and I would guess they have insulation but not in the amount that they are suppose to have. Cracks and water intrusion are the biggest complaints that are organization receives. This water intrusion soaks what insulation there is and of course then we have water soaked insulation between the walls and another problem arises as well as the insulation not working properly. Insulation should last the lifetime of the house.

Do you, the state, want to give more financial assistance down the road than what we already are spending to subsidize the lack of energy efficiency in the housing industry?

Can anyone of you on this committee tell me you don't want, or care to know if the house you or your children will be buying down the road at least meets the minimum energy standards?

The only way you are going to know the above is if the builder/contractor has to fill out a form stating this and that it is inspected by the utilities to verify the builders accountability. With the costs of utilities going up we need to if anything stronger regulations.

Thank you for your time.

Paula Schulman
Representing HADD
Homeowners Against Deficient Dwellings
7611 Park
Lenexa, Ks. 66216
(913) 268-0600

House Utilities
2-11-97
Attachment 4

2/11/97
House Bill 2140

At a prior hearing it was stated that senior citizens do not purchase new houses. I am here to tell you that they do. It is a different world today. Life expectancy is much greater than in the past and senior citizens are more mobile than ever. We are moving everywhere and buying new homes whether it is a single family residence as in my case or a condo or a patio home.

I recall about 10 years ago that Olathe did away with the requirement that tar paper be placed under composition shingles. A number of new homes were built without that amenity. I also recall that within a fairly short time a lot of roofs were leaking and a big flap ensued.

As a former Kansas resident, I moved to Missouri after 2 really sour experiences with the purchase of new houses. In the first case it was as if the construction crew was unable to do any job correctly--for example, a full length window was installed behind the kitchen sink and the wrong type of siding was put on the entire house. In the second instance an engineer that I hired told me that no house should have been constructed in the area in which mine was located.

There are many unscrupulous and unethical builders today. Even a lawsuit or the threat of a lawsuit does not cause them to respond to a home owner's complaints. At the present time there seems to be no way to hold them accountable for slip-shod building practices.

I sincerely believe that if the Model Energy Standards are done away with in the State of Kansas, the purchaser of a new home will be placed in a more precarious position than they are already in today.

I also believe that a domino effect will be created with other states soon following the same path. I do not want to sound like "Chicken Little" but it is possible that the items covered by the Energy Standards will be offered to the buyer of a custom built home as "extras" and will be largely omitted from the "spec" houses they build.

Thank you for your time and attention,
Maxine Taylor

House Utilities
2-11-97
Attachment 5

Testimony of
Charles Benjamin
Legislative Coordinator
Kansas Natural Resource Council
Kansas Chapter of Sierra Club
935 S. Kansas Avenue, Suite 200
Topeka, KS 66612

Before the Kansas House of Representatives
Committee on Utilities
House Bill 2140
Concerning Building Energy Efficiency Standards
February 11, 1997

Thank you for the opportunity to express strong opposition to this proposed bill. This bill sets the wrong policy and sends the wrong message about efficient energy usage and the conservation of our natural resources.

The real purpose of this bill is to totally exempt home builders from any obligation to comply with any form of residential energy standard, unless it is done locally, a circumstance that exists in very few areas of the state. It places home buyers in the position of "buyer beware." There are many competent and responsible home builders in Kansas, for whom buyers should not have to beware. Such builders probably already meet the standard and the KCC has simplified the process in its order of 1/23/96 so that the time and paperwork is insignificant. But for the home builder who lacks knowledge or is unscrupulous, this bill simply allows them to pick the consumer's pocket.

The KCC first adopted basic building thermal standards in 1977. Energy standards for buildings make good sense. Today's buildings will last well into the future and it is important to recognize that the cost and availability of energy in the future may be very different from what it is today. Energy efficiency is much more cost effective when placed in buildings at the time of construction rather than trying to retrofit buildings some years later. The KCC order thus represents a very conservative strategy. It is also a strategy that will provide greater security to home buyers by informing them that homes meet minimal standards. It is also important to point out that homeowners who certify to a utility that a home does not meet the standards may still obtain utility service. In other words, the KCC order allows a builder to persuade a willing home buyer that compliance with the energy efficiency codes is not necessary.

There are secondary benefits to the KCC order. These include a reduced need for power plants, reduced pollution, and reduced risk from future energy price spikes. It is estimated that compliance with the Model Energy Code in the first year will save nearly 70 billion Btu's of energy, and thus prevent 3.200 tons of carbon dioxide, sulfur dioxide, nitrogen dioxide and particulate matters from entering the atmosphere. The Commission's order is simply good public policy and makes good sense for the individual building owner.

Kansas ranked 26th in energy consumption in 1993, consuming 1.1 quadrillion Btu's of energy. 18% of that total went to residential buildings, and 16% went to commercial buildings.

21% of new home sales in Kansas in 1993 were financed with federally financed or guaranteed mortgages. Federal mortgages through the VA, FHA, or FmHa require compliance with the Model Energy Code

It is true that compliance with the Model Energy Code might increase the construction costs of a new 1,900 square foot home by about \$1,300. That translates into a monthly mortgage payment increase of about \$8 to \$10. But the estimated cost savings in energy for the first year alone are \$174. In the fourth year of payments, the average single-family home owner in Kansas would have saved more money than was expended, and the savings would continue to grow after that time.

Should this bill pass, housing affordability in Kansas would actually decrease because new construction would not automatically qualify for Federal loan guarantees. Buyers in Wichita and Topeka, for example, can get mortgage

House Utilities
2-11-97
Attachment 6

guarantee insurance from the FHA with \$2000 less annual income under the current KCC regulation than the annual income he or she would need if the bill passes. Federal mortgage requirements are "stretched" in the debt ratio allowed if the home meets the Model Energy Code. Separate analyses by Pacific Northwest Labs and The U.S. Energy Department show that the requirements of the Model Energy Code result in positive cash flow for the home buyer. The value of energy savings exceeds the increased principal and interest payments. Compliance with the Model Energy Code makes housing more affordable, not more expensive.

The first clause in the bill removing the Commission's authority to adopt commercial building standards in areas that adopt building codes that have equivalent standards is largely irrelevant. The Commission's order on this subject clearly spells out a similar intent. Paragraph seven of the 1/23/96 order states: "Jurisdictional utilities may request that the Commission release them from their enforcement obligation in areas where local building code authorities have in effect energy codes that meet or exceed the thermal efficiency standards and enforcement provisions adopted by the Commission."

The existing regulations are far too complex and it is questionable whether they are always honored. The KCC order notes that the existing standard is actually somewhat stricter than the new Model Energy Code would be for buildings around 2,500 square feet. The big advantage of the Model Energy Code is that it can be much more quickly and easily understood by builders and buyers. Additionally, there are multiple ways to determine if a home meets the requirements.

The KCC order is very flexible. The builder does not even need to comply. The builder can exempt himself by signing a form that says the building does not meet the Model Energy Code and that the home buyer may have difficulty with certain federal mortgage programs. That disclosure simply states the truth. What are the home builders afraid of? Do they want the ability to say that their homes are energy efficient when in fact they are not?

There are five ways in the KCC order for a builder to comply. There are three sets of criteria in each of Kansas' five climate zones. This alternative includes options to trade thermal efficiencies among various components of a home. A builder can use the Model Energy Code's computer software developed by Pacific Northwest Laboratory for the U.S. Department of Energy. A builder can obtain a satisfactory rating by an approved Home Energy Rating System which is equivalent to compliance with the Model Energy Code. This is the most market driven approach and the best long term strategy for achieving the level of efficiency the home buyer wants to invest in.

How does a home buyer know whether or not to believe the ads she sees that says a home is energy efficient? Unless there is a way to measure these basic levels of efficiency, there is no real way for consumers to make valid comparisons. Unless buyers have enough information to make informed choices then the free market system cannot work. The KCC order provides basic information to the buyer and sufficient flexibility for the builder. While the current rule could be stronger, to repeal even this modest effort at protecting consumers would be unconscionable.

The KCC is carrying out a series of educational workshops to inform builders of the order and how to achieve compliance. We fully support such educational endeavors.

Finally, it is necessary to point out that legislative reversal of this policy would be an unwise interference with the KCC. If this bill passes, it would be historically unprecedented. There is no previous legislation to my knowledge that reverses a KCC decision made following an evidentiary hearing. The Commission conducted both a technical hearing and a public hearing. All points of view were considered, including that of the main proponent of this legislation. KNRC intervened in the KCC hearing. Our witness was Russ Rudy who has conducted energy audits on more than 500 Kansas homes. He showed the Commission and the House Committee photos of leaky homes even in the upper price brackets.

There comes a time when an issue has been resolved by the body best able to consider and weigh the evidence. The quasi-judicial administrative proceedings of the KCC are the best place to resolve this issue. This bill, if passed, would represent a major insult to the deliberative processes of a major independent state agency.



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Craig Rider
Wallace Scott
Debbie Snow
Betty Vines*

Testimony Presented to
House Utilities Committee
House Bill 2140
January 28, 1997
by
Jim DeHoff

Mr. Chairman & Committee Members:

I am Jim DeHoff, Executive Secretary of the Kansas AFL-CIO. I appear before you today to urge you not to pass HB 2140, which removes the regulatory authority of the Kansas Corporation Commission concerning energy standards.

The Kansas Corporation Commission has regulated building energy standards since 1977. The basic purpose of these standards is to require homebuilders to certify to utilities that homes meet minimum energy standards before electric service is connected. After twenty years, it is rather late in the game for the argument to be used that the KCC is an inappropriate place for this authority.

The only real purpose of this bill is to totally exempt home builders from any obligation to comply with any form of residential energy standard. It would be up to the contractor how much insulation to use or even whether to use it at all. The regulation by the KCC affords the consumer the only real guarantee that a home they are buying is truly energy efficient. In addition, studies have shown that homes built under the code required by the KCC, are more affordable. Increased building costs are more than offset by savings in energy costs to the homeowner, making the overall housing cost lower to the consumer.

We urge you to recommend HB 2140 unfavorable for passage.

Thank you.

Jim DeHoff
Executive Secretary-Treasurer



House Utilities 
2-11-97
Attachment 7

FEBRUARY 11, 1997

TOM YOUNG AARP

AARP URGES ALL LEGISLATORS TO OPPOSE HB 2140 WHICH, IF PASSED, WOULD ELIMINATE AN IMPORTANT CONSUMER PROTECTION FOR ALL KANSANS.

HB 2140 WOULD OVERTURN A 1995 KCC ORDER ESTABLISHING MINIMUM ENERGY EFFICIENCY STANDARDS FOR RESIDENTIAL CONSTRUCTION. THE KCC HAS EXERCISED THAT AUTHORITY SINCE THE LEGISLATURE DELEGATED RESPONSIBILITY TO IT 1977. THE 1995 ORDER REQUIRES HOME BUILDERS CERTIFY THAT NEW HOMES EITHER MEET MINIMUM ENERGY EFFICIENCY STANDARDS, OR NOTIFY THE HOME BUYER THAT THE NEW HOME DOES NOT MEET THE STATE'S ENERGY EFFICIENCY BUILDING CODE.

WE BELIEVE THAT NOTIFICATION THAT MINIMUM ENERGY EFFICIENCY STANDARDS HAVE BEEN MET IS IMPORTANT CONSUMER PROTECTION INFORMATION THAT WILL BENEFIT ALL KANSANS AND PARTICULARLY OLDER KANSANS WHO ARE OFTEN ON A FIXED INCOME. FOR THESE KANSANS OFTEN ENERGY COST AND MEDICAL BILLS ARE THE LARGEST MONTHLY EXPENDITURE THEY HAVE. IT IS IMPORTANT THAT ALL KANSANS AS WELL AS THE ELDERLY BE ABLE TO ASSESS THE POTENTIAL COST OF UTILITIES BEFORE BUYING A NEW HOME. ALSO SINCE FUTURE SELLERS WOULD NOT HAVE TO NOTIFY BUYERS ABOUT ENERGY EFFICIENCY IT BECOMES IMPERATIVE THAT CERTIFICATION ON NEW CONSTRUCTION BE GIVEN. PASSAGE OF HB 2140 WOULD LARGELY ELIMINATE THE NEED FOR BUILDERS TO PUT FORTH THE INFORMATION NECESSARY TO MAKE A DECISION ON UTILITY COST.

AARP BELIEVES A STATEWIDE APPROACH IS NEEDED BECAUSE TOO MANY RURAL AREAS AND SMALL TOWNS IN KANSAS LACK THE RESOURCES TO ADOPT OR ADEQUATELY ENFORCE RESIDENTIAL CONSTRUCTION CODES. (FOR EXAMPLE OSAGE COUNTY THE COUNTY JUST SOUTH OF HERE DOES NOT HAVE A BUILDING CODE .) THE KCC ORDER DOES ALLOW LOCAL AREAS OR CITIES TO ASSUME CONTROL OF ENERGY EFFICIENCY BUILDING CODES IF THE LOCALITY HAS TOUGHER STANDARD THAN THE MINIMUM THE KCC HAS SET.

HOW DOES THIS AFFECT SENIOR CITIZENS? MANY SENIOR CITIZENS RELOCATE AFTER RETIREMENT. THIS MEANS A NEW LOCATION, A NEW HOME ,OFTEN SMALLER THAN THE LARGE HOME THEY COME FROM, A NEW COMMUNITY , AN UNKNOWN BUILDER, THEY TAKE THE PROCEEDS FROM THE OLD HOME AND PAY CASH. IT CERTAINLY BEHOVES SOMEONE TO SEE THAT A MINIMUM STANDARD OF INSULATION IS GUARANTEED IN THE NEW HOME.

ANOTHER SCENE ALSO OFTEN OCCURS WHEN SENIORS ARE INVOLVED IN NEW HOME PURCHASES. ONE OF THE COUPLE PASSES AWAY. THE CHILDREN SAY TO EITHER MOM OR DAD SELL THE BIG HOME AND COME LIVE CLOSE TO US SO WE CAN SEE YOU OFTEN. THEY HAVE A NEW HOME IN MIND CLOSE TO THEIR HOME , MOM OR DAD CAN BE CLOSE AND MAINTAIN SOME INDEPENDENCE. MOM OR DAD SELL THE OLDER LARGE HOME AND BUYS A HOME CLOSE TO THE KIDS. AGAIN THERE NEEDS TO BE A MINIMUM STANDAR OF INSULATION IN THAT NEW HOME.

WHILE COMPLYING WITH THE KCC'S MINIMUM STANDARD WILL ADD ABOUT \$120 A YEAR TO THE COST OF THE TYPICAL MORTGAGE IN KANSAS, IT WILL SAVE OVER \$200 PER YEAR IN UTILITY BILLS IF GASS PRICES REMAIN AS HIGH AS THEY HAVE BEEN THIS WINTER.

THERE IS ALSO THE POSIBILITY THAT A NEW HOME BUILT IN KANSAS WHICH DOES NOT MEET THE ENERGY EFFICIENCY STANDARDS WOULD FAIL TO MEET THE REQUIREMENTS FOR FEDERALLY BACKED MORTGAGES SUCH AS FHA, VA, AND HUD. LAST YEAR 20% OF THE HOMES SOLD IN KANSAS WERE FINANCED IN THIS MANNER.

CONSUMER PROTECTION, LOWER UTILITY RATES, AND LESS EXPENSIVE FINANCING ARE CRITICAL ISSUES OF AFFORDABLE HOUSING IN KANSAS. WE ASK THAT YOU AND YOUR COLLEAGUES VOTE **NO** ON HB 2140

House Utilities
2-11-97
Attachment 8

TESTIMONY PRESENTED

TO THE

HOUSE

UTILITIES

COMMITTEE

BY

DAVID B. SCHLOSSER

OF

PETE MCGILL & ASSOCIATES

ON BEHALF OF

THE NORTH AMERICAN INSULATION

MANUFACTURERS ASSOCIATION

HOUSE BILL 2140

11 FEBRUARY 1997

*House Utilities
2-11-97
Attachment 9*

**Testimony of David B. Schlosser
of Pete McGill & Associates
on behalf of the North American Insulation Manufacturers Association
regarding House Bill 2140
before the House Utilities Committee
11 February 1997**

Good morning, Mr. Chairman and members of the committee. Thank you for the opportunity to oppose House Bill 2140. My name is David Schlosser. I work with Pete McGill & Associates to represent the interests of the North American Insulation Manufacturers Association, or NAIMA, in Kansas. NAIMA's members have three plants in Kansas that manufacture fiberglass insulation, and employ over 1,000 Kansans in Kansas City and McPherson.

During a winter like this one, with utility bills that doubled for most of your constituents, we doubt you will find many homeowners in your district who think that eliminating minimal energy efficiency standards is good public policy.

After hearing last week's testimony, you may believe HB 2140 has to do with mandating something called the Model Energy Code. In reality, HB 2140 overturns an existing state policy that asks home builders to tell home buyers whether new homes meet or do not meet our state's minimal energy efficiency standards.

The bulk of our testimony refutes the positions of HB 2140's supporters. Since time is extremely limited, we want to point out some contradictions and inaccuracies in the testimony you heard from proponents of limiting home buyer's access to information about the energy efficiency of new homes.

The testimony from the National Association of Home Builders (NAHB) implies Kansas mandates that home builders comply with the Model Energy Code (MEC). That is not accurate: Kansas asks builders to *disclose* whether the new homes they build meet one of several alternative energy efficiency standards. The MEC is the preferred code -- but if you look at the compliance form in the KCC's packet, you'll notice that there are several alternatives to confirm compliance with the MEC. Home builders also have the option of not complying with any energy efficiency standard, if they notify the home buyer.

There is a fundamental contradiction in the NAHB statement. NAHB claims new homes in Kansas are energy efficient. In the next breath, they ask you not to impose an energy efficiency standard because it would cost too much. We humbly suggest that the builders association gets to have one position or the other -- not both. New homes are energy efficient, or they are not. If they are, asking builders to comply can't be too burdensome. If they are not, asking builders to disclose that to buyers doesn't seem like too big a burden, either.

The testimony we're passing out now, from an energy efficiency building expert here in Kansas, states quite plainly that home builders in Kansas don't need to incur

additional costs to achieve compliance -- they only need to change their standard practices of construction, at little or no cost.

Which brings us to another inaccuracy in the testimony from the NAHB. The NAHB would like you to believe the Model Energy Code will price people out of the housing market. The truth is that Kansas policies on energy efficiency makes housing more affordable, for many reasons:

- First, the state does not mandate compliance with any code -- only that builders tell buyers whether or not the house was built to be energy efficient.

- Second, the NAHB's claim that energy efficient homes are not cost effective ignores the facts of the study they cite: the Northwest Pacific National Lab study proves the costs of building an energy efficient home in Kansas would be recovered in about four years. That is three years *less* than the payback time their own association believes is cost efficient. We are distributing last year's testimony by the associate dean of engineering at Kansas State that details the NPNL study. As to the NAHB's claims that energy efficiency standards price people out of the market, I would caution anyone against relying on studies conducted by an organization with a financial interest in the study's results. We are also distributing testimony from the Alliance to Save Energy that details the math errors in the NAHB's testimony.

- Third, the testimony from the Alliance to Save Energy identifies another critical issue of housing affordability: home owners insurance rates. According to the Alliance, the absence of modern, nationally referenced building codes -- such as those HB 2140 would eliminate -- could increase the cost of insurance premiums in Kansas beginning after 1998.

- Fourth, let us repeat what the Habitat for Humanity told the Senate about this bill. Habitat states that homes built to the Model Energy Code actually decrease the income qualification for the mortgage by 11%. In other words, if you need an annual income of \$26,000 to buy a house that is not energy efficient, you would need an annual income of only \$24,000 to afford a house of the same price that is energy efficient. Over the life of a 30-year mortgage, Habitat can actually put \$10,000 to \$12,000 back in the pocket of the home buyer because of lower utility bills.

- Fifth, let's study NAHB's own information about the costs of energy efficiency standards. At the home builders trade show in Houston last month, the NAHB distributed a list of regulations that increase the cost of housing. That list is on the back of this testimony, because *nowhere* in the list of 57 requirements does the home builders association mention energy efficiency standards as a regulation that affects the cost of housing. Even NAHB's own propaganda doesn't support their claims.

If this is really an issue of housing affordability, as the proponents of HB 2140 want you to believe, we think common sense tells you that building energy efficient homes makes housing more affordable, up-front and in the long run. But if you really believe energy efficiency makes housing less affordable, then remember that current policy does not mandate energy efficiency -- it only mandates that home builders tell home buyers whether or not the house is minimally energy efficient.

And that brings us to another inconsistency in the proponent's testimony. They tell you the free market is the best way to decide whether home buyers want energy efficient housing. *We agree.* Markets depend on information -- better information drives better decisions. Proponents of HB 2140 told you that access to information about non-compliance with energy efficiency standards decreases the value of a home. *Exactly* -- home buyers are smart enough to understand that energy efficient houses are more valuable. But HB 2140 would eliminate access to the best source of information about energy efficiency.

If you vote for HB 2140, the only way a home buyer can determine if a new home is energy efficient is to do an energy audit, which the builders concede costs \$300 to \$350. As someone who bought a house a few months ago, I can tell you that, after paying for a mechanical inspection, a termite inspection, a survey, mortgage insurance, closing costs, and all that other stuff, the last thing I wanted to do was dig up another three hundred bucks to find out if I could afford the utility bills.

Finally, the supporters of HB 2140 want you to believe that eliminating energy efficiency building standards is an issue of local control. If that is true, then where is the state's foremost proponent of local control, the League of Municipalities? The League knows local control is not an issue in HB 2140 for these reasons:

- First, the state's policy allows any locality to adopt a building standard as tough or tougher than the state's -- and, as I keep reminding you, compliance is not mandatory.
- Second, few local jurisdictions in Kansas have the resources or the ability to adopt and enforce any building codes -- much less energy efficiency building codes.
- Third, the Model Energy Code explicitly considers the different conditions that Kansans face in different parts of the state. Kansas has five different climate zones -- and the MEC has a different standard of construction for each of them.

HB 2140 is about information. In the free market, information is power. As you decide which way to vote on HB 2140, you must decide where you want that power to reside -- with your constituents, or with the home builders. A vote for HB 2140 tells your constituents you believe the power in the purchase of a home should reside with the home builder, who is already without building or professional standards or effective legal liability in almost every corner of Kansas. If you decide to vote against HB 2140, you will be telling your constituents that you believe they have a right to know if the homes they are buying are energy efficient.

We urge you to vote to provide your constituents with the best information possible. Please vote against HB 2140.

The Facts, Issue by Issue

The home builders association wants you believe the Model Energy Code would increase the cost of housing in Kansas. **Those are not the facts.**

The cost of achieving compliance with minimal energy efficiency standards in the typical new Kansas home is less than three percent of the total cost of the house. One opponent of SB 74, Russell Rudy, states in his testimony that most homes in Kansas could be built in compliance with little or no additional cost -- all that is needed in most cases is a different standard practice of construction. Yet the home builders association states in 1996 testimony that, rather than simply altering its standard practices of construction, it would prefer to shift the burden of testing energy efficiency to the home buyer, at a cost of \$300 to \$350 per home.

Ironically, it is *passage* of SB 74 that would make housing less affordable in Kansas, in at least three ways. First, higher utility bills eat away at money families could better spend building equity in a home. Second, low-cost federally backed mortgages (FHA, VA, HUD, etc.), which finance 20% of homes purchased in Kansas annually, are not available to new homes that do not meet minimum energy efficiency standards. Third, testimony from the Alliance to Save Energy indicates that Kansas' lack of an effective energy efficiency building standard may have a negative impact on homeowners insurance premiums following a review of building standards in Kansas in 1998. None of these issues suggest that voting for SB 74 is in the best interests of your constituents.

The home builders association wants you believe that our state's minimum energy efficiency standards costs home buyers more than it benefits them. **Those are not the facts.**

From the first day of occupancy in their new houses, typical Kansas home owners would save more in utility bills (energy bill savings: about \$15 a month) than the cost of compliance adds to their monthly house payment (mortgage costs of compliance: about \$10 a month). This study is cited by Dr. Richard Hayter of Kansas State University's College of Engineering in his testimony from 1996. The Northwest Pacific National Laboratory -- a Federal lab without a financial interest in the results of its study -- indicates those costs will be recovered by the home owner in the form of lower utility bills in about four years. With most of your constituents concerned about skyrocketing utility rates this winter, we contend the benefits of minimum energy efficiency standards are obvious.

The home builders association wants you believe that eliminating the state's authority to impose minimum energy efficiency standards is an issue of local control. **Those are not the facts.**

Most localities in Kansas simply do not have the resources to develop and enforce energy efficiency standards to hold home builders accountable for building energy efficient homes. However, the state's regulation explicitly allows any locality that wants to enforce its own, stricter code to do so. Further, the Model Energy Code acknowledges the importance of different conditions in different locations, and has different standards for each of Kansas' five climate zones.

The home builders association wants you believe that the Model Energy Code is a burdensome government regulation. **Those are not the facts.**

Compliance with the Model Energy Code in Kansas is voluntary. Let me repeat that very unusual aspect of this regulation: *compliance is voluntary*. If home builders or home buyers do not want to meet minimum energy efficiency standards, they must simply disclose that fact about the new homes they build. Some proponents of SB 74 suggest that simply disclosing the non-compliance form is a burden. As a recent home buyer, I can certainly sympathize with those who want to decrease the forms associated with buying a home. However, for as infrequently as people buy homes, a moment to learn that their new home does not meet minimal energy efficiency standards seems a small price to pay in exchange for this valuable consumer information.

The home builders association wants you to believe that the Model Energy Code is just another big government mandate. **Those are not the facts.**

The Model Energy Code was developed by a private sector initiative in which the National Association of Home Builders participated. Kansas voluntarily adopted the Model Energy Code after a public hearing process in which the state home builders association participated, and received several concessions. Home builders themselves determine whether or not they comply. The regulations are flexible: if the home builder or home buyer does not like the Model Energy Code, they have five compliance alternatives, from the simplest checklist to the most abstract air leakage measurement. And within the Model Energy Code, there are several alternatives for compliance if one aspect of the Code -- say, insulating a basement -- does not seem prudent.

Finally, home builders and home buyers have the ultimate alternative: they do not have to comply. The fact is, *Kansas' minimum energy efficiency standard is a self-regulating policy mandating only one thing: that the home builder tell the home buyer whether or not the house meets the state's minimum energy efficiency standards*. Here is what the home builders association had to say about that last year: "Although the ability to sign a document admitting a structure does not meet MEC 93 is promoted as providing flexibility for the contractor, we see it as a liability issue for him."

It seems the home builders association would prefer its members not be held accountable by home buyers to any energy efficiency standard. By signing a disclosure document, home builders become accountable for their statement that a new home does or does not meet energy efficiency standards. I, for one, as a consumer, don't think that is such a bad idea.

It's interesting to note that the representative of the home builders told you the cost of government-imposed energy efficiency building codes is driving up the cost of housing. Because, at last week's home builders trade show in Houston, the National Association of Home Builders distributed a list of regulations that increase the cost of housing. We have attached that list to the back of this testimony for one very simple reason: *nowhere* in the list of 57 requirements, in 7 different areas of regulation, does the home builders association even mention energy efficiency standards as a burden that affects the cost of housing. The home builders association in Kansas wants you to believe something that even their own propaganda does not support. **And those are the facts.**

In this era of accountability at all levels of government and business, we urge you to be accountable to your constituents, and vote to reject Senate Bill 74.

How Regulation Affects the Cost of Housing

5

GOVERNMENT REGULATIONS AND FEES, NATIONWIDE, 1995

Development fees and charges faced by builders and land developers add more than \$12,000 to the cost of a typical new home, according to an NAHB survey. The survey also indicated that it takes significantly more time now to gain approval for a single-family project than it did 10 years ago. Eighty-three percent of builders and developers surveyed said there had been a "significant increase" in regulations from 1984 to 1995; 59 percent said the time required to obtain approval had "increased significantly," and 52 percent said it takes more than 25 months between the rezoning application and the issuance of a building permit for a single-family subdivision.

| | PERCENTAGE OF BUILDERS AND DEVELOPERS WHO FACE THE REQUIREMENT | AVERAGE COST ACROSS ALL HOMES |
|-----------------------------|--|-------------------------------|
| Land dedication/fees | | |
| Parks | 44% | \$ 458 |
| Schools | 17 | 537 |
| Road improvement | 50 | 1,137 |
| Other public facilities | 27 | 538 |
| Other fees | 13 | 196 |
| Total | 67% | \$2,866 |
| Utility charges | | |
| Water service | 83% | \$1,022 |
| Sanitary sewers | 83 | 1,122 |
| Storm water sewers | 27 | 223 |
| Gas service | 29 | 93 |
| Water meter hookup | 57 | 199 |
| Electric meter hookup | 38 | 93 |
| Gas meter hookup | 17 | 31 |
| Other impact fees | 20 | 334 |
| Other charges | 7 | 55 |
| Total | 95% | \$3,172 |
| Building fees | | |
| Building permit | 94% | \$ 690 |
| Plan checking | 36 | 95 |
| Electrical permit | 72 | 90 |
| Electrical inspection | 42 | 40 |
| Plumbing permit | 74 | 122 |
| Plumbing inspection | 35 | 41 |
| Mechanical permit | 57 | 62 |
| Mechanical inspection | 28 | 33 |
| Occupancy permit | 37 | 49 |
| Other fees | 12 | 69 |
| Total | 96% | \$1,291 |

| | PERCENTAGE OF BUILDERS AND DEVELOPERS WHO FACE THE REQUIREMENT | AVERAGE COST ACROSS ALL HOMES |
|-----------------------------------|--|-------------------------------|
| Development fees | | |
| Re-zoning application | 60% | \$ 130 |
| Subdivision review | 81 | 376 |
| Recordation of plat | 80 | 124 |
| Grading/earthmoving | 57 | 115 |
| Tree removal permit | 24 | 29 |
| Off-site drainage | 38 | 228 |
| Access permit | 35 | 109 |
| Sediment/erosion control | 48 | 132 |
| Wetlands permit | 44 | 160 |
| Other fees | 26 | 259 |
| Total | 94% | \$1,662 |
| Design standards and codes | | |
| Fire retardant wall | 38% | \$ 143 |
| Sidewalk over 4 feet wide | 19 | 65 |
| Wide streets | 44 | 412 |
| Setback requirements | 49 | 582 |
| Metal-sheathed cables | 5 | 9 |
| Egress bedroom windows | 55 | 171 |
| Anti-siphon spigot | 52 | 69 |
| Burning restrictions | 66 | 312 |
| Other | 13 | 384 |
| Total | 92% | \$2,147 |

| | PERCENTAGE OF BUILDERS AND DEVELOPERS WHO FACE THE REQUIREMENT | AVERAGE COST ACROSS ALL HOMES |
|------------------------------|--|-------------------------------|
| Bonds/escrow/sureties | | |
| Public works | 46% | \$ 236 |
| Grading | 33 | 109 |
| Tree removal | 17 | 32 |
| Parking/storm drainage | 31 | 131 |
| Sediment/erosion control | 32 | 94 |
| Maintenance | 31 | 81 |
| Other fees | 9 | 49 |
| Total | 64% | \$ 732 |
| Impact analysis | | |
| Environmental | 37% | \$ 151 |
| Social | 5 | 3 |
| Public service | 24 | 88 |
| Transportation | 29 | 89 |
| Fiscal | 8 | 17 |
| Economic | 10 | 31 |
| Other | 6 | 40 |
| Total | 47% | \$ 419 |
| GRAND TOTAL | | \$12,289 |

Source: 1995 Government Regulations and Fees Survey, NAHB Economics.

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Schuller International

The
ALLIANCE
To Save Energy



February 7, 1997

Rep. Don Myers, Chair
House Utilities Committee
Statehouse
300 SW 10th Avenue
Topeka, KS 66612-1504

Dear Chairman Myers:

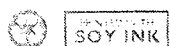
The Alliance to Save Energy urges you to reject Senate Bill 74. This legislation would hurt Kansas homebuyers, leaving them with higher housing costs, less consumer protection, and poorer-quality housing. It is a narrowly-based effort of the construction industry to avoid its long-term responsibilities to consumers and the environment.

I submitted letter testimony on this bill in the Senate; a copy of that letter is attached. Because it contains serious errors, I want to call your attention to several distortions and misstatements in the testimony submitted by Ron Burton of the National Association of Home Builders (NAHB). A copy of that testimony is also enclosed.

NAHB is conducting an orchestrated campaign to roll back energy and other building codes across the United States. While they have been largely unsuccessful (only one state—Michigan—has done this, and the state of Iowa only this week rejected another home builders rollback effort) NAHB continues to beat the drum for eliminating energy codes, seeking to destroy twenty years of progress in consumer protection, building technology and code development.

While NAHB is free in our democratic system to pursue its political goals, it is not free to twist the facts in support of its special-interest goals. The Alliance to Save Energy, a broad-based coalition of business, government, and consumer leaders, is committed to spreading the truth about energy codes. To do this, we must take direct issue with several points raised in the NAHB testimony:

- **Most states meet or beat the MEC**—NAHB says that most states do not adopt the MEC; the truth is that 28 states (56%, and a much higher percentage of housing starts) meet or exceed the 1992 MEC.
- **The MEC can be met flexibly**—NAHB states that the MEC can only be met via insulation measures. This is not true; performance-based compliance options allow builders to use equipment efficiency and other measures with broad latitude.
- **The MEC makes housing more affordable**—NAHB claims that thousands of families will be made ineligible for home purchases due to the MEC. This is an



oversimplification of the way mortgages are issued; lenders take into account many factors in determining credit-worthiness. Meeting the MEC is critical to the ability to obtain FHA and VA mortgages, so the state of Kansas does lower-income buyers a favor by ensuring that all new homes will be eligible for these federal programs. NAHB's testimony implies that only those homes slated to be financed by FHA or VA need to meet the MEC. However, the reality is that most homes are built without foreknowledge of their mortgage financing source. Thus builders **cannot** know which homes will receive FHA or VA loans; to be sure they will be eligible, a uniform code is needed.

- **The MEC is cost-effective**—NAHB makes basic math errors in claiming that the MEC has a 16-year payback. Mr. Burton's testimony claims that MEC costs add \$96 per year to mortgage payments, save \$174 in energy costs, and have a net savings of \$78. This much is true, and makes the case very simply that the MEC reduces housing costs from the day the buyer moves in. However, he then goes on to compare the \$74 net savings with the \$1,300 original cost, .3 03 even though that \$1,300 is already accounted for in the \$96 in mortgage payments. If you do the math correctly, dividing the MEC's average \$1,300 cost by its average \$174 savings, you get the 7-year payback Mr. Burton states is NAHB's goal
- **The MEC is not hard to meet, and protects consumers**—NAHB's testimony states that most new homes meet or come close to the MEC. If that is so, then most home builders have nothing to fear, and will comply easily. The purpose of the MEC, as with all building codes, is to protect the consumer from the kind of shoddy building practices that have shown an alarming increase in recent years.

NAHB also fails to point out that if Kansas rolls back its building codes, homeowners may pay more for home insurance. My attached testimony describes an insurance industry program called the Building Codes Effectiveness Grading Schedule, which is slated to rate all Kansas codes in 1998. If the state does not have modern, nationally-referenced codes such as the MEC, it could be downrated, and insurance companies could use this finding to increase premiums. Since most mortgage payments include home insurance premiums, this will have a direct effect on housing affordability. This is one more illustration of the fact that the MEC makes housing more affordable.

I would be happy to discuss any of these points with you at greater length. I appreciate this opportunity to participate in Kansas' efforts to provide better homes for its citizens.

Sincerely,



William R. Prindle
Senior Program Manager

enclosures

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The
ALLIANCE
To Save Energy



January 30, 1997

Senator Don Sallee
Chair, Senate Energy and Natural Resources Committee
State Capitol, Room 255E
Topeka, KS 66604

Dear Senator Sallee:

The Alliance to Save Energy urges you to reject Senate Bill 74. Repealing the 1993 Model Energy Code would harm Kansas homebuyers as well as the state as a whole for these reasons:

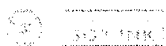
- Our studies show that the MEC saves homebuyers more in energy savings than it increases mortgage payments. While mortgage payments might go up \$8-10 per month, energy savings will average about \$15 per month, making MEC homes more affordable.
- Veterans and low/moderate-income buyers will not be able to use the federal VA and FHA mortgage programs if their homes don't meet MEC standards. More than 20% of Kansas home financings use these programs.
- Kansans may see their insurance costs increase if building codes remain substandard. In 1998 the state is slated to have its building codes reviewed under the national Building Codes Effective Grading Schedule. The leading insurance industry organization behind this effort has supported the MEC (see attached letter). Insurance companies will use this codes evaluation to set insurance rates, and possibly to deny coverage in areas with substandard codes.

Please contact me at 202/530-2214 if you would like more information on this important issue.

Sincerely,

William R. Prindle
Senior Program Manager

enclosures



INSURANCE INSTITUTE
— for —
PROPERTY LOSS REDUCTION

June 26, 1996

Mr. David Nemtzow
President
The Alliance to Save Energy
1725 K Street, N.W., Suite 509
Washington, D.C. 20006-1401

Dear Mr. Nemtzow:

The purpose of this letter is to confirm our support for energy efficiency in the area of building codes. As you know, building codes are the cornerstone of property loss mitigation and a large part of our work at the Insurance Institute for Property Loss Reduction.

IIPLR is dedicated to reducing losses -- deaths, injuries, and property damage -- resulting from natural hazards. Essential to IIPLR's success is our role in the development, adoption, and implementation of improved construction and building techniques for both residential and commercial structures.

Although IIPLR focuses on natural disaster losses, we also have an interest in reducing losses resulting non-natural causes such as climate change. Furthermore, IIPLR is concerned by the growing body of evidence which suggests that a change in the world climate is occurring. In this respect, efforts to promote energy efficiency are noteworthy and are of importance.

IIPLR also recognizes the pervasiveness of the uncertainty in assessing the timing, character, and magnitude of the effects of anthropogenic climate change. This uncertainty, however, does not relieve us of our responsibility to continue to protect people and their possessions. Nor does it preclude IIPLR from positioning itself better to cope with the broad range of possible changes and mitigate potentially devastating outcomes. The insurance industry must continue to make prudent judgements in order to mitigate future potential loss and to do so, we must seek to improve the structural, as well as thermal, integrity of homes, commercial buildings, and schools. We do this through the support of better building codes.

For these reasons, the Institute supports the adoption and enforcement of cost-effective energy-related building codes at the national, state, and local levels and encourage the use of recognized, democratically promulgated model codes including:

The Model Energy Code of the International Codes Council

If you have any further questions regarding our work in building codes, please don't hesitate to contact me.

Sincerely,



E.L. Lecomte
President and
Chief Executive Officer

ELL/jlc

cc: M.M. Gentile

News from Insurance Services Office, Inc.**RELEASE:****CONTACT:**

Immediate

Christopher Guidette
(212) 898-6609**HURRICANE-PRONE STATES APPROVE BUILDING CODE EFFECTIVENESS
GRADING PROGRAM FROM INSURANCE SERVICES OFFICE**

NEW YORK, March 6 -- Municipalities in three of the nation's most hurricane-prone states will get a big assist from Insurance Services Office, Inc. (ISO) in ensuring that new construction will better withstand windstorm damage.

Insurance regulators in Florida, North Carolina and South Carolina have approved insurer use of ISO's Building Code Effectiveness Grading Schedule (BCEGS).

The building-code schedule lays out criteria for grading how well a community enforces its building code requirements. The grading is based on resources a municipality applies to building-code enforcement, with special emphasis on reducing losses from natural hazards—such as hurricanes—that are common to Florida, North Carolina and South Carolina. That information will provide an additional variable for insurers to use in developing rates and underwriting criteria.

The building-code effectiveness service offers important social benefits in addition to economic benefits that insurance companies and policyholders will share in. By encouraging construction of safer structures better able to resist wind-storm damage, the building-code program will help communities avoid enormous economic devastation and social disruption that often follows major storms and hurricanes.

Later this year, ISO will file rules for the code-grading service, which will enable insurers to offer discounts beginning in 1996 on property insurance for newly constructed buildings that meet widely accepted building codes that are effectively enforced.

(more)

Following recent natural disasters, it has become clear that even in communities with the strictest building codes requiring the latest natural-hazard-mitigation technology, buildings frequently have not been built in compliance with the codes.

Florida, for instance, has a strict building code, but enforcement of that code varies greatly from municipality to municipality. During Hurricane Andrew—the most costly hurricane ever to hit the United States—structures built to code escaped many of the worst effects of the storm, but numerous structures did not meet the codes and were destroyed or seriously damaged.

“By promoting the construction of safer buildings, effective building-code enforcement can lead over time to substantial reductions in losses from natural disasters for insurers and the public,” said B. Joseph Shelley, president of ISO Commercial Risk Services, Inc. (CRS), ISO’s wholly owned subsidiary that will perform the grading service.

“The Building Code Effectiveness Program recognizes the efforts of code officials who are doing a good job of enforcement,” added Shelley, “and encourages communities to upgrade their codes and code enforcement and identify problems. The program demonstrates how cooperation among the insurance industry, code enforcers and insurance regulators can lead to a reduction in losses.”

CRS has begun the two-year program of grading all municipalities in Florida, North Carolina and South Carolina. All communities countrywide are projected to be graded by the year 2000.

CRS already grades communities’ fire-suppression capabilities. Both the fire-suppression and Building Code Effectiveness Grading systems use a one-to-10 scale to indicate the relative effectiveness of a community’s loss-mitigation efforts, with one being the best classification.

(more)

CRS worked closely with the Insurance Institute for Property Loss Reduction to develop code-effectiveness grading. In developing the code-grading tool, CRS also tapped the expertise of the three organizations that have produced model building codes—the International Conference of Building Officials, the Southern Building Code Congress International and the Building Officials and Code Administrators—as well as information from 1,500 building code officials. CRS pilot-tested the service in Florida, North Carolina and South Carolina to further refine the grading criteria.

The three main activities examined by code-effectiveness grading are administration of codes, building-plan review and field inspection.

Insurers will apply a municipality's code-effectiveness grade only to structures with a certificate of occupancy granted during or after the year of the grading.

All local code-enforcement agencies in the three states will be graded by 1997 and will be regraded at least every five years. If a community's grade is changed as a result of a new survey, the new classification will apply to buildings constructed in the year of the revision or later.

Owners of Structures built before the grading program, or in communities with less than the best grade, may qualify for the highest grade if a design professional certifies that the structures meet the natural-hazards provisions of any of the three nationally recognized model building codes.

BUILDING CODE EFFECTIVENESS GRADING SCHEDULE

DRAFT COPY

ISO COMMERCIAL RISK SERVICES, INC.

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BUILDING CODE EFFECTIVENESS GRADING SCHEDULE

INTRODUCTION

10. PURPOSE:

The purpose of this Schedule is to review the available public building code enforcement agencies, and to develop a Building Code Effectiveness Classification for insurance underwriting information and rating purposes.

15. SCOPE:

The Schedule measures the resources and support available for building code enforcement. It also evaluates how those resources apply to the mitigation of the natural hazards common to the specific jurisdiction. These measurements are then developed into a Building Code Effectiveness Classification number on a relative scale from 1 to 10, with 10 representing less than the minimum recognized protection.

The Schedule is an insurance underwriting information and rating tool. It is not intended to analyze all aspects of a comprehensive building code enforcement program. It should not be used for purposes other than insurance underwriting information and rating.

20. BUILDING CODE EFFECTIVENESS CLASSIFICATION:

The Building Code Effectiveness Classifications developed through the use of this Schedule are only one of several elements used to develop insurance rates for individual properties. Other features specifically relating to individual properties such as construction, occupancy, and exposures have similar importance in the development of these rates.

25. JURISDICTION:

The word "jurisdiction" as used in this Schedule includes cities, towns, villages, districts, counties, or other political boundaries.

30. FORMAT:

This Schedule is divided into 3 sections:

I. Administration of Codes:

This section evaluates the administrative support available in the jurisdiction for code enforcement. It looks for adopted building codes and modifications of those codes through ordinance, code enforcers qualifications, experience and education, zoning provisions, contractor/builder licensing requirements, public awareness programs, the building department's participation in code development activities and the administrative policies and procedures.

II. Plan Review:

This section assesses the plan review function to determine the staffing levels, personnel experience, performance evaluation schedules, review capabilities, and level of review of construction documents for compliance with the adopted building code for the jurisdiction being graded.

III. Field Inspection:

This section evaluates the field inspection function to determine the staffing levels, personnel experience, performance evaluation schedules, review capabilities, and level of review of building construction for compliance with the adopted building code for the jurisdiction being graded.

35. CALCULATIONS:

Whenever in this Schedule it is necessary to prorate credits, or to make any calculation using less than a whole percent or point, the following rules apply unless otherwise directed:

- A. All calculations with a 3 or more decimal place figure will be rounded to a 2 decimal place figure, promoting 0.005 or more, and dropping 0.004 or less (e.g., 2.285 = 2.29; 2.284 = 2.28).
- B. All values are proratable except where noted.
- C. If a portion of this Schedule does not apply due to an inapplicability to the jurisdiction being graded, the maximum points for that subsection will be given. For example, jurisdictions whose identified natural hazard(s) does not lend itself to mitigation by zoning regulations would receive maximum credit under Section 140. "ZONING PROVISIONS" even though there were no zoning provisions in place.
- D. When documentation is not provided to substantiate an item of review within this Schedule, and it is reasonable to assume that credit for the item is justified, a maximum of 75% of the credit points possible can be given to the item under review.
- E. The final score will be determined by a relationship between Item 105 and the balance of the Schedule.

$$\left[\left(\text{Section I} + \text{Section II} + \text{Section III} \right) - \text{Item 105} \right] \times \frac{\text{Points Achieved in Item 105}}{\text{Points Possible in Item 105}} + \text{Item 105}$$

40. MINIMUM CONDITIONS FOR APPLYING THIS SCHEDULE:

In order to develop a Building Code Effectiveness Classification other than Class 10, the following minimum conditions must exist:

A. Organization:

The building department will be organized on a permanent basis under applicable state or local laws. The organization will include one person responsible for the operation of the department, usually with the title of Building Official.

The department must serve an area with definite boundaries. If the jurisdiction is not served by a building department operated solely by or for the governing body of that jurisdiction, the building department providing such service will do so under a legal contract or resolution. When a building department's service area involves one or more jurisdictions, a contract should be executed with each jurisdiction served.

B. Building Code:

A building code addressing the structural strength and stability necessary to provide resistance to natural hazards attributed to the built environment will be adopted and enforced.

C. Plan Review and Inspection:

Review of construction documents and field review of building construction for compliance with the adopted building code will be done for building construction within the jurisdiction being graded.

D. Training:

Training for code enforcement personnel will be conducted at least 6 hours every 6 months.

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Building Code Effectiveness Grading Schedule

Points Distribution

Section I - Administration of Codes

| | | |
|------|---|-------------|
| 105. | Adopted Codes | 10.0 points |
| 110. | Modification to Adopted Codes | 5.0 points |
| 115. | Training | 13.0 points |
| 120. | Certification | 12.0 points |
| 125. | Building Official's Qualification / Experience / Education | 4.0 points |
| 130. | Selection Procedures for Building Official | .5 point |
| 135. | Design Professionals | 4.0 points |
| 140. | Zoning Provisions | 1.0 point |
| 145. | Contractor / Builder Licensing and Bonding | 1.0 point |
| 150. | Designer Licensing Violation Reporting | .5 point |
| 155. | Public Awareness Programs | 2.0 points |
| 160. | Participation in Code Development Activities | .5 point |
| 165. | Administrative Policies and Procedures | .5 point |
| | | <hr/> |
| | | 54.0 points |

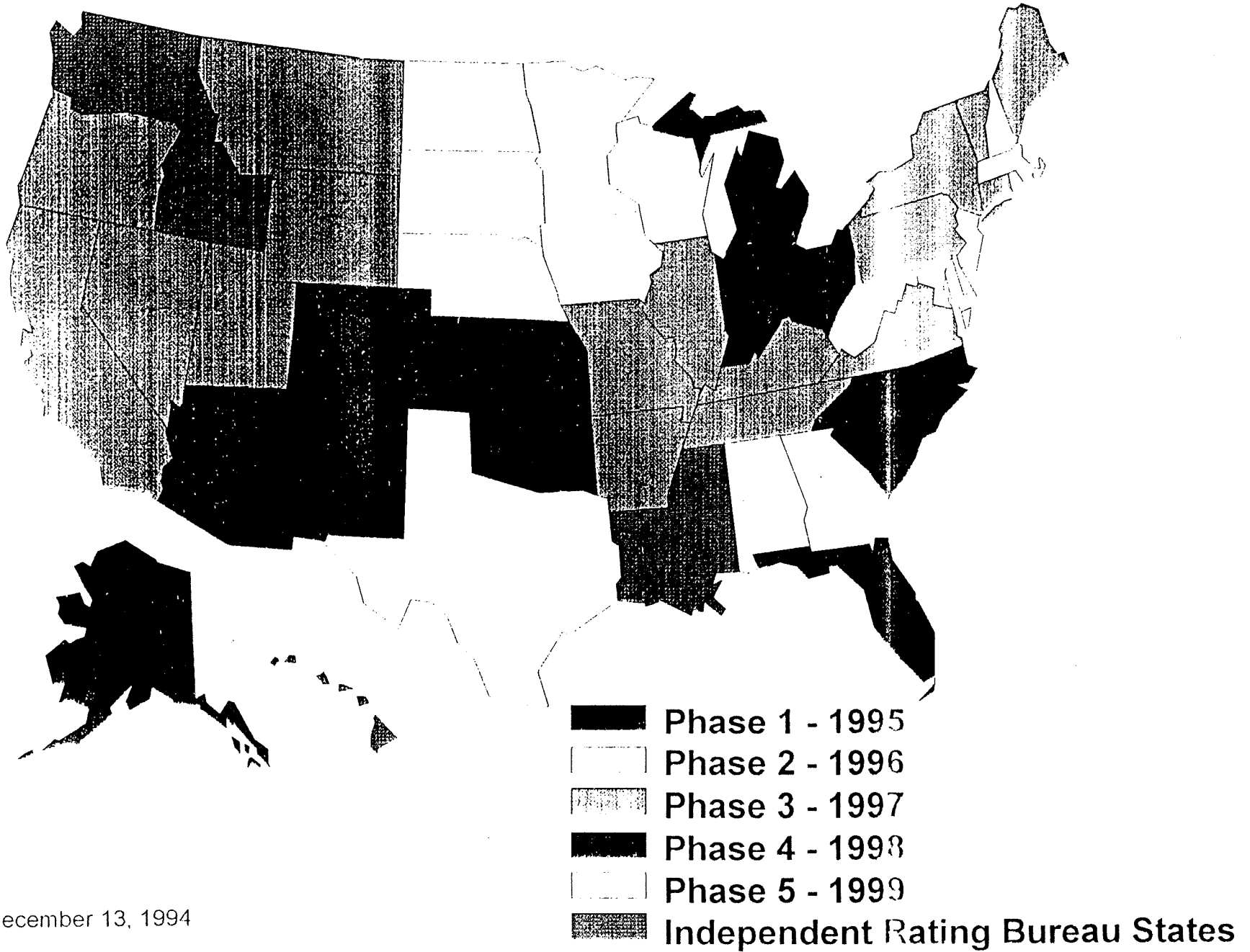
Section II - Plan Review

| | | |
|------|---|-------------|
| 205. | Existing Staffing | 9.0 points |
| 210. | Experience of Personnel | 1.5 points |
| 215. | Detail of Plan Review | 11.5 points |
| 220. | Performance Evaluations for Quality Assurance | 1.0 point |
| | | <hr/> |
| | | 23.0 points |

Section III - Field Inspection

| | | |
|------|---|------------|
| 305. | Existing Staffing | 9.0 points |
| 310. | Experience of Personnel | 3.0 points |
| 315. | Correction Notices and Stop Work Orders | .5 point |
| 320. | Inspection Checklist | 2.0 points |
| 325. | Special Inspections | 1.5 points |
| 330. | Inspections for Natural Hazard Mitigation | 1.5 points |
| 335. | Final Inspections | 2.5 points |
| 340. | Certificate of Occupancy | 2.0 points |
| 345. | Performance Evaluations for Quality Assurance | 1.0 point |
| | | <hr/> |

BCEGS IMPLEMENTATION SCHEDULE



Effective December 13, 1994

Senate Energy & Natural Resources Committee, 28 January 1997
Testimony of Russell Rudy on SB 74

Mister Chairman, Ladies and Gentlemen of the Senate Committee, I would like to thank you for taking the time to consider my comments on the matter of legislative efforts that might repeal adoption of the Model Energy Code (MEC) as a standard for energy efficiency in new homes in Kansas.

My Name is Russell Rudy. Since 1993, I have operate a small business in Kansas called **BALANCE Home Energy**. I have also worked as a Program Consultant for the Kansas Department of Commerce & Housing (KDOC&H). From 1989 to 1994, I was responsible for developing and delivering a training and technical assistance program for the Department of Energy (DOE), Low Income Weatherization Program in Kansas. In cooperation with the Kansas State University Engineering Extension program KSU/EES, I taught program delivery personnel how to achieve improved energy efficiency in existing low-income homes in Kansas.

I conduct energy audits, provide advice and consultation on energy efficiency matters for home-owners, utilities, and the building industry, and I train individuals in the basic building science that determines the energy performance of residential structures. I have inspected hundreds of houses and multi-family residential dwellings in the state of Kansas and throughout the United States.

I must say, first, that I am sorry, and disappointed that the debate over the adoption of the Model Energy Code (MEC), in Kansas has gotten as confused and contentious as it has. Real energy efficiency in houses is, and should be, a good thing for home-owners, and builders alike. It's really not hard to achieve, and it can, and should be, profitable for both parties.

I would like to briefly describe the "common-practice" new home that I inspect in Kansas, and discuss its energy performance.

The "common-practice" new home in Kansas is built on an un-insulated concrete foundation or on an un-insulated concrete slab. Dimension lumber, usually 2" X 4" studs, are used for wall framing and pre-manufactured trusses are used for roofs. The houses are insulated with fiberglass batting, in the side-walls, and blown fiberglass in the attics. Windows are usually double pane, and exterior doors are commonly either solid wood, or insulated metal. As a general practice, the lowest efficiency furnace and air conditioner allowed by law are installed.

Air leakage between outside and inside, measured in air changes per hour (AC\H), ranges from as low as .35 AC/H (a third of a house load of air per hour, to as high as 1.0, or more, AC/H (a full house load of air, or more, exchanged with outside air, every hour).

Energy ratings on "common-practice" new homes in Kansas has resulted in rating scores of about 70 to 78, on a scale of 0 to 100. A home that meets the Model Energy Code rates an 80 on the same scale. Some very simple, often no cost, or very low cost, changes can bring a 78 rated house up to an 80 rated house. In fact, many builders of new homes in Kansas often build to the 80 rating, and many of their homes would currently pass the Home Energy Ratings option of Kansas MEC compliance.

If the walls of the typical "common-practice" house were insulated with a more effective insulation product, like blown-in-batt fiberglass (BIBB), or wet-sprayed cellulose, or icynene foam, and the attic was insulated with blown cellulose, its energy performance would be significantly increased. Side by side, testing of identical new houses here in Topeka showed a 39% reduction in heating cost simply by using cellulose insulation in attic and sidewalls rather than blown fiberglass in the attic and fiberglass batts in the sidewalls. The additional cost was about \$200 dollars, and the savings paid back the cost to the home-owner in less than two years.

If savings can be realized as a result of simple, often free or very low-cost, improvements to the housing shell, then it becomes possible to reduce the size of the furnace and air conditioner. Reduced HVAC sizing, reduces the costs to the builder, allowing continued, often increased, profitability. A study completed in Montana in 1989 demonstrated that, with proper planning and correct use of more efficient building practices, it was possible to build houses that were over 60% more efficient than common-practice, at no additional front cost.

I have inspected houses, in Kansas, that have rating scores as high as the mid 90's. These homes are "Five-Star", **Kansas Energy Star Homes**. Many use half the energy of the "common-practice" new home in Kansas. For example:

- A 5000 square foot, all electric, home in Kansas City. Recorded energy use for the past year shows average TOTAL energy bills of \$109 per month.

Page 3... BALANCE Home Energy

- A 2600 square foot Rural Economic and Community Development (formerly FmHA), demonstration home, occupied by a family of six (with four teen-agers). The total monthly utility bill over the past year has averaged \$105 dollars.

Real energy efficiency can be achieved at a net profit for builders of "truly" energy efficient "energy-rated", homes. It has been demonstrated. Model Energy Code compliance (as a "minimum" level of energy efficiency), can be achieved by the average builder with only modest changes to the "common-practice" house, often at no additional front cost. It has been demonstrated.

Unfortunately, in Kansas, the issue has become a set of political "blindens" that pits opponents of any type of "mandate" against those who would like to see Kansas builders voluntarily adopt more effective practices. Builders have become distracted and confused by complicated pathways to MEC "compliance" rather than focusing on the profitability of marketing improved energy "performance" and comfort in houses.

Kansas Corporation Commission (KCC), staff members were required, by the Energy Policy Act of 1992, to propose some method of MEC compliance for Kansas. They had the Council of American Building Officials (CABO), MEC documents, and compliance schemes to work from. Given the convoluted and confusing numerical compliance schemes presented through CABO, I think KCC staff did a remarkable job of providing additional, performance-based, compliance options that give Kansas builders unique opportunities to profit from improved energy performance. They even provided the builders the option to "opt-out" of mandated compliance. To my knowledge, no other state has allowed builders such a range of compliance options.

With no energy standard, it is possible that many of the houses that get built in Kansas will be high energy users. It is also likely that many of the occupants of those houses will suffer from the discomfoting chill of the Kansas winter, and the sweltering heat of the Kansas summer, even while they pay unnecessarily high heating and cooling bills. The real beneficiaries of improved energy efficiency and the comfort that goes along with improved performance are the home-owners, and home-buyers of Kansas, your constituents.

Testimony Before the Senate Committee on Transportation and Utilities
by
Richard B. Hayter, Ph.D., P.E.
on
H.B. 2707
March 18, 1996

Good morning.

I am Richard Hayter; a professional engineer licensed to practice in the State of Kansas. I reside in Manhattan.

Before I present my comments, I must make two disclaimers. As some of you know, I am an associate dean of engineering at Kansas State University. My comments are my own and do not reflect any position of the university.

Secondly, a few of you may know that this year I am president of an engineering society known as ASHRAE. The American Society of Heating, Refrigerating and Air-Conditioning Engineers is an international organization with 50,000 members in 119 countries. One of the functions of ASHRAE is to develop consensus standards for our industry; one of which deals with energy efficient design of new buildings except low rise residential. Referred to as ASHRAE/IESNA Standard 90.1-1989, this standard is specified both in the 1992 U.S. Energy Policy Act and the Kansas Corporation Commission order.

As I interpret H.B. 2707, it will not impact the adoption of standards comparable to the ASHRAE standard for commercial structures in Kansas. As a result, it is not necessary that I speak on behalf of ASHRAE..

Therefore, today I am speaking as a citizen of Kansas and am voicing my personal opposition to H.B. 2707 with specific reference to adoption of the Model Energy Code.

Like the ASHRAE standard development process which requires an extensive, formal process to achieve consensus before a standard is released, the Model Energy Code has also undergone extensive review and discussion by the Council of American Building Officials and others who prepared the model code.

I will divide my testimony into two parts. I will first provide somewhat altruistic reasons for rejecting H.B. 2707 and will follow that with more tangible reasons.

First, two altruistic reasons. Like you, I have served as an elected official but at the local level. As a city commissioner and mayor of Manhattan, I felt as some of you do that the best public policy is the least public policy as long as the citizens rights and needs are protected. However, as many of you do, I also realized that, at times, it was necessary to make decisions that would have long term benefits to our community that went beyond the immediate situation. The conservation of energy is such an issue. I feel that we have an obligation to support programs that will extend the availability of natural resources; particularly if such decisions can be proven to be cost effective as will adoption of the Model Energy Code which I will show later in my testimony.

Secondly, as some of you recall, I was the last director of the Kansas Energy Office. In the late 1970's and early 80's Kansas was a leader among states in programs dealing with energy conservation and renewable energy. In the middle 80's the legislature transferred the responsibilities of the Kansas Energy Office to the Kansas Corporation Commission.

Ever since that time, the KCC has given leadership to a Kansas ethic of the need to conserve resources. Given the rather limited fiscal resources available to the Commission, I applaud them for the commitment they have had in accepting these responsibilities and the work they have done.

As you will hear from others, adoption of H.B. 2707 not only removes the specific authority given the commission for setting standards as they have done through an extensive public hearing process, it may have much further ramifications in eroding the effectiveness of the Commission in meeting the responsibilities given them by the legislature in serving as stewards of our state's commitment to energy conservation.

The second part of my testimony deals with two tangible reasons for defeat of H.B. 2707.

Testimony in support of the bill has indicated that the cost of housing will increase under the model energy code because of an increased requirement of time on the part of the builder as well as cost of material. I am not here today to refute or support that position. However, to arrive at the true fiscal impact on the homeowner, you must consider not only first cost but operating cost as well.

The Pacific Northwest National Laboratory is charged with the responsibility of providing technical design guides, training and analysis for the energy codes specified in the 1992 U.S. Energy Policy Act. As a result of H.B. 2707, they were asked to develop data specifically for Kansas on the impact of the Model Energy Code. Extensive analysis is available as a result of their calculations which we can make available to your staff. Allow me to merely read a portion of their cover letter to the Kansas Corporation Commission.

First, two altruistic reasons. Like you, I have served as an elected official but at the local level. As a city commissioner and mayor of Manhattan, I felt as some of you do that the best public policy is the least public policy as long as the citizens rights and needs are protected. However, as many of you do, I also realized that, at times, it was necessary to make decisions that would have long term benefits to our community that went beyond the immediate situation. The conservation of energy is such an issue. I feel that we have an obligation to support programs that will extend the availability of natural resources; particularly if such decisions can be proven to be cost effective as will adoption of the Model Energy Code which I will show later in my testimony.

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I quote

"Home owners should realize a net savings (accounting for all costs including the down payment) in about 4 years (for a 20% down payment). The first-cost increase is about \$1300 for a typical single-family home. Annual energy cost savings for single-family homes are \$156 and \$164 for Wichita and Topeka, respectively."

It's important to note that if the homebuyer does not wish to consider the net cost benefit and wants only a low first cost, the KCC allows homeowners to opt out of the order altogether where it states that:

"The utility may provide permanent service to a non-complying residential building only if the residence owner provides the utility with written verification of non-compliance."

Obviously this option would be available for both custom built and speculative housing.

The last tangible reason I will give for rejecting H.B. 2707 deals with consumer protection. Technology in housing is a sophisticated science. Opportunities for energy conservation go well beyond simply adding more insulation in the attic, double glazing and an efficient furnace.

Fortunately, most home builders in Kansas stay abreast of these new technologies and some adopt these technologies in the homes they build. The Model Energy Code or the other alternatives allowed in the KCC order is technologically sophisticated just as are our home builders. However, the average consumer cannot stay current in new building technology. He or she typically will not have the knowledge necessary to request all the construction and equipment details necessary for quality, energy efficient construction. Yet these details are necessary to qualify for federally backed loans as well as save money during their ownership of the home. The KCC order provides that protection.

Numerous design tools, guides and training opportunities are available to assist the home builders conform to the code. As a result, considerable flexibility exists in building homes which meet the code.

For the reasons that I have mentioned and for those presented by others here today, I urge you to support the KCC and their order and to reject H.B. 2707.



Habitat for Humanity International

Building houses in partnership with God's people in need

Testimony of Frank Purvis January 1997 Topeka, Kansas

I. Introduction:

Frank Purvis, Director
Department of Environment
Habitat for Humanity International (HFHI)

A. Habitat for Humanity International:

1300 affiliates / 50 countries
20th Builder Magazine
4th Professional Builder w/ international starts
3500 houses in U. S. in '97 / 10,000 overseas

B. Millard Fuller, President / Founder HFHI

1995 NAHB Builder of the Year

C. Kansas information:

15 affiliates in the state
4 seeking affiliation
Nearly 100 houses built

D. Qualified to speak about "affordable housing" in Kansas, U. S., and globally.

II. Department of Environment, HFHI

A. Established in 1994 to lead the Habitat organization in

1. Reuse, Recycling, Resource-efficient building methods
2. Energy efficiency in our building systems.

B. Board mandated to lead our affiliates in becoming more resource and energy efficient.

C. Not working alone but through partnerships in both the private and government sectors. NAHB is one of our more valued partnerships.

1. Subcommittee on energy in Houston
2. Build energy-efficient houses in parking lot in Dallas at 98 NAHB show

III. The Department of Environment's Program

A. Move all 1300 affiliates to the Model Energy Code (MEC) standards

1. The poor in our society need the results of improved energy construction the most.
 - a. \$10,000 - 12,000 per family over life of the mortgage
2. First Costs vs. Life Cycle Costs
 - a. Challenge is to make energy improvements and build smarter rather than add costs to the HFH homeowners.

- B. We have no affiliates that are working to reduce the level of energy efficiency of their homes.
- C. But we are struggling to move forward.

Because:

- D. The monthly utility costs of those in affordable housing are often more than the rent / mortgage payment without a strong energy program.
- E. Our homeowners had to choose between heat and food.

4. Jimmy Carter Work Project (JCWP) in 97

Appalachia - 50 houses

More energy efficient

Jimmy Carter Work Project in 98

Houston - 100 houses

HERS 5 Star

30% above MEC

And into the future -- Cost increase of \$1800

When these standards are established we are able to do some amazing things in the Habitat community:

1. Must meet the challenge of "affordable" housing
2. Help our homeowner families to manage their finances
3. Return significant dollars into the community
4. Actually reduce by 11% the income qualifications of our applicants through documented energy savings.

Energy efficiency is about leadership. HFHI is leading the affordable housing market, and I hope you will lead this great state of Kansas. Energy efficiency is everyone's responsibility in this community, this state, and this country. Habitat for Humanity International has made it our priority, and I hope that you will continue to make it your priority.