

ALASKA LEGISLATURE COMMITTEE FILES 1987-1988 8672

5215 SCRA SB 308

787

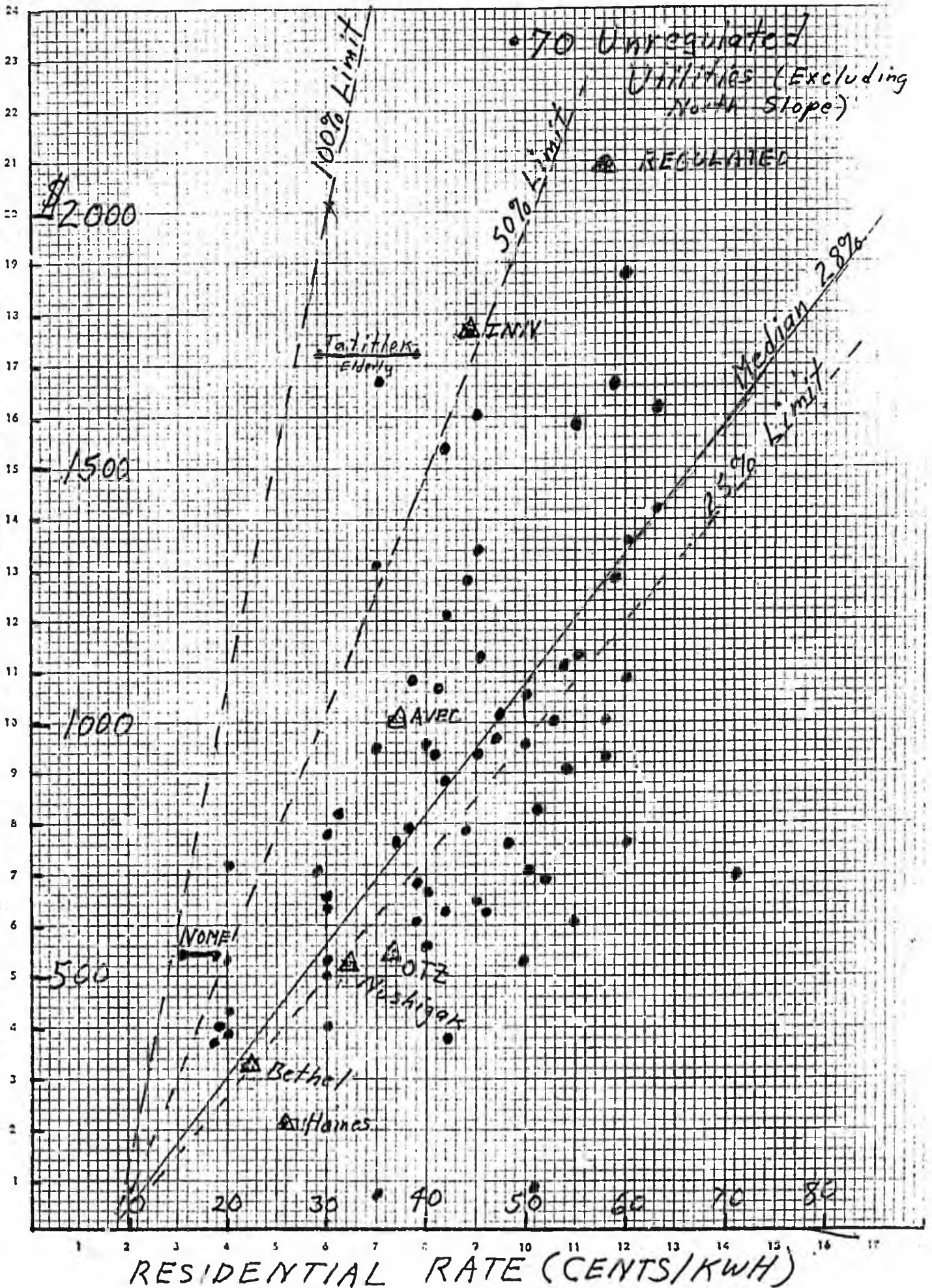
ENERGY CONSERVATION FUNDING

FUNDING SOURCE	FY84 7/83-6/84 \$000	FY85 7/84-6/85 \$000	FY86 7/85-6/86 \$000	FY87 7/86-7/87 \$000	FY88 7/87-6/88 \$000	FY89 7/88-6/89 \$000	FY90 7/89-6/90 \$000	FY91 7/90-6/91 \$000
EXXON (Restricted to existing Fed- eral Program)	-0-	-0-	-0-	2,500	3,000	3,199	538	-0-
STRIPPER WELL	-0-	-0-	-0-	-0-	-0-	← 3,743 →		-0-
FEDERAL	2,078	1,350	3,023	2,720	2,220	2,147 (estimate)	1,900 (estimate)	1,800 (estimate)
STATE	7,406	7,232	3,362	1,361	698	698 (estimate)	698 (estimate)	698 (estimate)
TOTAL	9,484	8,582	6,385	6,582	5,918	6,045 (estimate)	6,879 (estimate)	2,498 (estimate)

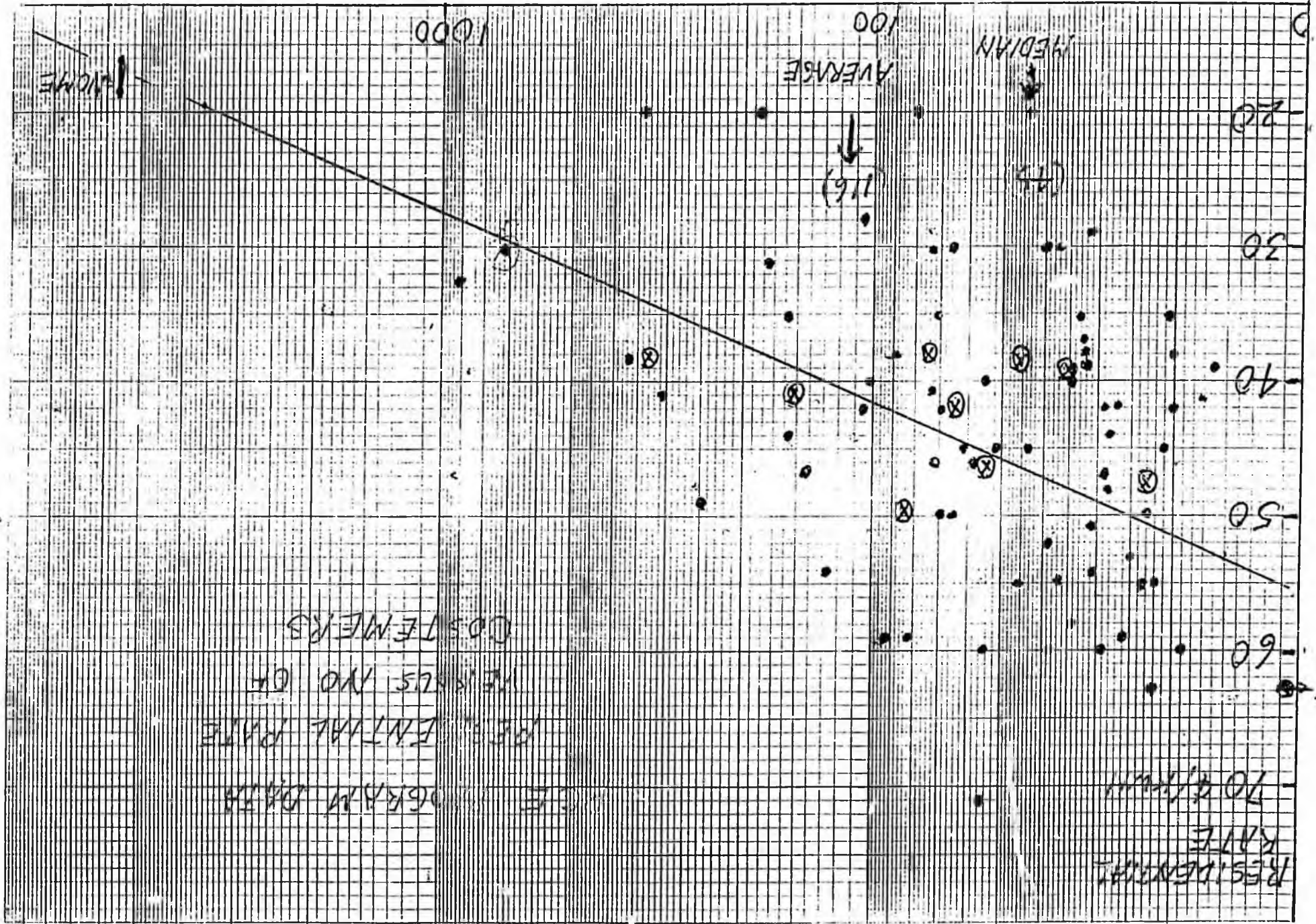
● St. Paul

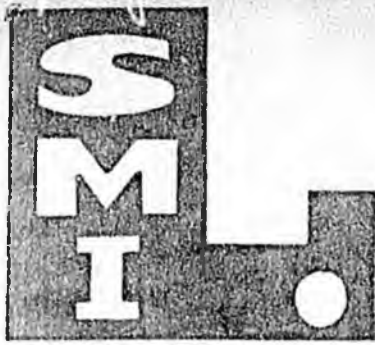
THEORETICAL
MAX = \$4113

AVERAGE ANNUAL PCE PAYMENT PER CUSTOMER



RESIDENTIAL RATE (CENTS/KWH)





Superior
Millwork
Inc.

8401 BRAYTON DRIVE
ANCHORAGE, ALASKA 99507

PHONE: 344 0556

January 12, 1988

Commissioner David Hoffman
P.O. Box "B"
Juneau, Alaska 99811

Senator Jan Faiks
Senator Arliss Sturgelewski
P.O. Box "V"
Juneau, Alaska 99811

This letter is to express concern over the state's energy conservation standards for new residential buildings.

As a window manufacturer, I must complain about the standards for windows. Compliance with these specifications will be very expensive and have a minimum effect on the energy use of a home. Glazing is the target of these standards, with no mention of other critical functions of a window - such as, thermal efficiency of the frame or air infiltration. To increase the thermal value of the glass without addressing these other areas, serves no purpose other than to increase costs. Even if all these factors were addressed, the energy savings would not be cost effective.

The door specs as written also have alarming implications. To achieve the thermal values required, design options are virtually eliminated. Popular glass doors are not allowable unless other expensive measures are taken to satisfy the state requirements. Wood doors would be obsolete except for the possible "allowance" of one per home. An efficient door is a good idea. However, the weatherstripping, door bottom and frame type can quickly defeat any gains made if they are not required to meet sensible standards. Also, an efficient door loses more heat when opened even occasionally, than it can save when shut. Although, the standards for doors do not increase costs dramatically, they limit the consumer's choices as well as discriminate against new homes having traditionally preferred doors.

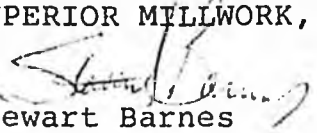
January 12, 1988
Commissioner Hoffman
Senator Faiks
Senator Sturzelewski
Page 2

In summary, I find these specific energy standards to be poorly conceived, expensive and ineffective. To require contractors and homebuyers to comply with these standards, gives an already weakened industry a severe blow when new home costs are considered. I believe these standards could be useful with revisions, but should be introduced gradually, so that they will not force such dramatic price increases on an already suffering industry.

Thank you for taking a few minutes out of your busy day to review this letter.

Sincerely,

SUPERIOR MILLWORK, INC.



Stewart Barnes
Sales Manager

SB:slw

cc: Robert Lunsford
Eugene W. Vik
Joan Lunsford

RESOLUTION OF THE ALASKA MUNICIPAL LEAGUE

RESOLUTION NO. 88-36

A RESOLUTION SUPPORTING ENERGY EFFICIENCY OF HOMES.

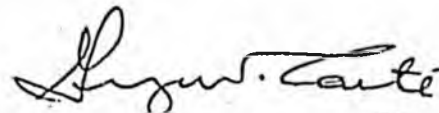
WHEREAS, high-quality energy-efficient building technology developed by the Alaska Craftsman Home Program would substantially reduce home energy consumption, improve the health and safety of the occupants, improve indoor air quality, reduce the contribution of dwellings to outdoor air pollution, increase home durability, reduce home maintenance needs, and increase the economic stability of the owner, and

WHEREAS, Alaska state lawmakers have introduced legislation which supports efficiency in homes that support the Alaska Craftsman Home Program and this legislation will help improve and stimulate the home building industry in Alaska through incentives and education and, thereby, improve the local economy of the State, and

WHEREAS, the citizens of the State of Alaska will benefit substantially from the building of energy-efficient homes as developed by the Alaska Craftsman Home Program;

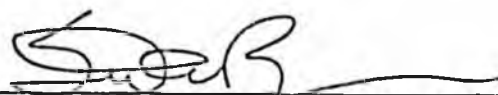
NOW, THEREFORE, BE IT RESOLVED that it is the policy of the Alaska Municipal League to encourage the building of homes to the energy-efficient standards of the Alaska Craftsman Home program and further that the Alaska Municipal League supports legislation to establish similar state policy and state support for the Alaska Craftsman Home Program.

Adopted this 13th day of November 1987.



George W. Carte', President

ATTEST:


Scott A. Burgess, Executive Director

Recd

RECEIVED OCT 28 1987

CITY OF PALMER, ALASKA

RESOLUTION NO. 765

A RESOLUTION SUPPORTING THE ALASKA CRAFTSMAN HOME PROGRAM.

WHEREAS, high quality energy efficient building technology developed by the Alaska Craftsman Home Program would substantially reduce home energy consumption, improve the health and safety of the occupants, improve indoor air quality, reduce the contributions of dwellings to outdoor air pollution, increase home durability, reduce home maintenance needs, and increase the economic stability of the owner, and

WHEREAS, Alaska State lawmakers have introduced legislation in the form of Senate Bill 308 and House Bill 318 and 319 which supports the Alaska Craftsman Home Program, and

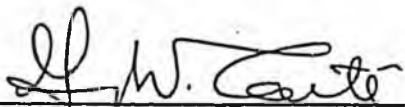
WHEREAS, these bills will help improve and stimulate the homebuilding industry in Alaska through incentives and education and thereby improve the local economy of the State, and

WHEREAS, the citizens of the State of Alaska and City of Palmer will benefit substantially from the building of energy efficient homes as developed by the Alaska Craftsman Home Program,

NOW, THEREFORE BE IT RESOLVED that the City of Palmer encourages the building of homes to the energy efficiency standards of the Alaska Craftsman Home Program.

BE IT FURTHER RESOLVED that the City of Palmer supports Alaska State Senate Bill 308 and House Bill 318 and 319 to establish similar State policy and State support for the Alaska Craftsman Home Program.

Approved and adopted by the Palmer City Council this 27th day of October, 1987.



GEORGE W. CARTE, MAYOR



S. WELLS WILLIAMS, ACTING CITY CLERK

AGENDA

12 November 1987, 2:00 PM

Alaska Mutual Bank (5th Avenue) Board Room

1. Introduction of Participants
2. Craftsman Homes - Don Markle
3. Energy Standards, Department of Community & Regional Affairs - Steve Baden
4. Energy Homes of Alaska - Peter Poray
5. Homebuilders - Greg Jones
6. General Discussion



COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF ALASKA, USDA & SEA
GRANT COOPERATING

ONLY THE BEGINNING

The Alaska Craftsman Home Program will offer more than workshops this year. In a four-phase program ACHP is planning a hotline, computer-planning, and development of new educational programs specifically for home buyers and realtors. Legislative interest includes a pilot program in rural Alaska, and incentives to homeowners and builders. ACHP plans further research for new design and product development.

Studies show that energy costs in areas of Alaska could rise 500% by the year 2000. Cost-efficient programs for energy-efficient homes are needed now.

The University of Alaska's Cooperative Extension Service programs are available to all, without regard to race, color, age, sex, creed, national origin or handicap and in accordance with all applicable state and federal laws.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, James W. Matthews, Director, Cooperative Extension Service, University of Alaska.

I want information about the Alaska Craftsman Home Program workshop in my area this year.

Name _____

Address _____

State/Zip _____

- I am: Homeowner
 Home builder
 Architect
 Realtor

Mail to:

ALASKA CRAFTSMAN
HOME PROGRAM
2221 E. Northern Lights Blvd.
Anchorage, AK 99508

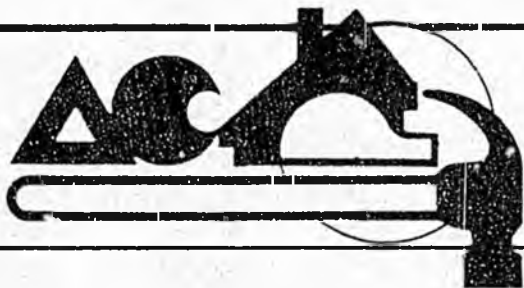
Attn: Don Markle

ALASKA CRAFTSMAN HOME
PROGRAM KNOWS

There's
a better
way to heat
your home...*

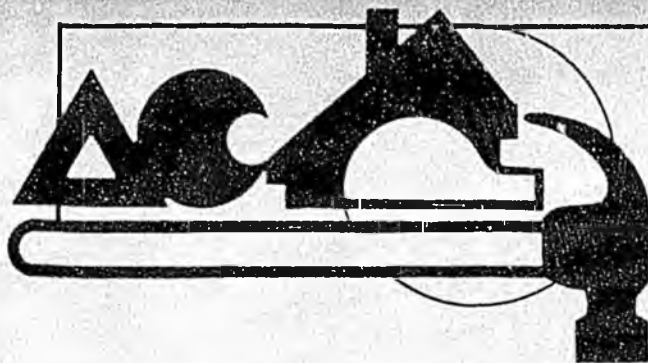


*Phil Loudon heats his Fairbanks home for \$150.00 annually.



ALASKA CRAFTSMAN
HOME PROGRAM

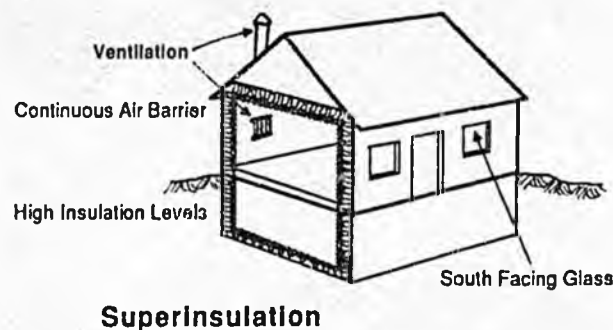




ALASKA CRAFTSMAN HOME PROGRAM

Superinsulation is an adaptable, thorough energy-conserving approach to designing and building that allows all the comforts of home without the high costs of heating.

To work properly, superinsulation must be understood and applied to all steps of home construction. The Alaska Craftsman Home Program (ACHP) is the educational network that allows the Alaska building industry to stay abreast of superinsulation advancements worldwide as well as here in Alaska.



ACHP is designed to provide technical information to the Alaska building industry, and be a forum for the industry to work with the Alaska financial institutions and the University of Alaska research community.

ACHP has set voluntary performance standards for superinsulation building in Alaska. A standard that works with any popular architectural design and requires only standard materials, tools, and construction methods.

For the builder and the homeowner this means:

- Reduced energy bills, from 50% to 80% which can save the homeowner up to \$100,000 over the house life.
- A more durable home with increased comfort and decreased noise.
- Improved indoor air quality, reducing radon as well as other deadly pollutants.

WE'RE AVAILABLE TO HELP

ACHP has trained 24 Alaskans to conduct two-day workshops on how to build properly for our harsh Alaskan climate. These workshops will explain the detailed superinsulation technology in the Alaska Craftsman Home Building Manual.

Workshops will provide information on:

- Superinsulation of walls, attics, and foundations.
- Ventilation for health and safety.
- Energy-efficient doors and windows.
- Design, including passive solar energy options.
- Condensation and infiltration control.
- Methods and materials for Alaska.

**Superinsulated Homes
have outperformed standard
housing nationwide.**

ENERGY RATED HOMES
ALASKA



ALASKA STATE
HOMEBUILDERS ASSOCIATION



COOPERATIVE
EXTENSION
SERVICE

UNIVERSITY OF ALASKA,
USDA AND SEA GRANT COOPERATING

STATE OF ALASKA

DEPARTMENT OF LAW

OFFICE OF THE ATTORNEY GENERAL

STEVE COWPER, GOVERNOR

P.O. BOX K—STATE CAPITOL
JUNEAU, ALASKA 99811-0300
PHONE: (907) 465-3600

September 24, 1987

Honorable Arliss Sturgulewski
Alaska State Senate
2957 Sheldon Jackson
Anchorage, Alaska 99508

Re: Dept. of Community & Regional Affairs energy conservation standard regulations (Dept. of Law file no: 993-86-0095)

Dear Senator Sturgulewski;

You and I spoke by phone on September 23, 1987, regarding Department of Community and Regional Affairs' (DCRA) regulations that adopted an energy conservation standard for new residential buildings (19 AAC 69.210 -- 19 AAC 69.290). As I mentioned, although those regulations took effect May 21, 1987, the energy conservation standard adopted by reference in those regulations "applies to a new residential building for which state financial assistance is received after December 31, 1987." As we discussed this morning by phone, enclosed are copies of the following:

1. the April 21, 1987, Department of Law approval memo for that regulations project (our file no. 993-86-0095)
2. several pages of material, which DCRA submitted for filing with the regulations, relating to DCRA consideration of comments received regarding both the regulations project and the energy conservation standard adopted in the regulations
3. a September 24, 1986, letter regarding the proposed regulations, which DCRA sent to legislators, and to which is attached the list of those who received the letter
4. a copy of AS 24.20.445, regarding the Administrative Regulation Review Committee's power to suspend administrative regulations.

As I also mentioned to you this morning, to my knowledge no attorney general opinion exists regarding the validity of AS 24.20.445.

Hon. Arliss Sturgulewski
Alaska State Senate

September 24, 1987
Page 2

I hope this information is of help to you. If you need further information, please feel free to contact me.

Sincerely,

GRACE BERG SCHAIBLE
ATTORNEY GENERAL

By: *B.J. Jordan*
B.J. Jordan
Legal Text Editor

BJJ:cb

MEMORANDUM

State of Alaska

TO: Honorable David Hoffman
Commissioner
Department of Community and
Regional Affairs

DATE: April 21, 1987

FILE NO.: 993-86-0095

THRU: TELEPHONE NO.: 465-3600

SUBJECT: New regulations on
the Energy Conser-
vation Standard for
New Residential
Buildings (19 AAC
69.210 -- 19 AAC
69.290)

FROM: Grace Berg Schaible
Attorney General

By: *Peter B. Froehlich*
Peter B. Froehlich
Assistant Attorney General
and Assistant Regulations Attorney

Under AS 44.62.060, we have reviewed the adoption of these regulations, and approve them for filing by the lieutenant governor. A duplicate original of this memorandum is being furnished the lieutenant governor, along with the regulations and related documents. The documents include a copy of the pamphlet which comprises the energy conservation standard for new residential buildings that is adopted by reference in new 19 AAC 69.-210 and the "AKWARM" pamphlet mentioned in new 19 AAC 69.290(7).

Your March 10, 1987 adoption order states that this action is not expected to require an increased appropriation. Therefore, AS 44.62.195 does not require a fiscal note.

In accordance with AS 44.62.125(b)(6), some corrections have been made in these regulations, as shown on the attached copy.

PBF:md

cc: Steve Baden, Chief
Conservation Section
Division of Community Development

Susan D. Cox
Assistant Attorney General
Juneau

CONSIDERATION OF COMMENTS GIVEN AT PUBLIC HEARING ON
RESIDENTIAL ENERGY CONSERVATION STANDARD AND REGULATIONS

(Filed with
the
regulation)

On October 20, 1986, a public hearing was held on the residential energy conservation standard's regulations and the standard itself. The public hearing took place in Anchorage, Barrow, Bethel, Dillingham, Fairbanks, Homer, Juneau, Ketchikan, Kodiak, Kotzebue, Nome and Soldotna over the Legislative Teleconference Network. A total of forty three people attended the hearings and twenty three testified. In addition, twelve written comments were submitted. Over seven hundred forty copies of the draft standard, draft regulations, public notice were mailed out and Notice of the hearing was advertised in twenty newspapers across the state.

In the Spring of 1986 the Department conducted a public review process on the draft standard which included public meetings in nineteen communities across the state. One hundred forty Alaskans attended the public meetings and we received thirty four written comments.

COMMENTS ON REGULATIONS

Per the comments from the Attorney General's Office, the regulations draft was amended before the hearing. The changes were not substantive. The revised draft regulations were available at all teleconference sites before the hearing and the changes were announced at the hearing before testimony was taken.

There were few comments directed specifically to the regulations. The comments we did receive were in support of the draft. One person suggested changing 19 AAC 69.210 to refer to "new residential buildings" instead of "housing" which receive state financial assistance. The suggestion was accepted and the regulation's wording has been revised.

COMMENTS ON THE STANDARD

Most of the testimony centered upon the draft standard itself. The testimony can be grouped into the following categories:

- (1) Support of the standard - A great majority of those who commented supported the standard. Twenty one of the twenty three people testifying at the hearing supported the State adopting the residential energy conservation standard. Eight of the twelve written comments also supported adopting the standard. There were, however, suggestions on how the draft standard could be improved which will be discussed in items 3-7.
- (2) Opposition to the standard - This was expressed by the Alaska Housing Finance Corporation (AHFC), the Kenai Peninsula Homebuilders Association, the Building

Industry, and a builder in Wrangell. AHFC's opposition was that the standard should not be mandatory but rather a "free market 'choice'", and if mandated, it should apply to all housing, not solely State-financed housing. Our comments to AHFC's position is that the law specifically states that the standard would be mandatory for State-financed new residential homes. AHFC's position is also countered by the support for the standard by the other State residential financing agency, the Housing Assistance Division. In the public review process the Alaska State Housing Authority also endorsed implementing the standard.

The opposition by the Kenai Peninsula Homebuilders Association and the Wrangell contractor is their claim that the R-values mandated in the standard would raise the cost of the home from six to ten thousand dollars. Our research indicates that this position is not true. Increasing the thermal levels mandated in the standard for a home heated with gas in the Kenai Peninsula would result only in a \$1,503 increase in construction costs while it would annually save \$111 in energy costs and over the period of the loan it would save an estimated \$1,843 in 1985 dollars. Increasing the thermal levels mandated in the Southeast would result only in an increase of \$1,504 in construction costs while it would annually save \$269 in heating costs and over the period of the loan it would save in energy costs an estimated \$4,473 in 1985 dollars in fuel costs. Attached is the backup of these calculations. This analysis was the basis by which the advisory committee recommended the stated thermal levels. This information was also presented in our public meetings we conducted in nineteen communities, including Wrangell and Soldotna, last spring.

The Building Industry Association of Anchorage opposition to standard principally lies on the assertion that it would force AHFC out of the financing of new homes in Anchorage. AHFC's main attraction in the Anchorage market is the favorable terms it is able to provide in its loans. AHFC's share of the market fluctuates with how competitive its interest rates are with such funding as FHA. FHA has an energy conservation standard that is very similar to the State's. As it stands now the only way one can get a loan at favorable interest rates that does not meet an energy standard is go through AHFC. With the current high foreclosure rates it is not a good policy that the State not adopt a standard so that it can continue to subsidize substandard housing. The Alaska Legislature recognized this when it passed its original legislation. It is the State's policy that if the State is going to subsidize

new residential buildings, then it also has an interest in ensuring that the homes are energy efficient and affordable to maintain. Anchorage builder's concerns should be allayed with the adoption by AHFC of the energy rated homes program. Under this program AHFC will give favorable loan considerations on homes built to the energy standard.

- (3) That Southeast should be a separate region with its own thermal levels - This position was advocated by Representative Robin Taylor and the Wrangell builder. This issue was also raised in Ketchikan during the public review process. After a review of the research we have concluded that the Southeast's climate will allow a separate region. The R-values for walls have therefore been reduced from R-25 to R-21, all of the other requirements will remain the same. Moving to R-21 will reduce construction costs by \$248 while annually reducing heating costs by \$269 over standard construction.
- (4) That the thermal levels for floors in the Northwest Region should be lowered to R-37 - This issue was raised by the building inspector of Kotzebue. His position was that the R-43 called for in the standard would require a 16-inch TJI. He stated that the community's building suppliers currently only carry 2-by-12s or 12-inch TJI and are reluctant to plan for other inventory strategies. Our research as shown in Attachment 1 indicates that R-43 is economical. R-43 floors are also required in the Southwest, Interior and Fairbanks regions and we did not receive any concern from builders or suppliers in those regions. A 16-inch TJI is not unusual and not complicated to install. The standard's regulations will not go into effect until January 1, 1988, and this will allow plenty of time for the Kotzebue building material suppliers to stock 16-inch TJI's.
- (5) Who will be responsible for enforcing the standard and how will it be accomplished? - This was the most asked question. Builders that meet the standard want to be assured that everyone else also meets the standard, consumers want to be assured that their homes meet the standard. On the other hand there is concern over the added costs and delays of more inspections. Because the statute does not provide a mandate for the Department of Community and Regional Affairs to oversee enforcement, this issue was not in our purview. The financing agencies are responsible for this issue and they will need to resolve it before January 1, 1988. We have previously prepared and sent to the financing agencies options on how the standard can be implemented.

- (6) Education will be a critical element in the implementation of the standard - Building code officials said an education program is critical, particularly for owner builders, if the standard is to be effective. The Department is planning to include an education program, which will include workshops and development of a handbook, for the transition period before the standard's regulations go into effect.
- (7) That lighting and appliance efficiency standards also be developed - This was advocated by the Rural Alaska Community Action Program and the Alaska Public Interest Research Group as the next step. The statute, however does not authorize the development of an appliance standard. (As a side note, Congress has recently, passed an appliance energy efficiency standard) In regards to a lighting standard the advisory committee recommended excluding lighting requirements from the standard because such standards are not appropriate in a residential standard. Lighting, however, will be a major component of the commercial standards.
- (8) There were other comments made suggesting changes to other portions of the standard. These suggestions were not substantive and do not significantly affect either energy consumption or construction costs. All of these comments were considered by the energy program's staff. Appropriate changes have been incorporated.

ATTACHMENT 1

ANALYSIS OF THERMAL LEVELS FOR JUNEAU, KETCHIKAN, OUTLYING SOUTHEAST, NOME/KOTZEBUE, AND KODIAK

JUNEAU

<u>Rank</u>	<u>KCost</u>	<u>Pmt</u>	<u>El</u>	<u>EPV</u>	<u>LCCPV</u>	<u>Wall</u>	<u>Clg</u>	<u>Fdn</u>	<u>Floor</u>	<u>Wdw</u>	<u>Door</u>	<u>HLoss</u>
115	32238	365	849	14132	50196	11	38	6.45	30	3.22	4.66	65
33	32712	370	641	10671	47265	18	38	6.45	30	3.22	4.66	49
23	33375	378	572	9517	46853	21	38	6.45	30	3.22	4.66	44
9	33463	379	531	8839	46275	23	38	6.45	30	3.22	4.66	41
7	33562	380	513	8531	46077	25	38	6.45	30	3.22	4.66	39

KETCHIKAN

113	32596	369	536	8923	41972	11	38	6.45	30	3.22	4.66	42
21	33075	374	380	6328	39863	18	38	6.45	30	3.22	4.66	30
15	33746	382	328	5463	39677	21	38	6.45	30	3.22	4.66	26
4	33835	383	299	4969	39274	23	38	6.45	30	3.22	4.66	24
1	33935	384	285	4737	39144	25	38	6.45	30	3.22	4.66	22

OUTLYING SOUTHEAST

109	42625	484	784	13049	61626	11	38	6.45	30	3.22	4.66	57
15	43252	491	583	9694	58987	18	38	6.45	30	3.22	4.66	42
13	44129	501	515	8576	58868	21	38	6.45	30	3.22	4.66	37
2	44246	502	476	7920	58345	23	38	6.45	30	3.22	4.66	35
1	44377	504	458	7621	58195	25	38	6.45	30	3.22	4.66	33

NOME/KOTZEBUE

System or Rank	KCost	Pmt	E1	EPV	LCCPV	Wall	Cig	Fdn	Floor	Wdw	Door	HLoss
2x10	49052	557	2471	41104	96685	30	38	NA	30	3.22	4.66	147
12" TJI	51443	585	2281	37951	96240	30	38	NA	37.45	3.22	4.66	135
16" TJI	52618	598	2196	36541	96162	30	38	NA	45.63	3.22	4.66	130
16" TJI	53210	605	2121	35282	95574	30	38	NA	51.82	3.22	4.66	126

KODIAK

113	40476	459	900	14971	59721	11	38	6.45	30	3.22	4.66	67
26	41072	466	679	11296	56705	18	38	6.45	30	3.22	4.66	50
19	41904	475	605	10071	56400	21	38	6.45	30	3.22	4.66	45
7	42015	477	561	9330	55782	23	38	6.45	30	3.22	4.66	42
3	42139	478	541	900	55592	25	38	6.45	30	3.22	4.66	40

(Those on the attached list were sent this letter.)

September 24, 1986

The Honorable Albert P. Adams
Alaska State House
of Representatives
P. O. Box 333
Kotzebue, AK 99752

Dear Representative Adams:

On Monday October 20, 1986, from 1:00 pm to 3:00 pm the Department of Community and Regional Affairs will be conducting a public hearing over the Legislative Teleconference Network on regulations establishing the State of Alaska's energy conservation standard for new residential buildings.

In 1983 the Alaska State Legislature mandated the Department of Community and Regional Affairs to develop an energy conservation standard for new residential buildings. The law (AS 46.11.040) also mandates that all new residential buildings supported by State financial assistance must conform to the standard.

To guide the Department in the development of the standard, a sixteen member statewide Advisory Committee was appointed. This diverse group represented the key elements of Alaska's housing industry: builders, contractors, financiers, local governments, building officials, utilities, architects, engineers, and rural organizations. The two main tenets that were adopted by the advisory committee were that the standard would improve the energy efficiency of Alaska's housing stock while not placing an undue financial burden upon the home buyer. The thermal levels set in the standard represent a consensus agreement of the advisory committee.

The enclosed standard represents two years of staff and committee research and input from a public review process that included public meetings in nineteen communities across the state and meetings with interest groups such as building code officials and builders as well as written comments.

I have enclosed the notice of public hearing which contains the hearing's teleconference sites, the draft regulations establishing the standard, and the draft standard.

The Honorable Albert P. Adams
September 24, 1986
Page Two

I believe that the energy standard will aid Alaska's housing industry. By building energy efficient homes, buyers will have more confidence in their long-term ability to afford their homes despite increases in energy costs. Ensuring energy efficient homes will also reduce the costly burden the state now bears for providing weatherization, low-income energy assistance and power cost equalization.

Sincerely,

Emil Notti
Commissioner

Enclosure

bcc: Steve Baden, Conservation, DCD

The Honorable Albert P. Adams
Alaska State House of Representatives
P. O. Box 333
Kotzebue, AK 99752

The Honorable Sam Cotten
Alaska State House of Representatives
Box 296
Eagle River, AK 99577

The Honorable John Binkley
Alaska State House of Representatives
P. O. Box 1065
Bethel, AK 99559

The Honorable Mike Davis
Alaska State House of Representatives
P. O. Box 81435
College, AK 99708

The Honorable H.A. Boucher
Alaska State House of Representatives
P. O. Box 111038
Anchorage, AK 99511

The Honorable Jim Duncan
Alaska State House of Representatives
P. O. Box 690
Juneau, AK 99802

The Honorable Bette M. Cato
Alaska State House of Representatives
Pouch V
Juneau, AK 99811

The Honorable Steve Frank
Alaska State House of Representatives
1125 Sunset Drive
Fairbanks, AK 99701

The Honorable Donald E. Clocksin
Alaska State House of Representatives
1527 "H" Street
Anchorage, AK 99501

The Honorable John G. Fuller
Alaska State House of Representatives
P. O. Box 689
Nome, AK 99762

The Honorable Virginia M. Collins
Alaska State House of Representatives
2600 Denali Street Suite 501
Anchorage, AK 99503

The Honorable Walt Furnace
Alaska State House of Representatives
P. O. Box 1542
Anchorage, AK 99510

The Honorable Peter Goll
Alaska State House of Representatives
P. O. Box 581
Haines, AK 99827

The Honorable Roger Jenkins
Alaska State House of Representatives
P. O. Box 6727
Anchorage, AK 99502

The Honorable Max F. Gruenberg, Jr.
Alaska State House of Representatives
914 Clay Court
Anchorage, AK 99503

The Honorable Niilo E. Koponen
Alaska State House of Representatives
P. O. Box 252
Fairbanks, AK 99707

The Honorable Ben F. Grussendorf
Alaska State House of Representatives
P. O. Box 928
Sitka, AK 99835

The Honorable Ronald L. Larson
Alaska State House of Representatives
P. O. Box 53
Palmer, AK 99645

The Honorable Alyce A. Hanley
Alaska State House of Representatives
4007 Brentwood Circle
Anchorage, AK 99502

The Honorable Andre Marrou
Alaska State House of Representatives
P. O. Box 1572
Homer, AK 99603

The Honorable Adelheid Herrmann
Alaska State House of Representatives
P. O. Box 63
Naknek, AK 99633

The Honorable Terry Martin
Alaska State House of Representatives
3960 Reka Drive B-6
Anchorage, AK 99508

The Honorable Katherine T. Hurley
Alaska State House of Representatives
P. O. Box 870157
Wasilla, AK 99687

The Honorable M. Mike Miller
Alaska State House of Representatives
P. O. Box 1494
Juneau, AK 99802

The Honorable Mike W. Miller
Alaska State House of Representatives
P. O. Box 55094
North Pole, AK 99705

The Honorable Pat Pourchot
Alaska State House of Representatives
P. O. Box 104836
Anchorage, AK 99510

The Honorable Mike Navarre
Alaska State House of Representatives
P. O. Box E
Kenai, AK 99611

The Honorable Steven Rieger
Alaska State House of Representatives
P. O. Box 110623
Anchorage, AK 99511

The Honorable Drue Pearce
Alaska State House of Representatives
4150 West 88th Avenue
Anchorage, AK 99502

The Honorable John Ringstad
Alaska State House of Representatives
P. O. Box 1848
Fairbanks, AK 99707

The Honorable Fritz Pettyjohn
Alaska State House of Representatives
P. O. Box 110912
Anchorage, AK 99511

The Honorable Richard Shultz
Alaska State House of Representatives
SR 790 Mile 91
Tok, AK 99780

The Honorable Randy E. Phillips
Alaska State House of Representatives
P. O. Box 142
Eagle River, AK 99577

The Honorable John Sund
Alaska State House of Representatives
2504 Second Street
Ketchikan, AK 99901

The Honorable Marco A. Pignalberi
Alaska State House of Representatives
6712 Lunar Drive
Anchorage, AK 99504

The Honorable Mike Szymanski
Alaska State House of Representatives
11920 Johns Road
Anchorage, AK 99515

The Honorable Robin L. Taylor
Alaska State House of Representatives
P. O. Box 1441
Wrangell, AK 99929

The Honorable John B. Coghill
Alaska State Senate
P. O. Box 268
Nenana, AK 99760

The Honorable David W. Thompson
Alaska State House of Representatives
P. O. Box 75
Kodiak, AK 99615

The Honorable Edna DeVries
Alaska State Senate
P. O. Box 321
Palmer, AK 99645

The Honorable Rick Uehling
Alaska State House of Representatives
1526 "K" Street
Anchorage, AK 99501

The Honorable Richard I. Eliason
Alaska State Senate
P. O. Box 143
Sitka, AK 99835

The Honorable Kay Wallis
Alaska State House of Representatives
P. O. Box 267
Fort Yukon, AK 99740

The Honorable Bettye Fahrenkamp
Alaska State Senate
515 Seventh Avenue Room 130
Fairbanks, AK 99701

The Honorable Mitchell E. Abood, Jr.
Alaska State Senate
3102 Northwood Drive
Anchorage, AK 99503

The Honorable Jan Faiks
Alaska State Senate
6060 Yukon Drive
Anchorage, AK 99516

The Honorable Don Bennett
Alaska State Senate
P. O. Box 2801
Fairbanks, AK 99707

The Honorable Frank R. Ferguson
Alaska State Senate
Box 131
Kotzebue, AK 99752

The Honorable Paul Fischer
Alaska State Senate
Box 784
Soldotna, AK 99669

The Honorable Bill Ray
Alaska State Senate
P. O. Box V
Juneau, AK 99811

The Honorable Vic Fischer
Alaska State Senate
600 Barrow
Anchorage, AK 99501

The Honorable Patrick Rodey
Alaska State Senate
2335 Lord Baranof
Anchorage, AK 99503

The Honorable Rick Halford
Alaska State Senate
Box 190
Chugiak, AK 99567

The Honorable John C. Sackett
Alaska State Senate
Box 11
Ruby, AK 99768

The Honorable Joe Josephson
Alaska State Senate
1526 "F" Street
Anchorage, AK 99501

The Honorable Arliss Sturgulewski
Alaska State Senate
2957 Sheldon Jackson Street
Anchorage, AK 99508

The Honorable Tim Kelly
Alaska State Senate
283 Muldoon Rd. Station Box 76
Anchorage, AK 99504

The Honorable Fred F. Zharoff
Alaska State Senate
P. O. Box 405
Kodiak, AK 99615

The Honorable Jalmar M. Kerttula
Alaska State Senate
Box Z
Palmer, AK 99645

The Honorable Robert H. Ziegler, Sr.
Alaska State Senate
307 Bawden Street
Ketchikan, AK 99901



Outline of Response

State of Alaska Energy Conservation Standard for New Residential Buildings

The following is an outline of the primary reasons why the Alaska State Homebuilders Association is opposed to the implementation of the "Energy Conservation Standard for New Residential Buildings" promulgated by the Department of Community and Regional Affairs. A great deal of detailed analysis and factual information has been generated by the builders since these standards were proposed. While all of the detail is not presented here, each of the positions stated is supported by data that can be provided.

There are five broad areas where the Alaska State Homebuilders Association can demonstrate that the Energy Conservation Standard will have a negative impact on the public's health, safety and welfare. They are:

- I. Cost of Construction (Housing Cost)
- II. Environmental Quality Problems
- III. Lack of Training
- IV. No Coordinated Implementation Program
- V. No Long-term Amortization - Cost vs Benefit

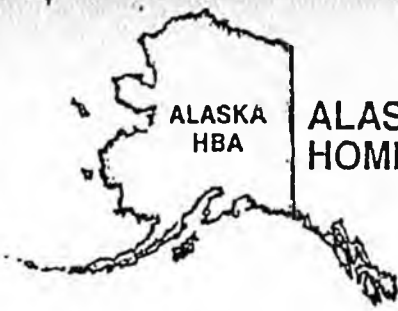
I. Cost of Construction

- A. Will add \$4,000 to \$5,000 to the cost of a \$110,000 home in developed areas
 1. More in Bush areas
 2. More in homes without forced air heat
 3. Air-to-air heat exchanger will be necessary to help mitigate environmental problems
 4. State's estimates of cost are unrealistic
- B. Appraisers will not show added value to homes
- C. Thus financing institutions will not finance additional costs
- D. The additional cost will have to be covered:
 1. By the builder through reduced return (There is almost no return already.)
 2. By the homebuyer with additional \$4,000 to \$5,000 down payment (They cannot and will not do this.)

II. Environmental Quality Problems

- A. A "tight" house does not "breathe"
 1. Stale air is recycled - not enough fresh air introduced
 2. Scandinavians have recognized this problem after years of building "tight" homes
- B. Moisture builds up in air and on interior structural components
 1. Over a few years, wood rots
 2. Mildew and mold become problems, especially in damp climate and/or season





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HOMEBUILDERS ASSOCIATION

- II. B. 3. Bacteria builds up in ducts and on interior surfaces
- 4. Radon problems are exacerbated
- 5. State suggests "open window"!!
- C. Liability associated with environmental problems is significant
 - 1. Who is liable?
 - a. Building failures
 - b. Health risks
 - c. Increased costs
 - 2. If the State regulates, the State assumes a portion of the liability

III. Lack of Training

- A. Virtually no one is "trained" in the Energy Conservation Standards
 - 1. No method of informing and training builders
 - 2. Commercial lenders are not aware and cannot evaluate costs; will create confusion
 - 3. Appraisers are not aware and have no method of evaluation
- B. No program for training is contemplated
- C. No broad "public awareness" program is planned
- D. Everyone involved in the housing industry is left to "bump into" these standards

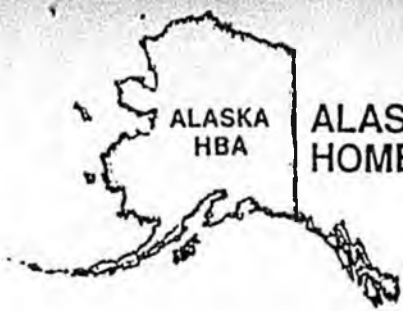
IV. No Implementation/Enforcement Program

- A. Regulations do not provide for enforcement
- B. Legislation does not provide for enforcement
- C. No financial institutions involved in enforcement
 - 1. Alaska Housing Finance Corporation is not interested in enforcement
 - 2. Department of Community and Regional Affairs is not involved in housing in developed areas
 - 3. Rural/**** areas present significantly different implementation because of vastly different financial programs
- D. If some agencies decide to require outside inspection/report, that will add another \$500 to the cost of the home
- E. Department of Community and Regional Affairs suggests self-certification
 - 1. Alaska Housing Finance Corporation opposes
 - 2. No training!

V. Increased Costs Cannot Be Amortized by Energy Savings

- A. Department of Community and Regional Affairs used thirty year amortization
- B. Average loan is in effect less than seven years
- C. To amortize the additional "up front" \$5,000 would require energy savings of \$50 to \$100 per month assuming "cost of money" at 6%
- D. This clearly will not happen, especially in developed areas



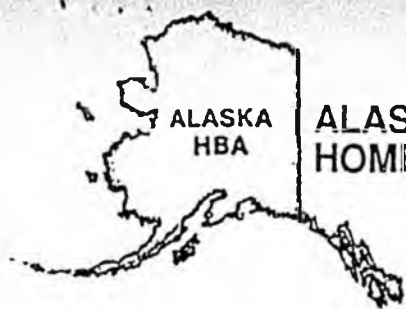


ALASKA STATE
HOMEBUILDERS ASSOCIATION

The serious problems outlined above demonstrate that the "public good" is not served by these regulations. The Alaska State Homebuilders Association proposes the following:

- I. Delay implementation of the Energy Conservation Standard for New Residential Buildings for two years. This can be done administratively through a moratorium or revocation, or it can be done by the legislature.
- II. During the two years, accomplish the following review and make amendments if necessary.
 - A. Resubmit the issue to the legislature to evaluate the original legislative intent in light of significant changes in:
 1. The State's economy
 - a. Reduced financial resources of State to administer/train/enforce the program
 - b. Depressed realistic values
 - c. Reduced population growth and housing starts
 2. Lack of "spiraling energy costs"
 3. Lack of "oil shortage"
 4. Other voluntary programs available
 - a. Alaska Craftsman Home Program
 - b. Energy Rated Homes
 5. On-going improvements in building techniques and codes
 - B. If legislature determines standards are still required, then amend standards to:
 1. Only implement where direct fuel/energy subsidies are paid by the State, and;
 2. Where energy costs are high relative to rest of State
 3. Do not implement in developed areas where energy costs are relatively low, or;
 4. Building codes are in effect
 - C. Complete a Statewide comparative cost/benefit analysis including:
 1. Comparative energy costs
 2. Comparative energy savings projected in 1987 dollars
 3. Comparative construction costs
 4. Analysis of ability of homebuyers and/or building industry to absorb cost
 5. Determine, on an area-by-area basis, how long it will take to amortize the added costs
 6. Utilize the above information to determine where the standards are cost effective and benefit the home buyer





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HOMEBUILDERS ASSOCIATION**

- II. D. Develop a Comprehensive Implementation Program that includes:
 - 1. An equitable method of enforcement that recognizes different regional characteristics
 - 2. A broadly based information and training program targeting all elements of the housing industry

This program needs to be evaluated to determine if it is in the public's best interest. The Alaska State Homebuilders Association has demonstrated that, as currently constituted, it is not. Without that determination, it is of no value to the State of Alaska.

Thank you.



Alaska State Legislature



SENATOR
ARLISS STURGULEWSKI

Chairman, Senate Community and Regional Affairs Committee
Vice-Chairman, Senate Judiciary Committee
Member, Senate Resources Committee

2957 SHELDON JACKSON STREET
ANCHORAGE, ALASKA 99508

While in Juneau
P. O. BOX V
JUNEAU, ALASKA 99811
(907) 465-3818

Senate

29 October 1987

The Honorable Jan Faiks
President, Alaska State Senate
3111 C Street
Anchorage, Alaska 99503

Dear Senator Faiks:

I am looking forward to your attendance at a meeting to discuss state energy conservation standards for new residential buildings, the Energy Homes for Alaska plans, and the Craftsman Home program.

Issues of concern have been raised by the Homebuilders Association regarding the increased costs of homes resulting from compliance with state energy standards. Questions have also been raised about implementation of the program and the interrelationship among the three programs.

Again, I look forward to seeing you at this meeting. An agenda is attached.

Sincerely yours,

Arliss Sturgulewski
Alaska State Senator

Alaska State Legislature



SENATOR
ARLISS STURGULEWSKI

Chairman, Senate Community and Regional Affairs Committee
Vice-Chairman, Senate Judiciary Committee
Member, Senate Resources Committee

2957 SHELDON JACKSON STREET
ANCHORAGE, ALASKA 99508

While in Juneau
P. O. BOX V
JUNEAU, ALASKA 99811
(907) 465-3818

Senate

29 October 1987

David Hoffman, Commissioner
Department of Community & Regional Affairs
State of Alaska
Box B
Juneau, Alaska 99811

Dear Commissioner Hoffman:

I am looking forward to your attendance at a meeting to discuss state energy conservation standards for new residential buildings, the Energy Homes for Alaska plans, and the Craftsman Home program.

Issues of concern have been raised by the Homebuilders Association regarding the increased costs of homes resulting from compliance with state energy standards. Questions have also been raised about implementation of the program and the interrelationship among the three programs.

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Sincerely yours,

Arliss Sturgulewski
Alaska State Senator

Steve Baden

Alaska State Legislature

SENATOR
ARLISS STURGULEWSKI

Chairman, Senate Community and Regional Affairs Committee
Vice-Chairman, Senate Judiciary Committee
Member, Senate Resources Committee



2957 SHELDON JACKSON STREET
ANCHORAGE, ALASKA 99508

While in Juneau
P. O. BOX V
JUNEAU, ALASKA 99811
(907) 465-3818

Senate

29 October 1987

Mr. Don Markle
Alaska Craftsman Home Program
2221 East Northern Lights Blvd
Anchorage, Alaska 99508

Dear Mr. Markle:

I am looking forward to your attendance at a meeting to discuss state energy conservation standards for new residential buildings, the Energy Homes for Alaska plans, and the Craftsman Home program.

Issues of concern have been raised by the Homebuilders Association regarding the increased costs of homes resulting from compliance with state energy standards. Questions have also been raised about implementation of the program and the interrelationship among the three programs.

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Sincerely yours,

Arliss Sturgulewski
Alaska State Senator

Alaska State Legislature



SENATOR
ARLISS STURGULEWSKI

Chairman, Senate Community and Regional Affairs Committee
Vice-Chairman, Senate Judiciary Committee
Member, Senate Resources Committee

2957 SHELDON JACKSON STREET
ANCHORAGE, ALASKA 99508

While in Juneau
P. O. BOX V
JUNEAU, ALASKA 99811
(907) 465-3818

Senate

29 October 1987

Ray Price, Jr.
Special Assistant
Office of the Governor
Box A
Juneau, Alaska 99811

Dear Mr. Price:

I am looking forward to your attendance at a meeting to discuss state energy conservation standards for new residential buildings, the Energy Homes for Alaska plans, and the Craftsman Home program.

Issues of concern have been raised by the Homebuilders Association regarding the increased costs of homes resulting from compliance with state energy standards. Questions have also been raised about implementation of the program and the interrelationship among the three programs.

Again, I look forward to seeing you at this meeting. An agenda is attached.

Sincerely yours,

Arliss Sturgulewski
Alaska State Senator

Alaska State Legislature

SENATOR
ARLISS STURGULEWSKI

Chairman, Senate Community and Regional Affairs Committee
Vice-Chairman, Senate Judiciary Committee
Member, Senate Resources Committee



2957 SHELDON JACKSON STREET
ANCHORAGE, ALASKA 99508

While in Juneau
P. O. BOX V
JUNEAU, ALASKA 99811
(907) 465-3818

Senate

29 October 1987

Betty Cook
Alaska Housing Finance Corporation
P.O. Box 101020
Anchorage, Alaska 99510

Dear Ms. Cook:

I am looking forward to your attendance at a meeting to discuss state energy conservation standards for new residential buildings, the Energy Homes for Alaska plans, and the Craftsman Home program.

Issues of concern have been raised by the Homebuilders Association regarding the increased costs of homes resulting from compliance with state energy standards. Questions have also been raised about implementation of the program and the interrelationship among the three programs.

Again, I look forward to seeing you at this meeting. An agenda is attached.

Sincerely yours,

Arliss Sturgulewski
Alaska State Senator

Alaska State Legislature



SENATOR
ARLISS STURGULEWSKI

Chairman, Senate Community and Regional Affairs Committee
Vice-Chairman, Senate Judiciary Committee
Member, Senate Resources Committee

2957 SHELDON JACKSON STREET
ANCHORAGE, ALASKA 99508

While in Juneau
P. O. BOX V
JUNEAU, ALASKA 99811
(907) 465-3818

Senate

29 October 1987

Larry Taylor
2028 Otter
Anchorage, Alaska 99504

Dear Mr. Taylor:

I am looking forward to your attendance at a meeting to discuss state energy conservation standards for new residential buildings, the Energy Homes for Alaska plans, and the Craftsman Home program.

Issues of concern have been raised by the Homebuilders Association regarding the increased costs of homes resulting from compliance with state energy standards. Questions have also been raised about implementation of the program and the interrelationship among the three programs.

Again, I look forward to seeing you at this meeting. An agenda is attached.

Sincerely yours,

Arliss Sturgulewski
Alaska State Senator

Alaska State Legislature



SENATOR
ARLISS STURGULEWSKI

Chairman, Senate Community and Regional Affairs Committee
Vice-Chairman, Senate Judiciary Committee
Member, Senate Resources Committee

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White in Juneau
P. O. BOX V
JUNEAU, ALASKA 99811
(907) 465-3818

Senate

29 October 1987

Gregory L. Jones, President
Alaska Diversified Properties
Box 190769
Anchorage, Alaska 99519-0769

Dear Mr. Jones:

I am looking forward to your attendance at a meeting to discuss state energy conservation standards for new residential buildings, the Energy Homes for Alaska plans, and the Craftsman Home program.

Issues of concern have been raised by the Homebuilders Association regarding the increased costs of homes resulting from compliance with state energy standards. Questions have also been raised about implementation of the program and the interrelationship among the three programs.

Again, I look forward to seeing you at this meeting. An agenda is attached.

Sincerely yours,

Arliss Sturgulewski
Alaska State Senator

Alaska State Legislature



SENATOR
ARLISS STURGULEWSKI

Chairman, Senate Community and Regional Affairs Committee
Vice-Chairman, Senate Judiciary Committee
Member, Senate Resources Committee

2957 SHELDON JACKSON STREET
ANCHORAGE, ALASKA 99508

While in Juneau
P. O. BOX V
JUNEAU, ALASKA 99811
(907) 465-3818

Senate

29 October 1987

Mr. Peter Poray
Municipality of Anchorage
Box 196650
Anchorage, Alaska 99519-6650

Dear Mr. Poray:

I am looking forward to your attendance at a meeting to discuss state energy conservation standards for new residential buildings, the Energy Homes for Alaska plans, and the Craftsman Home program.

Issues of concern have been raised by the Homebuilders Association regarding the increased costs of homes resulting from compliance with state energy standards. Questions have also been raised about implementation of the program and the interrelationship among the three programs.

Again, I look forward to seeing you at this meeting. An agenda is attached.

Sincerely yours,

Arliss Sturgulewski
Alaska State Senator

C. Paly

coll for.

MEMORANDUM

DATE: 10/20/87
TO: Ron Watts
FROM: J. Sipman
COPY: Committee members
SUBJECT: Final Draft SB 300 (A) and SB 300 (B) [Substitute Bills]

Subsequent to our last meeting, I met with Walt Gardner to revise our final draft of the proposed substitute bill(s) as directed.

This final draft consists of the two parts discussed, the (A) part addresses code consolidation and the (B) part covers the state licensing.

Altho some committee members are not happy with this approach of submitting the two parts, it should be made clear that these two parts are not to be separated when it is submitted to Senator Faiks office, the APDC affiliated members or the Legislature. If and when the Legislature has its public hearing on the substitute Bill(s), that is when the decision is to be made whether the licensing part is dropped. [Dropping final draft SB 300 (B) before submittal to anyone was not, I believe, the intent of this year's committee.]

I might add there is now some confusion on my part as to the purpose of the past several months work in drafting this proposed substitute bill:

1. The purpose of drafting a new bill;
2. Substituting the new draft for the old one;
3. What groups either approve (if any) or oppose (if any), by name, SB 300 (A) and/or SB 300 (B).

With these questions in mind, I respectfully request that you call for a Committee meeting as soon as possible, poll those attending if the final draft substitute is approved or not, if approved submit to APDC member groups for their approval or not, and then and only then, depending on APDC consensus, submit it to Senator Faiks office through Alexis.

To expedite response I am distributing copies to the active members of the Committee directly.

James Sipman

IN THE SENATE

BY FAIKS

SENATE BILL 300 (A)

IN THE LEGISLATURE OF THE STATE OF ALASKA

FIFTEENTH LEGISLATURE-FIRST SESSION

A BILL

For an Act entitled: "An Act relating to building design, construction, and safety codes; consolidating building regulations; and transferring certain functions to the Department of Public Safety."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

ARTICLE 1. ADOPTION OF CODES

Section 1. CODES ADOPTED.

Until suspended or repealed as authorized by this Section, the following shall be prescribed by the Department as the minimum standards for the State of Alaska, effective upon adoption:

- A. Uniform Administrative Code (ICBO)
- B. Uniform Building Code (ICBO)
- C. Uniform Fire Code (ICBO)
- D. Uniform Mechanical Code (ICBO)
- E. Uniform Plumbing Code (ICBO)
- F. Uniform Solar Energy Code (IAPMO)
- G. Uniform Swimming Pool, Spa and Hot Tub Code (IAPMO)
- H. Uniform Sign Code (ICBO)
- I. Uniform Code for the Abatement of Dangerous Buildings (ICBO)
- J. Uniform Federal Accessible Standards (U. S. Gov't.)

- K. Energy Conservation in New Buildings (ASHREA/IES-90 A, B, C.)
- L. National Electric Code (ANSI/NFPA 70)
- M. National Electrical Safety Code (ANSI C2)
- N. Safety Code for Elevators and Escalators (ANSI/ASME A17.1)
- O. Boiler Construction Code (ASME)
- P. Recreational Devices (Trams only B77.1)

Section 2. EFFECTIVE DATE OF CODES.

The Department shall adopt the above Codes and Standards as minimum requirements by the end of the calender year following the year in which the first printing of the latest edition of Codes and Standards is first published.

Section 3. AMENDMENTS TO CODES.

The Department may make provisions to modify, amemd or delete provisions of the Codes and Standards to conform to certain conditions that exist in the State of Alaska.

Section 4. CODE ADOPTION AND ENFORCEMENT BY MUNICIPALITIES AND LOCAL JURISDICTIONS.

(a) Building design, construction and safety codes adopted by the Department under this chapter are not intended to duplicate or preempt administration or enforcement of building design, construction, and safety codes by municipalities, or local jurisdictions.

(b) A home rule or general law municipality may prescribe by ordinance, rule, or order, standards that are not less stringent than those established by the Department under authority of this chapter.

(c) If a home rule or general law municipality elects to adopt Codes and Standards, they must adopt those listed in Article 1, Section 1.

ARTICLE 2. BUILDING REGULATIONS BOARD

Section 1. CREATION OF BUILDING REGULATIONS BOARD.

Sec. 18.60.935. BUILDING REGULATIONS BOARD. (a) A Building Regulations Board is established in the Department of Public Safety.

(b) The Board shall consist of eleven persons appointed by the governor for a term of three years. The persons appointed to the Board shall have knowledge, experience and training in matters related to building construction and building service equipment. Members of the Board serve without compensation but are entitled to travel expenses and per diem established for Boards under AS 39.20.180.

(c) The Board shall consist of the following:

- General Contractor (Commercial)
- General Contractor (Residential)
- Architect (Commercial Speciality)
- Architect (Residential Speciality)
- Civil Engineer (Structural Speciality)
- Mechanical Engineer
- Mechanical Contractor
- Electrical Engineer
- Electrical Administrator
- Fire Protection Consultant
- Public Member

(d) The Administrative Official is an ex-officio member of the board and shall serve as secretary to the Board. The Administrative official is not a voting member of the Board.

(e) The Board shall:

- (1) provide assistance in interpretations of building, construction, and safety codes enforced by the Department;
- (2) recommend modifications of codes enforced by the Department;
- (3) serve as a board of appeals under AS 18.60.940;
- (4) adopt regulations under AS 44.62 governing conduct of the Board and procedures for appeals to the Board.

Section 2. APPEALS.

Section 18.60.940 Appeals to the Building Regulation Board.

(a) A person aggrieved under this chapter or AS 18.70 by an order or act of the Department may appeal to the Building Regulations Board for a hearing:

- (1) An appeal must be filed in writing within 15 calendar days of the Department's action or order.
- (2) The Board shall convene within 35 calendar days of appeal date, unless the appellant desires a later date, and shall issue written notice to all interested parties at least 15 calendar days prior to the hearing date;
- (3) The Board shall render a decision at the conclusion of the hearing and shall issue a confirming written decision within 15 days of hearing date.

(b) In cases where time urgency is a factor, the Appellant may request the Administrative Official convene a Hearing Committee to render a decision within 8 days of the appeal date:

(1) The Hearing Committee shall consist of a minimum of three Building Regulations Board members, two of whom must be knowledgeable in the discipline relating to the appeal.

(2) The decision of the Hearing Committee shall be rendered verbally at the conclusion of the hearing followed by a written confirmation within 8 calendar days.

(c) A decision of the Hearing Committee or the Building Regulations Board may only be appealed in writing to Superior Court within 30 days of the Committee's or Board's verbal decision.

ARTICLE 3.

CONSOLIDATION OF STATE FUNCTIONS DEALING WITH BUILDING REGULATIONS AND ENFORCEMENT OF BUILDING CODES.

Section 1. CONSOLIDATION.

(a) The following existing Codes and Standards shall be consolidated into the Department of Public Safety:

BUILDING CODE	STATUTE	REGULATIONS	STANDARDS ENFORCED
ASME Boiler/Pressure	AS 18.60.180	08 AAC.010-900	ASME Boiler & Pressure Vessel Code
Electrical Safety	AS 18.60.580	08 AAC 70.010-090	National Electric and National Electrical Safety Code.
Elevator Safety	AS 18.60.200	08 AAC 77.005-905	Safety Code for Elevators, Dumbwaiter, Escalators and Moving Walks ANSI/ASME A17.1
Plumbing Code	AS 18.60.705	08 AAC 63.010-030	Uniform Plumbing Code
Recreational Devices	AS 05.20.010	13 AAC 15.160-320	Safety Code for Aerial Passenger Tramways B-77.1 UBC, NFPA 101
High Voltage Lines	AS 18.60.670	None	
Certificates of Fitness	AS 18.62.010	08 AAC 90.010-900	NEC & NESC.

Contractors Licensing AS 08.18.011	12 AAC 21.010-300	Construction Contractors
Electrical Administrators AS 08.40.010	12 AAC 02.010-900	NEC & NESC
Architects, Engineers and Land Surveyor's AS 08.48.011	12 AAC 36.010-250	Professional Licensing
Fire Prevention AS 18.70.010	13 AAC 50.010-080	Parts of:UBC, UFC NEC, Parts of NFPA Standards from Volume 1,3,4,6&7.
	AS 18.72.010	13 AAC 51.010-060 13 AAC 52.010-040 13 AAC 55.010-150
		Fireworks Fire Services General Provisions
Architectural Barrriers Act AS 35.10.015	17 AAC 50.010	ANSI A117.1

Section 2. FEES.

(a) A fee structure shall be established by the Department for services rendered and permits issued.

(b) AS 08.01.065(d) is amended to read:

"(d) The commissioner of Administration shall separately account for permit and occupational licensing fees deposited in the general fund by each [the] department. The annual estimated balance in the account may be used by the legislature to make appropriations to the appropriate department to carry out its [the] activities under this title [of the Division of Occupational Licensing]."

****END OF SB 300(A)***

[Editor's note: See attached companion bill SB 300 (B) for licensing legislation.]

IN THE SENATE

BY FAIKS

SENATE BILL 300 (B)

IN THE LEGISLATURE OF THE STATE OF ALASKA

FIFTEENTH LEGISLATURE-FIRST SESSION

A BILL

For an Act entitled: "An Act relating to the establishment and consolidation of licensing and related functions of design professionals, construction trades, building permit plan reviewers and construction field inspectors; and transferring certain functions to the Department of Public Safety."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA;

ARTICLE 1. LICENSING OF TRADES AND PROFESSIONS

Section 1. Establishment and consolidation of licensing.

(a) Licensing and support functions for all related design professionals, construction trades, plan reviewers and field inspectors shall be consolidated or establishe in the Department of Public Safety.

(b) The Department shall set licensing standards, hold examinations, issue certificates, establish registration and renewal fees to administer and insure compliance with this chapter.

Section 2. ARCHITECTS, ENGINEERS AND LAND SURVEYORS BOARD.

(a) AS 08.48.011(a) is amended to read:

"[There is created the] A State Board of Registration for Architects, Engineers, and Land Surveyors is established in the Department of Public Safety. The Board shall adminisiter the provisions of this chapter and comply with the Administrative Procedure Act (AS 44.62)."

(b) AS 08.48.071(a) is amended to read:

"The following record of the board's proceedings and of all applications for registration or authorization shall be kept by the Department [of Commerce and Economic Development] under AS 08.01.050:

- (1) the name, age and last known address of each applicant;
- (2) the date of application;
- (3) the place of business of the applicant;
- (4) the educations, experience and other qualifications;
- (5) the type of examination required;
- (6) whether or not the application was rejected;
- (7) whether or not a certificate of registration or authorization was granted or endorsed;
- (8) the date of the action of the board;
- (9) other action taken by the board;
- (10) other information that [which] may be considered necessary by the board.

(c) AS 08.48.071(e) is amended to read:

"(e) The Department [of Commerce and Economic Development] shall, under AS 08.01.050, preserve the records under (a) of this section for the previous five years."

(d) AS 08.48.071 (f) is amended to read:

"(f) The Department [of Commerce and Economic Development] shall assemble statistics relating to the performance of its staff and the performance of the board, including, but not limited to,

- (1) the number of architects, engineers and land surveyors registered over a five year period;
- (2) the rate of passage of examinations administered by the board;
- (3) the number of persons making application for registration as a

professional architect, engineer, or land surveyor over a five year period;

(4) an account of registration fees collected under AS 08.48.201(b);

(5) a measure of correspondence workload of any licensing examiner employed by the Department to carry out this chapter."

(e) AS 08.48.265 is amended to read:

"Section 08.48.265. FEES. The Department [of Commerce and Economic Development] shall set fees under AS 08.01.065 for examination, registrations, certificates of authorizations, and renewals of a certificate."

Section 3. ELECTRICAL EXAMINERS BOARD

(a) A State Board of Electrical Examiners is established in the Department of Public Safety.

(b) The Board shall consist of three members appointed by the Governor for a term of three years. Two members shall be electrical administrators and the third shall be a public member knowledgeable in experience and training in matters related to building construction or building service equipment. Members of the Board serve without compensation but are entitled to travel expenses and per diem established for Boards under AS 39.20.180.

(c) The Administrative Official is an ex-officio member of the Board and shall serve as secretary to the Board. The Administrative Official is not a voting member of the Board.

(d) The Board shall:

Adopt regulations subject to the Administrative Procedure Act (AS 44.62), relating to the examination and licensing of electrical administrators, establishing of the continued competency of the applicant for license renewal and reinstatement, and the suspension or revocation of licenses.

****END OF SB 300(B)****

*Senator -
Bullock info for
you*

PROPOSAL
TO
STATE ENERGY OFFICE
DIRECTORS
AND
PROGRAM MANAGERS
FOR SUPPORT
OF
ENERGY RATED HOMES™
"THE UNIFORM HOME ENERGY RATING SYSTEM"
AS A STATE
RESIDENTIAL ENERGY CONSERVATION PROGRAM
AND
AS PART OF
NATIONAL HOUSING POLICY

Submitted by

Ron Hughes
Director

Energy Rated Homes of Arkansas™
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Little Rock, Arkansas
72201

(501) 374-7827





ARKANSAS HOME BUILDERS ASSOCIATION

P.O. BOX 4276 • 920 UNIVERSITY TOWER BUILDING
LITTLE ROCK, ARKANSAS 72214 • (501) 663-1428



September 11, 1987

Members, Standing Committee on Energy
National Association of Home Builders
15th and M Streets, N.W.
Washington, D.C. 20005

Dear Energy Committee Members:

For the past several years the Arkansas Home Builders Association has followed closely and has actively participated in a number of programs related to Energy Rated Homes and their home energy rating concept. The experience of our members thus far would indicate that this program represents a viable concept that deserves the support of our industry and our national trade association, the National Association of Home Builders. Our interest in the Energy Rated Homes program has prompted the AHBA Board of Directors to take action at their September 9, 1987 meeting that would encourage NAHB to embrace this concept in three specific areas.

1. NAHB should consider lending its support to a uniform home energy rating system that is voluntary in nature and is administered by the various segments of the shelter industry.
2. NAHB should consider endorsement of the idea that an Energy Rating and Improvements Worksheet be offered all home buyers utilizing FHA, VA or FmHA insured financing, and that the cost of the rating should be allowed to be included as a part of the total mortgage amount.
3. NAHB should consider accepting a position on the ERHA (Energy Rated Homes of America) Board of Directors, and through this position play an active role in the direction and operation of the ERHA programs.

Members of the Arkansas Home Builders Association are active participants in the activities of Energy Rated Homes of Arkansas, and the AHBA is on record as supporting this concept. We feel that the same type of support at the national level could be of significant benefit to the entire industry and to prospective home buyers throughout America. With this thought in mind, we would ask the Committee's consideration of the measures outlined in this letter.

Sincerely,

G.L. "Bill" Bosley
President

Bruce Blackall
Executive Director

ENERGY RATED HOMES RATING SHEET


B 11711

The Uniform System of Evaluating and Rating Home Energy Efficiency.

© 1986 Western Resources Institute

The potential energy efficiency of this house is evaluated and rated as follows:

**1 TRI LEVEL WITH 1/2 SLAB
TRI LEVEL WITH CRAWLSPACE**



Use in: South Central Alaska

Year built: _____ File No: _____

Loan no: _____

Borrower: _____

Address: _____

City: Wasilla State: AK Zip: _____

Census tract: _____ Map Reference: _____

Tax parcel no: _____

Lender/client: _____

Previous Serial Number: _____ Date: _____

Energy Rater: _____ Date: _____

Appraiser: _____ Date: _____

2 HEATED FLOOR AREA 1898 SQUARE FEET
Includes basement when basement is heated and lived in.

CHECK HOUSE TYPE	LEVEL					SCORE
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	
CEILING W. SLAB	0.0	21.0	23.0	24.0	24.5	
CEILING W. CRAWL	0.0	15.0	16.5	<u>17.0</u>	17.5	<u>17</u>
WALLS	0.0	19.5	<u>23.0</u>	25.0	25.5	<u>23</u>
FLOOR W. SLAB	0.0	2.5	<u>3.0</u>	3.5	4.0	
FLOOR W. CRAWL	0.0	6.0	<u>8.5</u>	10.0	11.0	<u>8.5</u>
WINDOWS	0.0	5.5	7.0	<u>8.5</u>	9.5	<u>8.5</u>
AIR LEAKAGE W. SLAB	0.0	7.0	<u>13.0</u>	16.0	19.0	
AIR LEAKAGE W. CRAWL	0.0	7.0	<u>13.5</u>	16.5	20.0	<u>13.5</u>
TOTAL						<u>70.5</u> E

Use E in Step 4 with Energy Use Table in Appendix D

4 SOLAR GAIN or how well the living space is heated by sunlight

South Window Area	Mass For Heat Storage	26.	50.	69.	76.	SCORE
30 sq.ft. NO		3.5	2.0	1.5	1.0	1.0
60 sq.ft. NO		7.0	3.5	2.5	2.0	2.0
90 sq.ft. NO		10.0	5.0	4.0	3.0	2.5
120 sq.ft. NO		13.0	6.0	4.5	4.0	3.0
60 sq.ft. YES		0.0	4.0	3.0	<u>2.5</u>	2.5
120 sq.ft. YES		0.0	6.5	5.0	4.0	3.5
180 sq.ft. YES		0.0	9.0	7.0	5.5	5.0
240 sq.ft. YES		0.0	11.0	8.0	6.5	5.5

SCORE is zero for no solar gain

72 E + S Use for Step 7 & 9 with Energy Use Table in Appendix D

1.5 SOLAR S

5 COOLING ENERGY Not included in rating for this region

Prevention of Overheating:
 Overheating not a problem
 Overheating possibly a problem
 Overheating is a problem

Prevention Measures:
 Window shading or roof overhangs
 Ventilation through opening windows
 Mechanical ventilation or cooling device

N/A COOLING C

6 WATER HEATER

Location of water heater: inside unheated basement, crawl space or garage outside

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
0.0	0.5	1.5	2.0	3.0

Fuel Type: electric gas oil

φ WATER W

7 SPACE HEATING EFFICIENCY

E + S less than 25: LOW MED HIGH
 E + S greater than 25: LOW MED HIGH

Fuel Type	LOW	MED	HIGH
WOOD FUEL	0.0	13.5	23.5
OIL	0.0	16.0	27.0
GAS	0.0	16.0	0.0
ELECTRICITY	0.0	19.5	33.0
WOOD	0.0	4.0	6.5
	0.0	<u>4.5</u>	7.5
	0.0	4.5	0.0
	0.0	5.5	9.5

Gas utility (name): ENSTAR Electric utility (name): MEA

4.5 SPACE HEATER H

8 UNIFORM ENERGY RATING* This is an energy efficiency potential rating which rates the potential of this house to use energy efficiently assuming average size and typical energy use

0-13	14-17	18-29	30-43	44-58	59-72	73-79	80-85	86-88	89-99
★	★	★★	★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
BELOW AVERAGE		FAIR		GOOD		EFFICIENT		VERY EFFICIENT	

Appraisers use word rating (e.g. EFFICIENT) on appraisal form.

TOTAL SCORE (E + S + C + W + H) 76.5

RATING

9 ENERGY PURCHASED* Energy Use (Use E + S from Step 4 and Appendix D) = Purchased Energy; Efficiency (see back of this page or Appendix E)

MBtu/yr - Efficiency

Space Heating	Gas	Electric	Oil
211	0.6	351.47	
Garage Heating (use Energy Use Table)		19	
Water Heating	23	0.65	35.38
Light & Appliances (see Table)			
Total Energy Purchased (MBtu/yr)		406.05	25

10 ENERGY COST* Purchased Energy X Cost (see Appendix F) = Energy Cost

Total Gas	MBtu/yr	Cost
406	2.90	\$1177
Gas electric	25	30.15
Oil		
TOTAL APPROX. ANNUAL ENERGY COST		1931

*The estimated energy cost for this house is to be used for comparison only. Actual use will be higher or lower from this estimate depending upon occupants use, weather conditions and utility rates in effect at the time.

Disclaimer: Although every effort has been made to provide accurate information on this form, neither this form nor any entries made on it constitutes any warranty, express or implied, as to the presence or lack of energy features in the house, the heating fuel used in the house and its cost, or the actual annual energy consumption of the house.

Efficiency Descriptors for Rating Each Building Component

Use to Complete Corresponding Sections on Front (Reverse) Page
(Detailed Descriptors in Desk Manual, Appendix A, B, and C)

Applicability: South Central Alaska (Anchorage area)

3 ENVELOPE EFFICIENCY

R-Values shown here are for the insulation only. See Appendix C of the Desk Manual for thickness of various insulation types.

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
CEILING	R-0	R-19	R-30	R-38	R-60
WALL Above Grade	R-0	R-11	R-19	R-25	R-31
WALL Concrete Above Ground or as a Foundation	R-0	R-5	R-10	R-15	R-20
FLOOR Exposed	R-0	R-11	R-19	R-30	R-38
FLOOR Slab On Grade	R-0	R-5	R-10	R-15	R-20
WINDOWS	single metal	double metal	double wood or equiv.	triple or equiv.	quad or equiv.
AIR LEAKAGE	Leaking, no weather-stripping	Some weather-stripping (W/S)	Careful W/S and some caulking. Has wall and attic infiltration barriers and arctic entry.	Careful W/S and caulking. A careful continuous infiltration barrier plus switch plate gaskets and arctic entry.	Level 4 plus ventilation control equipment and an arctic entry.

6 WATER HEATER

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
Standard unwrapped	Low flow fixtures or flow restrictors installed	Wrapped, or Energy Efficient, or "demand" water heater	Level 3 plus pipes wrapped, heat trap and bottom board installed	Level 4 plus either heat pump water heater or solar preheater

WATER HEATER EFFICIENCY (for use in Step 9)

NATURAL GAS	ELECTRICITY	OIL
0.60 Old, installed before 1975	1.00 Typical water heater	0.65 Typical
0.65 New, more efficient, installed after 1975	1.00 Instant "demand"	
0.90 Instant "demand"		

7 SPACE HEATER EFFICIENCY

HEATING SYSTEMS	SEASONAL EFFICIENCY*	± ADJUSTMENTS =	TOTAL ADJUST EFFICIENCY	HEATING SYSTEM EFFICIENCY LEVELS
Natural Gas	Forced Air Systems: 0.85 Pulse/Condensate (90%)* 0.80 Recuperative (85%) 0.75 Draft Induction (80%) 0.70 New, after 1970 w. elect. ignit. (75%) 0.65 '75-'80 w. electronic ignition (70%) 0.60 old, before 1975 (65%) 0.55 conversion into old system (60%) Hydronic Systems: 0.85 New Boiler (after 1980) (90%)* 0.70 Old boiler (before 1980) (75%) 0.55 Old cast iron (60%)	Subtract for thickness of duct insulation 0" 1" 3" -.10 -.05 -0.0 +.10 elect. ignition (on old)	.60	.85 High .80 High .75 High .70 Medium .65 Medium .60 Medium .55 Low .50 Low .45 Low
Electricity	0.85 Central forced air 0.95 Radiant panels or cables 1.00 Baseboard (air convection, oil or water filled, or individual forced air units) 1.50 Heat pump, air-to-air installed before 1980 1.70 Heat pump, air-to-air, installed after 1980 1.95 Heat pump, ground source	Subtract for thickness of duct insulations 0" 1" 3" -.10 -.05 -0.0	---	above 1.0 High 1.00 Medium 0.95 Medium .90 Low .85 Low .80 Low
Oil	Forced Air Systems: 0.90 Condensate (95%) 0.80 New with flame retention burner (85%) 0.70 after 1975 w/o retention burner (75%) 0.65 Old, before 1975 (70%) 0.60 Very old, before 1965 (65%) Hydronic Systems: 0.80 Boiler w. retention burner (after 1975) (85%) 0.65 Old boiler (before 1975) (70%)	Subtract for thickness of duct insulation 0" 1" 3" -.10 -.05 -0.0 +.05 Delay timer +.05 Vent damper +.10 retention burner (on old) -.05 for unmaintained Subtract for thickness of pipe insulation 0" 1/2" 1" -.10 -.05 -0.0 +.10 retention burner (on old)	---	.90 High .85 High .80 High .75 Medium .70 Medium .65 Medium .60 Low .55 Low .50 Low .45 Low
Wood	See Appendix E			

*The efficiency numbers on the far left are the seasonal efficiencies that take into consideration the cycling on and off of the furnace, jacket loss, and average seasonal variations. The numbers in parenthesis are the "steady state" efficiencies that are for use as a reference only.

9 LIGHTS AND APPLIANCES

Square Feet Heated Floor Area	MBtu/yr
Less than 1500	25
1500 to 3500	22
over 3500	30

10

NOTE: In high wind areas, the annual cost estimate may be slightly higher than that given in Step 10 as a result of the wind's impact on the home's heating load.

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100 Main Street
Little Rock, AR 72201
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ENERGY RATED HOMES
ARKANSAS

"The uniform system of evaluating and rating home energy efficiency"

DATE: September 15, 1987
TO: State Energy Office Directors and Program Managers
FROM: Ron Hughes, Director, Energy Rated Homes™

"Selling efficiency in houses has turned into a lying contest!", a prominent builder in Little Rock recently stated. "Builders do not want regulation but need 'standards'. There is no commonly accepted way to distinguish efficiency in housing."

Other common problems with energy in housing include:

Affordable housing should be available to more Americans-- affordable both to purchase and to live in!

Efficient houses cost more to build but rarely get higher appraisals than inefficient homes because the buying public can't tell the difference.

Lenders require uniformity and resist incorporating local energy "marketing" and efficiency rating programs into the underwriting process.

A uniform home energy rating system that rates efficiency, projects energy costs and could be used by lenders, appraisers, realtors, and builders is the first step towards addressing these issues. State energy offices are in a key position to implement such a system!

Energy Rated Homes of America™ (ERHA™) has been developed over the past five years for this very purpose. ERHA™ is supported by leaders of the National Association of Home Builders (NAHB), Mortgage Bankers of America (MBA), the Mortgage Insurance Companies of America (MICA), and the secondary mortgage market.

To date, ERH™ has been developed for Washington, Alaska, Vermont, and Arkansas. We ask state energy offices to support our efforts both nationally and locally to:

1. Include the Uniform Home Energy Rating System (voluntary and run by the shelter industry --builders, lenders, appraisers, realtors, and utilities) in upcoming national housing policy legislation, and
2. An Energy Rating and Improvements Recommendation: be offered to all home buyers under VA, FHA, and FmHA, and the cost of the energy rating be included as part of the first mortgage (instead of adding to closing costs), and
3. Provide local startup funding for Energy Rated Homes™ in your state.

This is an ideal bi-partisan, public/private sector partnership with no long-term administrative responsibilities to the state. This is an opportunity for a cooperative effort of state government(s), builders, lenders, appraisers, realty agents, utilities, and state housing finance agencies. This is a win-win for everyone! This next year is a window of opportunity. Make a commitment NOW to work together to make this happen for us all!

Why have a *Uniform* Home Energy Rating System?

You say you already have a rating system? Who doesn't!!

Hundreds have been tried by states, cities, utilities, and vendors. They go by names like (to name a few!) Energy Saver Homes, Energy Saver House, Super Saver, Energy Idea Home, Double E, Super Double E, R-2000, E-300, E-7, Common Sense, Good Cents, Super Good Cents, Best Home, 100 Plus Program, Energy Management Construction Homes, Energy Action Homes, Fuel Efficiency Award Homes, Energy Efficiency Excellence Award Homes, Energy Efficient Structures, Energy Wise Homes, Gold Homes, Silver Homes, Platinum Homes, Home Energy Scorecards, Energy Efficiency Potential Homes, HERS, Energy Stars, Austin Stars, Home Heating Performance Rating, Home Heating Index, SAVE Home, High Energy Performance Labeled, Five Star Homes, Three Star Homes, Lennox Logic, Slide Rules, Energy Addendum, Arkansas Stories, Audit Wheels, Payback Plus, Manufactured Home Energy Value Award, Energy Conquest, Power Saver, Thermal Crafted, Energy Qualified, Excellence in Energy, Energy Checked, Energy Saving Plan, Watt Count, Watt Saver, and many, many others, including our favorite name, Hug 'n Snug.

Need we say more about the value of a *uniform* home energy rating system?

Why Energy Rated Homes™ (ERH™)?

ERH™ is not just another vendor. ERH™ is different. ERH™ is the only unbiased, nonprofit, home energy rating system designed to be the national uniform system and meet the needs of all housing-related industries. The manner in which ERH™ addresses the following items is evidence of how well this system has been designed for this purpose:

- 1. Unbiased**
Likened to the "underwriters lab" of the housing industry, ERH™ provides an unbiased evaluation, rating and energy use/cost projections. Most rating systems are self-serving; ERH™ is not. ERH™ sells no products and has no vested interest. Inspections and ratings are performed by trained, unbiased third-parties, nonprofits, and/or approved appraisers.
- 2. Voluntary**
Improving efficiency in housing can be accomplished by either legislating efficiency or voluntary, market-driven incentives. The shelter industry prefers a voluntary system like ERH™. The housing industry is prepared to provide efficiency to the extent that the public demands it. But this approach will work only if (1) the public is made aware of the rating system and, (2) the cost to support the system is not a burden to industry or the consumer. This can work best if the program is available nationally in a better position to influence policy changes within VA, FHA, and FmHA.
- 3. Uniform**
Mortgage loans are bought and sold around the country. Uniformity is important to lenders. ERH™ is uniform in format and methodology but specific to local issues, climates, and house types. This meets industries need for uniformity yet allows latitude for local needs which will vary around the country.

4. **Accepted by the secondary market**
Fannie Mae and Freddie Mac have worked with the ERH™ staff since the beginning of the program five years ago. ERH™ began at the request of lenders and appraisers who needed a way of dealing with energy efficiency in the loan process.
5. **Industry owned and operated**
Rights to the Energy Rated Homes™ system are owned by a national nonprofit, Energy Rated Homes of America (ERHA™). As a necessary step towards national implementation, ERHA™ was recently incorporated to purchase the rights to the ERH™ system from Western Resources Institute (WRI) in Seattle, WA. WRI developed the rating system over the past five years with the intention of turning the program over to industry.
6. **Standards**
ERH™ provides standards developed through technical committees of housing industries in each state. These standards are in line with the National Association of Home Builders' Thermal Performance Guidelines (TPGs)'s and reflect local climate, house types, and other local issues.
7. **Technically accurate yet easy to understand**
These two items are almost contradictory. ERH™ has solved this with a separate rating sheet for each house type in each climate zone (to keep calculations at a minimum while maintaining accuracy) and a consistent 100 point system with corresponding "stars" for different levels of efficiency. The stars are all the consumer really needs to understand.

Each point in the 100 point ERH™ system represents about one-percent of potential energy savings. The more points, the more "stars". One Star is "poor", Two Star is "fair", Three Star is "good", Four Star is "efficient", and Five Star is "very efficient". There are pluses in between (i.e. Four Star Plus) which allow an efficiency scale spanning ten levels of efficiency.

8. **Scaled rating system**
Scaled ratings differ from "prescriptive systems" which require certain specific measures to be included before getting a stamp of "efficient". The ERH™ system allows builders more options. It is the total points that are important. Builders can choose their most cost-effective strategy to amass the necessary points for the rating they want.
9. **Tested**
ERH™ has been developed, revised, and field-tested in five states so far (Washington, Oregon, Alaska, Vermont, and Arkansas)

Refining and expanding the rating system to address local issues, climate and housing types of each new state presents a recurring opportunity to improve on the ERH™ system. New ideas continue to surface, be tested and incorporated into the system which have made ERH™ uniquely locally specific while retaining a uniform methodology and format important to industry and national implementation.
10. **Public/private sector partnership**
ERH™ is an excellent public/private sector partnership. Local start-up costs have been born by state energy offices and lending institutions around the

country with operations of the program turned over to the housing industry. Bonneville Power Administration funded initial ERH™ development at the request of the Northwest Power Planning Council.

The needs of state energy offices are met with a system like this that can provide market-driven incentives for efficiency without legislating efficiency levels. With an independent, nonprofit third-party operating the program, ongoing administrative responsibilities to the state are avoided and better industry participation is assured.

Support can be found within all sectors of the housing industry. This is a rare win-win for all.

11. **Housing industry program**

ERH™ has been developed at the request and with full participation of the housing-related industries. Boards of nonprofits offering the ERH™ system, technical committees, and steering committees have been composed almost entirely of representatives of the housing industry .

12. **Housing data bank**

It is important to track the correlation of selling price to efficiency levels in order to show efficient houses sell for more money (once the buying public can tell the difference). This can justify higher appraisals for "efficient" houses.

There is also statistical information in such a data bank of value to both states and industry.

13. **Referral service**

ERH™ can offer to the public a referral service of both new home builders who have built at least one Four Star (efficient) house and for energy improvement contractors for existing (older) houses where ratings have been performed and improvements have been recommended to the homeowners.

A "lead generation" service for energy improvement contractors may be a way to encourage improvements following a rating. This could be a boost to the retrofit market. This component is still in the discussion stage awaiting interest from a participating state to help develop the concept.

14. **Air quality testing**

ERH™ can perform air quality testing upon request. This has become a concern as we have tightened up houses. An independent third party inspection and a referral list of builders and "house doctors" specializing in measures for improving air quality, benefit both the builders and the home owners.

15. **Thermal Performance Guidelines (TPGs)**

The National Association of Home Builders' TPGs are in line with ERH™ efficiency levels. Although the TPGs do not currently address such items as HVAC efficiency and air infiltration, TPG houses generally fall in the range of (Good) Three Star Plus to (Efficient) Four Star Plus depending on how HVAC efficiency and air infiltration are handled by the builder.

16. **Quality control**

Quality control of the ERH™ rating system has been a priority since its inception. ERH™ will continue to make every effort to maintain the integrity of the system and welcome any suggestion on how to improve these efforts.

17. **Rates old and new homes**

A new house today is an old house tomorrow. A uniform rating system is important for consistency for lenders, the secondary market, and the public. This can assist builders by showing generally higher efficiency levels for new construction. The difference can help remodelers gain business for energy improvements. Energy escrow accounts for improvements as part of a first mortgage at time of sale can help realtors sell less efficient homes.

The ERH™ rating scale has a range capable of rating anywhere from an older home with low-efficient components to a house of the future built today where the thermal qualities may exceed "most cost-effective estimates" of the TPGs.

18. **Fuel blind**

The ERH™ efficiency rating is based on relative BTU savings compared to a "baseline house".

ERH™ first rates the thermal envelope, HVAC efficiency, water heating efficiency, and other miscellaneous energy items to determine the rating. Then the rater looks at fuel type and energy costs to estimate dollar operating costs.

When comparing points for efficiencies (and energy savings) of HVAC equipment, the rater compares electric to electric (i.e. heat pump to electric resistance heat), high-efficiency gas to lower-efficiency gas furnaces, and treats oil and wood in a similar fashion.

Because the ERH™ rating system has no vested interest in promoting one energy source over another, the public perception and credibility of a home rating, energy cost projections, and suggested improvements are enhanced.

19. **Utility involvement**

Utilities can benefit from the credibility of independent, third-party inspections by tying direct-marketing and/or conservation incentives to the ERH™ program. The rating system is uniform; the incentives offered by a utility can be tailored to the utilities specific needs. A utility can save money in audit staff and marketing/conservation program development.

"Build a Four Star house and include such-and-such equipment and we will pay for the rating plus we'll do such-and-such," a utility can offer a builder. A utility can suggest to a customer irate over high bills to get an ERH™ rating and improvements recommendations and the utility can offer direct cash incentives for energy improvements to lower the bill. This would be a real service to customers!

20. **Prioritizes improvements**

Suggested recommendations on the ERH™ Improvements (Recommendations) Worksheet, are prioritized by comparing the typical

dollar cost of the improvement per point gained (and energy saved). For the owner of an older home, this translates into dollar savings.

ERH™ uses the same methodology for new homes and provides for a second inspection for builders wishing to improve or add energy features to upgrade an efficiency rating. ERH™ wants builder's homes to rate as high as possible!

21. Air leakage testing

When rating a house, ERH™ provides for verification of air leakage by blower doors, AIMS, or other accepted methods for infiltration/air leakage testing

22. Sustainable

Ongoing costs of operating the system are now covered by fees for ratings, training, and/or memberships. Common usage will generate enough cash flow for ERH™ to be self-supporting. Utilities supporting the ERH™ system can pay for ratings as part of marketing programs and rate-base the cost.

It will sometimes be in the interest of the home buyer to pay for the rating. To prevent this being an added closing cost, the cost could be added to the home's appraised value and/or part of the mortgage loan amount. This requires policy decisions with VA, FHA, FmHA, and the secondary market that are likely if this uniform system is part of national housing policy.

23. First-time home buyers

A Harvard/MIT Joint Study of the effect of the ERH™ system in five major cities showed *significant* increases in the number of buyers who could qualify for home ownership with qualifying ratio adjustments by lenders for efficient homes. Most were first-time home buyers! This is very important considering the number of first-time homebuyers has declined for the past six years.

The very fact that more potential buyers could qualify for efficient home ownership serves a great social purpose while boosting to the economy.

24. Win-win for all

ERH™ benefits all sectors of the housing industry and the public alike. It is a rare "win-win" opportunity. Builders can quantify the higher levels of efficiency of their houses. Lenders and realtors can qualify more buyers with ratio adjustments for efficiency. Appraisers have a better tool for judging and adding value for efficiency. Mortgage underwriters have a better tool for predicting utility cost. The secondary market has more secure mortgages with a clearer energy-cost picture.

Buyers have continued to express a willingness to pay more for efficiency if they can tell the difference. With energy efficient mortgages (EEM's), buyers can get extra money for energy improvements as part of a first mortgage. This will help the buyer and seller of less efficient houses while benefitting remodelers and building suppliers as well.

The ERH™ Future

1. Almost everyone feels a home energy rating system is a good idea but no one wants to pay for it. Added closing costs are a deterrent to ratings at time of sale.

Ongoing costs of operating the system are currently paid out of fees earned for ratings and underwritten by states. Other possibilities include rate-basing the cost to utilities, rating cost added to appraised value, and/or part of total mortgage amount.

If ERH™ were part of national housing policy legislation, it would make it more possible for the cost of ratings to be allowed as part of the total mortgage for buyers under VA, FmHA, and FHA. With energy improvement loans or energy escrow accounts at the time of sale, the cost of the rating should be included as one of the energy improvement measures and included in the total loan amount.

2. There are many "energy efficient house" programs around the country. All want recognition by lenders. Some are good; some are not. ERHA™ could serve Fannie Mae, Freddie Mac, VA, FHA, FmHA, etc. to make equivalency determinations of other rating systems.
3. Public perception is crucial. Independent third-party verification would add credibility to existing state, industry, or utility programs.

For instance, a utility offering a marketing program could have the local nonprofit could make the inspection for compliance. The house might be advertised as a "Four Star Good Cents" house or a "Five Star Good Cents" house for those that have exceeded minimum requirements. A similar application could be made to private vendor programs like Watt-Count with a "Five Star Watt-Count" house. Equivalency with local HBA programs could emerge as "Four Star Gold" or "Five Star Platinum" houses if local associations so choose. A gas utility might have a "Five Star Energy Wise" home.

4. ERHA™ could be the energy component of the Home Owner Warranty (HOW) program. Or, ERH™ could stand alone and have a similar relationship to NAHB that HOW now enjoys.
5. If VA is really committed to efficiency, the rating and additional money for energy improvements should at least be *offered* to every veteran buying a home, and the cost of the rating/inspection should be rolled into the total mortgage amount along with money for energy improvements. Let's start with VA, and the same should apply to FHA and FmHA.
6. If DOE is really committed to energy efficiency in housing, market-driven standards, and the government getting out of industry's business, perhaps DOE should consider funding national implementation of this program and turning it over to the shelter industry.

The Energy Rated Homes™ System

Over the years, ERH™ has developed a total package to include technical development, training, marketing, and administration. ERH™ can provide everything needed to make the system available to any locale.

a. Technical Development

The ERH™ system provides for consistency in the technical methodology for developing rating sheets around the country with assistance from local technical committees. ERH™ addresses different local issues, climates and house types with each new state that joins the system. This offers an opportunity to further fine-tune and improve our rating software methodology and appraiser rating sheets.

b. Training

Training is provided for ERH™ raters, appraisers, mortgage underwriters, and local operators of the ERH™ system. Builder seminars are available upon request and usually focus on how to build a Four Star house at least cost.

c. Marketing

All the states that join the system share in the marketing materials developed by each one. Marketing materials developed to date include logos, newsletters, TV spots, radio spots, industry slide shows and videos, yard signs, counter-top consumer brochures for homes on the market, industry brochures, magazine articles about ERH™ from trade publications such as "Mortgage Banking", the Federal Home Loan Bank's "Outlook" magazine, news clippings, etc.

d. Operations

ERH™ provides a national organization to operate the program and provide quality control. Internally the ERH™ system is currently operating more as a partnership of participating states with diverse approaches to making the uniform system available.

For instance, Vermont can insist on a rating for any loans for energy improvements made through the Vermont Housing Finance Agency. Arkansas focuses more on new construction and works through builders and utilities. Alaska is geared more to lenders and ratings are offered as an addendum to structural inspections.

There is strength in this cooperative process. Incorporating and testing local innovations help improve the system for us all.

Energy Rated Homes of America™

The Energy Rated Homes (ERH™) system has been over five years in the making. ERH™ was initially developed by Western Resources Institute(WRI), a nonprofit in Seattle, WA. WRI owned the rights to the ERH™ system.

Incorporation of a national nonprofit to own the rights to the ERH™ program under the direction of the shelter industry was an important and necessary step for national implementation.

In the spring of 1987, the Board of Directors of Energy Ratings, Incorporated (ERI) d.b.a. Energy Rated Homes of Arkansas in Little Rock agreed to assume the:

1. Role of the ERH™ national office.
2. Responsibility of transitioning the ERH™ program over to industry.

ERHA™ was incorporated in Arkansas July 16, 1987. Arkansas was chosen for several reasons. The Arkansas ERH™ staff recognized the importance of national implementation of the program. The Arkansas Energy Office had demonstrated vision and commitment, and the Arkansas program had necessary support of leaders of all sectors of the local housing industry. An added bonus was recent legislation in Arkansas protecting officers and directors of nonprofits from litigation (a legitimate concern however unlikely).

Board of Directors

ERHA™ was set up to ultimately be directed by representatives of national associations of builders, lenders, appraisers, realty agents and utilities. For the present incorporation period, however, the startup Board includes:

Ron Hughes	Director Energy Rated Homes of Arkansas
Doug Lathrop	Director of Single Family Homes Vermont Housing Finance Agency
Walter Nixon	President, Board of Directors Energy Rated Homes of Arkansas
Dana Nixon	Attorney Energy Rated Homes of America
Evan Brown	ERH™ Technical Director Secretary, Board of Directors Western Resources Institute

The more permanent ERHA™ Board is expected to be convened from industry in late 1987 or early 1988. At a minimum this Board is expected to include someone from NAHB, MBA, and MICA, and each of the currently participating states. Associations of realtors, appraisers, and the Alliance to Save Energy in Washington D.C. have also been suggested as board members.

**Energy Rated Homes of America™
Industry Steering Committee**

The ERHA™ National Steering Committee to date has been composed of leaders in the shelter industry. The steering committee includes John Teutsch, president-elect of the Mortgage Bankers of America, Earl Corkett, president-elect of the Mortgage Insurance Companies of America, Dave Smith and Harry Pryde, two past presidents of the National Home Builders Association, Bill Thomas, Executive Vice President of Freddie Mac, David Maxwell, Chairman of the Board of Fannie Mae, and a number of other distinguished industry leaders (see the back of the attached brochure: "Can An Energy Rating Save You Money?").

At the advice of our Executive Committee, the Steering Committee for this next phase is being restructured somewhat to also include Congressional leaders, with an interest in energy policies and conservation, to assist us with our efforts towards national implementation.

Implementing the Energy Rated Homes™ System

One of the first questions to ask is who will administer and direct Energy Rated Homes™ in your state. There are a number of advantages to having a nonprofit run by a board of housing related industries operate the program. In this case, the nonprofit would serve as the "local operator" of ERH™. If an appropriate nonprofit does not already exist, it can either simply be established up front or the appropriate directors may surface during the first few months work and the nonprofit be established then.

The core staff of the nonprofit will typically consist of a Director, an Office Manager, and a Chief Rater. A marketing director may be added full or part-time. Additional raters may be added from around the state.

Until the nonprofit takes over, an initial "coordinator" can take the lead. This may be a temporary position or someone who will later serve as director of the nonprofit. This should probably be a private sector person as opposed to a utility or state government employee. ERH™ will have more impact and better initial industry cooperation if is perceived as an industry program - which it is.

The first task is to gather the necessary information to begin development of the rating sheets. This information will include:

- Determining the different climate zones.

- Determining the most prominent house types (there are seven in Arkansas and fourteen in Alaska)).

- Determining the typical or "base line" house based on census data, surveys, and building patterns through the years.

- Determining the utility rates of all utility companies in the state so that an annual utility cost of a new house can be projected.

- Building a data base of energy audits, both paper audits and metered information about actual energy consumption of the different housing types in different climate zones.

- Beginning the consensus process to determine the most appropriate "levels" of efficiency for the various items that are addressed in the rating. (See back of the sample rating sheet enclosed.)

- Determine what percentage of a home's utility bill typically goes for heating, air conditioning, water heating, and base load, depending on level of efficiency and climate zone.

Gathering this information may take two months. It will require making the acquaintance and getting the cooperation of the state energy office, the utilities, the Public Service Commission, and the state Home Builders Association, etc. It is a good opportunity to begin to assemble the steering committee and technical committee for the program.

Once this information is gathered, the technical staff of Energy Rated Homes™ can begin development of the rating sheets. This will take several months as the rating sheets will require revisions and fine tuning until they are agreed upon by the industry. Builders, utilities and state energy agency will be most interested in this aspect of the program and will probably comprise the core of a state's "technical committee." Once this is done, attention can be given to the other players in the program. A working relationship should be established with the state and local associations of mortgage lenders, appraisers, homebuilders, realtors, utilities, Public Service Commission, energy office, and the state finance development agency/corporation. Add HUD, VA, and FmHA and you get some idea of the scope of the program.

The technical review committee for the rating sheets should be identified. The goal will be consensus among the parties as to "levels" and relative value of different aspects of the rating sheet (i.e insulation, window treatment, infiltration, HVAC efficiencies, etc.)

Work towards getting endorsements and support from state associations plus housing industry individuals well known and respected in their field. We will have already started to identify individuals who might serve on the state steering committee. Since this is an industry program of and for the housing industry, the state steering committee serves an important function of oversight and guidance. During this "get acquainted" stage, the coordinator/director is explaining the program, establishing credibility and asking for advice, direction, support, and the names of other individuals who should be contacted.

By the third month, local staffers/raters need to be targeted around the state so they, too, can begin to make the rounds to solicit the support of key players in their target area. This is a learning process where these people begin to understand how the system works, and gain experience in dealing with the different industries and individuals who are key to the program's success.

The local operator receives the initial "start-up" package which includes an operations manual, marketing package, etc. The computer program to run program may still be in development. Training begins for them.

The first year, local raters will meet with some regularity for orientation and training. Later, it will be for strategy planning, budget discussions, delivery system improvement, etc. If appropriate, these meetings can rotate around the state to reduce travel and allow operators to look at other operations.

Six months into the process, the main ERH™ office is set up. The computer link is in place and a bulletin board established to send and receive data, messages, mailing lists that are being assimilated, etc. This will be useful in getting comfortable with telecommunicating which will be important if ratings are centrally processed. It is also a convenient way to transfer information between ERH™ programs in different states.

State association conventions take place generally in the summer and fall. The Energy Rated Homes™ system and "how it will help YOU" should be on the program. However, there are many other occasions to present the program at local association meetings. This is important. Here is an opportunity to explain the concept and gain support while getting feedback and suggestions on implementation, acceptable "levels" of efficiency, and identifying the individuals who will take leading roles.

Six months into development, the rating sheets should have the approval of the technical committee and be ready to go to press. The state steering committee should be firmed up. By then it will be time to schedule workshops for appraisers, homebuilders, realtors, and afterwards, even homebuyers (what to look for when buying a house?). Most of these workshops should be offered jointly with state and local associations. By associations co-sponsoring these, it adds credibility to the ERH™ program and begins to buy industry into the system. Industry begins to feel ownership - and rightly so. Meanwhile, the associations are providing a useful service to their members. Local workshops are arranged by the local operators.

Energy Rated Homes™ national and regional staff will lead the first series of workshops. This role is later assumed by local operators or the state associations if they so choose.

Cooperation with the utilities can increase the number of ratings and the impact of the rating system. Rating of existing houses can be called for in response to high heating bills.

Tying into housing development finance money for both purchase and energy improvements can insure additional ratings and visibility.

The program should go public with a splash of media attention. Through local tv and radio talk shows, newspaper articles, and newsletters, the public should now be hearing about the program. Workshops for builders ("How to build a four star house for less") can be scheduled. Builder's plans can be pre-rated and discussed prior to house starts. Blower door infiltration testing will call attention to the program if the testing receives publicity.

A "Parade of Energy Rated Homes" can be scheduled when there are enough houses rated to allow it. This can best be done in conjunction with the homebuilders and real estate associations. Or, "free" introductory ratings can be offered builders in the annual Parade of Homes sponsored by most Home Builders Associations.

During this time, local raters and central office are building the list of participating "members" of the system and starting to promote their services. Energy Rated Homes™ offers a referral service to members. ERH™ will supply homebuyers with the names of participating businesses: builders who build energy efficient houses, realtors who are knowledgeable about energy efficiency, appraisers who are "approved" to rate houses at time of sale, and lenders who work with our program and are willing to adjust guidelines for buyers of energy efficient houses. These businesses are members of the ERH™ system. They have paid their membership fee (if called for), attended the classes, and can help promote the use of the rating system.

As ratings are being processed along with home mortgages, we should be able to begin tracking the selling price differences of energy efficient houses. The housing data bank that evolves will be of real importance. If we can show "efficient" houses sell for more money, appraisers can justify higher appraisals. This will be of real benefit to builders. Builders feel they cannot afford to build a more efficient house without a higher appraisal to cover the added cost of construction. We must first give the buying public a yardstick. Given the means to see the difference, we expect to see higher selling prices for efficient houses.

The national work of ERH of America™ is a boost to local implementation. Acceptance by FannieMae and FreddieMac has already been obtained. Recognition of mortgage insurers is happening. Current work is geared towards allowing the cost of

the rating to be rolled into the total mortgage amount with VA and FFLA. In addition, a uniform home energy rating system should be part of national housing policy.

With a partnership of participating states and industries creating and supporting a national uniform system, we can institutionalize energy efficiency. And why not? There is something in it for everyone.

Energy Rated Homes™

Feasibility Study

\$6,600

FEASIBILITY STUDY\$6,600

If a feasibility study is in order, the following may be helpful:

These figures assume a local contractor would do the organizing of the meetings in one target area. This person should ideally be the same person to implement the program were it to continue.

If our staff spent seven days on the project, two days would be in Little Rock doing preparatory work and whatever consultation was needed as local meetings were being organized. Ron Hughes would make two trips to your state. Meetings should be scheduled with builder, lender, and appraiser association officers and members, as well as the utilities. In each of these meetings, the ERH program, specific issues and questions could be discussed. This would be an opportunity for the local contractor(s) to learn more about the program and how it relates specifically to the different industries.

Meetings with your office staff to discuss industry meetings would be the next step. The local contractor should then schedule follow-up industry meetings to ascertain the level of interest. This would be concluded with a day of follow-up and reporting on our end.

The following budget should cover this preliminary work:

Local contractor

One month @ \$2,500/mo	2,500
Travel	500
Telephone/postage	200
Subtotal	<u>\$3,200</u>

Energy Ratings, Inc (our nonprofit in Arkansas)

Six days staff @ \$40/hr	1,920
Telephone/postage	200
Air fare	800
Per diem (\$70/day)	280
Materials (hand-outs)	200
Subtotal	<u>\$3,400</u>

The "Energy Rated Homes™ of Your State" Package

Technical development

Technical development includes both appraiser rating sheets with associated materials and local operator, computer generated rating sheets with software development to include as many house types and climate zones as appropriate. Also included are development of utility cost schedules and revisions of desk top manuals for your area.

The development of the rating sheets and computer program is the responsibility of Evan Brown, Technical Director of ERH™. To date, Evan has been responsible for the ERH™ technical development of Washington, Oregon, Alaska, and Arkansas' rating sheets. Actual printing costs of rating sheets are not included in the start-up package.

The computer software is a stand-alone package that will give the local operator a complete rating system. This software program will process the ratings locally. The software will give prompts, check incoming data, process the rating, print the rating sheet on a special preprinted form, and store the information. It will also handle appraiser ratings storage, store local operator information (like which banks have been contacted, etc.), and the program includes all necessary energy use files, utility costs, housing types, etc.

At the end of each month, a computer disc of all the ratings processed that month will be forwarded to the ERH™ national office. This is important for tracking ERH™ work around the country and quality control, and for building our national housing data base. The Federal Home Loan Bank of Seattle has offered its mainframe computer for storing this data.

With a "housing data bank" it is possible to track selling prices of efficient and non-efficient homes. We will hopefully be able to show the added value of efficiency in the marketplace. This will give appraisers the substantiation they require in order to appraise efficient homes for more money. We feel this will prove to be a real incentive to builders to build more efficient houses. It will further benefit appraisers who are currently unable to increase appraisals because of "efficiency".

Local Operator "start-up package"

The start-up package for the local operator will contain virtually everything the local operator/nonprofit will need to implement the program. The package will continually be expanded and updated as new states join, different issues are addressed, and national implementation takes place.

The start-up package is not a static package. This is a continuing process and as new parts are developed locally, they will be added to the package. Most pieces are already developed or adaptable. Some, like the "summary activities reporting forms" are part of the local operator's disc for processing ratings. Some pieces are being reformatted as they are needed. For a more detailed description, see the attached "start-up package".

Local training

The local operator is provided training as part of this package. Training will include ERH™ system operation, rater training, and "train the trainer" training for conducting similar sessions with builders, underwriters, realtors, and appraisers.

Training for the local operator is typically conducted in your state; or in the case of joint training with another state, may be held elsewhere. Initial training will come from national staff with assistance from local ERH™ operators from around the country.

ERH Partnership of states

Energy Rated Homes of America™ is designed as a partnership of participating states and housing industries that are involved in the program. Implicit in this partnership are both benefits and responsibilities. Participating states benefit from this partnership by having access and use of all the development work that has gone into ERH™ to date and in the future.

Collectively, we are in a much better position to leverage a national, uniform rating system into the marketplace in the form of national housing policy and lending guidelines of FHA, VA and the conventional market.

National implementation requires coordination and support of industry associations like the Mortgage Bankers of America, the National Association of Home Builders, the Association of Mortgage Insurers, conventional secondary markets like Fannie Mae, Freddie Mac, plus VA, and FHA. Other agencies and associations with the potential to assist include DOE, the Alliance to Save Energy, the National Association of Energy Office Officials, and the National Council of Governors.

Energy Rated Homes of America™

In July of 1987, agreements were signed between Western Resources Institute (WRI was the original developers of the Energy Rated Homes™ system) and the board of the newly formed Energy Rated Homes of America™ (a national nonprofit chartered in Arkansas) to transition the rights to the system over to Energy Rated Homes of America™. This was seen as a necessary step towards national implementation of the program.

Energy Rated Homes of America™ agreed to make a good faith effort to pay Western Resources Institute \$75,000 for the rights to the system over the following two years. From \$10,000 to \$12,000 of the \$60,000 startup that each new state pays for the initial ERH™ system development and startup package goes to retire this debt to WRI.

Energy Rated Homes of America™ national office

The national office is responsible for national support for the local program and operational assistance to local operators/nonprofits in matters of quality control, trouble-shooting, and regional/national coordination. There is a real demand on national staff for policy, strategy, information, support, and problem solving. Responding promptly to inquiries from states, utilities and the housing industry is necessary.

The national office is also responsible for managing the housing data bank of all homes that have been rated and tracking the correlation between efficiency and market value.

Encouraging additional states to offer the ERH™ system is critical if national implementation is to take place. This helps us all.

Furthermore, the national staff is the link to the national steering committee. The national steering committee has been a great help to the development of ERH™ to date. These individuals have lent their name and time to this program and can be called on from time to time to assist as specific needs arise. All requests to the national steering committee go through the ERH™ national office.

National funding support

National operation and implementation requires time and money. For now, those funds come from whatever money remains in the \$60,000 startup from new states after contractual agreements for technical development, startup package, and training needs are met. In addition, ongoing financial support is supplemented by a percentage (currently 15% in Arkansas and Vermont) of revenues generated from local ratings.

How we continue to support national administration and expanded implementation is a responsibility of the Directors of both Energy Rated Homes of America™ and the ERH™ state programs. All of the states and industries involved in ERH™ should participate in the policy decision making required to sustain and expand the program so that it will be self-supporting and meet the needs of all.

Energy Rated Homes™

Startup Package

A. Administrative

1. ERH™ affiliate agreements for appraisers, lenders, builders, realtors, etc.
2. Operations manual
3. Summary activities reporting forms
4. Instructions for data storage and financial reporting

B. Technical

1. Appraisal rating sheets
2. Utility cost sheets*
3. Energy use sheets (MBtu's for appraisers)
4. Underwriters' benchmark utility costs*
5. Computer disc (local operator rating sheet) for single family (at this time)
6. Rating sheet blanks for computer input
7. Energy improvements worksheet
8. Efficiency improvements cost data sheets *
9. Energy rater field rating evaluations workbook
10. Heating systems efficiency cost-effectiveness worksheet

C. Training

1. Appraiser training kit
 - a. "Train the Trainers" video
 - b. Training curricula outline
 - c. Training transparencies for overhead projectors
 - d. Slide presentations
 - e. Appraiser training manual
 - f. Appraiser competency test
 - g. Administrative procedures checklist
 - h. Sign-in sheets, example rating sheets, etc.
2. Underwriters training kit
 - a. Curricula outline
 - b. Video of mortgage bankers presentation ◊
 - c. Training transparencies for overhead projectors
 - d. Underwriters training manual
 - e. Worksheets for underwriters use during training
3. ERH™ Rater training kit
 - a. Rater training curricula outline
 - b. Rater training video¹
 - c. Rater training manual
 - d. Technical competency test
 - e. Example rating checklists, improvements analysis, etc.
 - f. Energy rater field analysis workbook
 - g. Energy rater information/promotional kit
 - h. Examples of improvement brochures (local EES, energy office, etc.)
4. Realty company materials
 - a. Presentation outline
 - b. Example visuals
 - c. Example handouts

D. Promotion and Marketing Package

1. Consumer promotional materials for local operator
 - a. Rating certificates (single and multi-family)
 - b. Cover letter to consumer buying a rating
 - c. Cover letter to interested home-owners
 - d. Cover letter to builders
 - e. ERH™ Buy/Sell promotional brochures ◊
 - f. ERH™ remodeling promo ◊
 - g. ERH™ yellow page ad
 - h. TV spot
 - i. Classified newspaper legend
2. Consumer promotional materials - Industry Affiliates
 - a. Lender marketing materials (counter cards, stuffers, radio, ad.)
 - b. Seller marketing materials (brochures, yard signs, counter cards, etc.)
 - c. Realty agent broker materials (brochures, yard signs, counter cards, etc.)

In addition, being a member of the ERH™ system means sharing of materials developed by other ERH™ programs in the future in exchange for additional materials you may wish to develop in your area.

Footnotes:

- 1 The rater video should be completed by the winter of 1987.
- * Designates components requiring information provided by the local operator/consultant or energy office.
- ◊ Currently being developed.

Energy Rated Homes™
Typical First Year Implementation

Sample Budget and Explanation

This budget has been developed:

- as a general guide of typical costs of ERH™ implementation
- as a companion to ERH™ technical development and startup package costs
- assuming one central office operating the program within the state
- allowing for adjustments based on local economy, needs and resources.

BUDGET
TYPICAL FIRST YEAR START-UP
One Target Zone

In-state staff:		
Director, Chief Rater, Office Manager/Sec		65,500
Salary fringes @ 32%		21,280
Bookkeeping/Annual Audit		1,600
Outside consulting		3,000
Office expenses: main office		
Furnishings (desks, file cabinets, etc)		3,000
Rent @ \$400/mo		4,800
Parking		1,080
Postage/Federal Express @ \$60/mo		720
Telephone @ \$300/mo.		3,600
Copying/printing @ \$200/mo		2,400
Office supplies @ \$150/mo		1,800
PC Computer, printer, modem and software		5,000
Printing: appraiser rating sheets, local operator		
rating sheets, improvement worksheets,		
brochures, stationery, cards, lawn signs,		
certificates, etc.		7,500
Travel:		
In-state mileage @ 400 mi/week @ 20¢/mi.		4,000
Lodging/meals 2 days/wk @ \$50/day		5,000
Out-of-state travel: Arkansas: 3 trips @ \$500 ea.		1,500
Conferences 5 @ \$800 ea.		4,000
Books/trade magazines/reference materials		500
Industry association memberships 4 @ \$250		1,000
Vacuum door (2 ea.)		5,000
Blower Door calibration equipment		1,500
Seminars/workshops		
Rater training (materials)		2,000
ERH desk-top manuals & training materials:		
realtors: 25 @ \$30		3,000
appraisers/underwriters: 20 @ \$30		3,000
homebuilders: 200 @ \$10		4,000
blower door operation /insulation contractors		2,000
room rental, misc. expense (all sessions)		1,000
Miscellaneous		<u>5,000</u>
	Total Start-up Expenses	<u>163,780</u>
	Suggested marketing budget	<u>100,000</u>
	Total Expenses w/Advertising	<u>273,780</u>

Typical First Year Implementation

The following items are included in the development budget. They are presented as typical implementation costs associated with putting a rating system on the street. Also included are options like blower doors that the state, the local operator, and a local industry committee are encouraged to consider.

In-state staff

It takes at least three people to staff a program like this.

The Director will probably be the person most responsible for getting cooperation and support from lenders, builders, appraisers, realty agents, utilities, and state government - not an easy task. It will usually be helpful with a housing industry that resists "regulation" that the organizer be a private contractor instead of being a state government employee.

An Office Manager is needed to do general books, payroll, mail-outs, process ratings, maintain data base, and discuss the ERH system with callers.

The Rater must be familiar with rating houses, processing ratings, and have good rapport with builders and home-owners. Technical expertise is required and it's a good idea for this person to have gone through the series of industry technical meetings necessary to arrive at the standards reflected in the rating sheets. Fielding questions from builders and home-owners about the technical aspects of the program is common.

Annual audit

This is important and often even necessary if state funds are used to cover the initial cost of operating the program. The IRS requires nonprofits to submit audits periodically to keep their nonprofit status.

Outside consulting

This is useful for specific tasks local staff is unable to deal with. It may be for technical work, research, legal work, training, setting up books, or the office, or a variety of other needs that are unforeseen.

Nonprofit incorporation fees and licenses

Although sample incorporation papers are included in the startup package, they still require filing; there is a charge for this. Also, business licenses are required in most states.

Insurance

Some states have laws protecting directors and officers of nonprofits from suits. If not, the directors of the nonprofit offering a rating system may request "D&O" liability insurance. Insurance should also be obtained to cover a rater accidentally falling through a ceiling (or worse) while rating a house. Fire and/or theft insurance may be a consideration for the ERH office.

Office expenses

These will vary depending on the rent district, access to state surplus, and scrounging ability. The largest hardware cost is probably the computer system(s).

An IBM (or IBM act-alike) computer is the standard for processing ratings and transmitting rating data to and from the national data processing center. This process will provide a data base of value to all participating state programs. A PC is necessary to interface with the Federal Home Loan Bank system which has offered its mainframe for storage of the data bank.

The IBM computer is used by the Energy Rated Homes representatives to locally generate the "Improvement Worksheets" as well.

The Apple Macintosh is popular within the ERH network. Both the Arkansas and Vermont ERH offices use Mac's for typesetting and layout of the rating sheets, newspaper ads, "Energy Ratings News" newsletter, manuals, data base, etc.. Although not "required" like the IBM to process ratings, the Macintosh is a highly recommended addition if a budget permits.

Travel

There will be a significant amount of local travel involved in networking and soliciting the support of the related industries around the state in order to coordinate this program. There will be a number of speaking opportunities at local and state meetings of housing-related industries.

Besides traveling to the national office from time to time as startup and ongoing needs dictate, a national meeting of local operators should take place once a year. The location may rotate among participating states. This will be a good opportunity to observe other state programs. It is important for all participating states to attend.

Conferences offer an opportunity to both learn and promote the ERH system. For national implementation to occur, ERH should strive to be on the agenda of appropriate conferences as often as possible. Public and industry education is a major piece of our work.

Books/reference materials

The local ERH staff will need to be current in residential conservation and construction practices. Reference materials will be important.

Industry association memberships

It's a good idea for ERH local operators to be members of the local associations of home-builders, appraisers, mortgage bankers, and realtors. A primary responsibility of the ERH operator will be to maintain the support of these organizations and for Energy Rated Homes™ to become a standard part of how these industries do business.

Blower door

This technology is the best we know for determining air infiltration. It is an educational tool for both builders and home-owners. It's an impressive, professional addition to the rating. Arkansas is the first state in the ERH system to use blower doors.

Money is budgeted for calibration equipment with an eye towards promoting blower door technology in the local housing industry. If we are to accept a local HVAC contractor's blower door test results when we perform a rating, we need to know that his/her door and ours is calibrated to a common standard.

Seminars/workshops

After his training, the local operator, with assistance from the ERH national staff, will be responsible for the training of local industry people. Training can be a source of revenue for the local operator. Seminars are not only for industry but the public as well, with classes such as "What to look for when shopping for a house." All the materials a local operator will need for workshops are part of the "start-up package."

An ERH desk-top manual will have already been developed for underwriters and appraisers as part of initial technical development. Underwriter's training takes a half day. Training for appraisers who will do ratings takes a full day. Underwriters and appraisers are charged for this training.

For realtors and home-builders, there is not a "manual" per se. Workshops can be done at local association meetings or at the discretion of the local operator or steering committee. These classes generally cover how to build a four or five star house for the least cost and how to sell energy efficiency (or non-efficiency) in the marketplace using the ERH system.

The first year, Energy Rated Homes' staff can lead these workshops. After that, the state associations of these industries could choose to be responsible for providing their own training.

Marketing

The Energy Rated Homes™ system has already developed (and is continuing to develop) marketing packages around the country. Attached is a one-year marketing plan and budget for Arkansas. It follows an initial \$10,000 spent on marketing publications and advertising for a total of around a hundred thousand dollars.

Do not underestimate the importance of marketing. This is a long-term undertaking of public and industry education. It is critical to the success of the program. There will continue to be marketing materials available from other states offering the ERH system. Most of these materials can easily be locally adapted.

Other services

The local rater may offer other services that address local issues so long as there is no conflict of interest. For instance, radon testing is offered in Arkansas; structural inspection of houses is offered by Alaskan raters. Appliance efficiency may be an issue in your area. The important thing is to maintain an independent, non-biased, third party, perspective.

"Energy Rated Homes™"

"Energy Rated Homes™ of Your State"

Total System Startup Package

\$60,000

This is a complete package designed to:

- provide the technical work necessary to develop the ERH™ system for your state
- provide a startup package of all technical, administrative, and marketing materials
 - provided training for local staff, raters, and local industry
- enable you to become a partner in the uniform ERH™ system
 - assist national/regional implementation

The national ERH™ staff and/or the ERH™ nonprofit in Little Rock, Arkansas (Energy Ratings, Inc.™), will be responsible for this work.

The "Energy Rated Homes™ of Your State" Package \$60,000

This is a general package designed to provide the technical work and training necessary to develop the system for your state and enable you to become a partner in creating a uniform ERH™ system. It may be necessary to make adjustments for your state. For instance, you may have a need for materials for several target areas and additional training.

The staff of our nonprofit in Little Rock (Energy Ratings, Inc.™), can help facilitate this work. We can provide your local operator with training, and the ERH™ technical and promotional components needed to offer the rating system. You will also have use of future materials developed by other ERH™ programs in exchange for sharing future materials you may develop for your area.

Technical Development

Technical development includes both appraiser rating sheets with associated materials and local operator, computer generated rating sheets with software development to include as many house types and climate zones as you deem appropriate. Also included are development of utility cost schedules and revisions of desk top manuals for your area.

The development of the rating sheets and computer program is the responsibility of Evan Brown, Technical Director of ERH™. To date, Evan has been responsible for the ERH™ technical development of Washington, Oregon, Alaska, and Arkansas' rating sheets. (actual printing costs of rating sheets are not included in the start-up package.)

The computer software is a stand-alone package that will give the local operator a complete rating system. This software program will process the ratings locally. The software will give prompts, check incoming data, process the rating, print the rating sheet on a special preprinted form, and store the information. It will also handle appraiser ratings storage, store local operator information (like which banks have been contacted, etc.), and the program includes all necessary energy use files, utility costs, housing types, etc.

Housing Data Bank

At the end of each month, a computer disc of all the ratings processed that month will be forwarded to the ERH™ national office. This is important for tracking ERH™ work around the country, quality control, and for building our national housing data base. The Federal Home Loan Bank of Seattle has offered its mainframe computer for storing this data.

With a "housing data bank" it is possible to track selling prices of efficient and non-efficient homes. We will hopefully be able to show the added value of efficiency in the marketplace. This will give appraisers the substantiation they require in order to appraise efficient homes for more money. We feel this will prove to be a real incentive to builders to build more efficient houses. It will further benefit appraisers who are currently unable to increase appraisals because of higher "efficiency."

Local Operator Start-up Package

The start-up package for the local operator will contain virtually everything a local operator will need to implement the program. The package will continually be

expanded and updated as new states join, different issues are addressed, and national implementation takes place.

The start-up package is broken down as follows:

A. Administrative

1. ERH™ affiliate agreements for appraisers, lenders, builders, realtors, etc.
2. Operations manual¹
3. Summary activities reporting forms
4. Instructions for data storage and financial reporting

B. Technical

1. Appraisal rating sheets
2. Utility cost sheets*
3. Energy use sheets (MBtu's for appraisers)
4. Underwriters' benchmark utility costs*
5. Computer disc (local operator rating sheet) for single family (at this time)
6. Rating sheet blanks for computer input
7. Energy improvements worksheet
8. Efficiency improvements cost data sheets *
9. Energy rater field rating evaluations workbook
10. Heating systems efficiency cost-effectiveness worksheet

C. Training

1. Appraiser training kit
 - a. "Train the Trainers" video
 - b. Training curricula outline
 - c. Training transparencies for overhead projectors
 - d. Slide presentations
 - e. Appraiser training manual
 - f. Appraiser competency test
 - g. Administrative procedures checklist
 - h. Sign-in sheets, example rating sheets, etc.
2. Underwriters training kit
 - a. Curricula outline
 - b. Video of mortgage bankers presentation ◊
 - c. Training transparencies for overhead projectors
 - d. Underwriters training manual
 - e. Worksheets for underwriters use during training
3. Energy Rater training kit
 - a. Rater training curricula outline
 - b. Rater training video²
 - c. Rater training manual
 - d. Technical competency test
 - e. Example rating checklists, improvements analysis, etc.
 - f. Energy rater field analysis workbook
 - g. Energy rater information/promotional kit
 - h. Examples of improvement brochures (local EES, energy office, etc.)
4. Realty company materials
 - a. Presentation outline
 - b. Example visuals
 - c. Example handouts